

The CAN>WIN 2005 Report:
***Canada in the World: Economic Prosperity and Productivity through
Innovation and Skilled Workforce***

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In recognition to the collaborative efforts of the University of Ottawa's School of Public Management, The Conference Board of Canada and Microsoft Canada Co.

Foreword - March 2006

In December of this past year, Microsoft Canada and the Conference Board of Canada hosted a key thought leadership forum to examine the role of innovation and a skilled workforce in improving Canada's economic prosperity and competitiveness. Over 180 senior executives from government, industry and academia across Canada attended this one day forum in Ottawa.

Entitled, **CAN>WIN 2005: Economic Prosperity and Productivity through Innovation and Skilled Workforce**, the day featured interactive presentations and discussions by a number of Canadian and international thought leaders on this issue. Speakers included:

- Dalton McGuinty, Premier of Ontario
- Anne Golden, President of the Conference Board of Canada
- Michael Sabia, President and CEO of BCE
- Michael Grimaldi, President and CEO of GM Canada
- Linda Hoholl, President of the TSX Venture Exchange
- Dr. Richard Florida, acclaimed author and Professor in the School of Public Policy at George Mason University
- Colm Butler, Economic Advisor to the Prime Minister of Ireland
- Allan Gregg, President of the Strategic Counsel
- Steve Ballmer, CEO of Microsoft Corporation

This report encompasses the day's discussions, conclusions and recommendations prepared by Dr. David Zussman, Jarislowsky Chair in Public Sector Management at the University of Ottawa. Dr. Zussman is an accomplished author and columnist, and is widely considered as one of Canada's leading experts on public policy issues. We are extremely grateful to Dr. Zussman for authoring this excellent summary of findings and suggestions on how industry, governments and academia can play a greater role in improving our economy, productivity and competitiveness.

Thank you again to the Conference Board of Canada for partnering with Microsoft on this event, to all the speakers for their inspirational and informative presentations, and to all delegates for contributing to the sharing of ideas at CanWin.

We hope you find this report insightful and that you will be able to join us at the next CanWin Forum in Ottawa later this year to further discuss issues of importance to Canada.

Sincerely,



Phil Sorgen
President
Microsoft Canada

Even though this country has, by and large, prospered economically in the past decade ... Canada has been missing huge opportunities to do better for its citizens. The future, however, is filled with potential.

– Anne Golden, President of the Conference Board of Canada

Introduction

On December 6th, 2005, 180 senior executives from the private sector, government and academia gathered at *CAN>WIN 2005: Canada in the World, Economic Prosperity and Productivity through Innovation and Skilled Workforce*, a one-day leadership summit hosted in Ottawa by Microsoft Canada, in partnership with the Conference Board of Canada, to discuss ways for Canadians to increase prosperity and improve productivity in the face of ongoing challenges from other countries and companies around the world.

The session was designed to encourage sharing of experiences and ideas between the presenters and the audience and to give attendees a chance to meet and exchange views with their peers. All of the speakers were asked to combine theoretical ideas for spurring innovation with concrete examples and learnings drawn from personal experience. The goal was to give audience members real examples that could translate easily into action plans for them and their organizations.

Speakers and participants alike recognized that Canada's current prosperity and productivity, especially as compared to the United States, is not sufficient to sustain the standard of living we wish for ourselves. Participants and speakers also noted that while words are easier than action, the time has come for Canadians to move beyond discussing the problem and begin the hard work of building consensus and implementing a plan to secure future prosperity.

As the day progressed, a number of key themes or challenges emerged, including:

- Improving education and lifelong learning
- Removing barriers to innovation
- Creating a culture of innovation

This report is organized according to those challenges, providing highlights of the discussion on each theme, including quotes from the speakers themselves, as well as recommendations drawn from best practices or research presented for addressing the challenges.

