



PATH TO OPEN LEARNING

A Policy Framework for
Enabling Incumbents and
Empowering New Entrants



THE Productivity Project —

The Productivity Project is a collaboration of a multidisciplinary team of experts from academia, industry, and policy. Together, they address a pivotal question: **How can human capital drive Canada's productivity?**

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SERIES 1

PRODUCTIVITY AND PEOPLE

Economic, social, and cultural dynamics—driven by rapid technological advancements and globalization—are profoundly reshaping regional economies. A region's competitive advantage is no longer dictated by its access to natural resources; instead, it's rooted in the productivity of its labour force.

Today, labour market productivity is anchored in individuals who can navigate uncertainty and adapt seamlessly. Adaptation, at its core, is the ability to learn, unlearn, and relearn.

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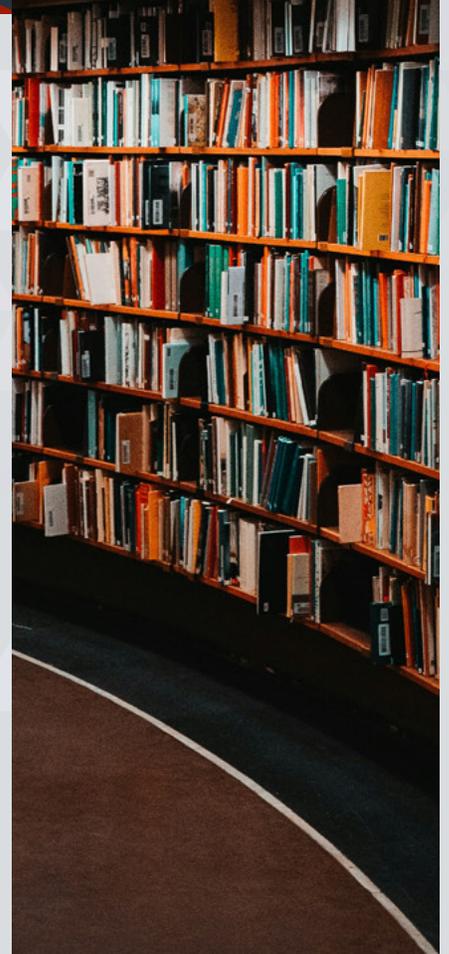
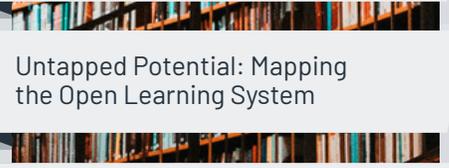
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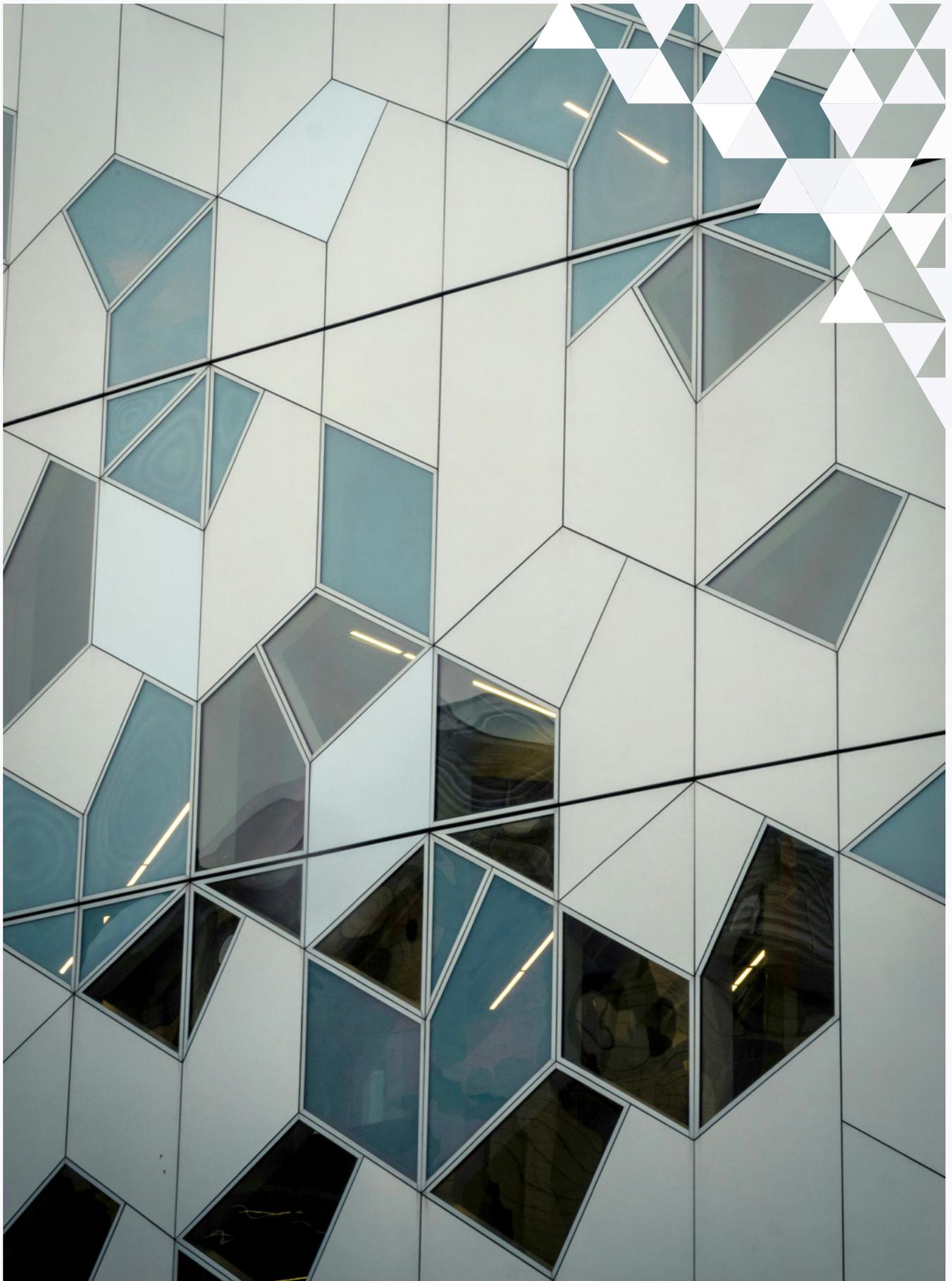
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EXECUTIVE SUMMARY

THE CHALLENGE

HUMAN CAPITAL AS THE NEW COMPETITIVE ADVANTAGE

To keep pace with rapid change, regions need dynamic learning systems that develop both individual competencies and broader adaptive capabilities. The competitive advantage of many regions has shifted from proximity to natural resources to the quality of the region's human capital, operationalized through its labour force. Today, human capital is the resource that fuels a region's social and economic prosperity.

Today's labour markets are volatile, characterized by rapid technological change, demographic shifts, and economic disruptions. Competency demands are changing faster than the legacy learning system can respond. As a result, employers struggle with gaps between job needs and available talent, while workers face strict credentialing systems that undervalue both non-certified and informal learning. The result is a system that fails to align with both economic competitiveness and social fairness.

