Preparing for the Emerging Leadership Challenges of the 21st Century

The Thomas d'Aquino Lecture for the Richard Ivey School of Business

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INTRODUCTION

It is an honour to be asked to deliver this year's Lecture on Leadership, but doing so at this particular time is an exceptionally daunting challenge.

I say this first because I am speaking in the shadow of the tragic death this summer of Jack Lawrence. Jack's generous endowment established the *Lawrence Centre for Policy and Management* at the *Richard Ivey School of Business*, and therefore made this lecture possible. Jack's boundless energy, creative leadership and passion for public policy will be missed by all of us -- and today, it falls to me to make sure that my words live up to his legacy of excellence.

Second, today I assumed my duties as president-designate of the *Canadian Council of Chief Executives*. The Council, of course, is the life's work of Thomas d'Aquino, after whom this lecture is named, and who gave the first lecture. In the 28 years that he has served as the Council's chief executive, Tom's accomplishments and leadership in shaping public policy in this country have become legendary -- and soon I will be faced with the unprecedented task of stepping into his shoes. With Tom present for this lecture, I can't help feeling a bit like a doctoral student facing the oral defence of his dissertation.

In addition to Tom, previous speakers in this series have been my long-time Deputy Minister at Industry and at Finance, Kevin Lynch, and former Bank of Canada Governor David Dodge (also a former deputy at Finance).
Each of these men has demonstrated leadership in the public sector and has made a difference in the direction of public policy over many years. I am honored to have been asked to join their company in delivering this lecture.

I would like you to think with me about some of the leadership challenges facing our public institutions and our business leaders in the 21st century. More particularly, how can we as a society prepare to meet these challenges, and what are the implications for our politics, our public institutions and our business leaders?

Central to these questions is the role, skill and character of leaders. In my early days as a Minister, I learned quickly that the combination of political skill, persuasive abilities and sound judgment that make a good minister is in short supply.

Ministers in our system have power, but the test of leadership is in the exercise of that power in the daily grind of government where the important is often pushed aside by the urgent, and where every decision requires a degree of courage.

I shall never forget that heady day, November 4, 1993, when I was sworn in as Minister of Industry. There was some great advice dispensed that day.

The Prime Minister met with us in the Cabinet room, and cautioned us about disregarding the advice of our senior officials. We entered office after nine years of Progressive Conservative government, mostly led by Brian Mulroney. Many of my colleagues were uncomfortable with taking advice from the same deputies who had advised our political adversaries only a few days earlier. But Prime Minister Chrétien understood the importance of a professional non-partisan public service that renders advice fearlessly to its political masters based on rigorous analysis of the facts.

I hope that today's public servants continue to render their advice based on fact and analysis, and that Ministers seek it and consider it before rendering their decisions, but I will have more to say about the conduct of public policy.

1. EMERGING ISSUES

I first sought political office in 1988. I believe that the issues facing policy-makers today are much more complex, globally significant and inter-related than when I first entered public life. At the same time the factors that deter capable individuals from pursuing a career in politics or the public service are more daunting and difficult to overcome. This is not a formula for success!

Think about some of the issues that confront Canadians today:

- stresses in the health care system aggravated by an aging population;
- increasing anxiety about the reliability of pensions, with many Canadians worried about their capacity to support themselves in their later years;
- a shift of power from the federal government to the provinces and the consequent difficulty of achieving coherent policy development across the federation;
- urban challenges, as most of our population lives in cities that are increasingly feeling the strain of aging infrastructure, crime and governance difficulties;
- public finances, as our federal government has its largest deficit ever and our provincial governments also go back into the red;
- a relationship with the United States, always a matter of importance, that faces new security challenges at the border and resurgent protectionism in that country;
- our role in Afghanistan, and in fact our role more broadly in a world in which global power is shifting, and as the emerging economies of China and India in particular become ever more important and as trading patterns change;
- peace and security, nuclear proliferation, terrorism emerging from dysfunctional states and non-state actors;
- then there is climate change, and its effects on food production and water resources, not to mention the drastic effects of increasingly ferocious weather-related events.

This is a long but still incomplete list of the issues that are shaping the planet now and that will profoundly affect the lives of generations of Canadians to come. It causes me to wonder whether we have the culture and structures of governance that are necessary in order to take on these challenges.

