THE "NEW GLOBAL NORMAL": ARE WE READY IN CANADA AND IN CANADIAN UNIVERSITIES?

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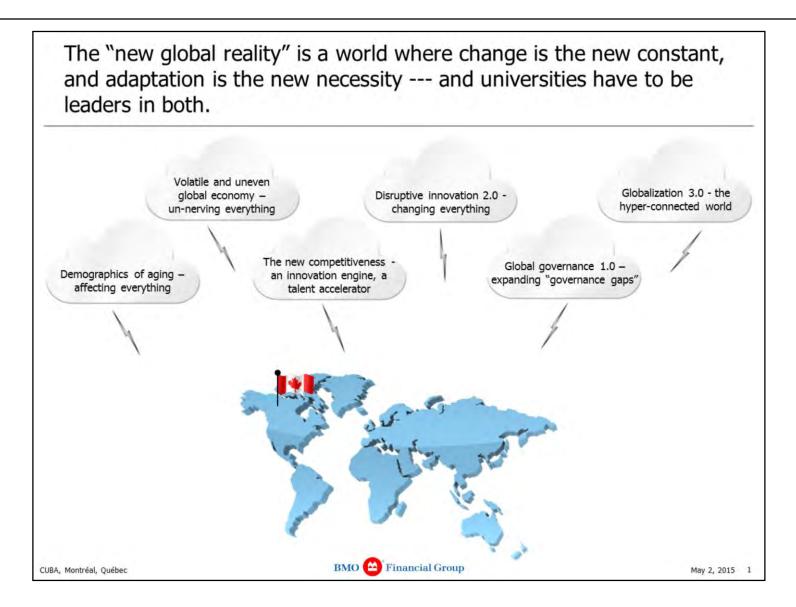
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"Research is turning money into knowledge, and innovation is turning knowledge back into money" --- and, with technology at an inflexion point, we need to be much better at both.



The global context is transforming. Structural trends are reshaping economies, societies, politics and expectations. We live in a hyper-connected and unrelentingly competitive world, with uneven growth, rising geopolitical risks and increasing volatility. It is a 2½-speed world, where the West is now in the slow lane, and technology and demographics are redefining the "drivers of success."



How best to adapt to this "new global normal" is the key question. It will require more emphasis on creativity, agility and resiliency. In a demographically challenged and knowledge intensive world, talent and innovation are imperatives for competitiveness and growth.

In this "new normal", talent and innovation will be core differentiators among economies, societies, companies, institutions --- and high-performing institutions of learning will be critical to societal success.



"Due to recent technological advances, everything I taught you about computers is no longer valid."

We need to avoid "status quo-ism"

 in a profoundly changing world, the status quo cannot be a long term strategy for success, including education

We need to combat "short term-ism"

 it is hard to build for the future with a quarterly mindset

We can't rely on "serendipity"

 as Yogi Berra noted, if you don't know where you're going, you don't know when you're lost." **Technology is at an inflexion point, and disruptive innovations are looming** --- driven by big data, big computing power, big analytics and adaptive learning, the next technology revolution will drive competitiveness, affect comparative advantage, transform the nature of work, alter who does the work, and affect governing. In this "Second Machine Age", we need to decide whether to be active "players" or wary "bystanders".

Technology appears poised for a new inflexion point --- expect "disruptive innovations", where early adapters will reap disproportionate gains.

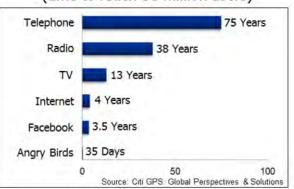
THE "DISRUPTORS"

- ✓ The Internet of things
- Advanced oil and gas exploration and recovery
- Energy storage
- Autonomous and near-autonomous vehicles
- ✓ Mobile Internet
- Cloud technology
- ✓ 3D printing
- Advanced robotics

Source: McKinsey

THE PACE OF DISRUPTION

(time to reach 50 million users)



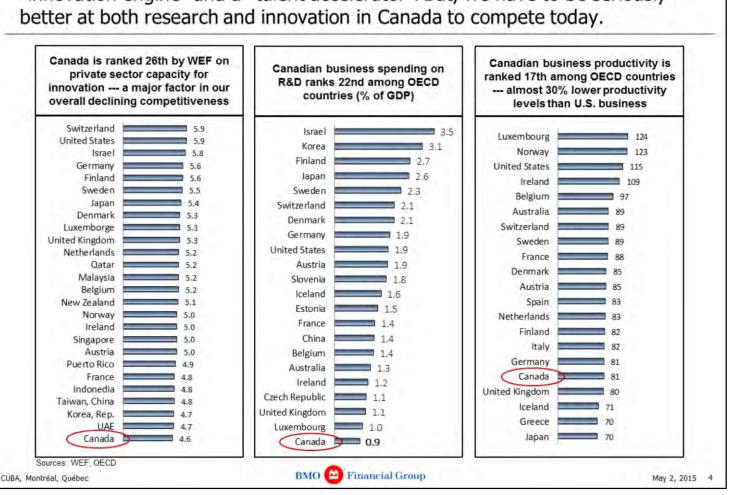
THE "BIG QUESTION"



