

# The Beginning of the End of the Knowledge Economy?

AI Seminar : U Alberta – October 2016

- Presenter: Perry Kinkaide, Founder & CEO



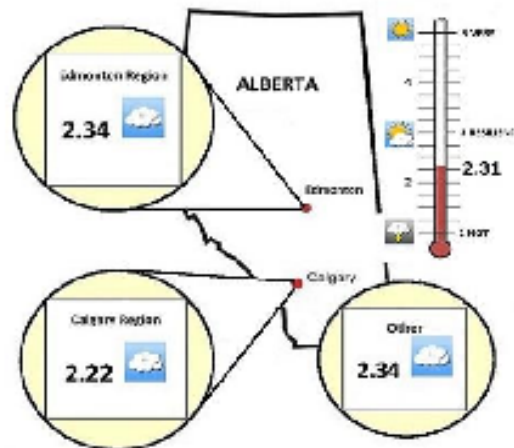
# A Moment of Silence for Alberta

## ECONOMIC RESILIENCE – ALBERTA 2015

Economic diversity is a measure of the **state** of an economy. An economy is deemed “resilient” when it has the capacity to sustain prosperity or mitigate sources of vulnerability and ensure the jurisdiction’s capacity to recover quickly from an economic shock. In September we asked our contacts their views of Alberta’s economic shocks and to identify the most sensitive measures of resilience. They were also asked what role(s) governments should play for making Alberta more resilient.

The survey establishes a benchmark for 2015 employing a scale of from 1 = Not Very Resilient to 5 = Very Resilient. The Alberta Council of Technologists is producing the benchmark - similar to a weather report - to be repeated, for stimulating and sustaining public and business, industry and government discussion of the province’s economic resilience. The results reflect the current sentiment of the observers for the province as a whole, and then broken down to reflect Regional and Industry differences.

### Cloudy throughout Alberta - with resiliency hovering around 2.31



### ALBERTA

Alberta’s economic resilience score is 2.31 (out of 5.00). The province is too dependent on the oil and gas industry. Diversification is needed to increase the economy’s resilience to the shock of oil price volatility. Key areas for improvement include technology, small business growth, and value-added manufacturing and services.

The most resilient Regions is viewed as resilient: Edmonton (2.34/ 5.00), Calgary (2.22/5.00) and Other (2.34/5.00). Calgary appears to be somewhat more vulnerable. [FOR MORE](#)

### SENTIMENT

The most sensitive measures of economic resilience are: corporate investment activity, jobs – employment and creation and GDP. The 415 respondents/ observers possess a broad array of industry interests from across Alberta. [FOR MORE](#)

### GOVERNMENT

Observers were clear and consistent, government’s roles in making Alberta more resilient should be in: formulating policies and employing incentives to support small business innovation, promoting entrepreneurship and business start-ups, funding of research for long term job creation, and negotiating trade agreements for increasing market access for Alberta products and services. [FOR MORE](#)

### FORECAST

Observers of Alberta’s economy view Alberta, its Regions and Industries as not very resilient due to an over-dependency on oil-prices - Services in particular. Recovery of prosperity depends on the price of oil, determined by geo-political events beyond Alberta’s control. When oil-prices recover, Regions and Industries in Production with savings/reserves will fare better - and recover earlier, than Services.

### CAUTION

Transforming a carbon-based, resource economy is a rare and at best, multi-year endeavor. When things are good, they are very good. When they are bad, hope is high and most just scale back and wait as there is little one can do to speed up recovery. Governments typically opt to spend reserves or go into debt for financing short-term infrastructure jobs and social programs. Rarely do they opt to address improving their economic resilience.

Transformations are usually triggered by broadly shared crises such as: a sustained economic decline, a pending calamity such as climate change, or emergence of a disruptive technology such as the internet. Keys to success include: a mature public sector to mitigate intense lobbying from beneficiaries of the status quo, an unwavering long-view warranting collaboration between industry and government, small business innovation and incentives to stay the course, and visionary leadership, monitoring and celebrating progress.

