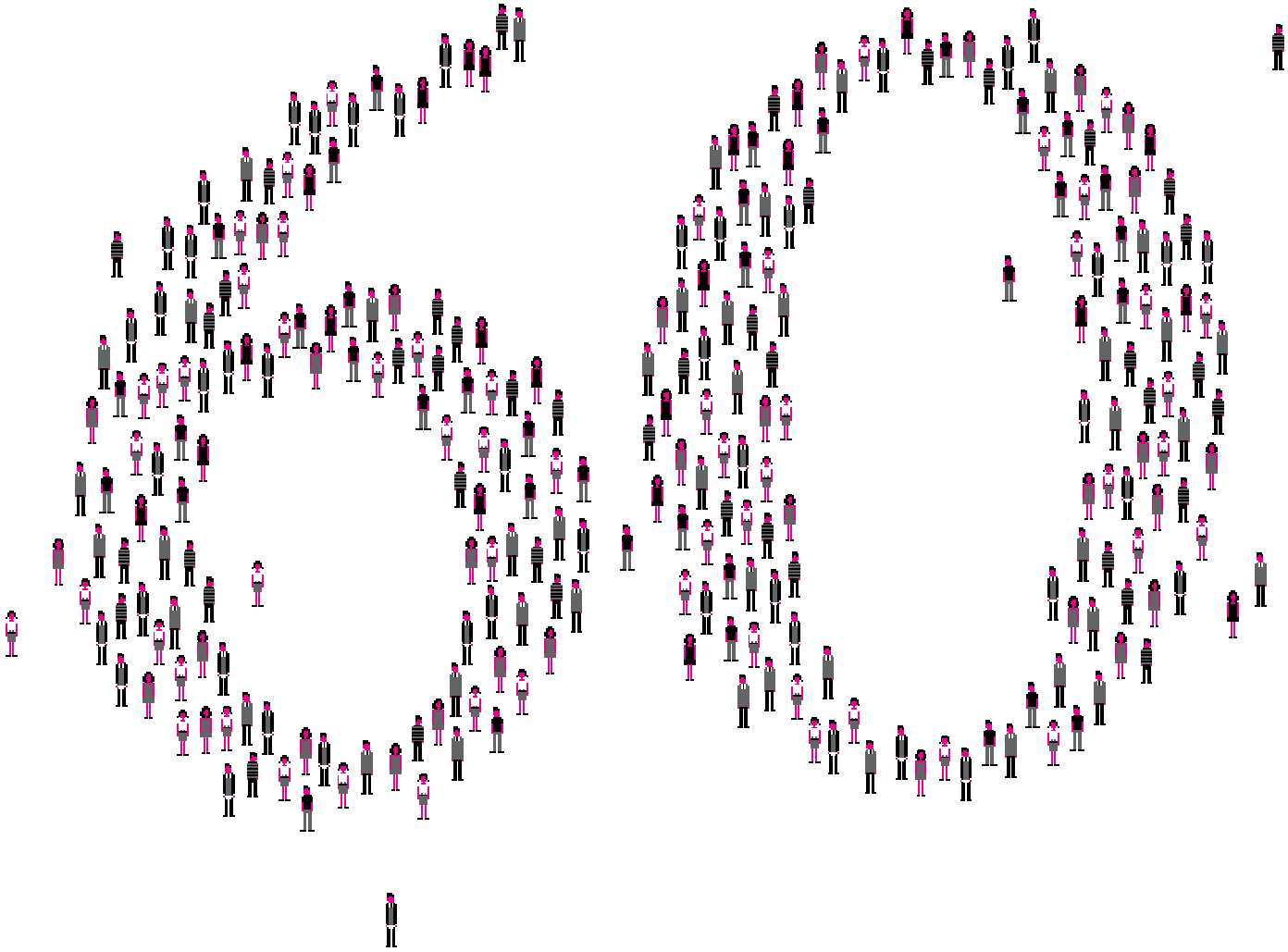
ITAC AT 60

Innovative Ideas on the Role of Technology in Canada

2010/2011 Annual Review



ITAC
INFORMATION TECHNOLOGY ASSOCIATION OF CANADA

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ASSOCIATION CANADIENNE DE LA TECHNOLOGIE DE L'INFORMATION

A TIME CAPSULE OF IDEAS

The information and communications technology (ICT) industry in Canada does not look its age. When we tell people that 2010 marked the 60th anniversary of the formation of the Information Technology Association of Canada (ITAC), it provokes a lot of double takes.

ICT, after all, is the industry of the future—as fresh as the latest tablet release, as vigorous as the most lively Twitter feed.

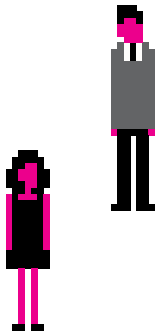
But while we are proud of our future-focus, we equally honour our past. As ITAC turned 60 this year, many of our members could boast of more than a century of success, while others are busy planning centenaries or celebrations to mark other major milestones.

This combination of profound business experience and an insatiable thirst for the next breakthrough in technology has positioned our industry, and ITAC, as unique contributors to the discourse on 21st century nation building. So many of us, after all, are required by the nature of our work to reflect upon the nature of the relationship between technology and humanity. We believe this makes our contributions thoughtful, responsible and practical and that those contributions have helped to build wise economic and social public policy that helps to ensure a prosperous nation for future generations.

To mark this important anniversary for our association, we have asked some of the strategic leaders and community advocates in our industry, who have helped us to shape our positions on issues as diverse as healthcare and education, government transformation and the enabling impact of ICT, to contribute brief articles and essays for this special edition of our annual review.

As our country prepares its own plans for the creation of an innovative, competitive Canadian digital economy, we believe these ideas are worth amplifying. They are certainly worth capturing as a testament to the strength of ITAC's commitment to a strong leadership position for Canada in the global ICT industry and in the global community of nations.

Robert Watson
President and CEO
SaskPower
ITAC Chair, 2010/2011



Adam Chowaniec, Chairperson and Chairman of the Nominating & Corporate Governance Committee of Zarlink Semiconductor Inc. and Chairman of the Board of BelAir Networks

TWO STEPS FORWARD

Given easier access to risk capital and a better understanding of the business model, Canada's knowledge-based companies will prosper

By Adam Chowaniec

We continue to have a good deal of discussion on innovation in the knowledge economy, but we seem to have difficulty coming to grips with how we measure success and how we can help build that success.

To me, success is building new companies or growing existing ones. By achieving this, we will grow the economy, create wealth and build prosperity. Canada continues to generate many new knowledge-based companies. This is good news and it shows that entrepreneurship is thriving. However, the not-so-good news is that we continue to lose a disproportionate share of mature companies.

Simply put, we create a lot of companies but we lose a lot. Some just don't make it, but we also lose a lot to acquisition well before they can fully contribute to the economy. Why is this and what can we do about it? I think there are two aspects to the conundrum: access to risk capital, and a better understanding of the business model that leads to success.

A shortage of risk capital

First, risk capital. We are short of every type of risk capital focused on technology—seed, venture and private equity—and even have issues with our public companies. Generally, companies are underfunded or undervalued relative to their competitors, and therefore have less chance of becoming dominant and being the future consolidator rather than being consolidated.

Seed investing has been a tough place to be, with little follow-on capital, few liquidity events and a resulting tendency of seed investors being diluted out of existence. Venture capital is at its worst levels in a decade, especially in Ontario. Foreign capital coming into Canada has all but dried up as other innovation centres on the globe assume more dominance, especially in Asia. Many Canadian funds are too small to succeed through a full life cycle of investing. Few institutions are interested in this class of investment or have chosen to focus on more mature companies. The shortfall is huge, hundreds of millions on an annual basis.

Even at the private equity end of the spectrum, resources focused on technology are few. And for public companies listed in Canada, valuations are at significant discounts to other markets, leaving our companies again vulnerable to acquisition. We are clearly more risk-averse than other countries, but need to focus more of our own resources on this shortfall rather than depending on others to do it for us. To fill these large gaps, create momentum and build valuations, we have to take some bold steps. We need to embrace a tax credit system to encourage private sector investment on a large scale, as recommended by the Coalition for Action on Innovation in Canada. We have to replicate the success of the resource industries, where Canada is a clear leader and has proven the model for this kind of support.