POST-SECONDARY SYSTEMS AS NATURAL MONOPOLIES

Canada's public post-secondary system is at the heart of this challenge. While it has led to a massive expansion of educational attainment, with Canada now having the highest tertiary attainment rate among OECD countries, these systems function as implicit natural monopolies.¹ Similar to telecommunications, water, or electricity in the 19th century, they provide a necessary public service but face regulatory, financial, and cultural barriers that hold back innovation.

This natural monopoly in adult learning contributes to three systemic barriers:

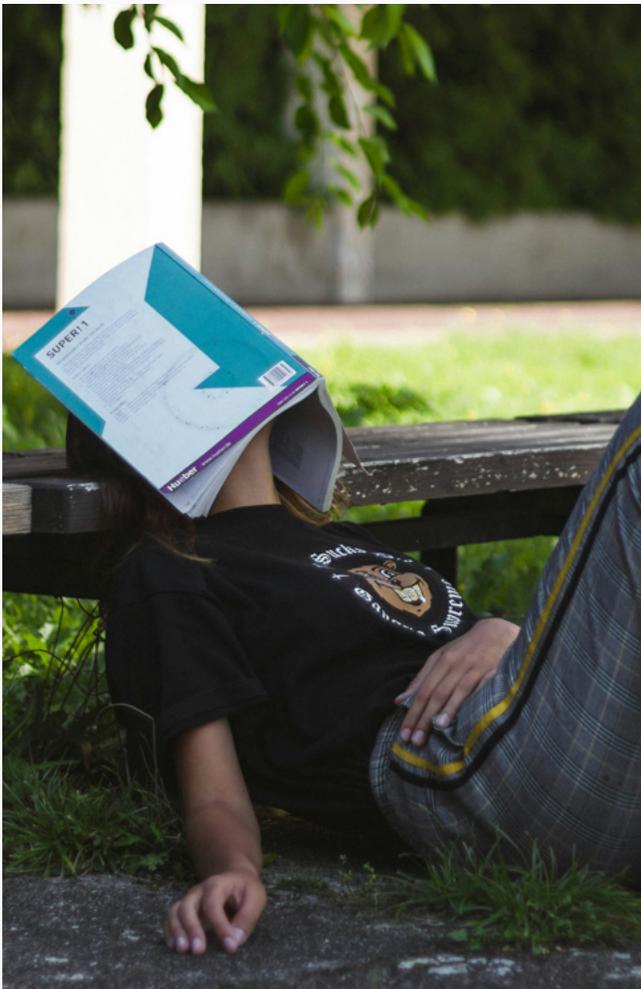
1. **Credentialism:** The dependency on credentials as proxies for competence excludes skilled individuals who developed expertise through non-traditional learning pathways. This contributes to structural inequality, as it artificially reduces the potential workforce, thereby raising labour costs.
2. **Structural Advantages:** Public institutions enjoy benefits like subsidized land, institutional legitimacy, and core operational funding—these advantages suppress innovation by reducing learning provider competition.
3. **Regulatory Protections:** Accreditation and policy frameworks protect established institutions while establishing barriers to new entrants. This contributes to a culture that is resistant to change, preventing agility.

The result is a system that appears competitive while maintaining the existing credentialing hierarchy and institutional influence. Despite the scope of post-secondary, Canada ranks 18th in labour productivity among OECD countries, highlighting the gap between educational attainment and economic performance.

¹ Council for Ministers of Education, 2025.

THE CONSEQUENCES OF INERTIA

If these monopoly conditions remain unaddressed, the competency mismatches will accelerate, further eroding workforce adaptability and reducing economic resilience. Public institutions are facing increased financial pressures, with many relying on international tuition or cross-subsidizing profitable programs to offset their expenses. Worldwide, hundreds of colleges and universities are at risk of insolvency. In Canada, without structural reform, systemic advantages will be amplified, reducing labour market adaptability and further eroding Canada's competitiveness. Policymakers must decide whether to maintain the current monopoly conditions that benefit established institutions or open the learning system to new models that prioritize competencies over credentials and innovation over stagnation.



THE OPPORTUNITY

LESSONS FROM OTHER NATURAL MONOPOLIES

History shows that natural monopolies can change. Telecommunications, airlines, and water utilities were once tightly controlled sectors. Over time, governments promoted competition, separated infrastructure, and set up regulatory protections. These changes sparked innovation, lowered consumer costs, and improved access. A similar transformation is now needed in education.

TOWARD OPEN LEARNING

Open learning uses principles of open innovation—collaboration, flexibility, and value creation across the ecosystem—for workforce development. It reimagines education not as a rigid ladder but as a climbing wall, allowing learners to explore multiple entry points and tailored routes to competence. By valuing certified, non-certified, and informal learning, open learning builds more inclusive and flexible pathways.

Policymakers can speed up this shift by implementing a set of eight policy tools that dismantle monopoly advantages and encourage open systems:

1. **AI Personal Navigator:** Helps individuals find diverse learning paths that connect personal goals to labour market needs.
2. **Open Recognition:** Separates learning from assessment, verifying competencies regardless of where or how they were acquired.
3. **Labour Market Passport:** A secure, portable platform for verified credentials that allow mobility across sectors and borders.
4. **Personal Learning Accounts:** Provide direct funding to learners, granting them choice and motivating lifelong learning.
5. **Community Mentoring Networks:** Increase access to guidance, social resources, and career support, especially for underrepresented groups.

6. **Unbundled Learning Infrastructure:** Create public trusts for shared campuses and resources, levelling the playing field for new providers.
7. **Open Market Regulation:** Reduce advantages for established players, prohibit cross-subsidization, and provide precise data on competencies.
8. **Independent Coordinating Body:** Facilitate collaboration, innovation, and oversight across sectors to ensure fairness and scalability.

SCENARIOS FOR POLICYMAKERS

The report suggests three reform strategies:

Scenario 1: Open Learning Federation

A central, legislatively required body integrates all policy tools, removes advantages for incumbents, and builds federation-wide infrastructure. This is the most impactful, as well as the most scalable and sustainable, model.

Scenario 2: Open Learning Ecosystem

A decentralized framework supports collaboration while allowing institutions to opt in or out as needed. This offers flexibility but may lead to fragmentation and inconsistent adoption.

Scenario 3: Hybrid Open Learning

Establishes parallel open recognition and competency systems while keeping the existing post-secondary model intact. This approach provides a gradual solution but may perpetuate inequalities and limit innovation.

POLICY IMPERATIVES

Many policymakers recognize the essential need to transform adult learning. This report proposes five policy imperatives:

1. **Equity:** Shift from status-based credentialing to competency-based recognition, ensuring access for learners from various socioeconomic backgrounds.
2. **Competitiveness:** Align workforce development with real-time labour market competency demand, improving agility and productivity.
3. **Sustainability:** Reduce dependence on unstable funding by diversifying learning pathways.
4. **Trust and Quality:** Create independent, transparent systems for verifying competencies and credentialing.
5. **Collaboration:** Establish an independent body to coordinate innovation, prevent duplication, and disseminate effective practices.

