# Relationship of E-Government to Public Administration Leadership

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*The purpose of this paper is set a foundation for using information technologies for managing public institutions, first by emphasizing that as technologies are changing rapidly, so are expectations from the public changing for managing public institutions, such as the expectation for use of multiple channels to interact with government. First, public administrators need to understand the various levels of e-government to appreciate where their organizations function and what changes are required. Second, a structural problem exists with the old silo mentality still driving public organization structure. This problem can be solved by the development and use of newer strategies such as electronic networks and leadership strategies that use cooperative and individual service and an understanding of organizational culture and catalytic leadership combined with solid planning strategies.*

## INTRODUCTION

This paper sets the foundation for the use of technology in public administration for managing governments and the not-for-profit sector.

Hopefully, there are no public employees who believe that information technology is not drastically transforming methods of communication. It is clear that the newer information technologies have hit the mainstream of society when T-Mobile provides wireless Internet access to over 1,200 U.S.A. Starbucks Coffee Shop locations with Free Hewlett-Packard software automatically sensing and connecting laptops and personal digital assistants (PDA's) to a wireless network (Charny 2002).

Citizens expect public organizations to communicate in similar ways. In the first month of 2004, approximately 10 million Canadians visited a government web site. This is 60 per cent of the country's on-line population or 33 per cent of the country's entire population (Kapica 2004).

Frank Dunn, past president and CEO of Nortel Networks wrote:

"Over the past decade, advances in network-based technologies have contributed to the dismantling of the barriers of time, culture, and distance thereby enabling the acceleration of trade and financial integration. In this regard, telecom is a transformative force in the global economy – a role that'll expand in the years ahead as advances in network technology afford individuals and enterprises expanded access to innovative information services and electronic resources. Technology advances will only accelerate this trend.

New network services and ‘electronic tools’ that have already transformed most of our lives and business models will expand personal opportunities while enabling competitive enterprises to be more creative, productive and responsive to the needs of an information society. The telecom and computer revolution is nowhere near over. As information networks evolve, they'll deliver the combined power of computing and telecom.(Nortel Networks Corporation 2002)"

The image of Sable Island forms in my mind when explaining the effect of information technology on society and public organizations. This infamous and beautiful island, roughly 300 kilometres southeast of Halifax ". . . (“le sable” meaning sand in French) is the apex, the only emergent portion of a large accumulation of sand and gravel originally deposited by retreating Wisconsin glaciers."

This sand mountain drops to a depth of roughly 40 metres below sea level. Covered by fog for 125 days a year, it is well known for changing shape and posing great danger to mariners. From 1801 to 1958, there were 222-recorded shipwrecks on Sable Island. Off the main shores’ sand bars numerous unrecorded wrecks occurred as well, marked only by a bit of flotsam or a lost mariner’s body (Keough 1993). The island is also merciless to any buildings, for in a few short years the sands engulf almost any obstacle in their path. Yet the island has many admirers. The few tourists permitted to visit the island (access to the island is restricted by the government) are willing to pay $800 each to make a one-day trip from Halifax.

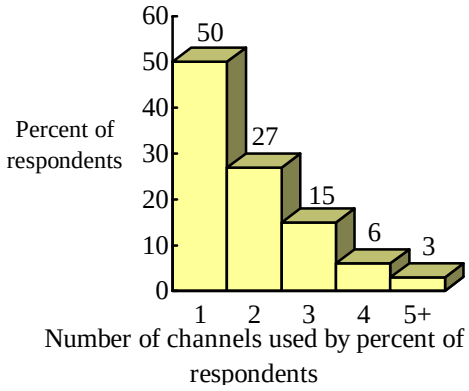
The process of mapping and analyzing Sable Island has many of the same characteristics as planning for effective use of information technology in public administration. Like Sable Island, the actual shape and possibilities for information technology change daily. What was possible six months ago is very different today and will be very different to what is available or possible six months from now. There have already been many human, software and hardware wrecks on the shoals of the information technology trail, and there will be many more to come.

Yet since the advance to electronic and digital marine navigation, there have been almost no major shipwrecks on Sable Island, giving hope to the possibility that the information technology field will settle down with the advancement of information technology hardware and software. Well-prepared managers will have enough information to avoid disastrous paths leading to depleted information technology budgets. However, public managers must be cautious and knowledgeable about information technology to make the right decisions, just as the captains of the large sophisticated ships of the new millennium still have to be knowledgeable about Sable Island which in 2002 was eight kilometres longer than it was in 1966 (Fairclough 2002).