Understanding the business model

The second key element of success is understanding the business model. Institutions and policies on innovation are still driven by a linear business model: develop a piece of technology, commercialize, and you have success. This is not how the world works. You build companies by understanding markets, getting to know customer needs and then developing products and services that will sell. Technology is a necessary element but not the starting point.

> "At the private equity end, resources focused on technology are few. For public companies listed in Canada, valuations are at a significant discount, leaving our companies again vulnerable to acquisition."

So what skill sets do you need to address this complex iterative model? Well, you need marketing, sales, finance and human resource skills, as well as technology, but it's not as simple as that. These skill sets have to be technology literate, and the technology skills have to be market literate. And we need more than that. These skills need real-life experience, which is not as easy to get in a small Canadian market as it is in a giant North American market. The message is that we have to build skilled, experienced, cross-functional innovation teams, rather than focusing on technology only.

We have to win by executing better than our competitors, with financial resources that will keep our companies growing, by being the acquirers and not the acquired, and making this knowledge-based sector a growing contributor to the economy.

Dr. Adam Chowaniec is Chairperson of Zarlink Semiconductor Inc. and Chairman of the Board of BelAir Networks. He is a serial entrepreneur and investor in technology ventures. He founded Tundra Semiconductor Corporation and led the design team that developed the Amiga 2 personal computer. Adam was the Chair of ITAC in 2004-2005 and chaired the Ontario Innovation Council from 2006 to 2008. This essay is extracted from a speech Adam delivered in December 2010 at the Polytechnics Showcase on Research and Innovation.

David MacDonald, President and CEO of Softchoice Corporation and Chair of ITAC's Board of Governors

THE BIG FIX

The federal government's technology infrastructure is in need of vast and vital renewal. Can we help transform this behemoth into a smart ICT customer?

By David MacDonald

We have heard many times that the federal government needs to upgrade its technology infrastructure. We have also heard that our industry is experiencing a skilled labour shortage. These are not new stories and the solutions to these problems are not mutually exclusive. In fact, these issues present the Canadian ICT industry and the federal government with a unique opportunity to work together for the long-term benefit of our economy and our country as a whole.

According to a recent report from the Auditor General, the systems responsible for supporting Old Age Security and Employment Insurance are nearing "imminent collapse." Without concrete steps, the delivery of critical services could be compromised. The challenge is that this is only part of a larger and more complex issue—one that includes the masses of federal government ICT workers due to retire over the next five years.

According to the 17th Report to the Prime Minister on the Public Service of Canada, the retirement rate in the public service has risen from 2.4 per cent in 2004 to between 3.3 per cent and 3.6 per cent presently. That equates to anywhere from 9,000 to 10,000 public servants retiring each year for the next four to five years. Finding skilled IT people is challenging enough at the best of times, but it will become more difficult still as baby boomers begin heading for the exits. To compound the problem, we will be losing the very people we should be relying on now to facilitate a smooth transition to a new government IT strategy.

Urgent need for transformational change

Our success will depend on finding a new sense of urgency to drive transformational change before we lack the human capital to do so. The time has come for a comprehensive plan, one that addresses the short-term issues of so called systems "rust-out" as well as the coming shortage of government ICT workers. In many ways the challenge before government is a chance to show leadership and to demonstrate to all Canadians the economic and environmental benefits of modernizing our technology infrastructure. Through far-reaching projects and innovative approaches, it is also an opportunity to ensure we retain the best IT talent right here in Canada.

The issues and, more importantly, the solutions are well known. According to the Department of Public Works and Government Services, there are significant opportunities to make better use of existing resources. At present there are something in the order of 124 separate networks, 120 unique help desks and 144 data centres government-wide. The task at hand is not so much about simply upgrading infrastructure as it is embracing opportunities to use common approaches to address common needs. With a greater focus on sharing and consolidating resources, we can achieve dramatic economies of scale. By eliminating redundant infrastructure and the costs associated with maintenance and support, it also becomes possible to increase service levels while using fewer human resources to do so.

> "The time has come for a comprehensive plan, one that addresses the short-term issue of so-called systems 'rust-out' as well as the coming shortage of skilled government IT workers."

Enhancing delivery of services

This is only part of the answer, of course. What are ultimately required are transformational projects that improve efficiency while enhancing the way services are delivered to Canadians. Cloud computing is allowing organizations to pool and then rapidly deploy computing power when and where it is needed most. Cloud computing is also enabling the delivery of sophisticated services entirely over the web. This is proving far more cost-effective than using the traditional bricks-and-mortar approach.

Meeting the dual challenge of an aging workforce and a patchwork systems infrastructure will not be easy. It will require vision and, more importantly, the wherewithal to take aggressive action. Urgent investment and increased collaboration between government and the private sector are essential if we are to address both immediate deficiencies as well as the need to prepare for a future where skilled ICT workers may become increasingly scarce. The government is well aware of these facts. It has announced a strategic review of government operations. If the government seizes the opportunity to use technology to modernize its operations, it can successfully address those issues and eliminate the budget deficit.

We can no longer neglect what is ultimately a pillar in our democracy. As we embrace the opportunities of a knowledge-based economy, the Canadian government's focus on improving its own productivity through innovation should be a source of pride and inspiration for all Canadians.

David MacDonald is the President and CEO of Softchoice Corporation and the Chair of the Board of Governors for the Information Technology Association of Canada.

Douglas Barber, right, is a founder of Gennum Corporation, an entrepreneur, investor, corporate director and educator; Jeffrey Crelinsten is an author, an analyst of science and technology policy and co-founder of the Impact Group

THE CENTRALITY OF THE CUSTOMER

Two of Canada's most distinguished strategists in knowledge-based commerce, Douglas Barber and Jeffrey Crelinsten, recently spoke with ITAC about lessons learned and what it will take to reinvigorate our digital economy. The following is an edited version of that conversation

ITAC Let's start by asking you the central question at the heart of both the Digital Economy Strategy discussions and the Federal Government Review of R&D. Canada has a generous program to stimulate research and development in industry and yet our performance in business investment in R&D is middling at best. How do you explain this?

Crelinsten I was recently at an international commercialization forum—80 people, invitation only, from commercialization organizations in 19 different countries including Canada. These were experts who are trying to grow knowledge-based, research-intensive companies in their own countries. And the big message that came out was that it's not about technology, even though all of them were trained as if it is. All their policies were originally based on this model that you do discovery research and then you develop a product out of it and then you will be able to grow companies. Yet all of them concluded that's not how it works. It starts with the customer. It starts with a problem that needs to be solved and you take your smart people and you apply them to doing that. That is why we have a conundrum: we've been supporting the "R" and not the "D." We need to do both.

Barber I'll enrich that a little bit because I think there are three essential elements in knowledge-based commerce. The first is you've got to have knowledge. You have to have resources—financial, tooling and staff are essential. And the third is you've got to have customers. You do not have commerce without customers. In Canada, we put enormous emphasis on research and in fact culturally we don't trust commercial enterprises with any resources to do commerce. The thing that's absolutely missing in Canada is any kind of customer-savvy. Our young energetic entrepreneurial people are customer-ignorant. They don't even know they need customers or that they need to serve customers and, even if they did, they don't have any of the skills to go about it. They're really at Grade One. The big piece that's missing is the customer-facing skills, the drive to meet customers and to find out what they need and to do something about it.

Crelinsten Here are two examples that illustrate this. One is that when our Department of Foreign Affairs and International Trade tries to talk to domestic companies that have growth potential about going global, the typical Canadian reaction is, "Well, it costs too much to go around the world and meet potential customers." In other countries, they're travelling all the time. The other example is when you talk to people in the universities whose job it is to do technology transfer. If you ask them how successful they've been, they'll list the number of start-ups. If you ask them how many have survived, they don't even know. They don't track it because they don't care. They don't even care if the firms have a customer. When we interviewed companies, many CEOs admitted to us, "We were running the company for years and we were well financed, but we didn't have a customer…we didn't realize it was important until it was too late."

Barber Some of them would say they learned too late. By the time they realized it, they couldn't finance anything anymore. They were dead in the water.

