Business Dynamics and Entrepreneurship: The Canadian Perspective

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Innovation, Science, and Economic Development Canada

Implications of the digital transformation for the business sector
London UK, November 8, 2018

Building a prosperous and innovative Canada
Canada’s focus is on innovation-led growth and competitiveness.

Recent economic upturn remains uncertain
Bank of Canada GDP projections:
2017: 3%  2018-2020: 2%

Demographic shifts
For the first time, high income countries have more people 65+ than under 15 (World Bank, 2016)

Changing nature of work
8-9% of labor demand in 2030 will be in jobs that do not exist today (McKinsey, 2017)

Digital Transformation
90% of the world’s data created in the last two years (IBM, 2016)
GLOBAL RACE – PERSISTENT COMPETITIVE PRESSURES (1)

Declining innovation metrics...

Indicators Among 35 OECD Countries

  - 4th in 2006

- Business expenditure on R&D (2016)
  - 16th in 2006
  - 22nd

- University-Industry R&D Collaboration (2016)
  - 7th in 2010
  - 24th

Other Key Metrics

- Adoption & Technology
  - ICT investment per worker at 51% of that in the US

- SMEs not maximizing export potential
  - Account for about 30% of exports
  - About 12% of SMEs export
  - 71% High-growth SMEs face capital challenges

Merchandise Exports Destination

- 2007
  - 76.8% US
  - 8.3% EUROPE

- 2017
  - 74.8% US
  - 7.9% EUROPE

Source: OECD Main Science and Technology Indicators; OECD Science, Technology and Industry Scoreboard 2017
GLOBAL RACE – PERSISTENT COMPETITIVE PRESSURES (2)

Declining science metrics...

Indicators Among 35 OECD Countries

- R&D Spending in the Higher Education Sector (2016)
  - 8th in 2006

- Number of Researchers per ‘000 employment (2017)
  - 17th

- Total Domestic Expenditure on R&D as a % of GDP (GERD)
  - OECD Average: 2.35
  - 2000: 1.60

Canada’s research competitiveness has eroded

Source: OECD Main Science and Technology Indicators; OECD Science, Technology and Industry Scoreboard 2017
INNOVATION AND SKILLS PLAN (ISP)
Underpinned by four interconnected pillars

1. **People and skills**
   Equipping Canadians with the tools, skills and experience they need to succeed in the marketplace, and attracting global talent.

2. **Research, technology and commercialization**
   Encouraging greater business investments in research and capitalizing on Canadian inventions through shared risk taking and partnerships.

3. **Investment, scale-up and clean-growth**
   Attracting investment and supporting the growth of leading Canadian companies and start-ups.

4. **Program simplification**
   Offering a timely, client-centric and single window in the delivery of business innovation programs.

Innovation Canada website:
https://www.ic.gc.ca/app/scr/innovation
## Strengthening the Innovation Ecosystem

<table>
<thead>
<tr>
<th>Program</th>
<th>Benefits</th>
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<tbody>
<tr>
<td><strong>Supercusters Initiative ($950M)</strong></td>
<td>Partnerships for Scale, Technology Leadership, Access to Innovation, Diverse and Skilled Talent Pool, Global Advantage</td>
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<tr>
<td><strong>Strategic Innovation Fund ($1.26B)</strong></td>
<td>Open to all sectors, Simplifies, Support emerging sectors, 4 Streams, 695 pipeline projects $7B+ value</td>
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<td><strong>Global Skills Strategy</strong></td>
<td>Faster processing of work permits for foreign high-skilled workers, $7.8 million over two years for the Global Talent Stream pilot to attract top talent, Work permit exemption for short-duration work terms for high-skilled work</td>
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<td><strong>Venture Capital Catalyst Initiative ($400 million with funds leveraged)</strong></td>
<td>Injecting up to $1.5B into Canada’s VC markets with funds leveraged from the private sector, Canadian VC investment saw the 8th straight year of growth in 2017</td>
</tr>
<tr>
<td><strong>Women Entrepreneurship Strategy</strong></td>
<td>Help women grow their businesses through access to financing, talent, networks and expertise, $1.4 billion over 3 years in financing for women entrepreneurs, $9.5 million over 3 years to support collecting gender-disaggregated data</td>
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</table>

