1) Introduction

By way of critically examining the nexus between electronic government (e-government), service transformation and knowledge management, this paper explores the potential for better public sector governance and strengthened levels of relational trust between citizens and governments. Within such a context a specific objective of this paper is to examine strategies and mechanisms for knowledge management and how they are financed in terms of both upfront infrastructure investments and the return on such investment through improved performance capacities and results.

The three central terms introduced in the preceding paragraph merit some definitional scope (even as each one is defined numerous ways in relevant research literatures). Service transformation and knowledge management will thus be defined more precisely in the subsequent sections, but as a starting point here the term e-government may be defined as: the continuous innovation in the delivery of services, citizen participation, and governance through the transformation of external and internal relationships by the use of information technology, especially the Internet (Roy 2005/2006a). It is important to note that this definition encompasses innovation in service delivery processes and citizen participation processes – both predicated on relational transformation. This paper will dissect this transformational potential as a knowledge management challenge, one intricately interwoven with the impacts of new information technology (and thus broader questions of e-government).

Although knowledge management (KM) is not purely - nor even primarily, a matter of technology, the increasingly digital environment within which the public sector must operate and adapt, is central to the financing of KM strategies and mechanisms. Large scale information technology projects are often costly and notoriously difficult to implement and manage (OECD 2001). Measuring their payback in terms of direct and indirect impacts on results can be equally complex (Reed 2004; Eggers 2005). A basic premise of this paper, then, is that KM must be properly understood and situated as an enabler of improved governance (often referred to today as 'transformation') before matters of financing and cost and benefit flows can be appropriately addressed.
The paper proceeds as follows. Section two defines and further dissects the service transformation challenge of the twenty-first century including both the business architecture of government service delivery on the one hand and the political architecture of democratic accountability and public participation on the other hand (as well as tensions between them). Section three then situates KM as a critical enabler of these different types of transformation, one closely associated with an emphasis on customer and citizen relationship management (again, recognizing tensions between these terms). Section four probes the financing of KM initiatives and determinations of return on investment – internally to government, via the usage of public-private partnerships, and across a collective governance system for a learning society as a whole. By way of conclusion, section five summarizes the main lines of argumentation from this paper and the consequences for public trust.

2) Service Transformation

In recent years, governments at all levels have begun initiating major public service delivery transformations. The most significant of these transformations: involve the integration and rationalization of services across traditional agency and jurisdictional boundaries; are citizen-centred and feature multi-channel delivery with a particular emphasis on online delivery; and make use of public-private partnerships to design and deploy the tools and processes necessary to realize these integrated and citizen-centred outcomes. Within this transformative lens, three sets of objectives have been well summarized by Remmen (2003) in the following manner: i) efficiency - cost reductions; ii) service - better quality, easier access (i.e. 24/7), new services; and iii) democracy - participation and interactive dialogue.

In terms of the first and second sets of objectives, efficiency and service, the private sector is an important reference point (Andal-Ancion and al. 2003) as the business architecture of costs and customer service, coupled with the lure of electronic channels are relevant for both businesses and governments (Cairncross 2002). At the same time differences are evident: efficiency, for example, is often a more politically contested principle in government as stakeholders such as unions and political parties may oppose worker mobility and job cuts, moves generally applauded in the marketplace. Equally important, whereas private corporations may aggressively select and cater to chosen clients, broader public interest responsibilities involving all citizens shape both the feasibility and perceived appropriateness of a public sector service strategy.

For example, whether or not the ‘citizenry’ (in political terms that often emphasize equality and uniform treatment) can and should be parcelled on the basis of ‘customer’ or ‘client’ segmentation (in business terms where different groups are catered to in different ways) is an interesting question (Dutil and al. 2007). In many jurisdictions, the customer-centric determinism of e-government and more recent variants of service transformation would seem to suggest an affirmative response on the part of many government strategists, or rather that the matter has simply not been given much thought (ibid.). In Canada, for example, the widening cleavage between service and democratic performance is evident, with one school of research thought championing the view that strong service capacities by government can facilitate higher levels of public trust (Heintzman and Marson 2005). The very real implications of such semantics in terms of the potential transformation of external relationships between the public and
governmental organizations carry important implications for KM, a point returned to in the next section and beyond.

With respect to the internal relational transformation of the public sector, a traditional reliance on hierarchy and bureaucracy – often viewed as more virtuous in government than in industry, renders service transformation as something of a clash between systemic coordination for integrated services and silos of separate, specialized functions. As such, a difficult transition for government lies in achieving the sorts of internal mechanisms for integration and coordination required across the public sector in order to enable more integrative, citizen-centric governance (Fountain 2001; Allen and al. 2005). In an online world, portals accentuate this clash – with governments themselves often championing an integrationist, single point of access view.