Education and Lifelong Learning

People drive innovation. Because Microsoft depends so much on the quality of our people and their skills, education is extremely important to us, and we understand how important education is to the health of the communities where we do business. We believe that investing in education and workforce development may be the single most important thing that communities and countries can do to compete successfully in today's global economy. – Microsoft CEO Steve Ballmer

From Ireland's commitment to literacy and easier access to post secondary education to Microsoft's embrace of community technology in local Boys & Girls clubs, the importance of an educated workforce was the most-often touched on theme of *CAN>WIN 2005*. Sharing their thoughts on the day in a wrap-up panel, the Conference Board's Anne Golden, Microsoft's David Hemler and Dr. David Zussman from the University of Ottawa all noted that the importance of education had risen to the top of the day's discussions.

Nearly every speaker emphasized that by investing in people, the opportunities to innovate increase exponentially.

It's absolutely necessary to invest in people by giving them the tools they need. People come to work every day ready to make a difference. People determine the success of the organization. Amplify their impact, and you improve the results. – Steve Ballmer

Panelists emphasized the theme, reminding participants that investing in R&D, as important as that is, is not the same as investing in the education of students and that both are required. While R&D budgets have increased at most Canadian universities, the size of the facilities has not kept pace with the dramatic increase in class sizes.

A strong role in education for government was emphasized, notably by Colm Butler, a senior advisor to the Prime Minister of Ireland. In relaying Ireland's experience becoming the "Celtic Tiger" Mr. Butler, pointed out that one of the key decisions Ireland made in transforming its economy into one that is envied around the world was to radically improve access to education including literacy and post-secondary education programs.

Equally importantly, as early as the 1960s, Ireland also focused some of its educational initiatives in technology institutes, understanding that there was a transformation afoot from agrarian to information and technology. And finally, they ensured that early educational initiatives focused on instilling creative and lateral thinking skills in their students.

Broad conclusions regarding the importance of education included the view that corporations should recognize and embrace the value of investing in worker skills and encouraging lifelong learning, not only to attract creative new workers, but to retain them in a competitive landscape. Participants emphasized that executives must play a key role in developing talent within their organizations, by rewarding creative thinkers and risk takers, even when they fail.

Others pointed out that global competition with countries like Russia, India and China is not based solely on the cheap labour available in those countries, but also on the fact that those countries produce more highly skilled graduates in areas like engineering and computer science than do Canada or the United States.

For Canada, all participants agreed that an emphasis on skills development and worker training must not strictly focus on large companies, but also on the small companies of 10 or 20 employees that are the backbone of our economy.

Removing Barriers to Innovation

The barriers to innovation were discussed in many different contexts. From the broad national challenges to innovation that are particular to Canada to the specific challenges that face large and small organizations, to the regulatory framework that impacts all innovators, regardless of size or sector.

The National Challenge

Anne Golden summarized four national challenges Canada faces in making itself more innovative:

1. *Innovation is an abstraction.* It is hard for Canadians to grasp, especially when things appear to be going very well in this country, at least partly due to high commodity prices.
2. *Innovation creates winners and losers.* This is a difficult concept for Canadians to accept, given our desire for an egalitarian society that rewards all equally.
3. *Innovation requires endless competition.* Everyone wants to know there is a finish line, and there isn't one in the innovation game. This is not an appealing way of life for many.
4. *Politics is short term, innovation is not.* A follow through on the last point, politics and politicians are by their nature focused on the next few years, while creating an innovative society requires long-term planning over the course of generations

Ireland was presented as a national case study in the value of a top-to-bottom review of regulations and tax policies from an innovation standpoint. It was also presented as a study in persistence, given that its plan to transform itself into a more innovative and productive society took 40 years, and was revisited every three.

In the 1990s, Ireland made a strategic decision to take drastic steps to stem the export of its brightest and most talented people, including artists. Ireland did a radical overhaul of its tax policies and entered into relationships with profit-driven corporations to create a new environment that attracted investment and created opportunities for Ireland's most talented people. While timing had much to do with it, Ireland is confident it has created a culture that embraces innovation and that it will be well-suited to adapt to future global changes and expand on the economic gains it has made in the past decade.