2. ARE OUR POLITICS AND INSTITUTIONS ABLE TO EFFECTIVELY GRAPPLE WITH THESE GREAT ISSUES?

I believe that we face an urgent need to renew our politics and save our democracy from demagoguery and incivility at a time when the pace of change demands that we be ready to adapt and innovate in a thoughtful manner.

In thinking about the public sector leadership challenges of the 21st century, I'd like you to think with me about:

- **The role of government and the public service**
- **The kind of politics that may be required of our leaders in these changing times**
- **The changed vocabulary and focus required of public sector leadership**
- **The new paradigm that is necessary in our public institutions as well as our business enterprises**

My generation gained its political awareness in the 1960s in an era in which government had great ambitions, and in which being politically engaged was something we did!

It was the time of Kennedy's New Frontier, of Johnson's Great Society, of Trudeau's Just Society.

It was a time of activism and engagement, of the Peace Corps and protesting the war in Vietnam.

It was, for us in Canada, the time of Expo 67. It was when we truly believed that government could define the great objectives of the nation, and then move forward with vigorous determination to achieve them.

Political scientist John Meisel called Canada a "public enterprise society", in contrast to our neighbours to the south (how else do we ever define ourselves?).

Canadians were, and were seen to be, very much about peace, order and good government, unlike our ruggedly individualistic southern neighbours.

We were less wary of the state than they.

We were, generally, deferential to authority, comfortable with activist government and had a strong sense of community.

But I sometimes compare my experience of the sixties with that of my own children in the nineties.

The sixties were years of great accomplishments, the formative years of the welfare state, including Medicare and the Canada Pension Plan. It was when we adopted our wonderful and distinctive flag.

It was a time when anything seemed possible, when even the Maple Leafs could win the Stanley Cup!

It was a time of great pride for Canadians; we were short of neither ambition nor hubris.

A few decades later, and many young Canadians no longer look to their governments with such confidence. Nor do they look to the future with such optimism.

I am very proud to have served in the government of Prime Minister Chrétien, and I believe we provided sound practical government to the country over 10 years. And we did many good things including the National Child Benefit, maternity leave and palliative care, investments in universities, research, science and technology – the "innovation agenda".

But I think if you were to ask the Prime Minister about the accomplishments of which he is most proud, he might mention three things:

- **Conquering the towering deficits left to us by the governments that preceded us;**
- **The Clarity Act, which has set some legal and procedural obstacles in the way of Quebec separatists (or those of other provinces, for that matter); and**
- **The decision not to follow George W. Bush and Tony Blair into Iraq.**

Now please don't misunderstand me These were all very important matters, and the Prime Minister is right to be proud of them, but do those three "signature" accomplishments inspire a generation to pursue public service as the highest calling?

To conquer the deficit, we reduced expectations and brought appetites into line with the nation's capacity to meet and satisfy them.

This meant tackling the culture of entitlement, which was good, but it also meant ratcheting back ambition.

We cut spending and we raised taxes. Both were necessary to put an end to many years of deficit financing.

In the Clarity Act, we wrote sensible ground rules for breaking up the country – rules that have gained purchase internationally. (I am thinking of Montenegro.) Solid, pragmatic, prudent, but hardly the stuff of legend. A shield, not a sword.

And in not associating ourselves with the folly of the invasion of Iraq, we were wise, maybe even visionary, but not doing something is hardly a sign of great purpose!

So, Canada has at least one generation which has grown up as their government has been reducing its presence, and as self-reliance became more important. We went from "just society" to "just say no (to Iraq)"!

With targeted programs increasingly displacing universal programs, fewer Canadians directly experience the benefits of Canada's social union. Meanwhile, our most important universal programs, healthcare and education, are showing the strain of demographic change and budgetary constraint.

Not surprisingly, Canadians are less sure today that government is relevant to their needs and aspirations.

And they have heard over and over again that government is inefficient at best and corrupt at worst.

Now, I can say from my experience that we have had an excellent professional public service, and further that many Canadians who offer themselves as candidates for elected office give up personal and professional opportunities to try to contribute to the public good.

I can also say that the word "corruption" must be the most debased word in Canadian political discourse! I have spent some time studying Afghanistan, and I sometimes wonder if Canadians even know the meaning of the word "corruption"!