Crelinsten We talked to one CEO who had a beta customer whom he clearly viewed as a nuisance because they kept asking questions he didn't want to answer. We have to get better at this. We spend more on education than most OECD countries. Education is the second-highest thing we spend money on and yet what do we use those education dollars for? We don't teach young Canadians how to create value from knowledge. We focus on excellence in discovery and knowledge acquisition but we neglect to teach people how to use that knowledge to help solve practical problems. Young people want to make the world a better place—solve big problems. They believe they've got great ideas but they aren't given any learning about how to create value for others from what they know or how to succeed in the competitive value exchange that is commerce.

ITAC This is certainly a shift for our educational system. Why is it so important that we do this?

Barber All commercial entities need the people that come out of our 20- to 25-year learning environment. No matter what sort of learning they've done—law, accounting, management, etc.—if they all come out with the mindset that customers and commerce aren't important…that undermines our culture of commerce. We need commercially minded people where everybody is onside in this business of creating and exchanging value and knows that we have to create value globally.

Crelinsten The reason we need commercial skills is because of the size of our country and the structure of our economy. We're too small to do everything for ourselves like China can, or the U.S. To prosper, we have to exchange value with other countries. In order to do that, we must have the human skills to go out and identify what people need, help them to help us to understand those needs and then to innovate to meet those needs best.

Barber The global value exchange—trade—is fundamental to our future prosperity. What you can see easily, if you look at trade, is that countries with less than 100 million in population typically have to trade between 25 per cent and 45 per cent of GDP to be prosperous. In the G-7 or G-8, we're always number two in prosperity below the Americans, because of our resources. The other countries have between 50 and 100 million in population and we're more prosperous than them. The only countries that have managed to be

> **At the federal level, government could say we're giving you these research grants, but a certain percentage has to be used for experiential learning or for customer-facing activity.**

prosperous without trading more than a quarter of GDP are the U.S. and Japan. They are the only ones that have done that so far. India and China have potential to achieve this if they can learn how to have their large populations creating value.

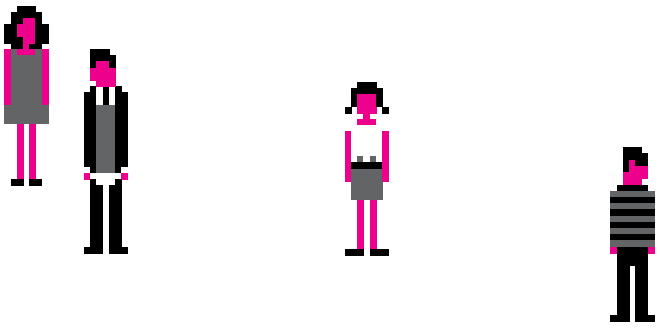
Crelinsten So we can stay rich selling our natural resources, but eventually two things will happen. One is they will start to run out. Or two, there are other places with natural resources too, and they'll compete on price and the resources will be commoditized. So why is this important? It is because structurally we have to trade and in order to be effective at trade, we need commerce skills.

ITAC What do we need to do to improve the chances for success of our knowledge-intensive companies and our research-intensive sectors?

Barber There is no government support for customer-facing commerce learning in our learning environments or our business environments. Support in the learning environments requires that teachers are not protected from having to learn in value-exchange environments. That's the big difference between us and the United States. That's why the U.S. is the best in the world at knowledge-based commerce—they put their professors into commerce.

Crelinsten One thing you have to do is inject some of what Doug has been talking about in the K-12 school system. Provincial governments have to introduce experiential learning about problem-solving, value creation and commerce in the whole system. Just as they talk about literacy, numeracy and science literacy, they have to talk about commerce literacy. And they have to do the same thing for post-secondary institutions.

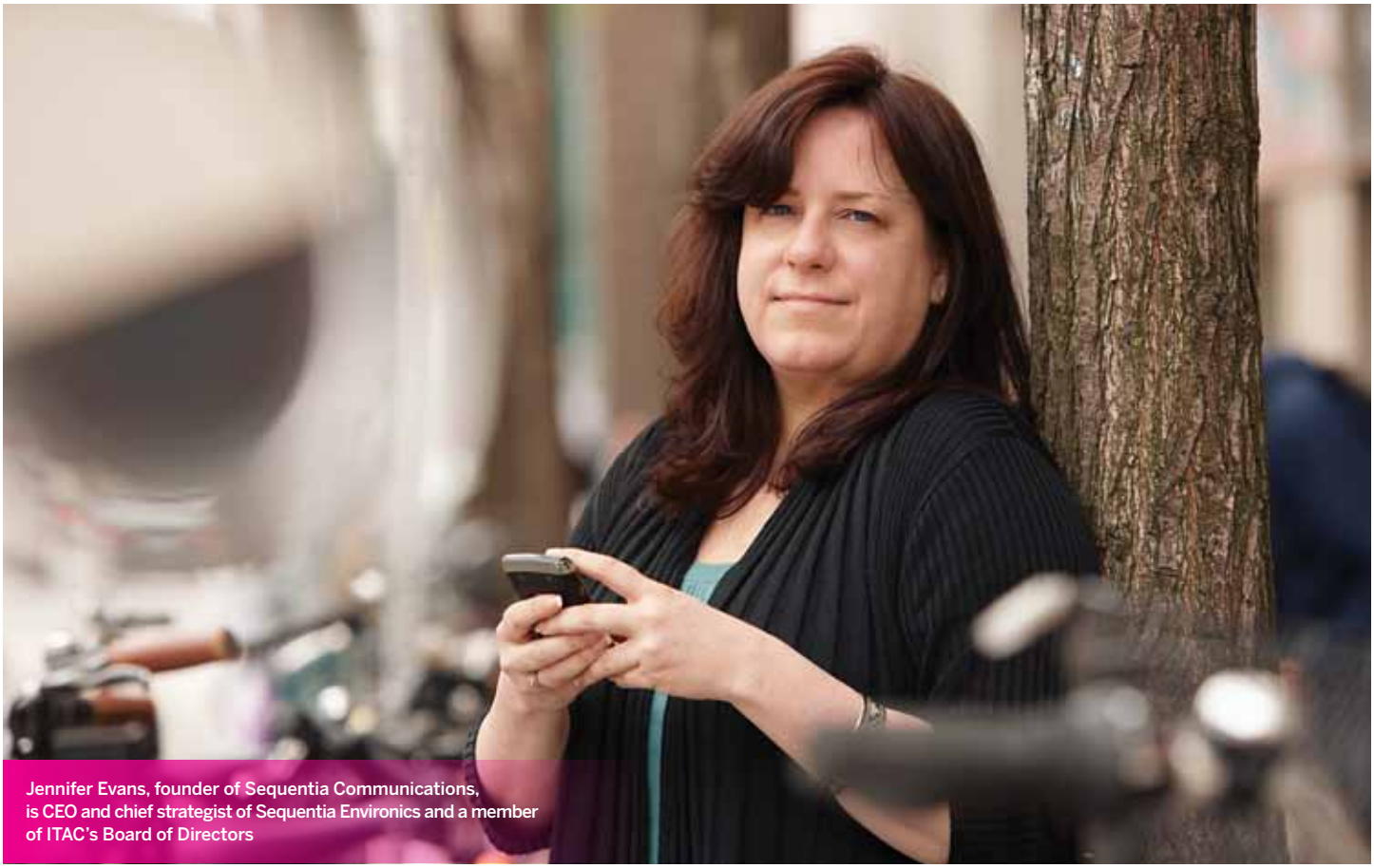
Barber If our governments were going to do something brave, they'd say: within 10 years time in the university system and the community college system, we're going to move from funding the salaries and indexing the full futures of all the faculty members, because this tends to isolate them from any commercial reality, to a system where they are paid for nine months and are expected to find the remainder by exchanging value in society. Why only universities and colleges? Because the post-secondary system produces all the teachers in every other environment. Now there's a real policy change. There also needs to be a shift in investment. If 30 per cent of what we invest in new products and new value is not spent out there connecting with the customers, understanding their needs, building their trust and getting them involved in our developments, we're wasting our money on the R&D investments. You can't hit the bullseye often enough to be in the world competition where those countries that have understood the importance of the global value exchange will succeed while we continue to fail.