Barriers to Innovation for Large Organizations and SMEs

In the established manufacturing sector, participants emphasized that the government subsidy approach needs to be replaced with a forward-looking partnership and public investment approach. Governments, academic institutions and those engaged in corporate R&D often have similar goals, but often differences in structure and approach in the three sectors hinder greater cooperation.

Greater emphasis on the end goal – to commercialize innovation and create markets for new discoveries is necessary across all participants.

We are wise to involve the potential customer or purchaser in the R&D process, encourage and incentivize businesses to foster innovation in their supply chains and, where it makes sense, accelerate results through networks or clusters where commercialization can flourish because the key elements of education and training, research, engineering, risk taking, collaboration and investment all come together. – Michael Grimaldi, CEO GM Canada.

An example from an established manufacturing sector – the auto industry – is GM Canada's \$2.5-billion Beacon Project – the largest automotive investment program in Canadian history.

The Beacon Project is not a subsidy, but a partnership between GM, the Federal and Ontario Governments, the CAW, academia and suppliers. A central element is the creation of a new Canadian Automotive Innovation Network drawing together eight key Canadian universities, leading Canadian automotive suppliers and GM to collaborate on product and process innovations and jointly train a new generation of Canadian automotive engineers and designers.

Under the program, GM Canada will invest more than \$100 million in new R&D and in-kind support in this effort because it believes that innovation and commercialization are fundamental to the future competitiveness of Canada's auto industry and its \$30 billion plus Canadian supply chain.

By partnering with GM, the provincial and federal governments support the sector by encouraging GM to invest and innovate. For the eight universities, the partnership creates a focus for its automotive engineering research and provides a substantial critical mass of R&D activity to encourage development of key skills with their students. GM and the auto parts sector will benefit from a long-term strategy for their sector.

Speakers and audience members made it clear that the challenges or barriers facing small and medium sized enterprises (SMEs) may not be the same as those faced by larger organizations. SMEs employ a large proportion of Canadians, yet as a sector, they lag behind in important innovation markers including ICT investment and employee retention.

While many innovations are driven out of the entrepreneurial culture of SMEs, such organizations may lack the skills, support or know-how to capitalize on innovation or to drive R&D.

More work must be done to encourage entrepreneurship and risk-taking among [SMEs] leadership. But not all good researchers are good entrepreneurs. Entrepreneurs may need help in order to realize the full commercial opportunities that arise from good research and innovation. – Linda Hohol, CEO, TSX Venture Exchange

The role of ICT

Michael Sabia, President and CEO of BCE Inc., focused his CAN>WIN remarks on a particular innovation challenge facing Canadian companies – investment in Information and Communication Technology (ICT). Steve Ballmer also touched on the theme from a

global perspective, but Mr. Sabia laid out the unique challenges facing Canadian companies, big and small, in this area.

Research by the US Chamber of Commerce indicates that 75 per cent of labour productivity gains in the United States were attributable to advances in information telecommunication technology. The belief among some Canadian economists is that 60 per cent of the gap between Canada and US productivity levels is due to lower ICT investment in Canada.

Canadian firms only invest two-thirds of what U.S. firms invest in ICT. Canada faces the additional challenge of small- and medium-sized businesses where the performance is even weaker, but they make up a larger proportion of our economy. – Michael Sabia

Mr. Sabia recommended forcefully that Canada adopt a national strategy to make our country a global leader in the adoption of ICT and that the strategy be led by the Prime Minister in order to ensure the broadest participation possible. He also made a strong recommendation that Canada commit to bringing broadband Internet access to all Canadians by the end of the decade, at least partially to ensure that small- and medium-sized businesses have equal access to the information society and to the many competitive benefits that come from ICT investment.