THE PATH FORWARD

This study concludes that a structural reassessment of post-secondary education is essential. Without systemic change, current models will continue to undermine equity and economic resilience. Policymakers face a critical choice: uphold exclusionary status quos or pursue transformative openness. While ambitious, the proposed strategies offer pathways toward a more adaptive and inclusive learning system.



UNLOCKING HUMAN CAPITAL

Labour markets are now defined by accelerating volatility, where shifting competency demands routinely exceed the capacity of traditional education and training systems. This misalignment between what workers know and what employers require is widening, undermining productivity, competitiveness, and inclusion.

Over thirty years ago, strategist Ari De Geus argued that “an organization’s ability to learn faster and better than competitors may be its only sustainable competitive advantage.”² Today, that principle applies not only to firms but to entire regions: the agility of a labour market to reskill and redeploy talent is now a decisive factor in economic resilience.

In this context, no single actor, government, post-secondary institution, or employer can bridge these competency gaps with existing resources, mandates, or mindsets. Policymakers must therefore design coordinated, system-level responses that mobilize all stakeholders toward continuous learning, transparent competency verification, and shared responsibility for workforce adaptability.

This challenge mirrors disruptions faced by other sectors over the past two decades, many of which have turned to **open innovation** as a solution. Open innovation refers to a collaborative approach where organizations move away from tightly controlling their innovation processes. Instead, they create an open system that encourages contributions from a diverse range of stakeholders, including suppliers, customers, and even competing companies. This shift allows for greater creativity and resource sharing, fostering a more dynamic environment for innovation. The advantages of open innovation are:³

- **Enhanced value creation** through shared expertise and resources

- **Greater agility and reduced costs** in solution development
- **Expanded talent pools** for designing and delivering new products and services
- **Measurable improvements in innovation performance**

Leading organizations, such as Apple, Lego, and Tesla, as well as industries spanning energy, automotive, and aviation, have successfully leveraged open innovation.⁴ At its core, this approach is rooted in an ecosystem perspective, where interconnected stakeholders co-create value that exceeds what any single entity could achieve independently.

In today’s labour markets, adopting an open innovation framework is not just an opportunity; it is essential for sustaining competitiveness in an era of rapid volatility. By fostering collaboration among policymakers, learning providers, and employers, regions can develop more resilient and adaptive talent pipelines that keep pace with evolving demands.

² De Geus, 1988, p. 71

³ Chesbrough, 2006; Van Der Duin et al., 2007.

⁴ Bogers et al., 2018.

THE FUTURE IS OPEN

The current learning landscape remains anchored mainly in traditional public institutions, school boards, colleges, polytechnics, and universities, designed for control, efficiency, and scale. Since their inception in the 19th century, these systems have been instrumental in workforce development. However, as labour markets grow more complex and volatile and competency requirements shift faster than ever, employers, policymakers, and credentialing bodies recognize the constraints of this outdated model. This realization is driving urgent conversations about how to modernize learning to meet the evolving demands of today's economy.

Research confirms learning is no longer confined to formal education; it happens everywhere: in classrooms, through hands-on experience, and via self-directed exploration. Borrowing from the principles of open innovation, open learning reimagines workforce development as a collaborative ecosystem where educators, employers, governments, and individuals co-create flexible, responsive pathways to competency acquisition.⁵

The legacy industrial model of education operates like a ladder: a rigid, linear sequence of predetermined steps. Open learning, by contrast, functions more like a climbing wall, offering multiple entry points and personalized routes to competency (**Figure 1**). This approach expands the definition of learning to include:

- **Certified learning** (e.g. degrees, certifications, diplomas, formal training)
- **Non-certified learning** (e.g. employer-led training, workshops, bootcamps, networking, conferences, sports, arts)
- **Informal learning** (e.g. on-the-job experience, mentorship, self-directed

study via digital resources, community-supported learning activities)

By integrating these diverse learning modes, open learning creates a more agile and inclusive framework for talent development, one that aligns with the fluidity of modern labour markets:

- Faster upskilling and reskilling to meet shifting industry demands and increase an organization's capacity to absorb and leverage innovation.
- Greater talent mobility by valuing diverse learning experiences.
- Stronger workforce agility through continuous, adaptive development.

The future of learning and development lies in breaking down silos and fostering collaboration across sectors. Regions and organizations that embrace open learning will be better positioned to cultivate the adaptable, future-ready talent they need to thrive.

FIGURE 1: THE OPEN LEARNING SYSTEM



⁵ For further information on the evolution of learning, refer to Murgatroyd, 2024; KPMG, 2022; Krishnan, 2020; Luksha, 2018; Robinson & Aronica, 2015.

REGIONAL OPEN LOOP NETWORK

Report 3 in this series developed a conceptual, regional human capital supply chain: The Regional Open Loop Network (ROLN). Mirroring open innovation-driven supply chains, ROLN represents a responsive, stakeholder-driven model that applies supply chain optimization principles to human capital development. By establishing shared tracking of system-level supply and demand data, ROLN creates a closed-loop feedback system in which workforce competencies continuously adapt to economic needs. This approach reduces competency mismatches while enhancing regional economic resilience and competitiveness.

The ROLN framework (Figure 2) incorporates six critical dimensions that enable this dynamic synchronization:

1. Foresight Planning
2. Base Human Capital
3. Learning and Development
4. Human Capital Supply
5. Human Capital Outcomes
6. ROLN HQ

The inevitable question is: If the open learning paradigm holds so much promise, why does the 19th-century learning paradigm continue to dominate today's human capital ecosystem?

The answer is that the current learning paradigm sits within a natural monopoly.

FIGURE 2: THE REGIONAL OPEN LOOP NETWORK





THE NATURAL MONOPOLY CHALLENGE

THE ESSENTIAL ROLE OF A NATURAL MONOPOLY

Natural monopolies arose in the late 19th century in sectors such as telecommunications, energy, water, and transportation. These sectors provided essential public services but demanded substantial capital investment.⁶ As a result, policymakers granted service providers monopoly protections in exchange for their commitment to invest in and operate these services.⁷ Monopolies are characterized by five common traits (Table 1).

TABLE 1: TRAITS OF NATURAL MONOPOLY

TRAITS	SUMMARY	OUTCOMES
Public Good	The primary output of these natural monopoly sectors is recognized as a public good, motivating the establishment of policies to ensure these services are both accessible and affordable.	A notable example is the rapid growth of telecommunications networks, which prompted the introduction of policies to stimulate expansion while subsidizing consumer prices.
Inelastic Demand	Natural monopoly goods and services are often essential, resulting in inelastic demand. Consumers typically have few alternatives, which reinforces the monopoly's market power.	Examples include water, electricity, and telecommunications.
Cost Structure	Natural monopolies are usually sectors with substantial initial capital investments, particularly in infrastructure development, which creates high fixed costs. Conversely, the marginal cost of serving an additional customer is low.	For instance, while building power grids for electricity distribution entails significant costs, delivering electricity to an extra household incurs minimal expense.
Economies of Scale	These sectors derive considerable advantages from economies of scale, where average production costs decline as output increases. A single organization (or a consortium) can serve the entire market more efficiently than multiple smaller entities competing within the same space.	For example, installing multiple competing utility networks (e.g., water and electricity) in a single region is economically and operationally inefficient. Consequently, new entrants face substantial economic barriers to market entry.
Regulatory Protections	Given their market power and the essential nature of their services, natural monopolies are often subject to regulatory policies. These include regulatory structures that protect the natural monopoly from competition and economic intervention designed to ensure widespread access and affordability.	Examples of economic intervention may include direct public subsidies (both capital and operational) or regulations, such as a regulated rate of return, which incentivize natural monopoly investments.