Also includes 6 Economic Strategy Tables that are industry-led with ambitious growth targets, identifying challenges and bottlenecks to innovation and determining a course of action.
INNOVATION SUPERCLUSTERS INITIATIVE

- Digital Technology Supercluster
- Protein Industries Supercluster
- Advanced Manufacturing Supercluster
- SCALE.AI Supercluster
- Ocean Supercluster

Technology Leadership  Partnerships for Scale  Diverse and Skilled Talent Pools  Access to Innovation  Global Advantage
What collaborations can we expect to see among innovation partners?

- Strategic relationships between industry and academic partners to maximize research capabilities
- Supply chain integration of SMEs with large anchor firms
- Development of skilled talent pools that encourage diversity and shift the traditional gender balance in highly innovative industries

Next steps:

- Agreements in principle have been reached
- Further updates will be provided by the superclusters in the weeks to come
VENTURE CAPITAL CATALYST INITIATIVE

- **$400 million over 3 years** to increase late-stage venture capital available to Canadian entrepreneurs.

- **Stream 1 ($350 million)**
  - Five large private sector-led funds-of-funds that will seek to maximize returns through diversified investments, support skilled VC fund managers, and attract substantial private sector capital.

- **Stream 2 ($50 million)**
  - A federal investment of $50 million in 7 venture capital funds.
  - Balanced portfolio approach used to ensure all of the stream’s objectives are met.

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Comprehensive focus on increasing diversity

**Strategies** to enhance gender balance and diversity in the VC industry, and objectives supporting underrepresented groups such as women or diverse fund management teams and entrepreneurs, emerging managers, regions and sectors, and new VC models.
The Women Entrepreneurship Strategy is a comprehensive, whole-of-government plan to help women grow their businesses through access to financing, talent, networks and expertise.

- **Helping women-led businesses grow**
  - $105 million/5 years to support investments in women-led businesses and the organizations that support them (ISED portfolio)
  - $10 million/5 years to connect women with expanded export services and opportunities (GAC)

- **Increasing access to capital**
  - $1.4 billion/3 years in financing for women entrepreneurs (BDC)
  - $250 million/3 years in new financing and insurance solutions for women entrepreneurs that export or have plans to export (EDC)
  - VC Catalyst Initiative has strong focus on gender balance and diversity

- **Improving access to federal business innovation programming**
  - Federal departments to collect and track gender and diversity data on business facing programs (Whole of Government)

- **Enhancing data and knowledge**
  - $9.5 million over 3 years to support collecting gender-disaggregated data (Statistics Canada) and the creation of a Knowledge Hub for the dissemination of research and best practices for women entrepreneurs (funded by ISED, third party delivery)

**TARGET:** Double the number of SMEs that are majority owned by women to **340,000** by 2025.
**ECO NOMIC STRATEGY TABLES**

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<th>Industry</th>
<th>Goal</th>
<th>Details</th>
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<td><strong>DIGITAL INDUSTRIES</strong></td>
<td>By 2025, double the number of Canadian digital firms with more than</td>
<td>double the number of Canadian digital firms with more than $1B in market capitalization to 26</td>
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<td><strong>AGRI-FOOD</strong></td>
<td>By 2025, increase domestic sales by 27% to $140B and increase exports</td>
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<td><strong>CLEAN TECHNOLOGIES</strong></td>
<td>By 2025, Clean technology is one of Canada’s top 5 exporting industries, nearly tripling current value to $20B annually</td>
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<td><strong>ADVANCED MANUFACTURING</strong></td>
<td>By 2030, increase manufacturing sales by 50% - to $1 trillion</td>
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<td><strong>RESOURCES OF THE FUTURE</strong></td>
<td>By 2025, grow annual resource exports by $100B to $350B</td>
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<td><strong>HEALTH AND BIOSCIENCES</strong></td>
<td>By 2025, double exports to $26B double total firms to 1,800 double high-growth firms to 80</td>
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**ECONOMIC STRATEGY TABLES**

