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A City That Adapts

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The Problem

Calgarians are facing revolutionary changes to how we live, work, and learn. Technology, globalization, an unstable global energy market, and the structural impact of the pandemic are contributing to seismic economic and social changes.

As a city, Calgary has faced the volatility and uncertainty of depending on the oil & gas sector for much of the past century. But this time, it is different. In the past, we could expect that for every bust, there was a boom around the corner. We had to persevere, show our resolve, embrace our grit, and be patient.

But the future of Calgary is no longer about waiting until the next boom. Calgary's economy is shifting, and so are the demands of its employers. Paradoxically, Calgary faces both a skills surplus and skills deficit. The problem is the increasing gap between the skills employers' demand and the skills Calgarians possess. So, what now?

2x

Digital jobs will double the employment growth rate of all other sectors.

46%

Of jobs in OECD countries at risk of being partially or fully displaced by automation.

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The Solution

To thrive in the face of accelerating change, Calgary must become a city of people who can adapt. The city's future will be defined less by its natural resources and more by how its people choose to continuously adapt and learn. Adaptable people can adjust to the dynamic context of the world today.

Adaptability can be reactive, as in learning to live in a new reality during the COVID-19 pandemic. However, adaptability can also be proactive and intentional, characterized by a culture and infrastructure that anticipate and embrace change while planning responses.

At the root of adaptation is learning. To become a city that adapts, Calgarians must possess the capacity to learn — and celebrate its ability to learn. To attract and retain investment, Calgarians must learn faster and better than others. In this brief, we explore how Calgary can become a city that learns its way forward.

The World Is VUCA. Get Used To It.

For millennia, a city's geographic proximity to natural resources, from navigable waterways to mining, was a critical driver of its competitive advantage. Today, a city's ability to develop, attract, and retain talent is the greatest predictor of its social and economic prosperity. Globally, talent is scarcer than ever while also enjoying more mobility than ever. In such a world, the factors that drove Calgary's prosperity in the past will not be sufficient in the future.

Like the rest of the world, Calgary's future is VUCA: Volatile, Uncertain, Complex, and Ambiguous. In our VUCA world, change and disruption are accelerating at an exponential rate. The city and its citizens must be prepared to adapt quickly to a future defined by VUCA.

Imagine a Calgary where citizens view disruption as a chance to adapt and reinvent themselves. Imagine a Calgary where organizations are designed not only to be resilient, but also to embrace change as an opportunity to diversify and grow. Imagine a Calgary with a continuously evolving talent pool. Imagine a city that attracts investment and talent from across the globe because it's known as a city that learns its way forward. Imagine the vibrancy of living, working, and playing in this city.

With the half-life of skills becoming shorter and shorter, adaptive capacity requires a continuous cycle of learning, unlearning, and relearning. How can Calgarians develop the adaptive capacity to prosper in a VUCA world?

91%

Of hiring managers define adaptability as a core skill.

The measure of intelligence is the ability to change.

Alberta Einstein

17

Young people are forecasted to have 17 jobs in five different sectors over their lifetime.

The DNA of A LearningCITY

Adaptive capacity is the ability to anticipate systematic changes and proactively reconfigure existing resources, or acquire new resources, to maintain a competitive advantage. For people, adaptive capacity is embedded in the combination of skills and identity. For cities, it is an ability to rapidly scale adaptive capacity across people, organizations, and ecosystems.

Adaptive People

It wasn't so long ago when individuals could map a long-term career path that would take them from graduation to retirement. But in a VUCA world, today's jobs may not exist tomorrow. This demands a shift from thinking about careers or jobs to thinking about skills that will enable adaptation. While we can define skills as the combination of aptitude, ability, and knowledge to complete a task, we need to recognize that different skills are needed to support adaptation. Major types of skills include:

Job skills

These are the skills that you need to complete a specific job to task, which can be broken down to functional skills and sectoral expertise.

Functional skills, such as the skills to be an accountant, a project manager, or a welder, can be adapted to a variety of contexts. For example, accounting skills are valuable in big and small organizations or across diverse sectors.

Sectoral expertise is the expertise to apply functional skills in the context of a specific sector. For example, an accountant working in oil & gas requires specialized knowledge to effectively apply their functional skills.