### INDUSTRIES

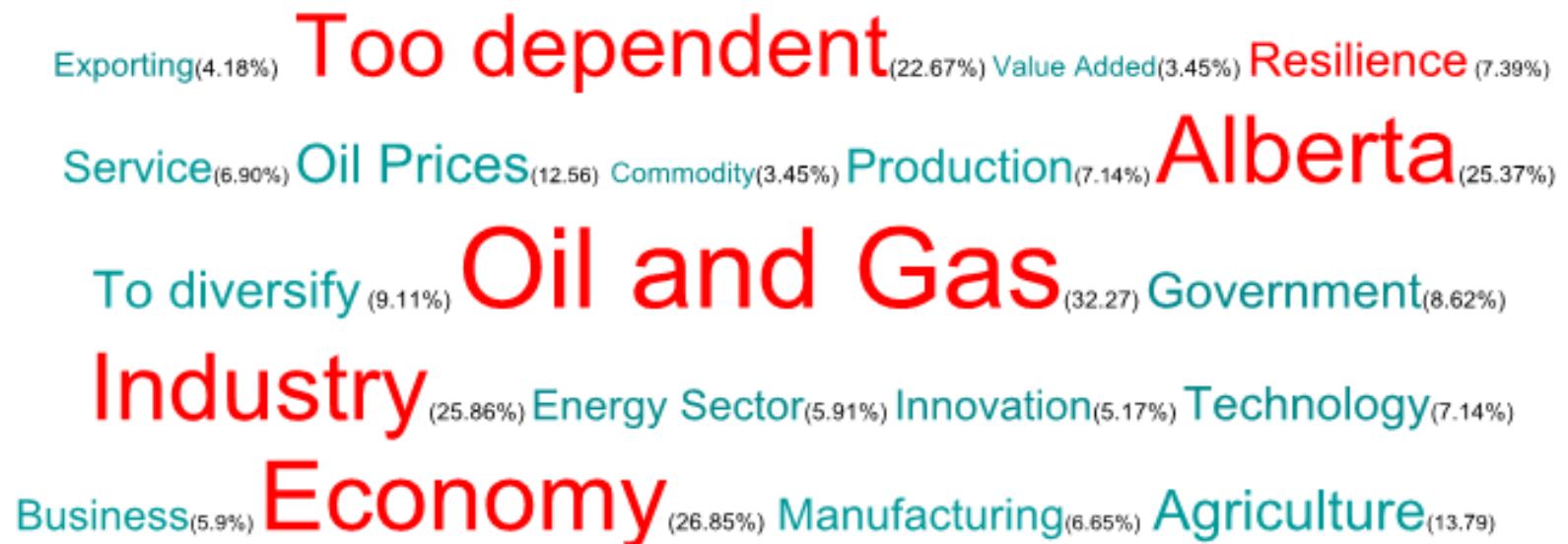
Observers viewing Alberta as least resilient and therefore most vulnerable have an interest in SERVICES: Legal, Entertainment & Hospitality (Tourism), Environment, Finance, InfoTech, and NGOs. More positive are those with an interest in PRODUCTION: Construction, Communications, Manufacturing, Agriculture and Forestry. [FOR MORE](#) including an analysis of Regional differences for each industry.

Agriculture & Food Processing	2.35	Government & Public Policy	2.29
Communications & Marketing	2.40	Health & BioTech	2.28
Construction & Real Estate	2.44	Human Res & Development	2.30
Education & Research	2.25	InfoTech & Analytics	2.18
Energy & Distribution	2.26	Legal & Security	2.10
Engineering & Design	2.27	Management & Strategy	2.28
Entertainment & Hospitality	2.11	Manufacturing & Export	2.36
Environment & CleanTech	2.14	NGO-Non Gov’t Organization	2.20
Finance & Investment	2.17	Transportation & Logistics	2.31
Forestry & Wood Products	2.34	Other (please specify)	2.27

**Q 2. Explain your answer to #1 - How you view the diversity of Alberta's economy?** 406 answered and 9 skipped question

**Alberta's economy is too dependent on the oil and gas industry. Diversification is warranted to increase the economy's resilience to the shock of oil price volatility. Increasing resilience requires: innovation in technology, small business growth, and value-added manufacturing and exporting.**