6 Hausman & Sidak, 2014.

7 Viscusi, Harrington, & Vernon, 2005.

UNLOCKING INNOVATION

By the 1970s, criticisms of legacy natural monopolies had become widespread. Scholars highlighted how monopoly conditions suppressed innovation, increased consumer costs, and introduced inefficiencies. In response, legacy natural monopoly protections in many sectors have been removed to stimulate competition, productivity, innovation, and investment.

Telecommunications is an example of a sector where the introduction of a natural monopoly was an essential public good. At the turn of the 20th Century, there were approximately 1.3 million landline phones worldwide. By 1990, this had increased to almost 500 million **(Figure 3)**. In many developed countries, the monopoly “phone company” delivered on its natural monopoly mandate of providing near-universal home landline service.

However, many regions removed natural monopoly protections to stimulate private sector competition and investment after the rise of mobile and internet technology in the 1990s. Three decades later, there are nearly nine billion mobile phone subscriptions worldwide.

Table 2 shows more examples of open natural monopolies.

FIGURE 3: EXPANSION OF PHONE SERVICE

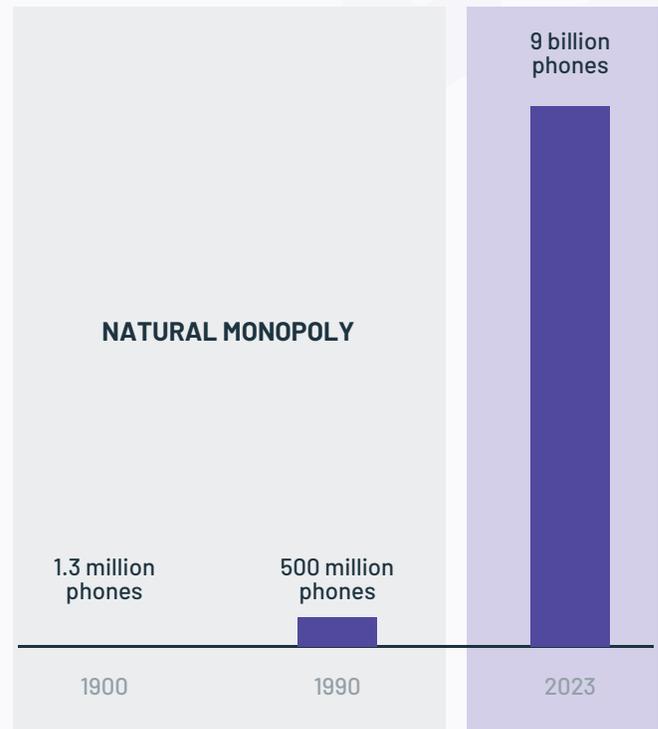


TABLE 2: LESSONS FROM OPEN NATURAL MONOPOLY MARKETS

SECTOR	SUMMARY	OUTCOMES
Airlines	The 1978 Airline Deregulation Act in the United States removed route, price, and competition controls, allowing market forces to dictate competition.	Increased competition resulted in lower fares, with prices declining by 30 percent in real terms by the 1990s. As a result, consumers enjoyed a greater variety of flight options, enhanced service quality, and the emergence of new market entrants who introduced innovative approaches. However, smaller regional airports faced diminished service levels, necessitating federal subsidies to sustain connectivity.
Water	Scotland deregulated its non-domestic water market in 2008, allowing businesses to choose suppliers.	During the initial five-year period following the market's opening, businesses realized substantial savings exceeding £35 million in energy expenditures. ⁸ Furthermore, customer satisfaction increased by 26 percent. ⁹ The open market framework stimulated innovative water conservation and efficiency practices, reducing water consumption by over 15 billion litres. ¹⁰ However, it is noteworthy that smaller suppliers encountered significant challenges in competing with larger, established entities in the market.
Electricity	California's opening of its electricity market in the 1990s aimed to reduce costs and increase competition.	The market opening resulted in market manipulation by companies such as Enron, leading to artificial shortages and significant price spikes. Retail electricity prices rose sharply, and the state experienced rolling blackouts. In response, the state intervened by taking on the power-buying responsibilities of utilities to stabilize the market. The absence of regulatory oversight permitted abuses of market power, eroding consumer trust. ¹¹

8 National Audit Office, 2018.

9 Consumer Council for Water, 2020.

10 Ofwat, 2021.

11 Sweeney, 2013.

POST-SECONDARY INSTITUTIONS AS NATURAL MONOPOLIES

For much of modern history, post-secondary education served only a privileged few. In 1900, fewer than four percent of young Americans attended college.¹² Today, the sector has grown exponentially, with 235 million students enrolled across 90,000 institutions worldwide.¹³ In Canada, there were only 28 post-secondary institutions in 1939. There are 436 post-secondary institutions in Canada today, helping 63 percent of adults attain higher education, the highest rate in the OECD.¹⁴ However, this expansion has not always translated into economic competitiveness. For example, despite leading in credentials, Canada ranks just 18th in OECD labour productivity, with similar disconnects emerging globally.¹⁵

The rapid expansion of post-secondary institutions has contributed to significant challenges:

- **Bloated Missions:** As with these other natural monopoly sectors, public post-secondary systems have layered public mandates (e.g. research, credentialing, workforce preparation) onto increasingly complex organizational models. Most institutions now operate with multi-pronged missions that combine academic research, teaching, economic development, and credential delivery, often cross-subsidized within a single institution.¹⁶

- **Rigidity:** Although they reflect the social value of post-secondary systems, these overlapping mandates constrain institutional adaptability and blur accountability for outcomes, causing deep systemic challenges across post-secondary education. The legacy learning paradigm on which post-secondary systems were built remains deeply entrenched in its 19th-century industrial roots and demographics, and creates significant structural challenges to keeping pace with a highly dynamic and volatile labour market.
- **Financial Pressures:** Lastly, public institutions face growing financial strain. Since the 1980s, public investment has declined.¹⁷ This has forced institutions to pursue tuition increases, international student revenue, and market-based strategies.¹⁸ In the post-COVID-19 era, the U.S. has witnessed the closure of one private college per week.¹⁹ The UK, Netherlands, and Canada face



¹² Goldin & Katz, 2008.

¹³ UNESCO, 2025.

¹⁴ Council for Ministers of Education, 2025.

¹⁵ OECD, 2024.

¹⁶ Christensen et al., 2020; Fleming, 2021.