- **Tobias Lütke**
  - Founder & CEO
  - Shopify

- **Charles Deguire**
  - CEO
  - Kinova Robotics

- **Murad Al-Katib**
  - President and CEO
  - AGT Food and Ingredients

- **Lorraine Mitchelmore**
  - Former President and Country Chair of Shell Canada

- **Audrey Mascarenhas**
  - President and CEO
  - Questor Technology

- **Karimah Es Sabar**
  - President and CEO
  - Questor Technology
ANNEX: National consultations to unlock the potential of the data-driven economy

Three related and mutually-reinforcing focus areas

**Future of work**
Ensure that digital dividends are spread across society, promoting skills, science, & affordability in the digital age

**Unleashing innovation**
Maximize benefits of a digital/data driven society, with competitive companies, leading infrastructure & world class e-government

**Trust and privacy**
Ensure frameworks for experimentation, transparency, competition, while safeguarding the rights of Canadians

What we heard

- Put in place more work-integrated learning
- Recruit and retain global talent and international students
- Embed digital literacy and STEM in education
- Accelerate the rate of technology adoption across economic sectors
- Enable risk-taking and create room for experimentation
- Strengthen digital infrastructure across Canada, particularly in remote communities
- Provide clear guidance on how regulations apply to consumers and companies
- Advance a made-in-Canada approach to privacy and data protection
- Put in place efficient, consistent and strong marketplace frameworks

Website of the Digital and Data National Consultations:
https://www.ic.gc.ca/eic/site/084.nsf/eng/home
LESSONS LEARNED

• An early win – improving direct support for innovation, leading to a more balanced mix (indirect-direct).
• But we have the long-game in mind... AI investments from ten years ago are just starting to pay off.

Inflection point – it was time to try something else.

Microeconomic levers complement macroeconomic policy.

But patience (on current indicators) is needed, the Innovation and Skills Plan is a multi-year strategy.
ANNEX: Canada’s Innovation and Skills Plan: bold ideas in action

**CHALLENGES**

**EDUCATION (STEM)**
- Shortages in coding and digital skills
- Fewer graduates in STEM and persistent gender gap
- Only 16% of SMEs majority owned by women (2014)

**TECHNOLOGIES**
- Low density of industry & technology capabilities and networks
- Research strengths are not being fully commercialized into technologies in the marketplace
- Low adoption of technologies by SMEs

**COMPANIES**
- Strong at starting-up businesses but poor at growing them
- Less venture capital directed towards late stage growth than peers
- Last among G7 in the number of firms in the top 1000 global R&D firms

**SOLUTIONS**

**EDUCATION (STEM)**
- CanCode – equipping youth and teachers with digital and coding skills
- Digital Literacy Exchange – teaching vulnerable groups digital skills
- Connect to Innovate – connecting 900 communities to the internet
- Connecting Families – affordable internet for low-income Canadians

**TECHNOLOGIES**
- Mitacs – 10,000 work placements for university students
- Global Skills Strategy – expedited processing time for high skilled talent
- Cdn150 Research Chairs – attracting top-tier researchers to Canada
- Pan-Cdn AI Strategy – maintain Canada’s leadership in AI
- Innovation Superclusters Initiative – industry-driven consortia to foster collaboration, business innovation & cluster development
- A New Vision for Science – the largest-ever increase in funding for fundamental research
- Reimagined National Research Council – help businesses undertake commercially relevant but high-risk research, which can in turn lead to successful global companies

**COMPANIES**
- Strategic Innovation Fund – consolidates and simplifies business innovation support
- Regional Development Agencies – consolidate business innovation support
- Intellectual Property Strategy – help Canadians access and leverage IP
- Innovative Solutions Canada – government as a first customer to spark innovation

**EASE OF DOING BUSINESS**
- Innovation Canada
- Clean Growth Hub
- Accelerated Growth Service

**GLOBAL MARKET EXPANSION & EXPORT**
- Cleantech Financing – patient capital to support expansion and/or long product development cycles for new tech (e.g., cleantech)
- Women Entrepreneurship Strategy – address barriers and challenges to women entrepreneurs
Access the Economic Strategy Tables Final Reports online at:

www.ic.gc.ca/econstrategy