Key word search of comments – most frequent (>3%) words/phrases



- The province remains far too dependent upon the O&G sector, which frequently undergoes boom-bust cycles. Resilience must be improved with diversification. Also, reasonable (and cheaper) levels of infrastructure investments by gov't during down turns could be a real win-win. (#54 – Edmonton 1)
- Diversity is a must, but currently Alberta's economy is not resilient because of its dependency on two main industries: Oil and Agriculture. (#124 – Calgary 3)
- Alberta's supply chain of goods and services are predominately tied to the oil and gas resource sector leaving Alberta's economy vulnerable to external impacts/global price swings in one industry sector (#376 – Red Deer 2)
- Failure to recognize that a diversified economy is driven by new technology and innovation, in addition to 'growing' by providing the economic environment, support and subsidization necessary to build the infrastructure for growth (#70 – Calgary 1)

# Creating the New Alberta!

Report [HERE](#) reveals options for addressing Alberta's wide-spread decrease in economic resilience and weak SME ecosystem



## ALBERTA'S CURRENT REALITY

### Widespread Resilience Decrease

Edmonton Region decreased 19%, now ...  
On par with Calgary. Most industries decreased  
Only Legal Services and Tourism escaped

### Constraints on Recovery

67% view the Ecosystem for SMEs as ineffective  
Banks and VCs are too risk averse to help  
Market access, debt and government ideology

### Industries Most Vulnerable

Info tech (Analytics) and BioTech (Health)  
Research (Education)  
Forestry (Wood Products)

### Jobs/People Impact Severe

Decreased corporate investment  
Increased unemployment and layoffs  
Decreased job creation

### Limited Government Role

Policy support for SMEs and entrepreneurs  
Invest in research before projects or techcom  
Negotiate trade agreements

### Industries Least Vulnerable

Legal (Security)  
Human Resources (Development)  
Tourism (Entertainment & Hospitality)

## TOP 3 OPTIONS CITED FOR SIGNIFICANT WEALTH CREATION

### Immediate

< 5-years  
Tourism (Hospitality)  
Agriculture (Food Processing)  
Construction (Real Estate)

### Mid-term

5-15 years  
BioTech (Health)  
Renewable energy  
Transportation and Infotech

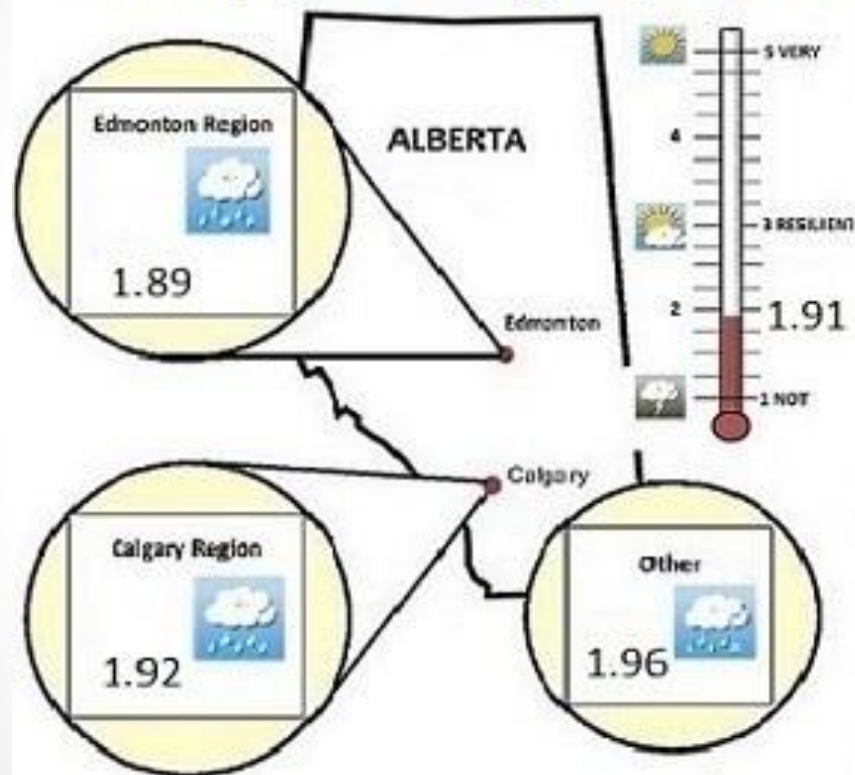
### Long term

> 15 years  
Nuclear energy including -  
advanced manufacturing  
Renewable energy