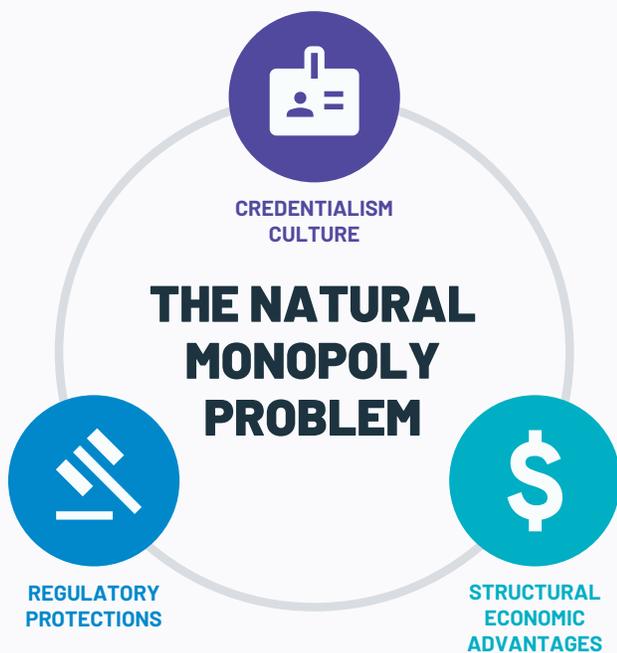
¹⁷ Usher & Balfour, 2024.

¹⁸ Murgatroyd, 2024.

¹⁹ Marcus, 2024.

parallel risks. Up to 40 percent of UK universities are projected to run deficits by 2025.²⁰

Few would dispute the significant contributions post-secondary institutions make to the public good. Beyond labour market readiness, post-secondary systems play a leading role as custodians of civic discourse and inquiry. However, the natural monopoly characteristics identified in other sectors are deeply rooted in today's learning paradigm. The result is that public post-secondary systems today offer a "theatre" of competition while suppressing market entry, competition, and innovation. Eighty-nine percent of post-secondary students in Canada attend a publicly funded college or university.²¹ This theatre of competition is deeply rooted in the intersection of three macro-level factors: a credentialism culture, structural economic advantages, and regulatory protections.²²



A CREDENTIALISM CULTURE

Credentialism has emerged as a significant barrier to equitable learning and workforce participation. It is characterized by an overemphasis on grades and formal qualifications (i.e. certification, diplomas, and degrees) as proxies for competence.

There are **five significant impacts** of credentialism culture on learning innovation:

EMPLOYMENT EQUITY

Credentialism hinders equitable workforce participation. While intended to signal competence, credentials often serve as status markers which favour holders and exclude skilled individuals without them. Research shows they may reflect test-taking ability more than mastery, yet they gatekeep employment and advancement. As industrial economies have matured, formal credentials are increasingly required for occupational licensing, further embedding credentialism into labour market mobility.²³

LEARNING EQUITY

Educational attainment is closely tied to socioeconomic background, perpetuating intergenerational disparities.²⁴ A multi-year study in the U.S. found that 75 percent of new jobs require a bachelor's degree. However, only 38 percent of Americans hold one, disproportionately excluding Indigenous peoples, minorities, and rural populations.²⁵

²⁰ PwC, 2024.

²¹ Usher & Balfour, 2024.

²² Chen, 2020.

²³ Rivera, 2011; Martin, 2017; Zheng et al., 2013.

²⁴ Davis-Kean, 2005.

²⁵ Autor, 2022; Blair et al., 2020.

STRUCTURAL ECONOMIC ADVANTAGES

Public post-secondary institutions benefit from entrenched economic advantages that stifle competition and learning innovation. These advantages include subsidized land and facilities, historic reputational capital, access to public funding streams, and preferential treatment in public policy and regulation.³⁰ Collectively, these assets position public universities, polytechnics, and colleges as incumbent providers of certified learning, offering a level of institutional stability, perceived legitimacy, and operational scale few alternative providers can match. In sum, these advantages marginalize non-traditional learning providers, which lack infrastructure, funding, and credentialing authority.³¹

There are **three significant impacts** of these structural economic advantages on learning innovation:

TANGIBLE AND INTANGIBLE BENEFITS

Governments in OECD nations provide public institutions with subsidized land, tax exemptions, and capital investments.³² Canadian universities, including the University of Alberta and the University of Toronto, benefit from low-cost leases and state-owned infrastructure.³³ These assets, combined with brand prestige and alumni networks, create lasting competitive advantages.³⁴

FINANCIAL REINFORCEMENTS

Universities cross-subsidize operations. Profitable programs (e.g. business, international student tuition) fund research and niche disciplines, which sustain a bundled model that competitors cannot easily replicate.³⁵ Unlike alternative providers, universities also receive preferential access to donations, research grants, and student aid.³⁶

INSTITUTIONAL LEGITIMACY

Public trust in universities strengthens their dominance. Their perceived credibility influences learners, employers, and policymakers, which further entrenches their market position.³⁷



³⁰ Finch et al., 2017.

³¹ Botkin et al., 2014; Smith & Robson, 2020.

³² Johnson & Lee, 2023; Miller & Dufresne, 2021.

³³ University of Alberta, 2014; University of Toronto, 2024.

³⁴ Brown, 2021; Smith, 2018.

³⁵ Fairweather, 2005; Christensen et al., 2020.

³⁶ Finch et al., 2017; Fleming, 2021.

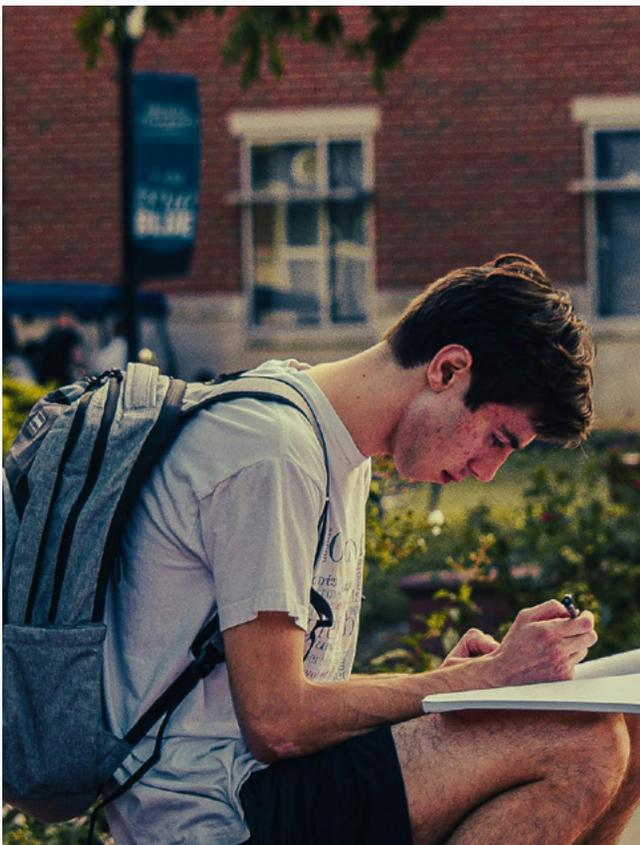
³⁷ Johnson & Lee, 2023.