In many cases, a public service manager has less to fear by failing to achieve his or her departmental objectives than from an unsatisfactory internal audit that uncovers a trivial amount of "waste". Instead of a culture of accountability, in which finding a problem and solving it is to be praised, we have developed a culture of name, blame and shame.

Thus, many public servants and politicians are fleeing risk and, ironically, reinforcing the view that government is indeed irrelevant.

So, the last fifteen years of fiscal and economic reforms have had some costs.

However, many of the changes in political culture were healthy ones:

- **We ceased to spend what we could not afford.**
- **We no longer assumed that growth was inevitable, and learned that we had to have the right mix of public policy and investment if we wanted a strong economy.**
- **We began to take more responsibility as individuals for our families and our communities.**

- **We demand results and high ethical conduct from our public officials.**

  All of this is good. But what I see as the erosion of public space – the declining importance we attach to collective action, and the growing distrust of the state – are dangerous if left unchecked.

  Why? Because if the past year and a half of turmoil in the financial markets has taught us anything at all, surely lesson number one is that public policy matters!

  At a time when technology is redefining "community", we cannot forget that real (as opposed to virtual) communities must still function well in the interests of our health, safety and security.

  As we witness the development of web–based communities, it is obvious that these will not substitute for flesh and blood human communities. Rather, they must be exploited to strengthen community-building in real space.

  But I believe we must also renew our politics and adapt our political institutions if we are to meet the challenges the modern world is throwing at us. And we must attract our best and brightest to the world of public affairs and public policy if we are to face today's challenges adequately.

  I listed some of these challenges earlier, but let's drill in for a moment:

- **Climate change is threatening global disruption on a massive scale. This is a problem that awaits a technological solution, ideally one that can generate energy with sharply reduced carbon emissions. But the subtext is a competition between nations and societies for scarce energy resources. Mechanisms for putting a price on carbon are being discussed, with great potential for shifting advantage among countries, sectors and enterprises. Furthermore, the need to adapt to climate change is likely to put serious strains on supplies of food, water and arable land.**

- **Global economic interdependence is such that subprime residential mortgage lending in the United States can lead to global financial and economic chaos. The sheer complexity of this challenge was one reason the world's financial system came so near to collapse last year. Meanwhile the world continues to struggle to emerge from a synchronous global recession and massive government intervention.**

- **Demographic changes mean that most developed economies are aging and most emerging ones are becoming younger, with huge implications for healthcare in the developed world and for the labour force everywhere.**

- **A Muslim jihadist hiding in a remote cave can direct conspirators to fly planes into the World Trade Centre and the Pentagon, killing more than 3,000 innocent people in one horrible day, and change the global security paradigm forever. But Al Qaeda is just one of the non-state actors that is challenging the**

authority of governments everywhere – if not by terrorism, then by piracy and organized criminality.

Is this a world in which we want all our best and brightest to join Goldman Sachs, or McKinsey, or Boston Consulting, especially if they never come back to apply their learning and skills to the building of our society?

How will we resolve complex issues of public policy, if the way we do politics and make public policy generates an ever-increasing spiral of cynicism that keeps our best minds focused on private matters, or working outside the institutions where public policy is implemented?

I believe, first, that we need a new political paradigm.

Political parties play an important role in our democracies by providing voters with choice, but partisanship that cannot compromise, that demonizes adversaries and that relies on vicious *ad hominem* attacks, degrades our democracy.

Increasingly, smart, sensible people who should be thinking of fulfilling a public role either elected or non-elected choose not to subject themselves to the poisonous atmospherics of public life, partisan self-righteousness and "gotcha" journalism.

Citizens know that no political party has a monopoly on wisdom or, even less, on virtue. They know that what they need is leadership that emphasizes collaboration and constructive resolution of our difficulties. We need to reverse the current poisonous trend and create a more positive dynamic within the political life of our country.

And second, we need a new institutional paradigm.

The hallmarks of government in the 21st century need to be these:

- **Intelligent**
- **Innovative**
- **Inclusive**
- **International**

Our institutions of government must be focused on the future and organically connected to the world. They must be:

- **Institutions that can make the link between our private troubles and ambitions and global trends and international processes.**

- **Institutions that are flexible and supple enough that they are able and willing to innovate and take some risks, even though risks are difficult to assess.**

- **Institutions that can enable us to have a sense of common purpose and the confidence to pursue that purpose.**

- **Institutions focused not on the debates of the industrial era but on the future: sustainable growth, shared prosperity, bridges between civilizations, pluralism, human rights and openness to the world.**

  In other words, Canada needs leadership in our public institutions that realizes that to survive and flourish we must marry the best local human resources and physical infrastructure with international networks, and be able to respond to opportunity and risk everywhere on the globe. To meet this challenge, government matters!