Do we have the technical skills, managerial capacity and entrepreneurship culture to be the disruptors and early adapters, or simply be the disrupted and late followers?

 and, relatedly, what is the role, and what role are we playing, in Canadian universities? The new competitiveness imperative is shaped by productivity and innovation. Higher wage, lower scale countries and firms cannot compete on standardized products and generic processes. But, they can compete with innovative products and services, using leading edge processes, and tapping new value-added markets. The problem: Canadian firms are lagging badly in innovation and productivity, and the education system must be part of the solution.

The new competitiveness imperative is productivity --- and it requires an "innovation engine" and a "talent accelerator". But, we have to be seriously better at both research and innovation in Canada to compete today.



Innovation and entrepreneurship matter, greatly, for economic success. Innovation drives not only productivity growth and competitiveness but also living standards. Importantly, research is not the same as innovation, and serendipity is not an innovation strategy --- innovation takes a willingness to take risks, to embed change in management systems, and to encourage entrepreneurship. Innovation requires an "innovation ecosystem."

> Innovation drives productivity growth, competitiveness and living standards --- and needs an innovation ecosystem not serendipity --- but, we are not developing such ecosystems at scale in Canada!

Innovation matters for competitiveness, growth!

Efficiency innovations

 continually improve existing processes

Sustaining innovations

 continually improve existing products

Disruptive innovations

 create new products/services, often new lines-of-business





"There's talk of innovation out here. Winds of change are headed your way. Lock your door, pull the shades and hide under your desk."

Innovation is complex, and needs an ecosystem!

Rebalance: innovation support from indirect, passive (tax) to direct, active (spending)

Differentiate: SME support from general to specific (global orientation, innovation intensive)

Strategic procurement: shift procurement from lowest cost, commodity products to high innovation products

Build innovation spaces: place-based vs nation-based Demographics affect simply everything and an aging society puts a premium on talent! Canada is aging, with consequences: Canadian potential growth will slow significantly; public finances will be strained from fewer revenues and more age-related expenditures; there will be less demand for education seats and more demand for hospital beds; housing needs will shift; pensions become a greater income source; and political priorities change. Everything rebalances, but the only "growth antidotes" to aging are immigration, education and labour market flexibility.

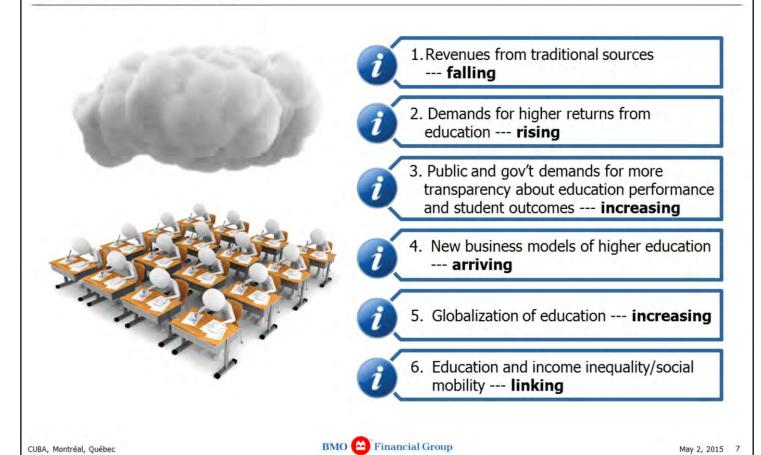
> Aging demographics are another "disruptor" --- it affects simply everything. While aging puts a premium on talent, the "politics of aging" poses a risk for education budgets. Consequences of aging Potential growth ↓ Distribution by three main age cohorts: Fiscal balance ↓ of the selected countries, 2005 %100 Education ↓ Health, pension costs ↑ 60 Savings ↓? Housing ↑↓ 20 Canada Europe ■10 to 64 years ■ 65 years and over ■ 0 to 19 years BMO A Financial Group

May 2, 2015

CUBA, Montréal, Ouébec

Tsunami of forces are reshaping higher education. Education is confronted by the vortexes of changing supply (declining enrollments in aging societies, expanding enrollments in many emerging economies), changing demand (different skill sets) and changing processes (technology led MOOCs). Society wants inclusivity, excellence, differentiation and improved outcomes; education systems too often want more of the same. **The status quo is not a viable model for higher education tomorrow**.