Achieving this horizontal collaboration therefore requires political will and a set of organizational mechanisms to facilitate information sharing and joint action (Batini and al. 2002; Bellamy and al. 2005; Lindquist 2005). The danger is that in the absence of strong action to overcome the boundaries engrained within traditional organizational structures, predicated for the most part of separate, vertical silo like functions, then the rhetoric of portals as a basis for integrative services, one stop encounters and more seamless governance remains just rhetoric (Charh and Robert 2004; Allen and al. 2005). Again in an online environment integrative mechanisms become reduced to a mere set of web-links that direct citizens and organizations from one branch of government to another.

The resulting challenge of horizontal coordination is closely intertwined with the principle of interoperability, a central characteristic of governance reforms tied to the enabling of government-wide systems for information sharing and collective action across organizational boundaries. Although at one time viewed predominantly as a technical challenge, where the absence of inter-operability would be reflected in the disconnect between various hardware components and software programs in separate departments not being able to work with one another (often due to the fact that each department designed their information systems to work for their own unique purpose with little incentive to be concerned about cross-governmental approaches), this principle must now be viewed as an important element of organizational design in the digital age. The resulting quandary is whether interoperability can be facilitated by collaboration between units or rather through more centralized mechanisms mandated with the task of ensuring government-wide capacities are in place (Coe 2003; Culbertson 2005).

There may well be sound reasoning for governments taking a more cautious and gradual approach than their private sector counterparts, much of it security-related. The political risks of security breaches in the state settings are often perceived to be far more serious than proportionally similar risks in the private sector context, a comparison most often attributed to the significantly greater holdings of personal and sensitive information held by the public sector (Joshi and al. 2002; Holden 2004). This relationship is complex and dependent to a significant degree on the level of trust accorded to the public sector by the citizenry. In jurisdictions where trust is high, technical solutions are more readily supported and the organizational changes required for more innovative and integrated forms of service are more feasible (Wilson and Welch 2004; Roy 2006b). The converse is true as well – where lower levels of confidence and trust translate into stronger vices for both organizational resistance and technical cautiousness (ibid.).
In terms of a reliable and interoperable infrastructure, information sharing opens up new opportunities for policy coordination and service integration. In theory, it becomes possible for an individual or a company to expect (or endorse) that information provided through one public sector gateway (i.e. a service renewal or transaction completion) should be readily available across the public sector for any other usages that may arise, be they related or unrelated to the initial encounter (Kearns 2004; Bellamy and al. 2005). In doing so, the validation and usage of this single identity is shared government-wide. While the potential for ‘value’ creation is real (Kearns 2004), so too are the risks associated with an ‘identity’ tied to more and more information flows that, in turn, must be stored and shared (Joshi and al. 2002; Lips and al. 2006). In a networked world, each mechanism for identify verification leads to another possible opening for breaches: “Any party looking to subvert data will seek data or systems at the lowest level of protection and then use the data for authorization to subvert the security surrounding high value users” (p.6, Digital Government Civic Scenario Workshop Report 2004).

As a result, the explosive growth of the Internet’s first decade has moderated, and security and privacy concerns are important factors in the trepidation of many to move online (Bryant and Colledge 2002; Hart-Teeter 2003). A 2005 Ipsos Group survey in the United States reported that the percentage of Americans banking online stalled at 39%, with nearly three-quarters of those shunning online channels invoking concerns about personal privacy and the secure storage and processing of their financial information. Paradoxically, many surveys in the US and Canada demonstrate that banking institutions are by far and away the most trusted organizations for personal credentials and processing personal information online (Roy 2007b). In Statistics Canada’s 2005 Internet Use Survey, 75 percent of respondents expressed concern about privacy and security online. A major challenge is the lack of consensus that is inherently normal in any democratic-minded, capitalist society as what constitutes an appropriate level of privacy. From a service perspective, trade-offs between privacy and convenience seem unavoidable, as to those privacy and surveillance in light of threats to collective security (Bellamy and al. 2005; Coleman 2006).