## EXPECTATIONS FROM THE PUBLIC

To set up an effective e-government, the information technology expectations of users are important. One of the best sources for this type of information is the Institute of Public Administration’s (IPAC) series of studies called Citizen First. The first study in 1998 was followed up with surveys in 2000 and 2003, conducted with Erin Research. The 2003 study included a mail-out survey with 6,440 responses (14 % of the sample) and an internet component of 1,288 responses asking the same questions about five Municipalities, nine provinces and territories and the government of Canada. The purpose of the studies was “to develop a better understanding of how citizens’ access and use government services, so that governments can improve service quality.”

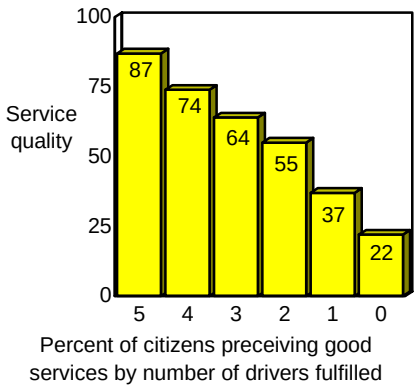
**GRAPH 1**




Three major conclusions were drawn from the 2003 study. First, multi-channel service delivery is increasing. In the 2000 study only 26 percent used more than two information channels to interact with government. As shown in GRAPH 1, three years later more than one-half used more than one channel. Second, electronic service delivery and confidence in government are slowly increasing.

The study found that 62% of Canadians use the Internet and of those users 61% have accessed the online services of at least one government site, demonstrating the speed in which computers and the Internet have permeated the lives of Canadians, since the Internet is roughly a decade old.

**GRAPH 2**




The last two IPAC studies developed "drivers of satisfaction" for determining service quality ratings. The five drivers are **Timeliness**: "I was satisfied with the amount of time it took to get the service;" **Knowledge / Competence**: "Staff were knowledgeable and competent;" **Courteous/Extra Mile**: "Staff were courteous / went the extra mile to make sure I got what I wanted;" **Fairness**: "I was treated fairly;" and **Outcome**: "I got what I needed." As shown in GRAPH 2 from the Citizens 3 study, if all five drivers were perceived by the citizen, service quality was ranked at 89%, falling off quite sharply as the number of drivers decreased.

## LEVELS OF E-GOVERNMENTS: FROM ENCYCLOPAEDIAS TO TRANSACTION PROCESSORS

It is obvious that citizens want services and information available on line. Approximately seventy five percent of Canadians believe that the Internet and the Canadian Federal Government's GOL (Government-On-Line) program will 1) improve services, 2) be a good use of tax dollars and 3) improve interaction with the government (Zussman 2002). The dilemma is whether the public service is ready to meet the citizens' new expectations.

The good news for Canadians is that they can take advantage of e-government because well over two thirds of Canadians have Internet access, at least partly because senior Canadian public servants and politicians have been promoting the use of information technology in government for some time. Jocelyne Bourgon, (1999) President of the Canadian Centre for Management Development, building on her former experience as Federal Clerk of the Privy Council, set the stage for how senior administrators should think about technology. Referencing the October 12, 1999 Speech from Throne, where the government outlined priorities for preparing Canadians for the Knowledge Age, she called for Canada to become the most wired nation in the world, connecting citizens and connecting communities.

Similarly, John Manley (1999), the Canadian Minister of Industry, in a presentation entitled *Canada and the Internet Revolution – Connecting Canadians* cited numerous examples to support his claim that the Canadian government was trying to make Canada the most connected nation in the world. One example was SchoolNet, a project that continues to prepare students and educators for the challenges and opportunities of information and communications technology.

Deloitte & Touche (2000) studied the development of e-governments, which they defined as "the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees." Gathering senior-management perspectives from more than 250 government departments developing fresh approaches through customer re-engineering and information technology, the governments of Australia, Canada, New Zealand, the United Kingdom and the United States were chosen as leaders in e-government.

Seventy-five percent of the governments in the study planned to increase or significantly increase IT spending. Their priorities were customer self-service, data warehousing, and customer-relationship management applications. They concluded that to accomplish these priorities anti-silo thinking had to be changed to a collaborative model and government websites must move from "encyclopaedias to transaction processors."