  Which is why we need a government that's intelligent, that invests in innovation and infrastructure and pursues policies of inclusion.

  In the face of new and emerging health and security threats, how does Canada protect its interests and contribute as a global citizen? It is *government* that must set the policy framework and invest in public health and national security.

  In the face of emerging challenges to our industrial base, it is primarily *government* that must invest in education and skills development and set immigration policy to meet the needs of our aging society. The question is not merely where the jobs will come from, but also, who will be able and willing to fill them?

  In the face of global energy and climate change challenges, it is *government* that must lead on energy policy and develop new tools to protect the planet and intelligently protect national interests.

  These are enormous challenges, and for these we need a new and better approach to politics than we have been witnessing. I would call it a "new politics".

  We need a new politics that knows that leadership is a team sport!

  A new politics that knows that we cannot find solutions to ever more complicated problems in our silos; that we need to look outside and to understand the permeability of the borders that have in the past divided and limited us.

  In this, Canada's history of openness to the world is an important competitive advantage.

- **Multiculturalism.**

- **Multilateralism.**

- **Multidisciplinary research.**

- **Private-public partnership.**

This is the future. And this will define the new politics and new skill requirements of those who shape the public policy of the future.

I know that this is an ambitious agenda. It is the great challenge of our time, not just for Canada, but for international institutions and those of other countries.

I also know that this is more of a diagnosis than a prescription for change. It is not at all clear how we stop the negative spiral we are in and bring a new politics and renewed institutions into being. But each individual can make a contribution:

- Citizens by insisting upon being treated like intelligent human beings who care about their communities and their country and demanding an improved level of debate about issues both within and outside of Parliament, the legislatures and city halls;

- Politicians by backing away from the personal attacks and talking about complex matters in a serious manner – telling the truth about some of the hard choices that face us;

- Journalists (and their editors) by treating public policy as something more than entertainment.

I think what I am saying is that we need is a massive conspiracy among the opinion leaders of our society to restore public respect for our institutions of government and the people who offer to serve. We can and must do better.

Forget the weekly scorecard about who's up and who's down.

Reward thoughtful debate with something more than a yawn.

Applaud compromise, when it is called for, as strength rather than as weakness.

Ask the difficult questions, but with a tone of civility that recognizes that they are difficult, and that the simple elegant solutions to complex problems are frequently wrong!

But there's more.

3- WHAT WILL BE THE IMPACT OF SOCIAL NETWORKING ON OUR POLITICS AND OUR INSTITUTIONS?

These challenges of governance oblige us to consider the impact of technology.

Now, in my public career I became known as something of a technophile - an early adopter of computers and BlackBerries. Often I would try to persuade my colleagues of the importance of the changing environment as we began to learn how to use new tools to deliver government services and information online.

I'm sure I don't need to tell you that when I tried to explain the digital revolution in cabinet in 1994, I was met with much rolling of eyes. One ministerial colleague said that his constituents thought that the internet was something they put over your head at the beauty parlor before they applied the hair spray.

Of course, the internet was anything but a fad and it has become an important part of all of our lives. But I think we are at another inflection point, as the web 2.0 phenomena become mainstream.

Facebook, YouTube, MySpace, Twitter, Flickr, LinkedIn: these tools of social networking have demonstrated their ability to reach and inspire millions of Americans, mostly falling into Generations X and Y, to get involved in politics, and more specifically last year, to catch "Obama Fever".

Much has been written about how Obama was charting new territory in the area of technology and social marketing.

And this has continued post-election as both U.S. political parties continue to use these tools to communicate to supporters as the debate over heath care and other matters become the focus of political activists.

But people are not embracing technology to merely inform themselves today – they also want to be heard.

The strategists behind last year's campaigns in the United States understood early on that a fibre-optic-driven revolution is taking place, changing the landscape for news and public affairs in a manner that is nothing short of revolutionary.

Throughout my 16-year career in politics, I know that my communications staff would go to sleep every night worrying about what the morning papers would report on. In other words, how had I stuck my foot in my mouth this time?