The parameters of the debate have also shifted politically as digital tools may also be viewed less as means toward convenience and efficiency and more toward matters of security (Strickland and Hunt 2005; Roy 2005/2006b). Many governments are now pursuing bolstered forms of identity management through technologically sophisticated devices for authentication such as national identification cards and biometrically enabled passports (Meyers 2003). Radio frequency identification devices (RFID) are viewed as an area of particular interest for a developing a more secure infrastructure for commercial transactions, transportation and human mobility and verification schemes (Hodges and McFarlane 2004). Such sentiment – coupled with fears of terrorism, may also yield a supportive environment for widened surveillance activity on the part of public sector authorities (Whitaker 1999 O’Harrow 2004). For surveillance and security as well as service, identity and information management is central (Coleman 2006; Roy 2006b).

In sum, service transformation has arguably emerged as the centrepiece of e-government (as defined at the outset of this article) in terms of shifting internal relationships (interoperability and integrated service capacities) and external relationships (interfacing with the public via innovative service outcomes while safeguarding personal information flows). Important questions and tensions remain about the degree to which a business stylized and ‘customer’-centric logic are fully
appropriate for more democratic interfaces based on citizen engagement and participation (and the resulting impacts for the public's trust in government). These questions and tensions directly underpin the KM challenge that lies at the heart of the public sector's capacity for responsiveness, resilience learning in light of these multiple relational forms.

3) Knowledge Management - From Customer Information to Collective Intelligence

Much of the previous section's dissection of service transformation entails a series of governance challenges that all rely on properly capturing, sharing and coordinating information flows (both within and outside of the public sector). Indeed, information is the lifeblood of citizen-centric strategy – in so far as users of government services are empowered to choose between multiple delivery channels enjoined by an infrastructure of people and processes to facilitate a single point of access and integrated outcomes.

What, then, is the distinction between 'information management' (IM) and 'knowledge management' (KM)? Whereas the former term generally emphasizes the governance architecture of structures, policies and electronic or digital systems, the latter term denotes the processing of information through the usage of such architectures in order to facilitate better outcomes. These better outcomes are often premised on the role of people making use of both formal information flows (as the basis of codified knowledge) and less formal, more implicit or intangible insights and behaviours that often serve as a basis for tacit knowledge. In both cases, knowledge is regarded as a higher-order ingredient in personal and organizational performance since there is thought to be some value-added as it is derived from more abundant and potentially scattered information flows that may or may not carry strategic significance until recognized and harnessed. Some thus define KM as 'information in action' (MacDonald and MacDonald 2003).

As a strategic nexus between people, organizational and cognitive processes, and (increasingly digital) technologies, KM's parameters can be fluid and even elusive in terms of precise mechanisms and systems that one can identify separately from a variety of other organizational initiatives, notably human resource management, ethics and leadership, and modern comptrollership (as KM arguably permeates them all). This challenge of identification is an important issue in terms of financing KM and measuring its value (a point returned to below). Accordingly, governments around the world vary tremendously in their usage of the term KM and how it is viewed within broader agendas for public sector renewal – including e-government.

Despite an intuitive link between knowledge management and electronic government, in general many governments have preferred to invoke the language of IM more often than KM with reference to digital governance structures and the impacts of new technologies. This linkage is no doubt partly due to the architectural focus of e-government, viewed by many as a term emphasizing digitized systems and mechanisms for storing, sharing and utilizing information. Yet, the key point remains that KM is often the vehicle for adding value in creating better outcomes – the premise of citizen-centric service transformation for example (whether or not such efforts are explicitly called KM or not). The issue is further complicated by e-government's emphasis on electronic channels and the widening prospect for virtual forms of transactions between public sector organizations and service users or recipients. Is KM still required, for example, if people are no longer required as the basis of the service interface?
The answer to this last question should be viewed as affirmative in that electronic channels only automate functions and displace human staff (and paper) in the most administrative and simplistic forms of transactional processes: payments, renewals and application submissions of various sorts. What remains are more complex forms of interaction where online information may be one component of the transactional process, but it is complemented by the need for guidance from, and discussions with public servants in order for services to be delivered. Many core areas of public service ranging from health care to workforce training and business development all rely on this mixing of channels, a mix that in turn accentuates KM’s importance.

For governments, the financial services sector provides an important reference point in harnessing multiple channels to both automate simplistic transactions and create more sophisticated and catered services underpinned by both telephone call centres and in-person branches. Indeed, despite the early rhetorical promise of electronic commerce leading to widespread displacement of frontline service staff and their centres (or branches), across many countries in the developed world the past few years has witnessed an expansion of branches, traditional in physical form but now viewed as frontline nodes of a broader KM network encompassing multiple channels of service interaction and delivery. At the heart of the close connection between KM and customer relationship management (CRM) is the ability of front line staff to make use of the information and choices available across all delivery channels in order to create value for the customer or client. Although the terms ‘customer’ and ‘client’ are often used interchangeably, the latter may also denote a more complex set of services often requiring human interaction and dialogue, whereas customer relationships often tend to be more transactional and instantaneous (and thus conducive to automation and electronic forms of delivery).