The study investigated the success of various levels of governments to harness the use of technology to improve service delivery for citizens. By dividing governments into two groups, those that made concerted efforts to leverage taxes and increase customer satisfaction (customer centric) and those that did not (non-customer centric), they identified which government group was better able to recognize the benefits of e-government.

The customer-centric governments placed more emphasize on training and empowering employees than did non-customer-centric governments. Although 45% of governments in the study rated technology as a top enabler to improve their relationship with customers, 32% stated that technology caused problems, mostly with dealing with legacy systems that could not be used with the newer technologies.

Most of the governments in the Deloitte & Touche study have continued to lead in developing e-government according to the fourth annual survey of e-government by consulting firm Accenture (BBC News 2003). The study included 22 governments putting services online and

improving existing services to better meet the needs of citizens. Governments at the bottom of Accenture's ranking system have set up websites but simply provide information rather than services, the "encyclopedia" model. Only Canada has reached the top level of complexity and, for the third straight year is perceived as having the most sophisticated e-government. The second ranking included many other countries such as the UK, US, Singapore and Australia.

Those with the best ranking allow citizens to complete transactions on-line, such as pay taxes, the "transaction processor" model and, at the same time, are transforming work patterns in government departments. Placing government material on-line is much easier than changing the entrenched ways of governments working in silos.

Accenture recommended that governments do more to determine if the services are actually useful. While governments are becoming more sophisticated with e-government, many of the citizens are not. The low usage of the web services suggests a need for more marketing on why citizens should use the services on the web.

**E-Government Typologies**

Typologies of different kinds are useful to get a "crude reading" on the progress of a public organizations' management of information technologies. Most recent typologies concentrate on evaluating an organization's progress on the use of the Internet. One that provides a practical way to conceptualize the steps of providing services suggests the following six stages to effective e-government (Deloitte & Touche Consulting 2000)

Accenture has been studying e-government since 2000. The 2003 study (Rohleder and Jupp 2003) provided five key findings, the first of which is that e-government progresses through a series of levels often reaching the top of maturity where further development based upon the current plan is impossible. Their five e-government levels are:

**1. Online presence**: information is published online, few services are available and there is evidence of early infrastructure investment

**2. Basic capability**: central plan and the lead and legislative framework are available, security and certification are addressed, and significant online presences across the government, the quick-win transactions are available with revenue-generating sectors leading the way

**3. Service availability**: there are basic portals with as many services as possible available, brought targets are in place with some sophisticated transaction capabilities, some cross agency cooperation with initial customer focus.

**4. Mature delivery**: intentions-based transactional portals, service clusters, clear ownership and authority for an e-government plan by a chief information officer or central agency: intra-agency relations and collaboration across different levels of government, major services that have proven added value, a move to customer service objectives

**5. Service transformation**: striving to meet improved customer service delivering, increasing users is a key measure of success; e-government is no longer a separate initiative that is part of the general service delivery, multi-channel integration, organization, process and technology changes across agencies

Accenture's second conclusion was that value drives e-government planning. Governments are no longer willing to wait long periods of time to reap results from their efforts. When the government is effective it achieves its intended outcomes, when it is efficient it improves the way it does business. Sometimes placing high volume services online will free resources to place on more important activities.

The third conclusion was that customer relationship management (CRM) is the basic underlying principle behind most e-government thinking. Government officials most often used the word customer to describe the people they serve and are becoming more concerned with the quality of service delivered through the new channels rather than just concentrating on cost. They were also concerned about making these services more accessible with increased numbers of physical and telephone access points. CRM is interested in the characteristics and needs of customers, providing many channels of interaction and encouraging them to use the most appropriate channel, obtaining a history of previous interactions with each customer, encouraging agencies to meet objectives of improved service, cost reduction and program effectiveness.

Fourth, governments were attempting to find ways to increase the use of e-government services. In 2003 Canada was the clear leader and had improved more than Singapore and the United States, the closest rivals. Canada's federal government site was the sixth most accessed site in the country. The Canadian citizens are squarely behind the government and 77% think that the Internet will improve services, 78% believe that Government Online makes the government more innovative and 73% believe that Government Online is a good use of tax dollars.

The final finding was that e-government targets were set too low and governments can now obtain more impressive results than first anticipated. Revenue agencies were the first to use information technologies and they originally set their initial targets at 50% use. This now appears to be low and most agencies should surpass this level in the near future. There may even develop a ubiquitous government where citizens use wireless, television, voice and silent commerce to interact with governments.