At 4 a.m., newspapers defined the news cycle of the day, broadcast outlets would pick up on the story and then the chase to get the "sound bite" is on for the rest of the day.

Politicians were reliant on the media to get their messages out.

And of course, the media won't let the facts get in the way of a good story. (This is why one day I called for an Ethics Commissioner for journalists.)

Today, politicians are no longer focused solely on the mainstream media to deliver their message. There are many more tools available, and most of these tools have one element that is priceless when delivering the message: control.

Now, instead of relying on mainstream broadcast media, you can find the latest news on all political occurrences from millions of blogs, podcasts and YouTube postings.

Furthermore, the internet is not just information being "pushed" out. It is a two-way street. The information is still there, but now there is the option to take this information and comment.

One of the biggest challenges in my political campaigns was that of mobilizing the grassroots. That, together with fundraising, was done through meetings in church basements, dinners, personal phone calls to supporters and direct "snail" mail campaigns.

Today, while those are still important, you can reach thousands of people simply with a click of a mouse. You can start a page on Facebook and encourage people to join your community.

And, as we all know, Obama was extremely successful at generating funds from the grassroots through his website.

That is an enormous benefit for a candidate. He or she can spend less time at rubber-chicken dinners, fewer soul-sapping hours begging for cash on the phone, less time schmoozing possibly questionable characters, and more time honing speeches, working on policy, engaging the media.

And Obama's trademark mass rallies weren't just media draws. Everyone attending had to provide an email or SMS address.

By the time they came home from the event, a message was waiting for them, asking them for money or for referrals to other friends, and encouraging them to form "affinity groups" to spread the network wider and wider.

It's a new form of politics; it will last beyond Obama and will change the shape of all campaigns to come.

For Obama, the new method was also consistent with his message – very much in the tradition of self-empowerment, anti-establishment, and next-generation.

If you are old enough to remember them, imagine what Eugene McCarthy, or Bobby Kennedy, or Pierre Trudeau could have done with these tools – for better or for worse!

This technology of inclusion has made activists of people who had never before been engaged in politics, and who, despite their enthusiasm for the candidate, would have been unlikely to find their way into a traditional campaign headquarters to volunteer.

There is no question in my mind that this is the future of political organization and fundraising.

But the challenge for those involved in public policy is to apply the lessons learned from this political campaign experience to the day-to-day task of governing. We surely have learned something about the polity which we seek to govern. It is not content with a "we/they" or "insider/outsider" paradigm.

The momentum is in favour of consultation, inclusion, collaboration.

As our population becomes more familiar with, and enamored of, the tools of Web 2.0, government will no longer be able to make policy in a vacuum, or by consulting elites and interest groups. More and more, ordinary citizens will demand to be included in the process of policy development.

And as we recruit more web-comfortable young talent to the public service, which I truly hope we will do, they will be mystified if we continue policy development within departmental silos, without adequate collaboration.

The challenge then becomes how to encourage policy entrepreneurship – risk-taking – and not become so constrained by consultation and consensus-building that nothing gets done.

And how do we ensure that the ease with which citizens can become engaged does not lead to a lowest-common-denominator approach to policy-making?

I am deeply worried that we are moving to a paradigm where the influencers will be anonymous and ill-informed, and the decision-makers cautious and intimidated. This need not be the outcome, but we need to begin now to shape that future.

4. WHAT ARE THE CHALLENGES FACED BY BUSINESS?

The objectives of business and the makers of public policy are quite different, of course. But there is a mutual dependence that is critical.

The policy environment in which business operates can profoundly affect results.

This is obvious in industry sectors that are regulated, but whether it is fiscal, monetary and trade policy, or simply maintaining an appropriate standard of public services, business cannot afford to be inattentive to the machinations of political actors.

Meanwhile, other factors are at play that are creating significant challenges for the business sector.

Perhaps Darwin said it best when he stated, "It is not the strongest of the species that survives, nor the most intelligent, but the most responsive to change."

Let me remind you of some important facts.

- **It took 55 years after the commercial introduction of the automobile before 25 percent of the U.S. population owned cars.**
- **Electricity did not reach one-quarter of Americans until 46 years after its introduction.**
- **Telephones took 35 years,**
- **televisions 26 years,**
- **personal computers 15 years,**
- **cell phones 13 years,**
- **while the Internet took just seven years.**

It has been estimated that about 90 percent of all scientific knowledge has been generated over just the last 30 years, by about 90 percent of all scientists and engineers who have ever lived . . . and now are living and working.