For governments, as noted above, these distinctions are further complicated by the ‘citizen’ dimensions to relationships between the public and governments although in many jurisdictions such complications may simply be disregarded in the short term, overshadowed by an embrace of the logic of CRM and the business architecture of service delivery that is clearly the primary driver at present of public sector service transformation (Public Policy Forum 2003; Paquet 2004; Roy 2006b; Dutil and al. 2007). In Canada, this trend is evident at all government levels: municipally, where many cities are following the US lead in developing 311 call centre initiatives designed to provide a single point of contact for the public on any service matter (this telephone channel is then aligned with online mechanisms for self-service options and tracking the processing of requests and transactions made online, via telephone or in person); provincially, where lead delivery agencies such as Service New Brunswick (www.snb.ca) explicitly instil corporate governance models and a customer-driven ethic in the delivery of public services; and federally, where Service Canada (www.servicecanada.ca) has recently been created to move in a similar manner as an integrated network of delivery channels acting on behalf of the Government of Canada as a whole (Roy 2006b).

While different governments in Canada (and elsewhere) vary in their explicit embracing of the language of KM in terms of distinguishing knowledge from information management for example, there is little question that KM is central to the mission of these service strategies and lead entities. As just one of literally hundreds of examples, if all programs and services impacting senior citizens, across many different departments and agencies, could be interlinked and accessible across an integrated delivery network,
a much higher level of service could be generated for these elder individuals (at a much lower cost to government). IM provides the architecture for such alignment, whereas KM (information in action) is the lifeblood of actually responding both reactively and proactively to the needs, demands and circumstances of seniors in more integrative and holistic ways. Nonetheless, in adopting these interrelated and compelling logics of KM and CRM to transform service, two major sets of barriers and risks present themselves (perhaps more than two, but the two most central to the logic of this paper): first, resistance to more interoperable, horizontal governance; and secondly, the impacts of this customer revolution on politics and democracy. Both sets of challenges are central to public trust, albeit in different ways.

First, in terms of organizational and human resistance (and interrelated but often less entrenched issues of incompatible technology), the need for a government-wide approach to KM in order to foster integrated service outcomes is evident. This is a huge organizational undertaking: the Government of Canada, for example, is responsible for more than $200 Billion in annual spending, and Service Canada alone has more than 22,000 employees. The challenge here is that until recently, KM had been primarily promoted and developed as a department or agency-specific function, central to both policy and service delivery functions often residing in separate and specialized government units. It bears noting that these ‘silos’ (a negative connotation) were actually championed in past decades under the guise of new public management as a means to better customer service (by allowing for more focused mandates, empowered managers and workers, and more intimate ties to service recipients). Thus, the hugely significant challenge in government enjoining KM and CRM is how to at once share information across government in order to act on it in integrated ways where appropriate, while maintaining a delivery network that is flexible and responsive in meeting varying demands of the public externally and separate departments and agencies internally.

Secondly, in terms of the impacts on politics and democracy, one viewpoint is that good service facilitates public trust in government and efforts have been made to quantitatively demonstrate such a relationship (Heintzman and Marson 2005). Yet the more difficult question is to ask what sort of trust? A public viewing the government as an efficient and responsive provider of public services – one to be benchmarked with the private sector, may be less inclined to value and pursue democratic participation and active citizenship (Cherny 2000; Dutil and al. 2007). In this latter realm, KM is critical to facilitate public awareness, consultation and engagement, all clearly on the rise in an Internet-laden society where people are less deferential to traditional authoritarian structures such as representative democracy (Nelson 1998; Borins and al. 2007).

Indeed, it is interesting to reflect on why it is that KM as a conceptual term has seemingly diminished in recent times under the rubric of service transformation. One possible explanation lies in KM’s organizational roots as a platform and enabling of strong employee engagement and participation – extendable to the realm of democracy through more active forms of citizenship and public engagement. Much as Parliaments and legislatures play a central KM role within existing democratic (or alternative) governing architectures, a widened KM infrastructure is required for more participative forms of democratic governance. While service transformation does most certainly stress employee engagement as an important element, there also tends to be a stronger focus on IM architectures and electronic systems and, as argued above, a tendency to view the public as a customer (i.e. a demanding consumer of services rather than engaged client or citizen). In other words, there is little need for a shared knowledge
base between the citizenry and government in this customer service-laden world – beyond the specifics of the individualized service transaction at hand.