Governments must take four types of action: identified the right services for specific customers, implement services properly, increase take up of services and measure success.

It is difficult and practically impossible to be certain about the effectiveness of an organization's use of information technologies because first, with a multitude of ways public organizations can adapt to use information technologies, it is difficult to measure all of them. Second, because information technologies are quickly increasing in power with more functions, many tasks impossible or too expensive six months ago are now possible and affordable.

A second useful e-government typology is Deloitte and Touche's six levels of e-government, discussed below.

1. *Information Publishing/Dissemination*

A stage mainly involved with providing information to e-clients, such as directories of services and people.

2. *Official Two-Way Transactions*

Citizens provide personal information and perform monetary transactions over the web, requiring a secure website with a guarantee of privacy.

3. *Multipurpose Portals*

Anti-silo thinking prevails with a citizen being able to enter one portal and complete transactions with many government departments, across governments and even with private businesses.

4. *Portal Personalization*

Similar to stage three but citizens can customize the portal for features they require.

5. *Clustering of Common Services*

At this stage, the distinctions among departments start to blur. Customers use the portals not knowing which departments are providing the services. Governments start to bring services together along common lines irrespective of departmental responsibilities.

*6. Full Integration and Enterprise Transformation*

The government has a full-service centre customized to the needs of the citizen. Technology is integrated across departments and little distance separates the top from the bottom of the organization.

## THE STRUCTURAL PROBLEM

The information technology challenges should be placed in a broad structural and historical perspective, allowing us to compare the types of public organizations that initially developed to the changes that have and will occur.

Over forty years ago Marshall McLuhan (1962) wrote ". . . the new electronic interdependence recreates the world in the image of the global village." Yet, often we still do not understand communication possibilities and the importance of sharing information.

The lack of any easy effective ways to communicate lead to the development of organizations working on their own mandates with little or no cooperation and collaboration with other organizations. To illustrate this point, when you look at a film made about the early 1900's, for example "Oh Brother Where Art Thou?" pay attention to the rudimentary information technologies available in that era. In this film, after receiving a phone call at the office through the old wired technology the police race to the robbed bank. Because they have little information about the robbers, unknowingly they pass the robbers heading out of town in their car. Of course, the thieves get away. Compare that information with the information available to the modern police constable with cruisers equipped with wireless cell phones, two way radios and satellite linked laptops and video cameras and alarms directly linked to the police station.

It is not hard to pick a recent example to show that organizations are still struggling to operationalize new information technologies and share information. In 1999 when a Swiss Air Flight crashed about one kilometre off the Nova Scotia coast, the only method for the rescue coordinator, police, military and fire departments to communicate with each other was hand signals out their windows. Each rescue unit had a different technology for communication and none of them were compatible.

This is not unlike the organization of governments. The constitutions of many democratic countries carefully divide responsibilities among different levels of government based on the idea that the levels of government work parallel with each other, fulfilling their obligations without much interaction with each other. The Canadian British North American Act (BMA) divided Canadian constitutional powers into a set for the federal government (e.g. Fisheries) and a set for the provinces (e.g. Education). The provinces subsequently further sub-divided their powers with a multitude of municipal governments and boards (Center for Collaborative Government 2000).

Until the middle of the twentieth century the divisions worked relatively well. But then many countries, such as Canada, developed expensive and complicated welfare states in areas such as health, social services and education. The citizens accepted these systems and started to demand that governments deliver effective programs, irrespective of which government had constitutional responsibility. For example, when the Cod fisheries on the east coast of Canada collapsed because of declining cod stocks, the federal government, with power over fishing licenses, forced many fishers to stop fishing Cod. The federal government's plan included re-

education of the fishers for other jobs. However, education was a provincial responsibility requiring extensive consultation and for the education plan.

This "silo" mentality is still alive and well, sometimes even within the same department. A Canadian Provincial Social Services Department (the vagueness here is to protect the innocent designers of the project) recently developed a multi-million dollar project to share information among their workers in different units. The new database would allow workers in one segment of the department to know if other workers in the department were performing duties that would affect their work. For example, workers providing housing would know if childcare workers had recently removed children from the clients. The senior administrators cut the project because it was too "controversial," completely ignoring the advantages for the clients and staff of sharing information within the department.

Citizens want seamless government, delivering effective programs. The developing information technologies provide tools to produce seamless governments. As the general population uses and understands these technologies, more pressure will be placed on governments to develop more collaborative models.