Crelinsten At the federal level, government can direct investments into building customer-facing skills. They could say we're giving you these research grants, but a certain percentage has to be used for experiential learning or for customer-facing activity. Or they could give money directly for these activities, like Denmark is starting to do. The Danish government has a funding program—they give money to companies that want to expand to international markets. They're not allowed to use the money for R&D, they have to use it to meet potential customers—going to trade shows or customer-facing events. I'm talking about going one-on-one to talk to their customers, not a trade mission with a bunch of companies and politicians in tow.

The provincial governments can put commerce literacy and value creation on the curriculum. They can fund entrepreneurial learning for teachers and students. Some countries have centres for entrepreneurial learning. Aalto University in Finland is an example. It's a merger of three universities—business, technical and industrial design—it's all learning by developing (LBD). There's no curriculum. The professors are mentors, the students are junior colleagues and there are no exams. They're learning by doing. They've already created 80 companies in a year. Our provincial governments can fund that kind of thing with incentives for the professors to engage in facilitating commerce and enabling wealth creation. The institutions can wise up too and look at their merit and promotion policies and practices.

Drs. Douglas Barber and Jeffrey Crelinsten are frequent collaborators on studies that explore the nature of knowledge-based commerce in Canada. Doug was a founder of Gennum Corporation, from which he retired as President and CEO in 2000. He is active as a corporate director and investor in a number of technology ventures. He presently serves as a Distinguished Professor in Residence at McMaster University. He was named to the Order of Canada in 2006. Jeffrey Crelinsten is a distinguished author and analyst of science and technology policy. He is the co-founder of the Impact Group, which provides communications and consulting services to the public and private sectors. Jeff's most recent book, Einstein's Jury: The Race to Test Relativity, *was published in 2009 by Princeton University Press.*



Jennifer Evans, founder of Sequentia Communications, is CEO and chief strategist of Sequentia Environics and a member of ITAC's Board of Directors

ALL A-TWITTER

Trading tweets with ITAC, social media whiz Jennifer Evans gives two thumbs up to digital tools and content

nejsnave jen evans
Digital content is more about the utility/quality of the information and the experience of how that information is delivered, vs copy.

ITAC_Online ITAC_Online
Well said @**nejsnave**... digital content requires a whole other level of expertise...

nejsnave jen evans
@**ITAC_Online** absolutely - including understanding how online audience behaviour and information needs differ from and complement offline.

nejsnave jen evans
@**ITAC_Online** it's a real opportunity for marketers to reach out using digital tools, get a handle on info/experience needs, then deliver!

ITAC_Online ITAC_Online
@**nejsnave** because people behave differently online than they do offline?

nejsnave jen evans
@**ITAC_Online** online behaviour = extension of offline. How people look for, share and interact w/ digital info = oppty for xtended xperiences

nejsnave jen evans
@**ITAC_Online** it requires good measurement metric for social and digital that goes beyond pg views and likes/sentiment.

nejsnave jen evans
@**ITAC_Online** most measurement looks at sentiment/ convo and action/conversion taken, separately. We see them as inextricably linked.

ITAC_Online ITAC_Online
@**nejsnave** so what's an example of a "good" metric?

nejsnave jen evans
@**ITAC_Online** well that's the million dollar q ;) for us it is what creates action, what combination of content + channel + comms.

nejsnave jen evans
@ITAC_Online in order to understand that you must create strategic content developed w customer insights, + measure action taken from it.

ITAC_Online ITAC_Online
Your company is both a communications company and a software company - is that what it takes?

nejsnave jen evans
@ITAC_Online yes - main reason we have developed a digital metrics software offering - launching soon ;) - meaningful insight on behaviour.

ITAC_Online ITAC_Online
@nejsnave cool... so you think this digital content business has a future?

nejsnave jen evans
@ITAC_Online yes, absolutely. But it is an extended experience. People don't read a post, join a list/group, and linearly buy something.

nejsnave jen evans
@ITAC_Online yes. But it means a more extended customer comms relationship. Not campaign based, customer lifecycle based.

nejsnave jen evans
ITAC_Online this is the shift many companies and agencies are making - customer digital lifecycle mapping.

ITAC_Online ITAC_Online
@nejsnave ha! Explain that in 140 characters... :P

nejsnave jen evans
@ITAC_Online ;) content is still king. What that content is and looks like and how it is generated... That is changing as rapidly as ever.

nejsnave jen evans
@ITAC_Online my favourite example would be a pharma brand creating a community for family members dealing w alzheimer's patients.

nejsnave jen evans
@ITAC_Online information needs of caregivers are very different when the illness is first diagnosed vs three months in vs. 1 year after.

nejsnave jen evans
@ITAC_Online and pharma companies deal with thousands of families who are a source for understanding those needs. That could lead to...

nejsnave jen evans
@ITAC_Online ... A set of tools that could be developed for caregivers - incredibly useful and valuable over 1st yr post diagnosis.

ITAC_Online ITAC_Online
@nejsnave what are the digital content industry's challenges to growth?

nejsnave jen evans
@ITAC_Online I think the community + content industry is in its infancy, and other digital content biz models are in transition.

nejsnave jen evans
@ITAC_Online biggest challenge : it's new. most orgs still talk at customers vs developing structured convos + synthesizing into content.

nejsnave jen evans
@ITAC_Online and campaign vs lifecycle focus for mktg. Not yet at a tipping point. Right now social tools being used for old models eg ads.

nejsnave jen evans
@ITAC_Online also, flood of content farms and SEO means social/digital content is currently devalued. But this will shift.

nejsnave jen evans
@ITAC_Online companies need to think of content less as corporate narratives, more customer lifecycle experience narratives.

ITAC_Online ITAC_Online
@nejsnave awesome chat...

nejsnave jen evans
@ITAC_Online thanks for the chat! Great discussion.

ITAC_Online ITAC_Online
@nejsnave Thank you—the pleasure was all ours!

Jennifer Evans is a pioneer and leader in digital interactive commerce. She founded Sequentia Communications in 2002. She is sought after globally as a digital strategist and speaker and she chairs ITAC's Digital Commerce Council. This conversation recently took place on Twitter and can be found at http:twitter.com/#!/itac_online.

DON'T SHRED SR&ED

What's wrong with Canada's controversial tax credit program? Nothing a little innovation couldn't fix, says a longtime observer

By Karen Wensley

The Scientific Research and Experimental Development (SR&ED) federal tax incentive program grants a tax credit to Canadian businesses of all sizes and in all sectors that conduct eligible SR&ED in Canada. The SR&ED program, which has existed in more or less its current form for 25 years, is the largest single source of federal government support for industrial research and development, providing more than $3 billion in tax assistance annually. Canada Revenue Agency (CRA) administers the program through its tax services offices across the country.

Most R&D performers and government officials consider that the SR&ED program plays an important and valuable role. But periodically, questions are, quite rightly, asked. Does it in fact incent companies in Canada to do more R&D, or others to locate research and development (R&D) facilities in Canada? Does it help close the gap in R&D as a percentage of GDP, a ratio in which Canada lags behind most other G8 countries?

In order for a tax incentive to be effective, it must make a significant monetary difference to the company (net of the cost of complying with the tax rules); it must be competitive with other jurisdictions where the company could operate; and receipt of the incentive must be predictable.

For many Canadian companies, the SR&ED program does fulfill these mandates, and is a very effective tax incentive. But others do not get the benefit the program is designed to deliver. We need to eliminate the design and administrative barriers so that a higher proportion of Canada's R&D performers take the SR&ED credits into account in making their R&D decisions.

Design of the SR&ED tax credit regime

Currently the SR&ED program functions in two ways depending on the nature of the claiming company. Small Canadian controlled private corporations (CCPCs) can earn a refundable tax credit of 35 per cent of eligible SR&ED expenditures, to a maximum of $3 million. To the extent the tax credits exceed federal tax payable, the difference is provided in cash to the company. For many young technology companies, this is an important, predictable contribution to cash flow. SR&ED credits make a huge contribution to a firm's ability to keep the R&D activity funded until it can begin to turn a profit, provided the company can maintain its status as a small CCPC.