With computer processing power and genomic data also doubling every 18 months or faster, it is no exaggeration to predict that there will be more change in the next 30 years than we saw in all of the last 100.

Driven by convergence, globalization and radically disruptive new technologies, changes in the 21st century will come faster, disruptions to legacy business models and products will cut deeper, and the countries, firms, and individuals who succeed will be those best able to adapt.

Coping with this accelerating rate of change and complexity may prove to be the most significant factor impacting business success in the 21st century.

The future has already arrived, and it is global, hyper-competitive, technologically intensive, and rapidly changing, and our businesses must be prepared. In Darwin's words, we must be responsive to change!

If the objective is to survive and prosper, the ability to innovate is not an option!

In this context, many studies have contained sobering data about Canadian adoption and use of new technologies and processes which are often at the heart of innovation.

As Industry Minister, I was known to express concern about the lagging Canadian productivity rates. I even earned an editorial cartoon in which I was portrayed as Bart Simpson being forced to write on the blackboard over and over again, "I must not trash-talk corporate Canada"!

But the relationships are very direct: innovation improves productivity which is key to competitiveness and therefore economic success.

It is well established that productivity is a key driver of living standards, as measured by income per capita. And furthermore the contribution of productivity goes well beyond increased output and incomes.

Productivity is as important for determining the economic and social well-being of Canadians as it is for determining the income of Canadians.

Productivity gains can be used for more than just increases in private consumption. For example, they can be taken in the form of shorter working time, thereby providing opportunities for greater leisure.

They can be used to enhance government services and programs (e.g. better health care and education systems and a more generous social safety net) that contribute to well-being by enhancing economic security and creating a more equitable society.

These are sound public policy objectives.

But Canada's aggregate productivity growth has been weak in recent years.

Growth in output per hour in the business sector declined by 1.4 percent between 2007 and 2008.

From 2000 to 2008, business sector growth in output per hour has increased at an average annual rate of 0.7 percent per year, down from 2.9 percent in the 1996-2000 period.

In contrast, in the U.S., labour productivity growth has been a very robust 2.6 percent per year from 2000 to 2008.

This much faster U.S. growth has led to a significant increase in the Canada–

U.S. business sector labour productivity gap, from 15 points in 2000 to 27 points in 2008.

Canada's productivity performance has also been poor from a long-run, international perspective. Canada ranks 17th out of 30 member countries of the Organization for Economic Co-operation and Development (OECD) in terms of total economy labour productivity, down from third in 1960.

At the firm level, a number of rigorous studies have found strong evidence that network communications technology, in particular, has an effect on labour productivity.

U.S. studies have shown that computer networks and computer inputs have a positive and significant relationship with U.S. firm-level labour productivity.

A Canadian study has shown that it is the use of network communications technology which causes ICT use to have a positive impact on relative labour productivity in the manufacturing sector.

Micro-level studies have also found evidence that investing in ICTs may not lead to cost reductions and higher productivity if it is not associated with organizational changes.

For example, since ICTs are much more flexible than earlier technologies, they allow workers to modify their work practices, but the best practices that make the optimal use of the new capital are not always obvious.

It is in identifying and advocating for these best practices that IT professionals and their managers can make a significant contribution.

Effective ICT investment also requires the allocation of additional resources in training workers and testing new ways of organizing production.

Given the importance of productivity to Canada, policy-makers also worry about private sector R&D performance.

A recent study by the Council of Canadian Academies pointed out that, despite a variety of research and development incentives in Canada, the R&D performance of our companies is weak by international standards.

Only a handful of Canadian companies – around 2000 or so – report doing any R&D. It is not surprising that foreign-owned multinationals and Canadian multinationals tend to be much more active in innovation and higher in productivity than those companies that are not engaged internationally and are protected from competition by Canada’s regulatory environment.

And there is no doubt in my mind that many Canadian companies have relied for too long on a low Canadian dollar and not enough on productivity improvements.

Now that the dollar is well over 90 cents, instead of 62, the productivity lag has really begun to matter!

So there is no real magic to this, and both policy-makers and the private sector need to take note:

Technology enables sustainable economic expansion – creating high-wage jobs, world-class exports and the robust productivity growth so critical to our long-term global competitiveness – even as other countries improve their own economies and capabilities.