## NETWORKS

The metaphor often used for a new organizational structure that will meet the new challenges of the information age is a network, based on a collaborative model focused on results, horizontal management and partnership development. This is opposed to other paradigms such as markets and hierarchies, which have dominated past organizational structures. The model is very different from the traditional government structure because it involves many nodes, connections and lack of hierarchy. There are different types of networks, including communications networks, knowledge networks, infrastructure networks and financial networks. Knowledge and communications networks, created to produce and disseminate information, will be the most effective in the future (Stein and Stren. 2001). If governments are to move to a network model, it will involve major change and learning, leading to joint planning and decision making, integrated service delivery, common practices, new standards and evaluation (Center for Collaborative Government 2000).

Both researchers and practitioners are finding that cooperation and sharing, important aspects of a network are becoming the best ways to interact with each other. A 2002 Cork, Ireland "Informing Science" conference was a good example of blending disciplines. The conference encouraged presentations from the disciplines of information systems, library science, journalism (in all its forms), public relations, history, and education. There are few, if any, university departments or research labs called Informing Science, yet from their diverse bases of knowledge, these fields are evolving and emerging into a cooperative trans-discipline (Martinez 2001).

When a government is serious about networking it must include first, transparency, being able to see how the parts are connected; second, accountability, knowing who accomplished tasks; when, where and why the task were accomplished; and, third, privacy, guaranteeing that personal information is collected and accessed only by those whose roles require it. As soon as a government starts to provide services on the Internet, it becomes the thin edge of the wedge opening up a necessity for more collaboration among departments. In a group of Canadian public administrators and politicians . ". . . the picture of government that emerged from the discussions is one in which boundaries that separate departments, governments and sectors are

already far more diffuse and unclear that a decade ago- a trend that all agreed will continue (Alcock and Lenihan 2001)."

Networks should also integrate information technologies. Every government service will not move to zero touch with no human contact because the garbage will still have to be gathered and complicated or new possibilities will still need to be discussed. In addition, the users, both public servants and customers, should be able to decide which way is the best for them to gather the information. Government websites and call centers " could work in tandem: a call button on the web site could initiate an immediate return call by phone or video link, and the citizen and call center agent could have the same web site in front of them while they discuss an issue (Holmes 2001).

## KNOWLEDGE BASED ECONOMY AND EMPLOYMENT

Anyone not living in an underground bunker for the last 15 years knows that the speed and diversity of ways for handling information has exploded over this time period. Fifteen to twenty years ago it was rare to find anyone using email. My first email account (address and computer storage space) in the mid 1980s at Dalhousie University in Halifax was on a mainframe at the University of Alberta, three time zones away. The account could only be accessed with a telephone modem and a long-distance call from Halifax. Only three of my colleagues throughout Canada had similar accounts. Now anyone without an email address is considered to be incompetent or out of the loop. Every Canadian public school student and teacher is given an e-mail address. The Prime Minister promised that by 2005 all government services will be offered electronically.(Deloitte & Touche Consulting 2000) In the public service at least 75 percent of future workers soon will be knowledge workers (MacDonald 2002).

One of the blessings and curses of the last two decades has been easier access to information and increased speed of access, leading to the knowledge-based economy. With static knowledge becoming obsolete very quickly, this economy must involve a culture based on life-long learning and openness for individuals and organizations to change.

We have known for many years that better educated workers have an easier time obtaining jobs and advancing to better jobs in an organization. The knowledge based economy is producing greater differences in the rate of employment between those with a post secondary degree and those with less than high school education (Rushe 2002).

The speed of change has caused turmoil, making personnel issues problematic and difficult to predict. The high-tech industry in 2000 was complaining of a severe labour shortage, and employers were reconsidering the importance of a four-year college degree for certain types of IT workers. Four-year university programs were by-passed by recruiters because of the belief that universities had problems keep up with rapidly changing technology. One and two year technology programs in community colleges and for-profit schools were favoured because of the shortage and the belief that a broad education was not needed (EE Times Online 2000). However, from 2000 to 2002 the shine left the technology sector and with the shrinking stock markets came company downsizing and closures, leaving a surplus of technology savvy workers. Public organizations have benefited from this surplus, but it is obvious that all workers and administrators in the public sector need to be prepared to work in an intensive knowledge environment.