**Essential for Creating the new Alberta: A resilient economy,  
Leadership in innovation, and Energy transitions**

Join us in Red Deer, November 26th - our all-industry Convention for addressing  
what can be done to advance recovery and improve Alberta's economic resilience

## March/April Survey/Report on Alberta's Economic Resilience



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# The Sources and Forces of Change



## THE BIG SIX

Climate change – de-carbonization

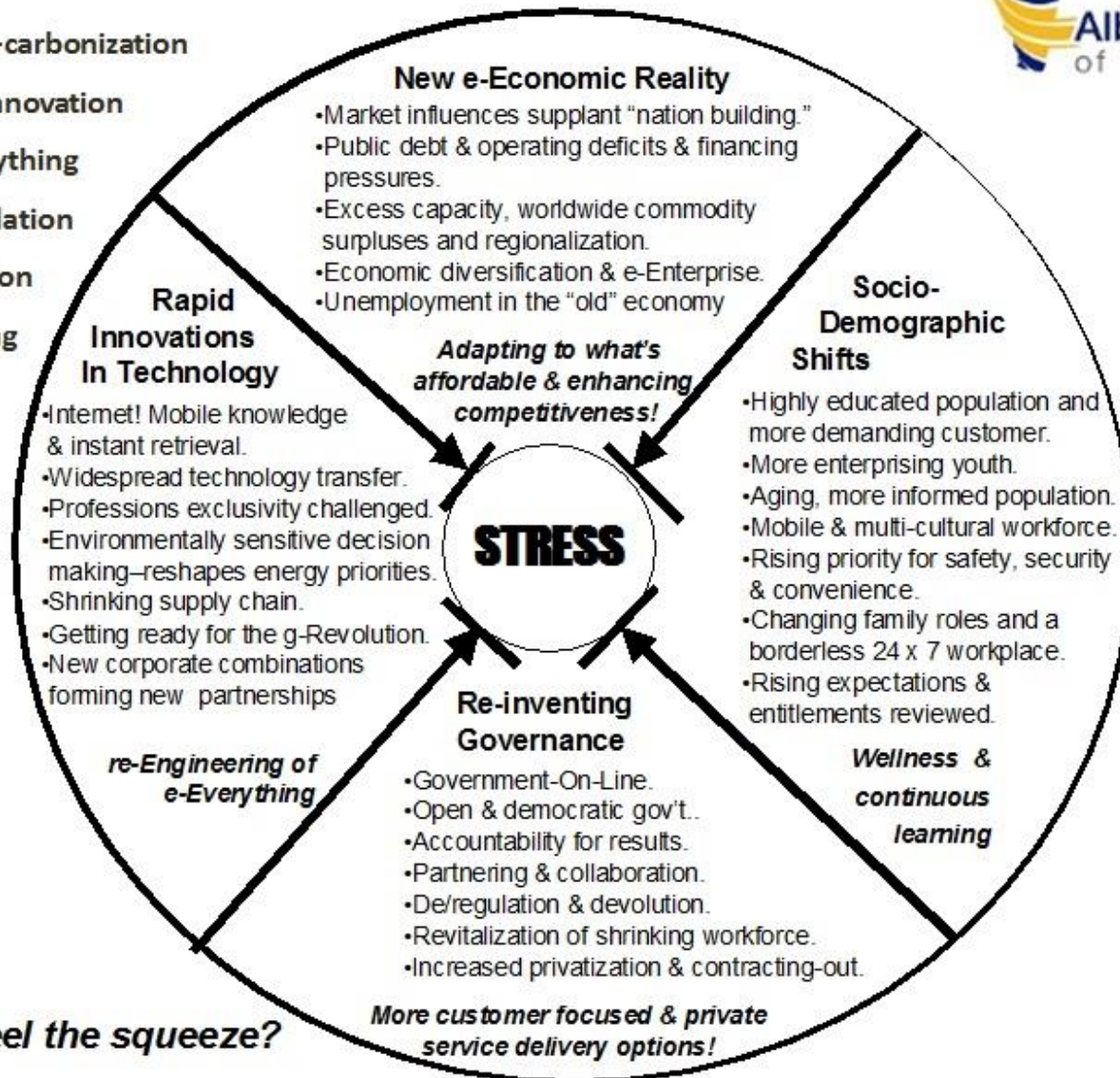
Rapid/Continuing Innovation

AI – internet of everything

Government deregulation

Increasing competition

Baby-boomers exiting



*Feel the squeeze?*

# The Forces & Sources of Change Aligned

Economic ... globalization, credit issues, and emerging markets

Regulatory ... debt and distrust

Socio-demographics ... youth, enterprise, ageing, and immigration

# Technology

... a most potent

change-agent re: health, education, governance

# Culture Clash

**Global reach and integration - where irreverent cultures collide:**

- **Faith-based confronting empiricism**
- **Secularism and religions clash.**
- **Elites confronted by rights – a flattening of power structures**
  - Universal tolerance – awakening women and students
  - Clients become customers
  - Horizontal borders – Territories challenged
  - Vertical power hierarchies – Exclusive Rights of Practice!
  - Knowledge. Freedom. Liberty. Innovation. Open!

# Response ... Creating the new Alberta! Diversified and resistant to crude shocks

**Insights** – consultation with 13,000 followers sharing an interest in the commercialization of emerging technologies:

- 1. SMEs.** Why SMEs fail to survive, to grow, to stay ... Relational skills.
- 2. Regional Impediments to Innovation.** Leadership & vision, under-developed/isolated networks, prosperity impeding learning.
- 3. Future of Professions.** Competition and information access. More informed clients are forcing a transition of the professions. But ... who to trust?

**Over-dependent** . Risk-averse, near-sighted public sector institutions and government. An ineffective innovation ecosystem.

# The Future of Professions

## A Survey Report

by Mursal Khedri & Perry Kinkaide

### Inspiration

The Future of Professions Survey report drew inspiration from Richard and David Susskind's book of the same name. This book is about the professions and the systems and people that will replace them. The book focuses on doctors, lawyers, teachers, architects, amongst many other professions, and the organizations in which they