Larger Canadian enterprises and foreign-owned multinational companies performing R&D in Canada qualify for a non-refundable investment tax credit of 20 per cent, which takes the form of a deduction from corporate income taxes. For profitable Canadian companies, the SR&ED incentives can be significant and can contribute to R&D investment in Canada. However, it can be a long time until a company is profitable, and longer still until it has used up its tax loss carryforwards and can start using the tax credits.

Even for companies that have achieved profitability, the cyclical nature of R&D-intensive business can play havoc with their ability to access credits. For example, a decade ago, the information and communications technology (ICT) industry experienced a major—and global—downturn. The result was that many larger Canadian ICT companies could not access the full value of their credits because they were not in a tax paying position. Ironically, at the very time when companies sought to innovate their way out of the downturn, the credits were of no value.

For foreign-owned R&D performers, the value of the SR&ED credits is also uncertain. Global companies can place their R&D facilities virtually anywhere in the world. Where they locate this work is influenced by an array of factors, including the size of the market in the prospective country (always a challenge for Canada); the availability of trained researchers; labour and infrastructure costs; and the availability of direct and indirect incentives for investment. The ferocity of the global competition to attract high value investment and jobs cannot be overstated. Many countries with markets much larger than ours and with rich, highly qualified labour pools, use a broad array of incentives, more attractive than ours, to bring multinational R&D investment to their jurisdictions.

For many U.S.-based multinationals that qualify for the 20 per cent tax credit, a reduction in Canadian tax is offset by an increase in U.S. tax. This means that there is no net incentive for placing the investment in Canada. Even in cases where the tax credit does deliver a benefit, locating a large R&D facility in Canada may result in tax credits that are higher than Canadian tax payable, but with no refundable difference.

We like to think that SR&ED credits are the most generous in the world, and they are generous for a segment of SR&ED performers. But closer examination of their actual effect, combined with a clearer picture of the inducements competing jurisdictions offer, may illustrate that this is not necessarily the case. It may also help us to understand the current conundrum of why, if our incentive program is so generous, we continue to languish at mid-tier in terms of business investments in R&D.

Delivery of the SR&ED tax incentives

The effectiveness of a tax incentive can be eroded by complexity, cost of compliance and uncertainty of receipt. The SR&ED tax rules are complex and, over the years, this complexity has grown (much as it has for the tax system in general). Therefore, it is critical that the incentives be administered in a consistent and predictable way, and with a view to helping taxpayers access the credits.

CRA by its nature and mandate is focused on tax compliance, not on the strategic objective of incenting R&D investment. As well, SR&ED is difficult to measure: it requires scientific expertise to assess the nature of the R&D, plus an auditor's ability to determine that the costs being claimed are appropriate under the complex regulations and laws. To function effectively, the SR&ED program requires close cooperation between CRA and the company seeking credits.

Ideally, the documentation required by CRA should align with the documentation needed by the company to effectively carry out its R&D activities, but this is not always the case and companies

are frequently required to redesign how they document and track the costs of their R&D activities to meet CRA's requirements.

Compliance with SR&ED rules is easier for pure R&D facilities with teams of researchers in situ. In cases of shop floor R&D, or where R&D is done in connection with commercial products, such as software, compliance is more difficult. The tax law does not allow R&D incentives for "commercial production" and the line is often difficult to draw. The company's focus is of course to get its product to market. In the scramble, documentation may suffer.

Where there is complexity, there is almost inevitably cost, and the compliance costs of SR&ED can be material. Many R&D investors choose to outsource claim preparation and other compliance matters to third parties. Indeed, a robust consulting industry has grown up around SR&ED. Even in cases where the claimant assembles and defends its claim using in-house expertise, there can be significant cost. These resources are generally highly valued and well paid and, as in the outsourcing option, represent an additional opportunity cost of SR&ED—a salary diverted from the R&D facility.

Improving a useful program

Given the competitiveness of R&D incentives in most jurisdictions around the world, any suggestion that the SR&ED program should be eliminated would have to be accompanied by an alternative system of government aid for R&D. The most common is government grants.

As a tax-delivered system, SR&ED has significant advantages over a program of direct grants. In a granting program, for example, the government decides which sectors and which companies to support. With SR&ED, as long as the work meets the definitions and limitations in the Income Tax Act, tax credits will be forthcoming without the government assessing it as worthy or unworthy of support. As well, the costs of applying for and complying with government grant rules can be similar to those for SR&ED compliance. It should also be noted that the competition among jurisdictions using direct incentives is just as fierce, and potentially even more costly than SR&ED. For example, Canada simply cannot compete with the direct incentives offered by the U.S. government, which spends heavily on defence research that has delivered spin-off effects.

But if we keep the SR&ED program in place, we need to consider the changes that would make it more effective:

1. It is important that the percentage of SR&ED performers who can benefit from the incentives be increased. Making all of the 20 per cent tax credits cash-refundable would be very costly, but there are less expensive alternatives. One option would be to allow companies to choose between a refundable wage credit, similar to that in effect in Québec today, and the non-refundable SR&ED credit that now exists. This would focus the refundable credit on companies with significant R&D work forces in Canada, helping to keep and grow their R&D centre here.

2. CRA must administer the program in as clear and consistent a manner as possible, in line with the nature of an R&D tax incentive. This should be mandated by Parliament so that the policy objective of assisting taxpayers to claim all that they are entitled to is clear. There should be ongoing monitoring of the satisfaction of SR&ED performers. It is vital that uncertainty about the SR&ED incentives not deter companies from doing R&D in Canada.

3. SR&ED incentives by themselves cannot close Canada's productivity gap. It is also important that Canadian companies adopt innovations that others have invented. Unless this is a technological advancement to the taxpayer, current SR&ED incentives would not apply. The incentives must be part of a larger policy objective that targets adoption of technology as well as its development.

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Karen Wensley, recently retired Partner at Ernst & Young and a former member of ITAC's Board of Directors

Author and consultant David Ticoll is CEO of Convergent Strategies. He is a member of ITAC's Board of Directors

WHERE ARE THE WOMEN?

ICT companies want more women in their ranks, but their numbers keep slipping. One of Canada's foremost IT and business strategists offers a game plan to reverse this unhealthy trend

By David Ticoll

In 2006, women occupied only a quarter of the technical and business professional jobs in Canada's information and communications technology (ICT) sector.

Sector employers need to hire and promote more women. This is not just about social equity. Female participation is good for business. Limited recruiting of women means limited access to the skills and talents of half the population. Information technology is increasingly about collaboration and social intelligence. Women, as consumers and business leaders, increasingly make the technology buying decisions. So it behooves ICT vendors to have smart, creative women inside to design and market their solutions.

All this is well known, or should be. Most major ICT firms strongly agree and want to hire more women into their ICT jobs. But there is a supply problem. While more young women have chosen law

and medicine, their already low interest in technical ICT jobs has dropped. In 2005, 20 per cent of Ontario university computer science students were female. By 2009, the number was 15 per cent.

Some highlights from the most recent Statistics Canada data (2006):

- 61 per cent of all jobs in the ICT sector are not "core" ICT occupations. They are in sales, customer service, administration, manufacturing and so on.
- In 2006, women played significant roles in sector professional jobs such as marketing management (29 per cent), management consulting (39 per cent) and human resources (80 per cent). However, they held only 21 per cent of the sector's so-called "core" ICT jobs such as analyst, engineer, technician and programmer. This includes an even smaller share of cutting edge jobs that drive research and development. Women were 17 per cent of software engineers, 16 per cent of programmers, and 12 per cent of hardware engineers. On the other hand, women were 30 per cent of the sector's web designers and developers, and 24 per cent of its IS analysts and consultants.
- Women had a bigger share of ICT jobs—26 per cent—in other parts of the economy outside the ICT sector. Their participation in cutting edge non-ICT sector engineering jobs was only slightly higher than in the sector. But they were a respectable 39 per cent of non-sector web designers and developers, and 33 per cent of IS analysts and consultants.

The main gap is not female participation in the ICT sector as a whole. It is the tiny participation of women (12 per cent to 17 per cent as mentioned above) in its cutting edge engineering jobs. This makes a big difference: in 2006, engineering and programming jobs were 34 per cent of core ICT jobs inside the sector, but only 21 per cent outside it.