## COOPERATION AND INDIVIDUAL SERVICE

Exactly how are newer information technologies affecting governments? Public organizations are realizing two important changes, first, that cooperation among organizations is essential, leading to network environments and, second, that citizens are best served as individuals and not homogeneous clumps of customers.(Deloitte & Touche Consulting 2000)

As soon as a government is re-engineered with these concepts, the need for fast, efficient information technologies becomes more crucial to the interface with customers. Many public organizations are pushing hard to redesign their services to accommodate a wide range of user needs. From 1998-2000, approximately 70% of the 250 state-level governments in Australia, Canada, New Zealand, the UK, and the USA pursued business-process re-engineering involving a large investment in information technology. "Because more processes will be technology driven in e-government, customer-centric governments are already ahead of the game."(Deloitte & Touche Consulting 2000)

## THE RELATIONSHIP OF E-GOVERNMENT TO LEADERSHIP THEORY

The major theme of this book, to explain the importance of information technologies to public administrators, does not negate the importance of understanding basic leadership theories. But it does help highlight the theories that are best suited for public administration in the information age.

### Catalytic Leadership

One of the most relevant theories, Catalytic Leadership, encourages administrators to resist perceiving public problems as simple with single quick solutions, but rather to see public problems as complicated with many connections across organizational and jurisdictional boundaries. These problems almost never have a quick fix. Therefore, public leadership works in a highly interconnected, Political, and inter-organizational context. Authority is shared and power is fragmented, non-hierarchical and outside organizational boundaries. The problems have many stakeholders which diminish the authority of any one stakeholder and require collaboration.

Public problems, such as pollution of waterways, have multiple causes, need more than one strategy for solving the problem and are never totally solved. For example, when and by whom will the waterway be declared free of pollution?

A catalytic leader must elevate the issue on the public agenda, involve critical stakeholders, stimulate multiple initiatives and sustain action toward the goal. Issue definition has far less to do with data and scientific analysis then with values, mental models and personal experience. Since every social problem can be defined or framed in a variety of ways, the public administrator must clarify and simplify issues, create a sense of urgency, expand the issue to broaden support and capture strategic intent.

A major challenge is to communicate appropriate data demonstrating that conditions are worsening in real and relative terms. The leader must be able to see the whole as well as its parts and multiple causes and effects. The only way that this can be effectively accomplished is through a thorough understanding of the communication possibilities of IT and appropriate utilization of IT.

Public administrators must work with IT managers to create a detailed data gathering and communication plan to stay focused, gain consensus, define and utilize metrics/data and weigh

criticism.

**Cyber Management**

Ghere and Young (1998) could have had the shifting sands of Sable Island in mind when they wrote that public managers need to understand the rapidly changing environment of their workplace brought on by digital information and a "cyber-management" environment. The five functions of cyber management in the public sector are 1) access engineering, 2) substantive policy, 3) public-record retention and retrieval, 4) administrative decision-making and 5) informal communication.

Access engineering is "a seamless transfer of both knowledge and information between government and citizenry." To accomplish this transfer, public managers, first, must deal with conflicts between the multiple functions of electronic data in government and the safeguards needed for open, accessible, and responsive governance and, second, realize that cyber-management is costly, multi-faceted, and ambiguous, subject to continuing change. It is also amalgamated with the other four fundament public service goals listed above.

Administrators should look beyond using information technology to centralize public data and enhance internal communication, to using the new technologies for transforming agencies to be externally oriented and engaging citizens in policy formation and implementation. Data warehousing, civic networking, electronic participatory democracy and the web can enhance democratic governance participation.

The need to switch to cyber-management can also be related to the upcoming clients. The students in school now are the first completely digital generation. They have had access to media, technology and each other through technology since the day they were born. These technology capable children deal in images and symbols more than other generation (Adams 2003).

Zussman has a more general but related message; ". . . the public sector everywhere is entering a period of profound change affecting what it does and what it is. At the moment, the implications are felt rather than understood. The changes offer exciting possibilities, but they also carry considerable risks. In order to manage these risks, we need to understand and articulate the new environment (Zussman 2002)"

If you are not convinced yet about the rapidly changing public administration environment consider the lowly municipal government parking meter. Motorists in Edinburgh Scotland pay their parking meters at 266 solar powered machines with their cellular phones. The system uses Irish software from ItsMobile. The user phones a national hotline, is prompted to key in the parking meter's identification number. The parking ticket is sent an electronic instruction to print out a ticket to be placed on the car windscreen as proof of payment. The customer's credit card account is used for payment (British Broadcasting News 2003).