work and the institutions that govern their conduct. The authors theorize that we are on the brink of a fundamental and irreversible change in the way that expertise is

made available in society. Technology will be the main driver of this change. They also claim, in the long run, we will neither need nor want professions to work in the way that did in the twentieth century and before.



With developments in genetics, artificial intelligence, robotics, nanotechnology, 3D printing and biotechnology, to name just a few, we are facing an exponential growth in information processing. These developments are laying the foundation for a revolution more comprehensive and all-encompassing than anything we've seen before. Smart systems will help tackle problems ranging from supply chain management to climate change, and will ultimately out-perform human beings at most tasks.

While the impending changes hold great promise, the impact on consumption and employment created by it will pose

major challenges to professionals, requiring proactive adaptation by governments, regulatory bodies and professions.

As entire industries adjust, most professions are also beginning to undergo a fundamental transformation in the way that their 'practical expertise' is made available to society. Traditionally, practical expertise has been held in people's heads, textbooks and filing cabinets. Increasingly, this expertise is being stored and represented in digital form in a variety of machines, systems and tools. As a result, it is being handled, shared, used and reused in very different ways.

## Challenges to Professions

- Competition within and between professions
- Emerging technologies
- Client-cum-consumer

Knowledge without relationships has no value

He who understands his customer best, has no competition

# “Innovation” - Confronting Resistance to Change

Embracing change:

- 1. Prepare the people**
- 2. Prepare the “community”**
- 3. Develop the infrastructure**

“There they go. I must hasten after them, for I am their leader.” -- ???

# Sharing – Vision & Leadership

- **Innovation** – “Knowledge without relationships has no value!” Understanding/monitoring the forces & sources of change. Our challenges – the threats & opportunities.
- **Sustainability** – diversity and “He who understands the customer best has no competition!”
- **Prosperity** – a passion for innovation equates to continuous learning and humility.
- **Leadership** – nimble and engaged, values-driven and passionate learner, strategic/future focus v. tactical/immediate