As mentioned, this is a supply problem. ICT employers want to hire women. But they can't find enough qualified female ICT professionals.

Why does the problem exist? This question has two parts. First, why is female participation in ICT careers low across all sectors—roughly 25 per cent? Second, why is it even lower (21 per cent) in the ICT sector?

Abundant international research helps answer the first question. Young women are socially conditioned, from an early age, to believe that technology careers are geeky and not for them. They often receive such advice explicitly from parents, career counselors and the media. Also, behavioural researchers have found that from a very early age girls tend to be more "social" while boys tend to be more "mechanical" in their play preferences. We argue below that today's ICT careers increasingly match the preferences of young women. But the word has not gotten out.

These factors also help answer the second question. On average, ICT work in the sector is more technical and "geeky." As mentioned, in 2006 hardcore engineers and programmers had a much larger share of ICT jobs inside the sector than outside it. Women are least likely to choose these jobs. This has led to self-reinforcing, non-female friendly organizational cultures, hiring and promotional practices.

Outside the sector, ICT professionals focus more on operational and marketing needs, organizational change, people issues, collaboration and the like. So, by 2006 women were one-third of IS analysts and consultants outside the sector (vs. 25 per cent in the sector).

"Young women are socially conditioned, from an early age, to believe that technology careers are geeky and not for them. They often receive such advice explicitly from parents, career counselors and the media."

What to do?

Several factors are at work to improve the situation.

- ICT sector executives, partly in response to ITAC's diversity initiatives, want to increase the participation of women in their companies. They are making special efforts to hire and promote women, to declare their commitment to women in ICT, and to make their organizational supports and cultures more responsive to women's needs.
- The structure of Canada's ICT industry is shifting. It is less about hardcore R&D—some of which is shifting offshore, for better or worse. It is increasingly about collaborative and engaging jobs, both technical and professional. ICT analyst, consultant, technology marketing, and IT management jobs in all sectors—which already enjoy above-average female participation—have grown at a compound rate of 8 per cent for the past 10 years. The trend shows no sign of stopping. Meanwhile, programmer jobs are flat.
- Core technical jobs are also becoming more interesting. As ICTs merge with sector-specific technologies across the economy, they produce mashups such as bioengineering, power grid informatics, and digital media/design, not to mention social and mobile apps. We bet that young women will be more interested in these fields—opportunities to be creative and make a difference—than in generic ICT engineering.

Most high school students, parents, teachers and guidance counselors —as well as the media—believe that ICT is about dull, geeky programming jobs that are in danger of being offshored. Indeed, many of these kinds of jobs are in decline. The future is in interesting, fun, creative and social mashed-up hybrid jobs that combine ICT with business leadership and the technologies of every imaginable field from life science to media, to insurance. Our challenge is to get this message out.

David Ticoll is currently the Executive Director of CCICT (the Canadian Coalition for Tomorrow's ICT Skills) and CEO of Convergent Strategies. David was the founding CEO of Digital 4Sight, a Toronto-based think tank and co-authored, with Don Tapscott, the business best seller The Naked Corporation: How the Age of Transparency Will Revolutionize Business. *He is a member of ITAC's Board of Directors.*

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THE IMPORTANCE OF BEING DIGITAL

It is incumbent on the ICT industry to help Canada increase adoption of digital technology and become a true leader in the digital economy

By Doug Cooper

Most organizations today would agree that information and communications technology (ICT) and the Internet have dramatically changed the way they do business, from how customers are serviced and suppliers are sourced, to how products are sold and marketed. Companies that have invested in this digital world are able to grow more quickly and at a lower cost. These improvements go far beyond the productivity of individuals, and are also seen in areas such as our ability to track budgets and to correspond with customers and suppliers. Investments in ICT also help teams of people within our companies collaborate; frequently we find these same technologies help individuals and teams interact more effectively across business silos.

In his book *The Singularity is Near*, Ray Kurzweil makes a compelling case that anything that attaches itself to the microprocessor ends up following the same trajectory famously observed by Intel founder Gordon Moore. In what is called Moore's Law, Gordon observed that transistor counts and performance were doubling every 18 months. We have seen evidence of this in everything from the sequencing of the human genome to the optimal loading of commercial aircraft. Intel continues to keep Moore's Law alive through innovative transistor designs and investments in process technology. There is no doubt that technology will continue to evolve at an accelerating rate.

Role of SMB in Canada

Nowhere is the benefit of the "Moore's Law effect" more of an opportunity for Canada than with small and medium-sized businesses (SMBs). Canada has more than 2 million small businesses at last census; among them, they represent more than 40 per cent of IT spending and 45 per cent of Canada's GDP. No one effort could yield a greater impact on Canadian prosperity than to have small businesses go digital en masse. Everything from taking and processing orders to advancements in materials handling and manufacturing will help to move Canadian small businesses onto a path accelerated by information processing.

A recent Angus Reid study gives us reason to be optimistic: the study found that two-thirds of small business owners in Canada believe that the Internet and information technology are critical components to success. Unfortunately, 82 per cent of these same business owners indicated that hiring and/or training people to improve digital skills or the ability to do business online was not a priority. It is clear that a large number of companies have not prioritized nor understood the potential value of full participation in the digital economy.

Greater SMB productivity will contribute to our national prosperity, but to achieve it we need to cross the chasm between the ICT industry's views of what information and communications technology can achieve, and the small business owner's views of the real challenges facing his or her company's growth. Small business owners "get" technology. They own BlackBerrys and iPhones, tablets and laptops. But when it comes to selling more products or winning a competitive bid, technology rarely enters the picture. This ship is turning, however. We live in an era when a small business can achieve a lot of automation without a fully burdened IT department; software solutions can be delivered to its employees without expensive licensing or hosting contracts; and more of these solutions interoperate so the company is instantly productive.

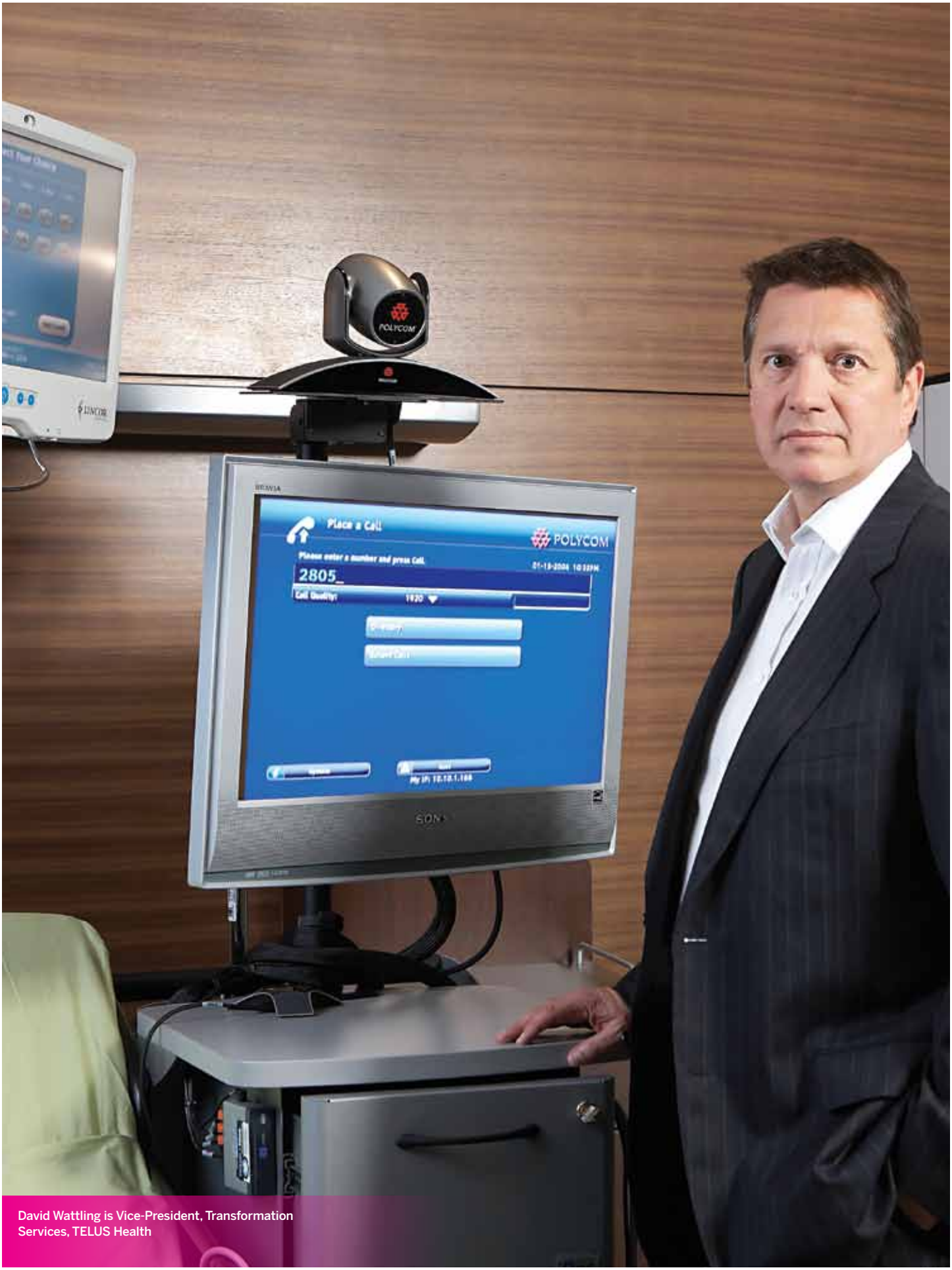
A digital economy won't happen overnight and there are plenty of places where we can make bad choices and lose control of these solutions, but it is our role in the ICT industry to ensure that doesn't happen. And it is essential that we, as a nation, in both the public and private sectors, see this as an important and worthwhile goal and agree that our future is not solely reliant on rich natural resources.