Finally, from a policy perspective, many of the speakers made it clear that while often unintentional, myriad policy barriers to innovation persist. These include outdated capital tax policies that do not encourage ICT investment, restrictions on raising R&D capital, and inter-provincial trade barriers. Again, Ireland's commitment to reduce capital taxes and to review its taxation and other productivity-related public policies on a regular basis was cited as an example to emulate.

Creating a Culture of Innovation

Creating a culture of innovation was a third theme touched on by many of the speakers and participants and the challenge was tackled from many different perspectives – from the enterprise level to the importance of cities and city life, the unique cultural advantages that a nation like Canada may have in its fight to rise to the top of the pack among innovative economies.

Steve Ballmer likened Microsoft's culture of innovation to hitting in the game of baseball – not every one of the hits is going to go out of the park and sometimes you even strike out. But if you're not at the plate, swinging, you'll never hit a home run.

Despite everyone's best efforts, despite all the market research and testing, no one is really ever sure how the market is going to respond to a new idea. Success can depend on a variety of factors, internal, external, some that are easy to control, some that are difficult to control. The only way really to succeed is to just keep on swinging. What really counts is this kind of sustained, tenacious effort of innovation over time.

Mr. Ballmer, Anne Golden and others took the theme one step further, reminding participants that Canadian executives have a special role in instilling this culture within their organizations. Ms. Golden pointed out what has become part of the Canadian business psyche – that we are risk averse and sometimes fail to reward those who take

chances, especially if they don't pan out. It is incumbent on Canadian executives to change this mentality.

Professor Richard Florida, of George Mason University, took the discussion of creative cultures beyond the enterprise and looked how to create that culture within cities and nations.

Dr. Florida framed the issue of economic growth and productivity by arguing that it is the creativity and quality of workforces that determine a nation's prosperity. He described the rise of modern society from its roots in an agrarian economy, to a manufacturing, industrial based society and, finally, to the creative economy that includes computing, science, technology, legal, health, artistic and entertainment sectors.

In 1950 the creative sector comprised five per cent of the workforce while manufacturing made up 50 per cent and the service sector around 10 per cent. By 2005, he estimates that the creative sector had grown to include more than 50 per cent of the work force. In terms of numbers, this translates to more than 40 million jobs in the United States and more than six million jobs in Canada.

Due to competition for talent over the last few decades there has been a significant migration of skilled people to a small number of creative cities and locales, indicating that quality of life in these cities is more important than national governments policies when it comes to attracting new talent to the knowledge economy.

Florida described what he calls the 3T's (technology, talent and tolerance) as the new basis for economic growth. While most experts have already recognized the importance of technology and talent in the determination of a highly competitive society, Florida emphasized that tolerance was also a crucial factor in the success of nations and urban centres.

Social and cultural factors are as important as other factors relating to innovation. Canada is in great shape to be highly competitive since it already welcomes a diverse economy through its immigration policy – Dr. Richard Florida

Dr. Florida's thesis expands on the widely-held view of the importance of clusters as drivers of the information economy, adding much more emphasis on culture, diversity, tolerance and quality of life to other, already acknowledged pieces of the puzzle such as workforce talent, education and infrastructure.

Premier Dalton McGuinty of Ontario outlined his commitment to making Ontario first in the innovation race among Canadian provinces. His strategy, at least partly, is to create a more welcoming culture of innovation in the province. Moreover, the Premier has done what many other participants recommend by taking responsibility for the strategy himself and building support for it at the highest levels of government.

Since becoming Premier, McGuinty created the new Ministry of Research and Innovation and taking on responsibility for it himself as Minister, he has established two goals. The first is to support the process of innovation and, second, to create a culture of innovation throughout the province. In the short term, the Premier has identified a number of sectors where innovation is particularly crucial and where the province is prepared to

support innovation and commercialization. These are: automobile assembly, agriculture, science and technology, and forest products. However, this list is not exhaustive and the Premier would like to lengthen the list in the future. In particular, he noted that he would like to encourage more innovation in Northern Ontario especially among the aboriginal community.

