Keynote

"A Review of Canada's Innovation Eco System: Where we are and What we need to do next"

Tom Jenkins
Chair of the Board, OpenText

Introduction by Ted Hewitt, President, SSHRC

Hewitt introduced Jenkins as having been cited for five years in a row by KMWorld magazine as one of its 100 most influential people globally. "Tom's a leader, an entrepreneur, and proof positive to all of us here today that basic research and private enterprise can be very powerful allies."

Jenkins commenced from the perspective that the arrival of new governments in Ottawa and various provinces offered the prospect of renewed thinking, opening up topics that had not been dealt with previously. In terms of where the country is now, the country's business R&D expenditures remained stalled, largely because major firms such as Nortel, Blackberry, and Bombardier have ceased to be major players in this field.

Even more crucial, he insisted, is our export profile. "We must never forget, in a globally shrinking world, that the export numbers really matter. So when we innovate, we have to pay particular attention to export GDP creation."

He reminded the audience that in addition to the obvious role players in our innovation ecosystem — private interests, the federal government, and academia — there are also

varying degrees of participation by provinces, which reflects the highly decentralized way in which our country is run. Moreover, we have had a traditional conflict between developing an invention strategy versus an innovation strategy, as though the two were not compatible. "For some reason, this discussion got framed as an 'either/or'. We have to have excellence in research, but we've got to create value in society from it or we will never have the virtuous circle." By way of example, he referred to his own background with Open Text, a firm that was established by excellent research in mathematics.

As for what needs to change in order to promote innovation, Jenkins started with the notion that the Canadian government has to be a customer. He recalled an OECD meeting where the participants explained to him that the United States enjoys so much success with innovation precisely because it has "squared the circle" of public procurement. The classic example of this process is the development of the laptop computer, which was originally designed for thousands of field employees of the Internal Revenue Service, who required the capabilities of a desktop computer when they were travelling; this government agency promised hardware designers it would be their first customer if they came up with a portable version of this technology, which has since become ubiquitous.

"This matters, it really matters to commercialization, that government be that first customer," he said, adding that in a democratic environment there is the added challenge that procurement with public funds must be matched by good value for the investment. Similar challenges face academic institutions, which must adapt to the concept of commercializing their work.

Referring to a definitive series of articles on this subject in the September 2011 edition of Institute for Research on Public Policy publication *Policy Options*, (http://policyoptions.irpp.org/magazines/innovation-nation/), Jenkins described a cascade that starts with competition within business, which leads to innovation and then improvements in productivity. "The single most important thing we have to have for industry is competitive pressure," he said. "If they don't have competitive pressure, then we basically do not drive that need for innovation and productivity."

More specifically, he noted, a key measure is Canada's lagging productivity with respect to the United States, our largest trading partner. Today that gap stands at about 30%, which is largely due to a lack of investment in information and communication technologies. Placed in more concrete terms, this gap represents a shortfall of about $12,900 in average household income. "A lot of people think of productivity as working harder for less money," he explained. "No. Productivity is about working less, working smarter."

Jenkins examined another facet of the importance of competition, as a source of innovative ideas. "This is why procurement is so important," he said. "Almost two-thirds

of all the inspiration for innovation within organizations comes from a demanding customer. But it's got to be in a competitive environment."

A 2011 report *Canada's Competitive Imperative*, prepared by Roger Martin, Chair of the Institute for Competitiveness & Prosperity, outlined that from 1985 to 2011, Canada has progressed from having 15 to 42 corporations that are considered global leaders. But fewer than 10% of these firms come from sectors that exist within some kind of protection regime. "Everybody in Canada thinks that we have a wide open market," said Jenkins. "Well we don't. The Wilson report, *Compete to Win*, [https://www.ic.gc.ca/eic/site/cprp-gepmc.nsf/vwapj/Compete_to_Win.pdf/$FILE/Compete_to_Win.pdf] absolutely proved and showed this." He added that we have good reasons for Acts of Parliament that legally restrict competition in six sectors — transport, uranium, telecommunications, broadcast, financial services, and culture — with the valid aim of defining Canada's distinct identity as a nation. However, since these measures were first implemented, the rest of the world has changed dramatically, especially with respect to the evolution of a global economy. In this context, then, firms can enjoy higher profits without the need to pursue R&D or innovation; the cascade [from competition to innovation] that Jenkins previously described now indicates that sub-optimal competition leads to sub-optimal innovation and sub-optimal productivity.