One response to these tensions is the recent presentation of ‘public value management’ as a ‘new narrative for networked governance’ (Stoker 2005). Explicitly contrasted with hierarchical and control-minded public sector traditions, as well as the competitive and customer-focused business mentality of new public management, public value management (NPV) is premised on partnership, nuance and dialogue:

*The key point in understanding public value management...starts with the understanding that preferences are not formed in a vacuum and should not be taken as given. Part of the challenge of public managers is to engage in a dialogue with the public about their preferences but in a way that allows for deliberation about choices and alternatives...Discovering preferences involves a complex dialogue so that efficiency and accountability are trading partners, not the objects of a trade-off (p.51, Stoker 2005).*

It may therefore be possible for the public to act as either customer or citizen, depending on the circumstance and need (and more importantly, the legitimacy of both roles must be built into governance). Stoker argues, rightly in my estimation, that NPV is the only sort of governance paradigm that can adequately address the complexity and interdependencies of today’s governance and managerial systems that demand a renewed reconciliation of the often conflicting demands of efficiency, accountability and equity. Unlike the underlying logics of NPM and CRM, NPV embraces a much more multi-faceted set of relationships both within the public sector and between governments and other stakeholders including the public. This view is notably consistent with a recent and thoughtful consideration of the impacts of online connectivity and digital technology and democracy – and the importance of reconfiguring government-public engagements, enhancing the communicative power of citizens, and refurbishing legislative bodies and processes accordingly (Dutton and Peitu 2007).

What becomes apparent is that any NPV-stylized approach to democratic governance is entirely dependent on a robust and shared knowledge management infrastructure enjoining governments and all sectors and the broader public at large. KM is therefore not only an internal architecture for better decision-making and service delivery, but a shared governance landscape for more active forms of engagement, dialogue and partnerships that are the basis of adaptive, accountable and effective governance.

### 4) Financing and Return

If KM is to enable the sort of outcomes and learning-based approach to governance and management called for by public value management (PVM), an important matter then becomes how to finance investments into KM as enabling infrastructure and how to measure impacts on performance that in turn determine return on investment (ROI). In order to dissect and response to this general question, there are three (at least partially interrelated) variables that will be considered here: i) the scope of the KM infrastructure as either primarily internal to government or as a basis for societal development and learning; ii) the collaborative challenge of working with private industry in order to create and maintain a leading-edge KM infrastructure; and iii) the challenge of multi-faceted impacts, results and thus ROI metrics.
i) Investing in KM at multiple levels:

With respect to the first dilemma, the previous section underscored the point that KM can be an elusive concept within the public sector, often intertwined with other dimensions of governance and management. Yet, it also bears noting that governments also bear responsibility for viewing KM as a prism for societal development within their own jurisdictions, including both the infrastructure and the skill base of a country or jurisdiction (to borrow here from the workshop background paper). This widened KM lens is entirely consistent with a PVM philosophy of governance emphasizing collaborative engagement, partnership and collective learning. In recognizing this shift for example, the Province of Ontario in Canada explicitly shifted their e-government strategy to an emphasis on e-Ontario to underscore this point.

The financing of this broader KM infrastructure for society as a whole is more encompassing of multiple forms of investment in telecommunications, education and training, and good governance capacities to generate sound decision-making. Again to draw from an Ontario example, the recent creation of fourteen regionally-based, Local Health Integration Networks is illustrative: they may be viewed as vehicles for facilitating both information interoperability and KM for regional health care systems in order to improve performance in a patient and community-centric manner (Roy 2007a). Although their immediate funding base is provided by the Province, these networks are in turn meant to finance specific projects and strategies aligned with locally-determined objectives (and likewise accountable to local stakeholders).

Therefore, the main lesson derived from this first dilemma is the need to recognize the multiple forms of KM investments required both inside government and more broadly across society. A more specific lesson pertaining to digital technologies is the need to align the skills and capacities of public sector organizations with those of the citizenry, industries and communities at large – and to ensure a balanced and inclusive investment perspective. This balance and overall alignment is a crucial linchpin between KM and NPV in terms of fostering responsive and smart government, but also collaborative and leaning-based governance systems encompassing government and other stakeholders including the public.

ii) Public-private partnering:

In terms of the second dilemma, the balance and required collaboration between public and private sectors in creating and deploying KM infrastructures and tools, matters of financing are paramount. The attractiveness of leveraging private pools of capital investment is rooted in a similar context of new public management (NPM, not to be confused, but rather contrasted with the more recent variant of NPV discussed above) that arose during the 1980s, encouraging governments to look to industry for managerial techniques and governance practices.