REGULATORY PROTECTIONS

Just as infrastructure sectors, including energy and telecommunications, were long shielded by legacy regulation, Many public post-secondary systems function as de facto natural monopolies under the protection of similar policy frameworks.³⁸

These protections often discourage competition, inhibit and restrict innovation, and suppress the recognition of alternative forms of learning.

These regulatory protections have two significant impacts on learning innovation:



MARKET STRUCTURE CHALLENGES

The sector exhibits classic natural monopoly characteristics: high fixed costs, network effects, and regulatory barriers to entry.³⁹ Incumbents benefit from bundled services, public subsidies, and accreditation systems that favour traditional providers over potentially superior alternatives.⁴⁰ Examples include:⁴¹

- Risk-averse decision-making
- Operational inefficiencies
- Under-utilized capital assets
- Slow adaptation to market changes
- Established barriers to non-traditional education providers
- Opaque credit transfer policies⁴²
- Limited recognition of experiential learning⁴³

While legacy structures once ensured quality and consistency, they now risk producing rigidity, limiting the system's ability to respond to demographic shifts, technological disruption, and evolving learner needs.⁴⁴

38 Joskow, 2007; Posner, 1978; Hausman & Sidak, 2014.

39 Viscusi et al., 2005.

40 Botkin et al., 2014; OECD, 2019a.

41 Chalmers, 2011; Eaton, 2020; Murgatroyd, 2024; Fleming, 2021, Schneider, 2022; Smith & Robson, 2020.

42 NCES, 2018.

43 Council on Higher Education, 2019.

44 Chesbrough, 2017; Douglass, 2018.

A MONOPOLY CULTURE

Beyond structural protections and funding advantages, public post-secondary systems often exhibit cultural attributes associated with monopolistic systems: insularity, inertia, and resistance to external influence. These traits form a “monopoly culture” that reinforces institutional dominance, discourages experimentation, and constrains responsiveness to learners and labour markets.⁴⁵

There are **three significant impacts** of a monopoly culture on learning innovation:

MISALIGNED INCENTIVES

- Focus on academic prestige over workforce outcomes⁴⁶
- Risk-averse governance stifles innovation⁴⁷
- Pilot programs remain marginalized rather than scaled⁴⁸

RIGID TALENT PIPELINES

- Inflexible program structures (especially for degrees) ignore prior learning⁴⁹
- Slow adoption of modular, competency-based models⁵⁰
- Degrees remain poor proxies for job readiness⁵¹

ECOSYSTEM FRICTION

- Discipline silos block cross-sector and interdisciplinary collaboration
- Credentialing monopoly distorts competency signals
- Institutional prestige outweighs labour market relevance



45 Finch et al., 2017; Fleming, 2021.
46 Fairweather, 2005; Douglass, 2018.
47 Chalmers, 2011; Eaton, 2020.
48 Horn & Dunagan, 2018.
49 Veletsianos & Kimmons, 2016.
50 Vaughan, 2023.
51 Fuller et al., 2022; Blair et al., 2020.



UNLOCKING OPEN LEARNING

The preceding sections have examined the structural barriers that suppress innovation within public post-secondary systems and marginalize alternative learning actors. We have drawn on the natural monopoly framework to explain the entrenchment of incumbent institutions and their protected status across infrastructure, funding, governance, and cultural norms.

This section provides an overview of an open learning policy toolkit, which includes eight policy tools designed to unlock open learning. The scope and complexity of these tools vary significantly.

1. Personal Navigator
2. Open Recognition
3. Labour Market Passport
4. Personal Learning Accounts
5. Community Mentoring
6. Unbundled Learning Infrastructure
7. Open Market Regulation
8. Coordinating Body



TOOL 1: PERSONAL NAVIGATOR

Empowerment of the future learner is the baseline requirement of any future learning system, closed or open. Therefore, a baseline assumption is that learning systems will develop personalized AI navigators to support learners in aligning their unique learning experiences with their personal and professional goals. This navigator is a customized guide for the open learning climbing wall. The navigator's goal is to transform isolated local learning experiences into a holistic, open learning employment ecosystem designed to support personalized learning and career goals. The navigator continuously adapts individual learning pathways based on evolving user preferences and real-time labour market data.

Examples

Early-stage digital career and learning tools have existed for years. Examples include:

- Career and Life Management (mandatory for all Alberta high school students).
- The Government of Alberta's CAREERinsite tool.
- Proprietary career and coaching tools like Inqli, Microsoft's Career Coach, YouScience, FutureFIT AI, ReliabilityMe, SkyHive Skill Passport, and LinkedIn.

TOOL 2: OPEN RECOGNITION

Hiring decisions remain a significant risk to most employers. In many regulated occupations, from law to healthcare to skilled trades, this risk is mitigated through rigorous competency assessment and licensing. However, in Canada, only 20 percent of occupations are regulated.⁵² For the remaining 80 percent of roles, employers depend on proxies, such as academic credentials or previous experiences, to signal that a candidate possesses the required competencies. However, research demonstrates that these proxies are only weakly related to performance.⁵³ This proxy model exposes both the employer and candidate to risk, introducing labour market friction. Therefore, the question is—how can a region improve labour market outcomes by scaling competency verification? There are two potential approaches policymakers could consider.

INTEGRATED LEARNING

The first approach is to expand the legacy learning system. The development of this system was based on a principle called integrated learning, where an educator is responsible for both instruction and assessment. The challenge with this approach is that it provides no path to recognizing the estimated 80 to 90 percent of competency development which happens through non-certified or informal channels, including professional experience or self-directed learning.⁵⁴ In recent years, Recognition of Prior Learning (RPL) mechanisms have been introduced in many post-secondary systems, but they have faced structural and cultural barriers to expansion.⁵⁵

OPEN RECOGNITION

The second approach is expanding the model of open recognition. Open recognition structurally unbundles learning pathways from competency assessment and verification. For example, at both Cambridge University and Oxford University, individual colleges are responsible for teaching and learning, each providing unique programs and curricula. However, the assessment of the outcome of learning is unbundled from the college and conducted exclusively by the university, ensuring institutional consistency.

Beyond higher education, the driver's license is an example of a scaled open recognition system. For instance, in 1929, the Government of Alberta unbundled how an individual learns to drive from the government's assessment and credentialing of an individual's competency to drive. Today, 3.1 million Albertans possess a provincial driver's license awarded through open recognition.

The benefit of open recognition is that the system focuses exclusively on assessing the evidence of what a person can do, not how or where they learned it.⁵⁶ Most importantly, it integrates both non-certified and informal learning into the broader learning system, enhancing both accessibility and equity. The scaling of open recognition across the labour market involves seven steps:

- **Competency:** The system must adopt a competency-based framework, where a candidate is assessed on behavioural outcomes.
- **Unbundling:** The system must unbundle instruction from summative competency assessment. For example, at Cambridge and Oxford, the instructor who taught an individual would no longer conduct the summative assessment and award recognition of this assessment (e.g. awarding three credits for completing a course).