Information technologies will bring a more profound change to governments then to businesses because people actually like to shop. It is a very rare person who actually likes to hang around a government office. They would rather take out the garbage than go to a government office. If citizens can avoid person to person contact with governments, they will take it.

**Organizational Culture**

Another leadership theory that can be useful for changing public workers' attitudes about information technology use is Organizational Theory.

When you walk into an office do you often immediately get an impression of the office

environment such as “this is an impressive office” or “I would not want to work in this office?” What feedback gives you this impression? Is it the way the walls are decorated, the laughter in the room, the closed doors to each office?

What you are starting to sense is the organizational culture of that particular office. Upon entering an office, you immediately observe artifacts and start to make assumptions about the beliefs that determine behavior in that office. "Behind or beneath the cues, some social scientists assume, lies a shared set of organizational principles called culture" (Erickson 1987). A proper analysis of these principles or assumptions of an organization, built upon the details of an office and worker behaviors, will lead to an understanding of how to use organizational culture to improve an organization.

Organizational culture is built on the tools of anthropological study of cultures in general. “The culture of a people is an ensemble of texts, themselves ensembles, which the anthropologist strains to read over the shoulders of those to whom they properly belong.” (Geertz 1971)

Much of our cultural knowledge is implicit, consisting of learned ways of thinking and acting that, once mastered, are held outside conscious awareness. Consequently, workers are too close to their own cultural patterns to see them without making a deliberate attempt to break our learning set and too close to introduce a bit of distance between themselves and their taken-for-granted realities. To render transparent assumptions visible, it is necessary to cultivate the ethnographic stance of “moderate alienation.” That is, when ethnographers go to an exotic setting they try to get close to the way the "natives” understand things, but they try to maintain a distance as well. (Erickson, 1987; p14-15)

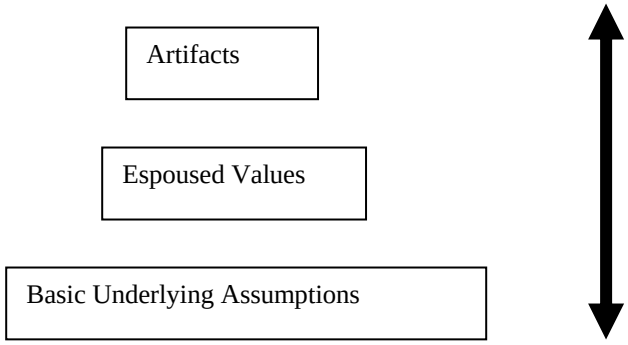
A very powerful way of understanding a work environment is to use the paradigm of organizational culture defined by Edgar Schein (Schein 1992) as:

“A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.”

The three levels of Schein’s culture paradigm can be seen in FIGURE 1. The first level, artifacts, includes what we see, feel and hear in a public service organization i.e., one's own feelings. It is most prominent when a person comes to a new group. It is easy, yet sometimes dangerous, to try to infer the deeper assumptions from artifacts alone because of the many interpretations for artifacts.

The second level of culture is espoused values, best conceptualized as sentences with “ought to” statements e.g., "We ought to wear expensive clothes to work." Espoused values can be verbalized and written by group members. They reflect someone’s original values and sense of what "ought to be" as distinct from "what is." They can predict much of the observed behavior in an organization.

**FIGURE 1**




The final and deepest level of culture is the assumption, an “ought to” statement that has become so taken for granted that little variation is found within a cultural unit. The public servants neither confront nor debate the statements and make them congruent with their own assumptions. Any challenge to the assumptions will release anxiety and defensiveness. For example, if "you ought to wear expensive clothes" is an assumption and a worker comes to the office wearing shoes with holes and a dirty, torn suit or dress, anxiety will be released in the other workers. An information technology example is asking colleagues to read a long article on a computer screen rather than on paper. Many people’s assumptions about how articles should be read will be challenged and anxiety will be raised.

Culture is composed of shared assumptions about working in organizations. The contextual meaning can only be fully understood by members of the culture, so they must be involved in the analysis of culture. Not all parts are relevant to a given issue, so the analyst must determine which artifacts are related to an assumption. However, insiders need outsiders’ help to see the assumptions since the basic/important assumptions have disappeared from the insider’s conscious state. This usually means that the outsider must gather information from the artifacts, draw assumptions from the artifacts, and then share these “hypotheses” with the insider to see if the outsider’s interpretation is correct or if other interpretations might be more appropriate.