Tsunami of forces are reshaping higher education globally --- are we willing to tackle the status quo in Canada or be disrupted by innovations elsewhere?



Good benchmarks are part of good management systems. Rankings are a form of benchmarking, with both strengths and weaknesses, and they can help shape brands in an uncertain marketplace. There are numerous international rankings of universities whose methods of measurement differ --- some use surveys, some quantifiable metrics and some a mixture.

> An overview of various 2014 world university rankings: they differ, they influence brand perceptions, they contain learnings - but only 3-4 Canadian universities are in the top 100 across the surveys - is this good enough?

Canadian University Ranking	THE World University Rankings Times Higher Education	Academic Rankings of World Universities (ARWU) Shanghai Ranking Consultancy	Centre for World University Rankings CWUR (New in 2012)
Top 100	University of Toronto(20) UBC (32) McGill University (39) McMaster (94)	University of Toronto(24) UBC (37) McGill University (67) McMaster University (90)	University of Toronto (31) McGill University (42) UBC (61)
101-200	 University of Montreal (113) University of Alberta (124) University of Victoria (173) University of Ottawa (188) 	101-200 Group University of Alberta University of Montreal University of Calgary	 University of Alberta (103) Université de Montréal (134) McMaster University (141) Western University(152) University of Calgary (166)
201-300	226-250 • University of Calgary • Carleton University • Dalhousie University • Laval University • Simon Fraser University • Western University • York University 251-275 • Queen's University • University of Waterloo	201-300 Group Dalhousie University Laval University Queen's University Simon Fraser University of Guelph University of Ottawa University of Victoria University of Waterloo	University of Ottawa(212) University of Manitoba (220) Laval University (226) Queen's University (277) University of Waterloo(280) Dalhousie University(284)

CUBA, Montréal, Ouébec

Education and employment are approaching a "disruption point." The new technology revolution will set up a race between technology changing the nature of future jobs and an education system preparing graduates for future jobs. Canada will need graduates who can continually adapt and adjust, and an education system that can develop them.

Education and employment are approaching "disruptive innovation" --- how will we win the "technology <u>versus</u> education race"?

Canada needs graduates who are:

Literate, numerate and articulate
--- tablestakes +

- + Creative, critical thinkers
- Strongly entrepreneurial, commercially and socially
- Able to leverage new technologies
- + Able to collaborate in diverse teams
- + Open to failure, resilient

Canada needs an education system focused on: inclusivity, excellence and differentiation:

- ✓ Excellence bench mark to world's best, from K-12, to college, to university, to research, etc.
- ✓ Differentiation take a system approach, focus limited resources on an excellence-based system
- ✓ Digital learning be at the leading edge of this transformation, both inside institutions and outside
- ✓ Internationalization more foreign students here; more Canadian students abroad

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?" by C. Frey and M. Osborne (2013)

BMO (A) Financial Group

A country's brand is an asset, a "public good." Branding matters for firms and for countries. In a changing world, for many firms a corporate brand is often partially defined by the country brand. In a world that values resources, well educated labour forces, research capacity and the rule of law, Canada has considerable unrealized global brand potential.

Brands matter - to attract talent, capital, partners. Canada has much unrealized global brand potential, including education - and it costs us.

Our actual global brand



Our potential global brand:



- Talent: pool of well educated, tech-savvy graduates
- Strong universities, knowledge-intensive economy
- ✓ Solid macroeconomic policies
- ✓ Trusted institutions, rule of law
- Strong financial system, worldclass financial institutions
- ✓ Abundant natural resources

Leadership matters in transforming times. Change requires leadership not just "managership" --- in higher education, in business, in government. It is one thing to be surprised by unforeseeable events; it is inexcusable to be surprised by evident trends. **We need leaders who are willing to challenge, not cling to, the status quo**.

In times of disruptive change: strategy trumps serendipity, and complacency is a risk best avoided!



NEEDED: "KNOWLEDGE ECONOMY" STRATEGIES

- √ Skills of tomorrow strategy
- Be early adaptors, maybe disruptors
- ✓ Differentiation strategy
 - · Take a systems approach
- ✓ Entrepreneurship strategy
 - Part of every curriculum, part of university culture
- √ Experiential learning strategy
 - Build on best practice
- √ Foreign student strategy (incl branding)
 - Good for education, good for immigration
- √ Leadership
 - Leadership not managership in changing times