Broad participation

The move to a digital economy is inevitable and the evidence is all around us. The way we entertain ourselves, stay in touch with our friends, family and business acquaintances, buy and sell, everything is made up of bits. Canada has an opportunity to lead in the new global digital economy but it won't be given to us. We have some of the world's best examples of digital age companies but we need more of them and we need our government to lead by example and embrace the same challenge.

At Canada 3.0, in Stratford, the conversation was about Canada's moon shot, a challenge so great that it will capture the attention of the nation: to have everything available and accessible online by the year 2017. While ambitious, this is the kind of goal that would position Canada to benefit from the "Moore's Law Effect." It would place Canada in the company of the best digital nations and create world-leading prosperity for its citizens. It would also position us well to weather the coming challenges ahead: an aging population; escalating emerging market energy consumption; scarcity of raw materials and rare earths; and a growing competition for them. To stay ahead of these challenges, we need to be in the company of the world's best digital tool creators and users. Nations that establish this frontier will not only be able to lead healthy, prosperous lives, but they will also be sought out to help the rest of the globe succeed. That is a noble goal and one that strikes me as truly Canadian.

Doug Cooper is Country Manager of Intel of Canada Ltd. A graduate of the University of Waterloo, he has been with Intel since 1983. He is also a Past Chair of ITAC.



David Wattling is Vice-President, Transformation Services, TELUS Health

GREAT IDEAS. WHAT NOW?

Leadership is needed to foster innovation and reform of the health system

By David Wattling

With the federal Conservatives finally securing a majority in the House of Commons and many of our provincial governments soon heading for their own election cycles, we can expect a renewed resolve to achieve the reform needed to ensure a truly sustainable health system.

Certainly throwing more money at the problem is not enough. Election campaign talk of continuing the 6 per cent escalator will not bring our health system any closer to long-term sustainability. Innovation, in terms of progressive change to health delivery processes, enabled by ICT, will be central to the solution.

According to Wikipedia, "in the organizational context, innovation may be linked to performance and growth through improvements in efficiency, productivity, quality, competitive positioning, market share, etc. All organizations can innovate, including, for example, hospitals, universities and local governments." It goes further to suggest that, "Innovation can be described as the result of some amount of time and effort into researching an idea, plus some larger amount of time and effort into developing this idea, plus some very large amount of time and effort into commercializing this idea into a market place with customers."

This suggests that the generation of a new idea is but one small part of innovation, while the larger parts are those associated with development and implementation. I feel in healthcare we do not lack new ideas. The challenge is that we seem incapable of implementing those ideas pervasively across the sector. In this way we effectively do not achieve innovation in healthcare.

The challenge for our federal and provincial governments is creating an environment in which innovation is enabled and rewarded. A creative mix of investment and policy is needed. Governments can manage their risks by investing modestly but proactively in innovative solutions knowing that some will fail, but then investing heavily in the implementation of those solutions that succeed. A progressive investment strategy coupled with smart regulation and policy that promotes patient safety, drives interoperability and enables efficiencies will both contain costs and enhance the patient experience.

We should carefully assess new ideas not only for their creativity or even potential to make great improvements in health delivery or outcomes, but for their implementability. As we established above, innovation is realized only after a successful implementation.

Let's look at a few recent examples:

- **Telehealth** We have excellent examples of technology being effectively applied to the remote delivery of healthcare services. The Ontario Telemedicine Network (OTM) is by all accounts a world-class, world-leading service delivery organization—a true innovator. In fact, due to substantial interest from around the world, the OTM is looking to commercialize its offerings. Why haven't we rolled this out across Canada?
- **Physician office automation** This is clearly the place where we see substantial financial commitments, provincially and federally. But can we use this opportunity to establish national standards and requirements for functionality as well as interoperability? In so doing we can stimulate a healthy market and not just perpetuate a situation where too many small companies operate sub-optimally in a relatively small marketplace.
- **ePrescribing** While there are many examples of the benefits of ePrescribing and no legal barriers, we see only sporadic take-up. As we wait for the Electronic Medical Records to penetrate the doctors' offices, is there not a way to accelerate this agenda?
- **Chronic disease registries** Edmonton built and deployed a registry for diabetics several years ago. Alberta expanded it to cover the province. We know that if diabetics are identified and their care is proactively managed, the downstream benefits of avoided health services are great. Why have we not perpetuated this across the country, and then applied the same concepts to other diseases?
- **Personal portals/consumer health** Perhaps the newest idea of them all. While I am a great supporter of patient engagement in their records, I worry that if the underlying data is suspect, the value of the patient view will be compromised. Should we not concentrate on getting the underlying data complete and accurate first?
- **Longitudinal/interoperable electronic health records (EHR)** I have often thought that if we were prepared to be a little less Canadian and push one jurisdiction over the top, rather than trying to give a little energy, and money, to everyone, we could advance the agenda in a game-changing way. What would be wrong with finishing the job in one jurisdiction or region and using the solution and learnings to apply to the others?

While it might sound oxymoronic, the establishment of standards for functionality and interoperability is a critical factor in fostering innovation. A national marketplace based on international standards will result in robust ICT products and services that will attract the investment needed to support a healthy ICT industry.

I am sure you will agree there is no shortage of good ideas for innovation in our health system, just a vast chasm of incomplete implementations. Firm leadership is needed from government and industry to ensure that we successfully harness the power of innovation in information and communications technology for the benefit of Canadians and our communities.

David Wattling is Vice-President, Transformation Services, TELUS Health. He is a respected leader in Canada's health IT industry. *This article is reprinted with thanks from* Healthcare Information Management and Communications Canada*, the official Journal of ITAC Health and COACH.*

Bernard Courtois is the President and CEO of the Information Technology Association of Canada

BULLISH ON BROADBAND

'Canada must become and remain a leader in this technology that is so vital to our nation's economic health'

By Bernard Courtois

A year has passed since the federal government announced the release of the Digital Economy Strategy Consultation Paper. The last official update on the strategy took place in November, when then-Industry Minister Tony Clement spoke at the annual IIC conference in Ottawa. It was clear from that update that the true raison d'être for this strategy is to ensure that Canada becomes and remains a leader in developing and using digital technology.

Broadband is the basic building block of a digital economy, so we need to be leaders in deploying and using broadband. After extensive consultation with our members, as well as some outside our membership (many of whom study broadband climates in competitor nations), we have come to see that a key criterion for successful broadband roll-out is the setting of goals and targets for *all* Canadians—not just those in easy-to-reach urban areas. We must avoid a "digital divide," which we can do by treating rural and urban Canada with the same aspirations and standards.