Accordingly, the concept of a public-private partnership (P3) typically denotes private sector involvement in the construction and/or maintenance of a new capital asset. The British Government, for example, has devised the Private Finance Initiative (Dixon and al. 2005): the purpose of this program has been to create infrastructure of a public purpose through mechanisms leveraging private sector involvement in financing, construction and maintenance. Seeking a middle ground between direct government
control and outright privatization, PFI seeks opportunities to share responsibilities and risks, creating new assets via payment schemes and commitments underwritten by the stable involvement of government authorities. PFI has not replaced direct public sector provision, accounting for only a modest portion of overall infrastructure spending, but it has become an increasingly prominent – and controversial aspect of new infrastructure development across the UK. Defenders of the initiative point to the flourishing of new infrastructure projects (meeting public interest needs) that has been enabled by leveraging private sector capital investment and project management competencies, while shifting much of the financial risk associated with these new ventures to industry.

As infrastructure becomes more strategic and technologically sophisticated, questions pertaining to KM become more central. Within government, then, this partnership logic extends from the creation of new, tangible infrastructure assets to the maintenance and upgrading of organizational and often less physically tangible forms of infrastructure. The Province of British Columbia, for instance, has been Canada’s most aggressive province in the utilization of ‘outsourcing’ efforts: outsourcing involves a transfer of assets – including hardware and software components as well as people – from public sector organizations to private industry and in some cases, to new governance entities jointly controlled by private and public interests (Langford and Roy 2006).

These new relationships go beyond traditional notions of outsourcing – defined most simplistically as the transferring of assets from one party to another. Efficiency was the key driver of such outsourcing viewed as a basis for lowering operating costs via a network of externalized specialists. Yet, realizing such costs savings has proven elusive in many cases for a crucial reason (that continues to have relevance today for collaborative activity): namely that effectively managing these external relationships is more difficult and challenging than envisioned. A critical and shared knowledge dimension to such partnership management is a central determinant of success or failure in this regard (ibid).

Accordingly, there is some schizophrenia toward the concept of outsourcing even among industry itself – viewed by some as a trend likely to continue unabated despite widening concerns about failure rates and other difficulties. One major global study of outsourcing trends conducted in 2004 by DiamondCluster International, for example concludes that IT outsourcing is now a fait accompli in the business landscape. By contrast, an April 2005 report by Deloitte Consulting paints a very different picture, calling for ‘a change’ in the outsourcing market that will see large organizations pulling away from such arrangements since the anticipated benefits often fail to materialize. Yet, the countervailing danger in not embracing some degree of outsourcing lies in the risk of performance stagnation and the rising costs of maintaining the status quo (Reed 2004). The key shift from outsourcing to more enlightened forms of collaboration lies in the strategic alignment of internal and external contributions into a seamless architecture for sharing information and knowledge and creating more value-added outcomes.

Given the rising importance of electronic service, the creation of online portals as a means of integrated service delivery has been viewed by some governments and companies as an opportunity to pursue a partnership. The private sector invests in the creation and deployment of the portal as the customer/citizen interface – as well as the alignment of this interface to (re-organized) back-office functions at little or no upfront cost to government. In return, the private sector earns revenue streams from transaction fees based on usage, providing an incentive for both parties to promote successful
uptake of the new delivery channel. National Information Consortium (NIC) has been perhaps the most visible private sector advocate of such a model, partnering with a number of US State governments in long term arrangements of this sort. A similar logic enjoins Service New Brunswick and CGI in their ongoing collaborative partnership that saw both parties jointly invest in new online delivery mechanisms, retaining ownership over the resulting intellectual property and sharing in the proceeds of savings from service transformation in New Brunswick and any sales of the intellectual property to other governments (Dutil and al. 2005).

A considerable risk for the private sector in deploying transaction-based revenue partnerships lies in insufficient usage of the delivery mechanism. The risk for the public sector lies in the fact that any upfront savings can quickly evaporate if under usage persists, creating tensions and revisions that result in either unforeseen costs or breakage of the relationship. In 2000-2001, the City of Ottawa experienced just this sort of episode in its failed marriage with NIC and Deloitte Consulting (Roy 2003). Paradoxically, however, today city officials stress that the knowledge gained from this aborted partnership has proven instrumental in enabling the City to progress on its own, as well as in concert with companies in more current and ongoing arrangements. A key lesson from usage-based revenue models (typically financed upfront by the private sector) is the central importance of generating high volumes of transactional services on which a robust business model can be created.