52 Canadian Information Centre for International Credentials. n.d.

53 Berry et al., 2006.

54 Calgary Economic Development, 2022; Livingston, 1999.

55 Travers, 2011.

56 Lane & Griffiths, 2023.

- **Scalable:** The system must be scalable across occupations, sectors, and jurisdictions without compromising the rigour and trust essential to verification.
- **Independent Verification Authority:** The system must introduce an independent competency verification authority mandated to assess, verify, and recognize competencies regardless of learning pathways. This authority would award recognized credentials.
- **Scaffolded:** The system must be scaffolded to assess and certify basic, advanced, and expert levels of competency.
- **Harmonize:** The system must be harmonized with the relevant industry or professional competency assessment standards.
- **Quality Assurance:** The system must introduce an independent and rigorous quality assurance mechanism, including the certification of assessors.

Examples

- Cambridge University and Oxford University
- Globally, an estimated 1.5 billion individuals have been awarded a driver's license. In most jurisdictions, the learning pathway and the competency assessment are unbundled.⁵⁷
- Numerous benchmarks support the development of a new open recognition system, including:
 - Red Seal Program for interprovincial trades
 - Islamic Banking & Finance Institute Malaysia
 - Nursing Council of New Zealand

TOOL 3: LABOUR MARKET PASSPORT

The human capital ecosystem's challenge is systemic; therefore, the solution must be systemic. Transitioning from the proxy model to harmonized competency verification and credentialing represents one of the labour market's most pressing challenges. In recent years, diverse stakeholders across the human capital ecosystem worldwide, including UNESCO, the European Union, and IBM, have developed and deployed variants on a "passport" model. Like a traditional passport, these passports are designed to provide a claimant with a single harmonized platform for competency verification. A labour market passport stores verified learning and credential data, and this passport is portable across regions and sectors. Six principles guide the passport designed to unlock open learning:

PRINCIPLE 1: DYNAMIC

The passport adapts to diverse occupations, claimants, and evidence types while maintaining portability. Current fragmented credentialing systems create inefficiencies that undermine legitimacy.

PRINCIPLE 2: COMPETENCY VERIFICATION

The passport certifies actual competencies, not just proxies. While many regulated occupations have rigorous competency verification, 80 percent of roles rely on imperfect proxies. Leading organizations like IBM and Walmart now prioritize direct competency evidence over traditional credentials.

⁵⁷ From World Health Organization n.d.

PRINCIPLE 3: HARMONIZED FRAMEWORK

A standardized taxonomy is essential for consistent application across stakeholders. Rather than replacing existing systems, we propose to bridge technologies with open taxonomies and cross-mapping tools. Current automated mapping achieves only 34–69 percent accuracy, requiring human oversight.⁵⁸

PRINCIPLE 4: DECENTRALIZED

Claimants control their credentials through a decentralized and secure open-source platform, eliminating third-party dependencies while ensuring tamper-evident, portable credentials with verifiable metadata.

PRINCIPLE 5: OPEN PLATFORM

Web 3.0 technologies enable real-time interoperability across borders. Initiatives like Australia's National Microcredentials Standard and IEEE 1484 demonstrate the value of open standards for talent mobility.⁵⁹



PRINCIPLE 6: COORDINATION

Implementation requires ecosystem alignment:

- Learning providers adapt programs
- Employers revise hiring practices
- Candidates adopt at scale
- Policymakers create incentives

Examples

Europass (EU): An EU-mandated, blockchain-secured credential wallet scaled to 60M+ users, enabling cross-border verification in under 48 hours through strong funding and centralized governance.

National Microcredentials Framework (Australia): A nationally unified framework with common standards and registry, boosting employer trust and learner uptake of stackable microcredentials across sectors.

Open Badges and Credit Framework (UK): Embedding open badges into formal credit systems increased adult learner engagement, with credibility hinging on integration into qualifications frameworks and cross-institutional governance.

MyCreds Virtual Skills Passport (Canada): A provincially funded digital wallet pilot enabling secure, learner-controlled credential sharing, driven by government leadership and workforce development alignment.

⁵⁸ Kitto, 2024.

⁵⁹ Refer to Australia's Microcredential Framework.

TOOL 4: COMMUNITY MENTORING NETWORK

Open learning requires the introduction of new learner support. Research demonstrates that mentoring significantly enhances a learner's agency.⁶⁰ Structured mentoring programs are shown to improve self-efficacy, career clarity, and access to opportunities, particularly for marginalized groups. In addition, mentoring contributes to increased promotions and the pursuit of additional education.⁶¹ In addition, the European Union's Youth Guarantee program found a correlation between the program's introduction and a reduction of youth unemployment by ten percent.⁶²

A community mentoring network would build incremental support for the expansion of existing networks, enabling mentoring partners to maintain their autonomy and brand while leveraging the network resources, including marketing, training, and recruitment supports.

Examples

MentorWorks (Canada): Government-funded, cross-industry program using AI-driven matching with a focus on mid-career transitions.

IMNIS (Australia): STEM-focused hybrid model connecting industry professionals and academics.

Erasmus+ Virtual Exchange (EU): Cross-border mentoring initiative with university partnerships and digital badges.

Tshepo 1 Million (South Africa): Youth employability program leveraging public-private partnerships and mobile-friendly delivery.

SkillsFuture Mentors (Singapore): Nationwide lifelong learning scheme offering mentor credits integrated with upskilling pathways.



⁶⁰ Eby et al., 2013.

⁶¹ Underhill, 2006.

⁶² European Commission, 2024.

TOOL 5: PERSONAL LEARNING ACCOUNTS

Establishing an open learning framework requires a significant transformation of the underlying funding model of adult learning. To foster open learning, a funding model must be developed that is learning provider agnostic. This approach reallocates public funding away from institutions and toward learners, enabling more flexible, demand-driven systems. This provides funds directly to learners who would then choose among diverse certified, non-certified, and informal offerings.⁶³ Previous jurisdictions that have introduced personal learning accounts have found that this funding approach requires rigorous certification of learning providers and additional audits to mitigate fraud.

Examples

Compte Personnel de Formation

(France): Universal, credit-based training account with flexible course options.

SkillsFuture Credit (Singapore): Nationwide credit scheme empowering adult learners with a broad course choice, balanced by structured guidance and labour market alignment.

Lifelong Learning Entitlement (United Kingdom): Lifetime modular funding in the form of loans enabling stackable academic and vocational learning.

National Skills Agreement (Australia): Large-scale investment in priority skills tied to outcomes-based funding, enhancing workforce alignment but vulnerable to enrolment gaming and placement mismatches.



63 OECD, 2019.

TOOL 6: OPEN LEARNING COMMONS

Public infrastructure, including subsidized lands and buildings, creates structural barriers to open learning. Lessons learned in other sectors, such as telecommunications and transportation, highlight the essential importance of unbundling these assets from an incumbent provider to ensure an open, sustainable learning marketplace. To overcome this, it requires the shifting of public learning infrastructure from legacy institutions to an independent public infrastructure Trust, where the lands and buildings are opened to be shared by all learning providers as an open learning commons. The Trust leases these assets at market rates, ensuring fair access to physical and institutional resources. Applying this logic to higher education enables emerging learning providers to compete on a level playing field.⁶⁴

Examples

Openreach (UK): Functional separation of BT's infrastructure arm boosted broadband rollout, competition, and affordability.