Secondly, we have found that in establishing our goals in this area, we are focusing perhaps a bit too heavily on download speeds, as opposed to taking a more holistic approach to broadband. While download speed is an extremely important metric, we also need to keep our eyes on how much capacity is available for download each month, for instance, in order to fully determine how functional our population can be within this new digital age. If we focus too concertedly on one metric, we risk missing the bigger picture and, over time, lacking relevance in our data.

Thirdly, broadband is not only about building physical infrastructure. It is also about being sure we have comprehensive strategies for enhancing such things as digital literacy, the digitization of public services, the promotion of broadband adoption by SMEs, and so on. This is not an "if you build it, they will come" scenario. We must build the necessary infrastructure, but we must also ensure that our population knows how to use it.

Finally, making full use of broadband involves the adoption of numerous technologies. In our business and policy decisions, we must be cognizant of the fact that different technologies, fixed, mobile, wireless and satellite, will be most appropriate depending on density, topography and customer preference.

The government's role

As for how the federal government plays into all of this, it may be in a subtler basis than expected. While some might say the government should be the one to make sure the right infrastructure is built out, including funding much of it, that is not really necessary, nor is it the most appropriate course for Canada. However, we do need help from the government on the establishment of an economic environment that promotes business investment. The government can help do this by making an increased amount of spectrum

available for purchase, for instance, and by avoiding the taxation of broadband.

Recently, one aspect of broadband use has sparked significant controversy in Canada: usage-based billing. What I find interesting about this entire topic is the amount of confusion it spawned, illustrating that while the Internet is a spectacular vehicle for information creation and dissemination, it can also become quite obfuscating at times. The discussion around usage-based billing showed that we were prescient in saying that we need to consider more than just speed and move into questions of capacity, setting our sights on the functionality we want. It continues to be extremely important to continue to add capacity in both wire-line and wireless networks, so ITAC supports making the investments necessary to do so. After all, the evidence around the growth of traffic on the Internet, both wire-line and wireless, continues to reinforce the need to plan for massive future investments, regardless of your stage in the game.

Recent data has confirmed that Canadians are among the heaviest Internet users in the world. For instance, a March 8, 2011, *Globe and Mail* article states that the average Canadian spends 43.5 hours on the Internet each month, nearly twice the worldwide average of 23.1 hours. Canadians also ranked first in the number of website visits per user per month, and second in the number of pages viewed.

Furthermore, we're constantly being called out for taking part in peer-to-peer file sharing at very high levels. This shows that the Internet here, in general, must perform well. However, for the following two reasons, we must not be complacent:

- Demands on capacity are growing faster than technological advances can accommodate.
- The CRTC recently issued a decision about Canada's broadband goals that is very consistent with ITAC's views. And we see carriers investing in new technology and announcing service proposals that mean we are likely to reach our pan-Canadian goals earlier than expected. That is all positive, and driven by business investment as we think it should be.

ITAC would like to commend the federal government for taking such steps as freezing spectrum rates in an attempt to foster an optimally healthy broadband environment in Canada. It is clear this is a priority for the government, and ITAC is committed to working together with the government toward this end. We would encourage government to continue working toward freeing up as much spectrum as possible in order to achieve this goal.

Bernard Courtois has been the President and CEO of ITAC since 2004. This article is extracted from a recent blog posting at www.itac.ca/weblog.

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M

Macadamian Software Engineering
Macleod Dixon LLP
Maple Leaf Foods
Marksal Inc.
Marlabs Canada Inc.
maxIT Healthcare
McCarthy Tetrault LLP
McKesson Information Solutions Canada Ltd.
McMaster University
McMaster University – Department of Family Medicine
MD Physician Services
Med Access Inc.
MED2020 Healthcare Software Inc.
MEDITECH
Metex
Micralyne Inc.
MicroQuest Inc.
Microsoft Canada Co.
MicroStrategy Canada
Miller Thomson LLP
MISA (Municipal Information Systems Association)
MODIS (formerly Ajilon Consulting)
Morin Relations Publiques
MTS Allstream Inc.
M.H. Nusbaum & Associates Ltd.

N

National Angel Organization
National Institute of Health Informatics (NIHI)
Navantis Inc.
NCR Canada Ltd.
NetApp
NetDexterity Inc.
NetSweeper Inc.
New Brunswick IT Council (NBITC)
Newfoundland and Labrador Association of Technology Industries (NATI)
Nightingale Informatix Corp.
Nokia Siemens Network
Nordicity
Northwestel
Nova Marketing Group Inc.
Nova Scotia Business Inc.
NucleusLab Information Technologies (Canada) Ltd
Nvision Consulting

O

OACCAC (Ontario Association of Community Care Access Ctres)
Odgers Berndtson
OntarioMD
Ontario Environment Industry Association (ONEIA)
Ontario Research & Innovation Optical Networks (ORION)
Ontario Telemedicine Network
OnX Enterprise Solutions Inc.
Open Text Corporation
Optik Healthcare Systems Inc.
Optimed Software Corporation (A QHR Technologies Company)
Oracle Corporation Canada Inc.
Orion Health
Ormed Information Systems Inc.
Osler Hoskin & Harcourt, LLP
Osler Systems
Ottawa Centre for Research and Innovation (OCRI)

P

Paradigm Infotech
PayPal Canada
Pitney Bowes Business Insights
Platform Computing Inc.
PMC-Sierra Ltd.
Polaris Software Lab Canada Inc.
Polemos Academay
PPI Consulting Ltd.
PricewaterhouseCoopers LLP
Procom
Procura
ProVision IT Resources Ltd.
Public Sector Research

Q

QuadraMed Corporation
Quebec Technology Association (QTA)
QuestBack Inc.

R

Redhat Canada Limited
Redknee Solutions Inc.
Research In Motion Ltd.
RIC Centre
Rogers Business Solutions
Rogers Cable Communications Inc.
Rogers Communications Inc.
Rogers Media Inc.
Rogers Shared Services
Rogers Wireless Inc.
RPGTI
RuggedCom Inc.
Ryerson University

S

Salumatics
Sandvine Incorporated
SAP Canada Inc.
Sapphire Technologies Canada Ltd.
SAS Canada
Saskatchewan Advanced Technology Association (SATA)
SaskPower
SaskTel
Schroeder & Schroeder Inc.
SecureKey Technologies
Security Compass
SecurTek Monitoring Solutions Inc.
Sequentia Environics
Sheridan College Institute of Technology and Advanced Learning
SHI Canada (Software House International)
Shift Energy Inc.
Sidense Corporation
Siemens IT Solutions and Services
Sigma Designs Technology Canada Inc.
SKE Inc.
SMA
Smart Thought Technologies
Softchoice Corporation
Software AG
Solutions In Context
Stikeman Elliott LLP
Star Telecom
Strata Health Solutions
Summerhill Venture Partners
SyLogix Consulting Inc.
Symantec (Canada) Corp.
Symbiotic Group
Synopsys, Inc.
System Soft Technologies

T

T4G Limited
Tandberg Canada Inc., a Cisco company
Tata Consultancy Services
TBayTel
TechAlliance (London)
Tech Data
Teledyne DALSA
TELoIP Inc.
TELUS
TELUS Business Solutions
TELUS Health Solutions
TELUS Mobility Inc.
TELUS Security Solutions
Teranet Inc.
The CIO Summit
The Weir Group
Thinkage Ltd.
TIBCO Canada Inc.
Toronto Recycling
TRLabs
Trend Micro Canada Technologies Ltd.

U

ULC (Underwriters Laboratories of Canada)
UNIS LUMIN Inc.
Unisys Canada Inc.
University of Ontario Institute of Technology
University of Ottawa
University of Waterloo

V

ViXS Systems Inc.
VMWare

W

Websense Inc.
Whitenoise Laboratories (Canada) Inc.
Willowglen Systems Inc.
Wolf Medical Systems
Wulei Inc.

X

Xerox Canada Inc.
xwave

Y

York Technology Alliance
Youish Inc.

Z

Zarlink Semiconductor Inc.

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