Doing so requires effective information and knowledge management mechanisms that must be built into the governance model for shared financing and risk. The relationship between Service New Brunswick and CGI is one well known case study (Pardo 2006). More recently, Service BC and IBM Canada have forged a performance-based agreement to improve service outcomes. In forging this private sector partnership, the Province of BC put forth the following objectives: i) integrate the telephone, online and in-person service channels to provide consistent information and services to its citizens; ii) develop an approach to service channel management in which touch-points, technology platforms, data access and business processes are developed around the needs of the citizen; and iii) more effectively meet the needs of its clients and customers within a new integrated, cost-effective and efficient service delivery environment (Langford and Roy 2007). The BC case is noteworthy since it is underpinned by a broader effort to embrace partnering: the creation of an alternative procurement system, Joint Solutions Procurement, is explicitly premised on the notion that the BC Government cannot define in precise terms at the outset what it requires and at what cost from external solutions providers (ibid.). The parameters of the relationship are the result of a process of joint discovery, in effect an attempt to embed proactive KM mechanisms into a collaborative governance model.

In pursuing the three aforementioned objectives of this partnership, information management addresses the critical challenges of privacy and security as information flows across government and between government and industry enable these sorts of objectives to be sought. In turn, knowledge management, the 'information in action', then allows for the fostering of more integrated, citizen-centred outcomes (though it bears noting here that the usage of ‘citizen’ is in fact more in line with the CRM mentality of customer service). Accordingly, a shared approach to KM is embedded across a collaborative governance model with joint bodies of planning and review in order to adjust this partnership model as it goes forward in order to raise volumes, the basis of benefits to both sectoral partners.
iii) Results, ROI & VOI:

It is possible to argue that throughout much of this paper two distinct approaches toward KM have been emphasized – one largely internal to government and the other more societal in scope. Whereas the former is more closely associated with the service transformation agendas derived in part from the emergence of e-government over the past two decades, the latter is more encompassing of an infrastructure (also increasingly digital in nature though not exclusively so) for both socio-economic and democratic development processes.

The advantage of this distinction is that it more readily facilitates separate sets of metrics for results and return on investment across each realm. Internal KM efforts can thus be linked to reasonably tangible and measurable impacts such as cost savings and improved customer satisfaction, and also somewhat less quantifiable but no less important dimensions to organizational performance such as employee engagement and satisfaction and organizational learning. A broader view of KM for society as a whole is more difficult to gauge, more difficult still in light of competing political vantage points as to what is important, why, and the means for making such determinations (the discursive capacities for learning, compromise and collective action in light of such competing aims a key premise of NPV). Indeed, with respect to public-private partnerships, the case for distinct tracks can also be made, as typically companies are either engaged to focus on the internal governance architecture of the public sector – or alternatively, to build new infrastructure (either directly or in concert with public authorities) that contribute to overall developmental capacities in a knowledge era.

Although there is therefore some merit in compartmentalizing KM initiatives in this manner (and in more precise terms as well), there is also a compelling case to be made for a broadened lens of KM in terms of both investment and return. The case is rooted in government’s unique role as not only a modern organization with policy and delivery capacities of its own, but also as the convenor and arbitrator of multi-stakeholder dynamics across all segments of society (Paquet 1997). In other words, although this responsibility should no doubt be viewed as a shared one, government, uniquely accountable to the citizenry as a whole, is a crucial knowledge catalyst in shaping both the abilities of individuals and individual stakeholders as well as their patterns of competitive and collaborative engagement.

One specific risk of not taking a more integrative view lies in under investing in KM strategies and mechanisms at the interface of government and societal governance. In many developed countries, the diminished presence of the legislative branch is a case in point, as e-government facilitates an emphasis on technologies to both deliver services and undertake stronger forms of coordinated, government-wide action (both of which are intertwined with the concentration of power in the executive branch, a particularly prevalent theme in Parliamentary democracies). By contrast, KM offers a basis to rethink the role of the elected official and to bolster the political realm more generally as one more conducive to an NPV-based approach to network governance. In a knowledge era (and in a digital environment), there is considerable governance design work to be done in terms of creating learning mechanisms enjoining government managers, elected officials and more informed and empowered citizens (Paquet 2004; Roy 2006b).
A broadened focus on holistic KM challenges can also then enable investments across the public sector (often encompassing multiple jurisdictions) that can generate higher levels of technological interoperability, a precursor to the sharing of information and the co-development of knowledge. Public-private partnerships could thus be formed with this level of openness and interfacing in mind. At present, no doubt the Scandinavian countries are the most advanced in taking such an inclusive view of digital governance both within government and across society as an overall infrastructure for development: it is not coincidental that governments in these countries are among the strongest proponents of open standards and open source solutions in strategizing for e-government, with higher levels of trust and concerted action between industry and government than is typically the case elsewhere (Roy 2007b).