Enabling skills

Enabling skills (also known as soft, human, or transferable skills) are the skills that empower and enable adaptation across diverse personal and professional contexts. Enabling skills are more stable, and they are foundational to the development of job skills. Research identified twenty-four core enabling skills clustered in six areas:

1. Problem-solving
2. Self-reliance
3. Communications
4. Collaboration
5. Core literacies
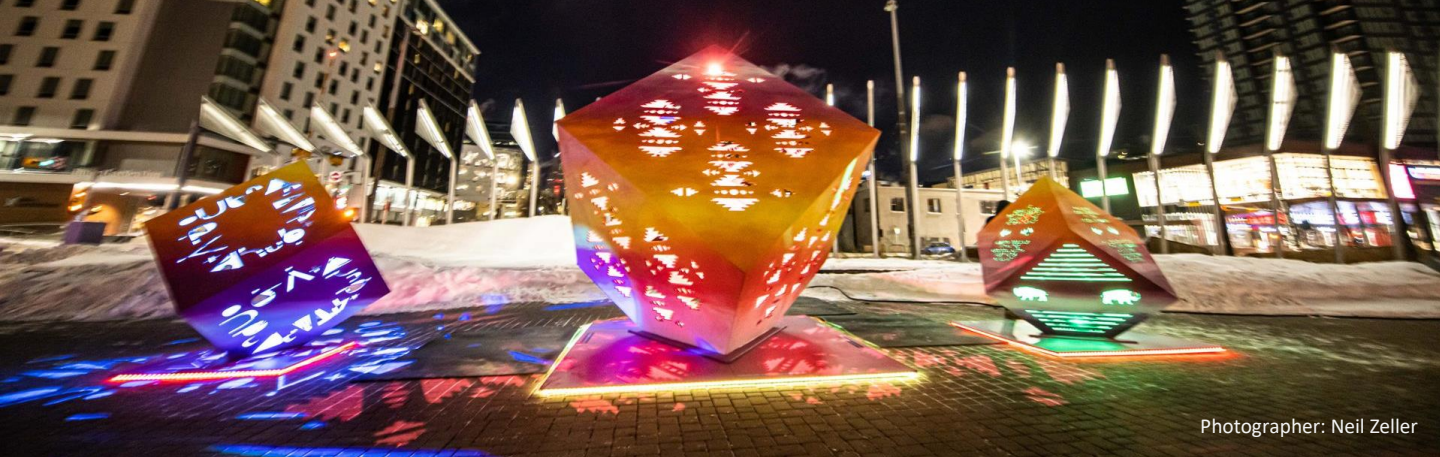6. Core workplace skills

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23%

Calgary has 23% fewer people trained in the social and behavioural sciences and law compared to other Canadian cities.

The ability to learn faster than your competitors may be the only sustainable competitive advantage.

Arie de Geus

35%

Calgary has 35% more people with training in engineering compared to other Canadian cities.

Redefining Learning

Historically, job skills were valued the most because they generate direct economic value. Moreover, these skills could be monetized over one's working life. For example, if you developed the skills as a blacksmith as a teenager, these core skills remained relatively stable over a 25–30 year working life. However, in a VUCA world, many job skills have a short shelf-life. Now, most job skills must be constantly updated to retain their value. Moreover, the rapid expansion of life expectancy will double our working life to 50 years. The result is a radical redefinition of when and how we will learn, as we move from a life stage to a lifelong learning model anchored in adaptive learning (Figure below).

Unsurprisingly, enabling skills represent the majority of skills listed in most job postings in Calgary today. Moreover, in those job postings, the demand for functional skills is up to seven times more than for sectoral expertise. Adaptive capacity is optimized through the sustained development of enabling skills, allowing us to constantly develop (and monetize) high demand job skills.

The Traditional Learning Model (1850-2020)

Education as a Life Stage

Kindergarten to Grade 12 | Postsecondary | 30 Year Work Life

Increasing Specialization

The Adaptive Learning Model (2020...)

Short-Cycle Job Skills

Kindergarten to Grade 12 | Enabling Skills

Increasing Adaptive Capacity

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Adaptive Systems

Having a city of people with adaptive capacity is only the start. To prosper in a VUCA world, the city must have systems that mobilize and scale the adaptive capacity of its citizens; it must have the right structural capital. Some of the most adaptive organizations in the world, including Google and Lego, possess both a capacity to anticipate change and rapidly adapt to maintain their competitive advantage — they have structural and human capital.

Developing the structural capital systems that can mobilize adaptive capacity may include committing to, and investing in, a culture of experimentation, continuous learning, and reinvention. Such a culture embraces, supports and celebrates curiosity, learning, and adaptations.