Some assumptions help, others constrain the organization. For example, a strong culture might mean widely shared organizational assumptions about appropriate use of paper in the office. If the majority of employees strongly share the assumption that an organization “ought to” always retain important documents on paper, an administrator will have a difficult time changing the assumption and, therefore, the behavior of the unit to appreciating the benefits of digital storage.

Changes can often be built on existing assumptions, but at times the cultural assumptions can be so strong that they hinder change. The administrator must develop ways of first unfreezing this assumption by introducing data that challenges the existing practices and then introducing a save environment in which to try out the new practices.

**Good Planning Strategies**

Even though this paper concentrates on management of information technology, the material must be placed in the larger field of public management, including project planning. After all, implementing and maintaining different ways of handing information are basic projects. IT projects usually involve large financial inputs, breaking down silos, power shifts within offices

and general project planning techniques. The checklist for e-government planning usually includes:

1. Defining a vision or business case;
2. Building trust with privacy, security and confidentiality;
3. Planning for both technology growth and customer friendliness;
4. Planning for changes in access channel use (e.g. telephone vs. internet);
5. Considering in-house work versus out-sourced work;
6. Coordinating investment plans for IT with funding cycles;,
7. Considering fees for transactions;
8. Developing a strong change-management program.

How can public managers create the proper environment for senior management and the front-line employee to accept technology as an increasing influence on our workplace and use the technologies most effectively to complete job-related responsibilities? The following six conditions set the foundation for a public service effectively using information technology (Zussman 2002).

First, governments need to establish and articulate a **clear vision** of how institutions should evolve, and technology will be harnessed for the next generation of government operations, programs and services. The vision must drive the choice of technology, not vice versa. Second, this broad vision must be captured in a **statement of government priorities**. E-government is expensive and the transformation process is time-consuming. Senior leaders must be committed to the e-government initiative, and ensure there is adequate funding and a clear process by which funding can be obtained. Resources must be allocated to manage the broader change process.

Third, wherever possible, **change initiatives should be harnessed together**. For example, the Canadian federal government conducted, in parallel streams, extensive projects on Government on-Line and public service reform. Public service reform and government on line are two sides of the same coin and these projects should be linked. Fourth, **sustained ministerial involvement** is essential, both at the level of individual portfolios and in the context of collective government decision-making. If politicians are not comfortable with where things are going, then e-government will become an e-nightmare.

Fifth, **senior level official leadership** from central agencies and from effective interdepartmental co-ordination mechanisms is needed to support ministerial leadership. Sixth, **senior level "champions**" are required for key elements of a government-wide reform initiative, such as service improvement and information management.

However, the biggest challenge for continuing change and guiding an organization through difficult times is **maintaining strong executive leadership and reinforcing the need for all senior public administrators to be knowledgeable about e-government and managing information resources.** The problems with developing e-government are not mainly technical, but rather organizational and political. Left on their own, the technicians will develop delivery systems for existing programs. The more important problems are what other services and parts of public administration can be improved by the use of the multitude of information technologies. These decisions require people knowledgeable about running governments with a keen sense of IT possibilities.

The administrators and politicians must 1. Support research at the federal, state and local levels as well as investigations into intergovernmental and public-private interaction. 2. Attend to

issues of governance as well as government; 3. Encourage methods that describe, account for, and evaluate questions of service, system integration and environmental complexity; 4. Seek innovative funding models that build a larger resource base for digital government initiatives. 5. Link research and practice in an ongoing exchange of knowledge, needs and experiences; and 6. Create practitioner advisory groups for programs, including practitioners (Dawes, Bloniarz et al. 1998).

Public information management focuses too much on traditional concerns over the efficiency and performance of public agencies when “innovations in information technology and policy, including data warehousing, civic networking, and the internet, provide a unique opportunity to create external public organizations which emphasize democratic participation in the processes of governance.” Pressing issues are bringing together the delivery of services and providing citizen access to public information (Alexander and Grubbs 1998).

## CONCLUSION

The paper sets the foundation for e-government leadership by examining theories and planning strategies relevant to organizations adapting to using information technologies. Catalytic Leadership, Cyber Management and Organizational Culture are suggested as important concepts for understanding and developing the most effective organizations. Obstacles for e-government, inherited from the organizational structures of past governments are explored by understanding the stages of e-government and developing appropriate networks to break down the silos within organizations.

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