As for what can be done about this problem, Jenkins returned to Roger Martin's report, which presented a balanced model for innovation, one that puts pressure on organizations to compete while also supporting them in their competitive efforts. Jenkins also cited the report he oversaw in 2011, *Innovation Canada: A Call to Action*, which offered six recommendations that he suggested had largely been embraced by government, as evidenced by federal budgets from 2012 to 2016 that included changes to R&D tax incentive programs, additional money to National Research Council's Industrial Research Assistance Program, a national procurement strategy, and no less than $800 million to establish innovation clusters. "Successive governments have done a great job looking through and figuring out what are the pieces that they're prepared to act on," he said.

As for what comes next, Jenkins insisted that a balance must be struck between facing global competition and maintaining domestic control. All the regimes that Canada has taken such pains to protect must now be opened up to the global economy in order to promote innovation. He provided the example of disruptive enterprises like Uber or Airbnb, which have skirted traditional regulatory regimes in order to provide new services to consumers. "That's the way the world is today and we've got to reorganize our society to accommodate that; or we can put our head in the sand," he said. "But we've got to have that discussion." The other balance he reiterated was the need to have both science and commercialization.

As for the role of government, it is not just a matter of being a better customer for innovative enterprises, but being a better co-ordinated customer. "Sometimes we're sort of like five-year-olds playing soccer. We all run to the ball and we really should be playing position. We have a complex array of small, direct support programs. We need to consolidate and streamline them. We need to have a thoughtful discussion about how to go about doing that." By way of example, Germany's famous Fraunhofer Institute System remains a powerful model to study. No less compelling have been the results of that same country's approach to science, the Max Planck Institute System, which combines pure and applied science, and the Leibniz Association, which co-ordinates non-university research institutes. "There's a lot to be learned from how they square their circle."

Canada already has considerable resources available for this kind of co-ordination, since colleges and universities already represent no less than $1.1 trillion in revenue, $8.5 billion in research, and some 1.5 million employees. In this regard Jenkins was struck by the importance of a national recognition of the role of innovation, when newly minted Prime Minister Justin Trudeau celebrated the strategic place of the Waterloo region. There has also been recognition within the new budget of exports as a key part of the country's economic success. Similarly, the budget put a large amount of money into innovation clusters and science, reflecting an acknowledgement of the place these activities occupy within the economy.

Finally, Jenkins' celebrated the Governor General's commitment to changing Canada's approach to innovation by launching a dedicated set of innovation awards reflecting accomplishments in this area. "The awards will be something that will go a long way to changing the culture of the country," he said. "It will be a long-term multi-dimensional effort. It is not 100 people meeting at the Grand Hall in Rideau. It's much more than that. This is the first award program in the history of our country, which will reach out and touch well over 100,000 people every year. It's because the nominating partners are the groups all throughout the country — by region, by sector — that are already recognizing innovation." Further to this collaboration with the Governor General, Jenkins is also writing a book with him about innovation in Canada. This work has already mustered more than 1,000 stories in a National Innovation Database, which will be featured in a national campaign when the book is published in March 2017.

By way of conclusion, Jenkins told members of the audience that their actions would loom large in the implementation of a new perspective on innovation. "What you do matters. The conversations you have, whether it's with ministers or deputy ministers, it really does matter." Similarly, government must begin to take risks in terms of procurement policies and academia must understand the need to aspire to both excellence in science and in the commercialization of scientific insights.