At a city level, these systems are intentionally designed to enable adaptive organizations and individuals to collaborate, share knowledge, and accelerate learning. These systems may include investing in tangible spaces, such as a new public library or shared campus, to more intangible systems, such as a robust open innovation ecosystem to promote collaboration, networking, professional development, mentoring and financing.

When Steve Jobs designed the Pixar and Apple Headquarters, he famously designed the bathroom location so people from different departments would randomly collide. He believed that "creativity comes from spontaneous meetings, from random discussions. You run into someone, you ask what they're doing, you say 'Wow,' and soon you're cooking up all sorts of ideas."

> *Higher education must shift to offer every student life-wide opportunities for the continuous upskilling they will need to achieve decades of worthwhile employability.*
>
> The 60-Year Curriculum

The Path Forward

Unlocking Calgary's adaptive capacity starts with a shared commitment from citizens, community leaders, educators and skills developers, and employers. They must share the belief that for Calgary and Calgarians to prosper, they must possess an adaptive capacity. Below are five recommendations to develop and scale the adaptive capacity essential to Calgary's future:

3,063
Number of skill development programs currently offered annually in Calgary.

30,870
Number of skill development providers currently in Calgary.

3.5 M
Number of skill development experiences currently offered annually in Calgary.

Recommendation 1: Open the Ecosystem

To become a city that adapts faster and better than others, we must move past the legacy skills development model developed during the industrial era and defined by life stage. Developing adaptive capacity is not unique to a life stage, a classroom, or a textbook. Rather, developing and scaling adaptive capacity requires Calgary to establish mechanisms to open and integrate its full skills ecosystem, including 31,000 certified and non-certified programs. Mechanisms may include tools to verify skills, which are decoupled from specific skills development pathways.

Recommendation 2: Develop the Tools to Empower Calgarians

To accelerate the adoption and scaling of adaptive capacity, Calgarians must be empowered to own their personal and professional development. To overcome the barriers that prevent them from leveraging the full skills development ecosystem, Calgary must develop open and available tools to enable exploration and experimentation. These tools would support the development of a personal mission which embeds the capacity to navigate and identify the optimal associated skills development paths. In place of barriers, Calgary needs permeability, openness, transparency, and collaboration.

Recommendation 3: Prioritize Horizontal Skills

The skills with the highest demand by employers are those that provide the maximum adaptive capacity: enabling and functional skills. Both enabling and functional skills run horizontally, between sectors across the economy and provide the best opportunity for agility to individuals and organizations. To maximize this potential, Calgary must establish mechanisms to incentivize the sustained development and verification of enabling and functional skills. Examples include the recent Competencies for Life and Trusted Skills pilot projects.

Recommendation 4: Recognize the Oil & Gas Legacy

Though Calgary has the highest proportion of STEM graduates in Canada, this skills capacity is best defined as E-STEM (energy-related job skills in Science, Technology, Engineering, and Math). This legacy has also provided Calgary with infrastructure, institutions, and ambitions. While the positive contribution of this legacy must be recognized and valued, it is important to recognize this legacy is also a barrier to the adaptive capacity of our city and people.

Conceptually, STEM is a powerful foundation for growth and diversification; however, there are structural barriers for these professionals to invest in developing adaptive capacity. For example, oil & gas compensation is double the national average. As a result, individuals are incentivized to deepen their E-STEM expertise through a promise of increasing financial reward, rather than to invest in developing their adaptive capacity. Moreover, this legacy has contributed to Calgary having 23% fewer people trained in areas that facilitate adaptive capacity, such as social and behavioural sciences, compared to other Canadian cities.

Recommendation 5: Developing an Adaptive Identity

A critical characteristic of adaptive people is they possess an adaptive identity — the belief that they can successfully adapt to new roles and contexts. Having an adaptive identity is critical to career and professional transitions. However, as discussed above, numerous structural factors motivate Calgarians to adopt a professional identity linked to sectoral expertise in oil & gas. Therefore, concurrent with developing adaptive skills, Calgary must invest in supporting its citizens and communities as they develop adaptive professional identities.

The Final Word

The greatest challenge to developing this adaptive city is not external, but the embedded routines and cultures that influence individual mindsets and behaviours. The next step forward is essential and requires Calgarians to collaborate, compromise, and build the consensus required to deliver this adaptive capacity. The future awaits.

Learning is not compulsory... neither is survival.

W. Edward Deming

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LearningCITY.ca