Conclusion

The daylong session reached consensus on a number of crucial issues. In particular, there was a broad recognition that Canada's overall productivity (especially as compared to the United States) is not sufficient to sustain the standard of living and quality of life that Canadians desire.

It was also recognized that while it is difficult to move "from words to action" because of the complexity of the issues and the abstract nature of the debate, that action is now of paramount importance. Moreover, nearly every speaker agreed that strong political support and commitment for action is fundamental and was a precursor to success in every other national example cited throughout the day.

Finally, there is reason for cautious optimism. Canada is in the enviable position of being able to "create and sustain a creative class" to take advantage of its population diversity and the dynamism of its cities. The time for action is now.

Respondents who filled out evaluation forms for the day spoke very favourably about the day, the participants, the presentations and the overall discussion, leading us to believe that *CAN>WIN* is a very worthwhile endeavour for Microsoft Canada.

One recurrent criticism was the lack of perspectives from Canadian small- and medium-sized businesses. We hope to rectify this in our next *CAN>WIN* conference.

Below is a summary of recommendations that emerged from the day.

GOVERNMENTS SHOULD:

Encourage the use and spread of information and communications technology (ICT)

- Reverse complacency around broadband access for all Canadians
 - Canada is among the most 'connected' nations in the world, however we do not currently have an explicit, aggressive broadband strategy and other nations are closing the gap.
- Experiment with pilot projects to test new uses of ICT that leverage more innovation and research in Canada
 - *Health Care* – ICT applications in health care delivery and electronic health records are needed, with the potential for strong investment returns for government
 - *Public Wi-Fi* – Build and extend more public Wi-Fi connections like the recent city of Toronto commitment to extend Wi-Fi to the downtown core. Ensure that rural communities are not left behind
 - *Expand public library broadband access*
- Government should lead efforts to bring similarly minded SMEs together to investigate ways to improve ICT benefits to that sector.

Modernise Canada's regulatory framework

- Renew and revitalize the Federal government's Smart Regulation initiative that is looking at removing regulations that discourage productivity and innovation

- Shorten the time it takes to develop regulations, especially in those areas where Canadian companies are competing in innovative sectors with foreign firms that work in different regulatory environments.

Develop an innovative culture in public and private organizations

- Encourage a significant cultural change in all private and public sector organizations to reward risk taking and innovative thinking
- Encourage companies and organizations to find innovative ways to attract and retain a highly skilled workforce. This includes training, recruitment and reward systems.

Build social and human capital

- Invest in post secondary education by raising the participation rate and ensuring that finances are not a barrier to entry
- Ensure that recent immigrants can integrate quickly into the labour force.
 - Improvements are required in language training and the recognition of previously earned credentials, where appropriate
- Recognize the growing importance of the 'creative class' in an innovation strategy by encouraging regions and clusters to embrace diversity and to champion innovation in the workplace.

Create the appropriate investment climate

- Reduce capital taxes
- Attract foreign investment in key sectors that are key in creating a innovative and more productive country.

INDUSTRY SHOULD:

Make better use of technology and infrastructure

- Invest more in information and communications technology
- Recognize the need for more investment in innovation at every level of the firm.

Encourage a culture of innovation

- Recognize the important role of the CEO in managing human resources
- Engage customers in setting research priorities so that investments in innovation are more likely to succeed
- Develop more entrepreneurs and encouraging risk taking in the work place
- Promote life long learning in the workplace through collaborative efforts and innovative tax policies (a more progressive use of the tax system).

RESEARCH INSTITUTIONS SHOULD:

Improve research institutions' ability to commercialize the outputs of innovation

- Too many commercial opportunities are lost to other countries once the basic research is completed at the University level
- Undertake broad-based consultations with industry and government to build partnerships for the commercialization of the outputs of its university research programs
- Build university capacity to commercialize, patent, bring to market, and manage regulatory environments
 - Encourage universities to create campus offices to encourage commercialization of innovations.