A useful concept for measuring the impacts of this broadened approach to KM lies in shifting from return on investment to value on investment (VOI) (Gartner 2001). Although initially introduced as a means of better recognizing the ‘softer’ initiatives often associated with KM (organizational culture, learning, workplace satisfaction and engagement etc.), the notion of VOI can be thought of as an important proxy for pursuing a governance philosophy predicated on the principles of NPV (i.e. more deliberation, partnering, and learning in both defining and pursuing collective outcomes that often enjoin the private, public and civic sectors as well as the citizenry at large). In essence, VOI becomes a set of metrics to gauge the ‘collective intelligence’ of a governance system for a given jurisdiction (Coe and al. 2001). There is also some symmetry between the fact that the nexus between collective intelligence, governance and digital technologies is first and foremost a localizing one – within so-called smart communities (ibid.), and the decentralizing flavour of NPV that stresses the importance of power-sharing and empowered communities.

Here is where emphasizing KM as a critical level of good governance is important since it responds to the countervailing trend of centralized information management that is common and prevalent in many large national governments (that may prefer to view digital technologies as means to augment their own visibility and reach across the country). Thinking about KM investments and VOI for a jurisdiction is therefore a challenge encompassing multiple actors and processes both within and outside of government. The resulting ‘federated governance architecture’ for a jurisdiction as a whole can then be ideally designed in a flexible manner, in accordance with NPV principles as well as elements of CRM (especially with respect to automated, transactional services).

Turning the concept of VOI into specific metrics and indicators is a complicated task both within the public sector and for society as a whole. Within a single government (viewing KM from an enterprise-wide perspective), a persuasive case has been made for the usage of a balanced scorecard approach in order to capture both financial and non-financial performance impacts as well as the relational strength of stakeholder engagements that are equally important in determining public sector performance (Kim 2006). This same type of approach should be regarded as transferable in some manner to the broader canvas of KM for society: i.e. the collective intelligence for jurisdictions as a whole. Examples of this latter approach range from the annual regional index or scorecard for California’s Silicon Valley (the exemplary knowledge-driven locality) to the efforts of many European countries to foster inclusive and multi-dimensional templates to measure the advancement and performance of a knowledge society, efforts that are particularly advanced in northern Europe (Ahokas and Kaivo-Oja 2004; Roy 2007b).
The commonality across subnational regions such as Silicon Valley and smaller countries such as those of Scandinavia is one of scale and capacities for cohesion and collaborative action, underscoring the more difficult challenge confronting larger and more diverse countries with more centralized national governments. Simply due to scale and the often inward tendencies of larger and more bureaucratic organizations, deploying KM strategies through NPV-stylized governance is a much more difficult task (explaining why in some federalist countries such as Canada, provinces and cities may be better able to do so).

5) Conclusion

By way of ending let us return to the definition of e-government provided at the beginning of this paper: the continuous innovation in the delivery of services, citizen participation, and governance through the transformation of external and internal relationships by the use of information technology, especially the Internet. With this definition in mind, three central lines of argumentation emerge from this paper.

First, in many jurisdictions service transformation agendas, the most prominent component of e-government, are construed in overly narrow terms due to a customer service fixation that emphasizes information flows more than knowledge management.

Secondly, knowledge management is central to not only better service delivery but also the creation of public value and relational capital through more deliberative, participative and flexible forms of participative governance.

Thirdly, measures of both investments and returns for KM must be devised to adequately assess the internal cognitive capacities of governmental organizations on the one hand – as well as the collective intelligence and combined governance performance of all stakeholders within a given jurisdiction on the other hand.

Indeed, here is where relational trust between citizens and governments is so closely intertwined with the ability of KM strategies and initiatives to achieve both better government and better governance (in other words to deploy e-government as a platform for NPV-inspired change as opposed to larger and more centralized organizational forms). As trust is derived less from deference to traditional authoritative structures and credentials (not only politically but also in industrial, labour, and religious realms), it is more intertwined with direct forms of participation and engagement (O’Hara 2004; Edelman 2005). KM must therefore be viewed as not only an inward strategy for governments to better reach out to citizens but also as an interactive canvas for shared learning and inclusive participation across society as a whole.
References


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