Technology-based innovations also improve our quality of life, from new drugs and cures that help people live longer and healthier lives, to agricultural advances that permit more bountiful harvests with less herbicides and pesticides.

Energy innovations are the key to meeting our extraordinary future power needs while protecting our environment. This may be so important that Thomas Friedman has argued that the major industrial country that will lead the 21st century will be the country that gets the greenest fastest with the best technologies.

Technology holds unique promise for the future of education at all levels.

And technology is key to citizen engagement and community relationships in ways that we hadn't contemplated a few short years ago.

I don't want you to think that I am a Pollyanna about technology because, as we all know, technology itself is morally neutral and can be put to either good or bad use. And in its use, the effects can be positive or negative.

Much as I enjoy the convenience of my BlackBerry, there is little doubt that the device increases the length of the work day.

This is a point at which the concerns of policy-makers and business intersect. And there are other important practical and policy dilemmas arising from the advances of science and technology that need to be tackled by both business and public policy. For instance:

- **<u>Security vs. Connectivity</u>. Connectivity increases value and innovative capacity. Unfortunately, connectivity also increases vulnerability.**

  This creates challenges for developing global business models, protecting privacy while bringing the benefits of IT to health care, deploying widespread e-government systems and other efforts to tap into a networked world.

  For government, privacy concerns must top that list, and we know that users worry about identity theft and the abuse of private information.

- **Growing, Attracting, Retaining and Maintaining the Best and Brightest**

  Within a generation we will need a far more technically literate, technology-savvy society than we have today – as workers, consumers and teachers. Yet North American students at the K-12 level continue to lag behind their international counterparts in math and science learning.

- **Innovation vs. "Equality"**

  Differences between the "techno-haves" and "techno-have-nots" are already raising unprecedented global challenges.

  In education we ask: How can we use our limited resources to leave no child behind (which is compassionate, fair and vital) while leaving no genius undeveloped (which is also critical if we are to be competitive)?

- **Defining National Interests in a Global Economy.**

  While policymakers are hired to promote national interests, it is getting much harder to define them as the global economy develops. We encourage our businesses to export and compete and grow globally, but that also means growing new jobs around the world, tapping global talent and ensuring proximity to growth markets and new customers.

  We feel conflicted when important or iconic Canadian companies are acquired by foreign investors. We want to attract foreign investment, but when one of these companies is acquired by a foreign company, we are distinctly uncomfortable.

- **Having Wisdom Keep Pace with Knowledge**

  We have not yet developed systems to assess the social implications and ethical consequences of new technologies. For example, most people would probably support a genetic screen that could ensure our offspring will be free of genetic defects *before* they are conceived. But what if parents also wish to pre-select gender? Eye color? Intelligence?

  If we can find the gene that made Albert Einstein so smart, should we let people similarly splice it into our own future generations and thus replace natural selection with human selection?

- **<u>Equipping People and Building Systems Able to Cope With Accelerating Change</u>**

  The nations, firms, and individuals who succeed in the 21st century will be those best able to manage complexity and rapid change. But employers demand immediate expertise in whatever skill is "hot," and today's hot skill may not be in demand tomorrow. Thus we could face a perennial skills mismatch, putting great stress on our IT workforce and providers.

CONCLUSION

This is a lot of ground we've covered, looking at challenges to both the public and private sectors.

The importance and complexity of these issues makes it crucial that we get this right: that our politics and public institutions provide our society with the legal, social and economic policy framework we need to succeed, and that our businesses are able to adapt to the rapidly changing global environment in which they must compete.

We must educate people who are knowledgeable about technology and its applications to aid in the development of the strategic direction of our governments and businesses. Instead of always chasing the puck, we need to go where it is going to be, if we are to score goals.

And we need to make sure that the men and women of the next generation bring both their technological savvy and a culture of innovation into leadership positions in both the public and private sectors. Canada's future success depends on smart public policy as well as creative and aggressive corporate strategies, and we need governments and businesses to be as innovative in working together as they are within their own spheres.

These are the challenges we must meet if we are to hope to compete in an ever more challenging world and, equally important, to build better communities, both virtual and real.

This defines the 21st century leadership challenge for public policy, public servants and politicians, and leaders of business.

Thank you.