Amtrak Northeast Corridor (USA): Separating rail infrastructure from service delivery increased competition and diversity.

Port of Rotterdam (Netherlands): Land-lease model advanced green energy investment and industrial innovation while preserving public ownership of strategic maritime assets.

NHS Property Services (UK): Centralized real estate management saved £3.4B and improved efficiency.

Calgary Municipal Land Corporation (Canada): Arm's-length municipal land management attracted \$2.5B private investment, revitalized districts, and preserved public ownership through long-term leases.



⁶⁴ Hausman & Sidak, 2014; Yoo, 2008; Joskow, 2007; Stocchi et al., 2017.

TOOL 7: OPEN MARKET REGULATION

Moving to an open learning model requires clear regulatory mechanisms to reduce incumbent advantages and legitimize new, decentralized assessment models. This strategy calls for:

- Removing the assessment and credentialing function from incumbent institutions.
- Establishing specialized, on-demand assessment units capable of evaluating any learning, anywhere.
- Introducing anonymized open data, eliminating the data advantage of legacy learning providers.
- Restricting institutional cross-subsidization between research and teaching.
- Prohibiting for-profit offerings under publicly funded university brands.
- Launching public campaigns to promote new credential legitimacy.
- Tracking system-wide outcomes via public key performance indicators.

This shift reflects a deeper paradigm transition, from valuing institutional prestige to validating assessed competence. Unbundling learning from credentialing mirrors the structure of driver's license systems, which assess competencies without monopolizing training provision (International Transform Forum, 2023).

Examples

- Unbundling infrastructure was central to telecommunications deregulation in the UK, Canada, and the United States.
- Public universities in Sweden are barred from operating as for-profit businesses. While they can charge tuition to non-EU learners, revenue is reinvested into facilities and services. Commercial activities (e.g. spin-off companies, continuing education) are permitted but tightly regulated to ensure alignment with research/education goals.⁶⁵



⁶⁵ Swedish Ministry of Education and Research, 2020.

TOOL 8: COORDINATING BODY

The final tool involves establishing a new centralized body tasked with establishing the conditions to enhance the development and mobilization of human capital. The body acts as the neutral steward of system-level innovation and incorporates stakeholders across sectors. This body coordinates strategy, data sharing, experimentation, continuous improvement, and system oversight. The influence of this body could range from a governing body with legislative autonomy and mandate to a decentralized backbone empowered to facilitate consensus. The mandate of the commission may include:



Ecosystem Facilitation

- Establishing system-level goals and associated performance indicators.
- Facilitating system collaboration.
- Facilitate cross-sector partnerships, data sharing, and credential interoperability.
- Stewarding system-level experimentation, scaling, and public trust.

Ecosystem Oversight

- Tracking system-wide outcomes via public key performance indicators.
- Managing the transition of all public learning assets and infrastructure.
- Managing equitable access to public learning assets and infrastructure.
- Managing all unbundled assessments and the awarding of credentials.
- Provide oversight to ensure structural separation of learning, research, and for-profit initiatives of all incumbents.

Examples

Singapore's Education Innovation Zones allow experimentation with online and hybrid learning models.

U.S. Department of Education's Experimental Sites Initiative allows for broader innovation.

TABLE 3: OPEN LEARNING COMMISSION

MANDATE	SCOPE	PRIORITY QUESTIONS
A Culture of Experimentation	The commission’s culture is rooted in a Skunk Works experimentation mindset. It is mandated to challenge entrenched norms and foster a culture of innovation and experimentation.	<p>How can system-level secondments play a role in ensuring the commission maintains a Skunk Works culture?</p> <p>What key performance indicators allow us to measure our progress in introducing a culture of experimentation?</p>
A Culture of Collaboration	The commission is mandated to drive collaboration and coordination across the system.	<p>How can system secondments play a role in establishing a culture of collaboration?</p> <p>How can the region overcome the credentialism culture?</p> <p>How can learners seamlessly transition between system learning experiences?</p> <p>What key performance indicators allow us to measure our progress in introducing a culture of collaboration?</p>
A Culture of Equitable Competition	The commission is mandated to work with policymakers to identify pathways for transforming post-secondary systems into an open, competitive marketplace.	<p>What role do natural monopolies play in this region?</p> <p>What policy, regulatory, or economic mechanisms must be established to transition to an open, competitive marketplace?</p> <p>What specific barriers does this region face in implementing these reforms?</p> <p>What key performance indicators allow us to measure our progress in introducing a culture of competition?</p>
Success is Scaling	Successful innovations must have a path to scaling across the system to drive system-level change. The commission should be mandated to identify system-level scaling.	<p>In what ways can we scale innovations in learning?</p> <p>How can system secondments play a role in accelerating scaling?</p> <p>What key performance indicators allow us to measure our progress in scaling innovations?</p>



OPEN LEARNING SCENARIOS

By utilizing the open learning policy toolkit, this section provides an overview of three potential pathways for jurisdictions to unlock open learning:

Scenario 1 explores an open learning federation. In this model, a centralized autonomous commission is mandated to implement open learning by dismantling the legacy natural monopoly advantages, while establishing federation-wide infrastructure to empower learners and drive innovation.

Scenario 2 explores an open learning ecosystem. In this model, a decentralized backbone organization facilitates ecosystem collaboration to empower learners and drive innovation.

Scenario 3 explores a hybrid path that maintains many of the existing natural monopoly structures but introduces a parallel, open recognition competency credentialing system.

SCENARIO 1: OPEN LEARNING FEDERATION

The Open Learning Federation is a systematic integration and deployment of all eight open learning tools:

1. Personal Navigator
2. Open Recognition
3. Labour Market Passport
4. Personal Learning Accounts
5. Community Mentoring
6. Unbundled Learning Infrastructure
7. Open Market Regulation
8. Coordinating Body

The commission's legislative mandate and autonomy provides it with the authority to implement the federal model, including all shared resources. Of the three scenarios, this is the most disruptive to the status quo and will require significant time and resources to ensure a successful transition.



Scenario 1: Libby's Personal Path to Social Work

Libby, 28, has worked in customer service since high school but is now thinking about a career in social work. With help from her AI-powered personal navigator, she looked into a variety of learning paths.

The first option was an academic route: pursuing a Bachelor of Social Work. This degree would take five years to complete and include two work terms, with tuition costing around \$40,000. While this path was attractive, the financial burden from tuition and a lower income made it a big challenge.

Her navigator also pointed out an experiential pathway. In this option, Libby could start working right away as a social work assistant while taking courses through a local non-profit on her local university campus. Up to 50 percent of these courses could be covered

through her personal learning account, which would alleviate the financial pressure. To gain more experience, the Navigator suggested that she volunteer five hours a week with a local non-profit that supports at-risk youth.

After two years of combined work, volunteering, and coursework, Libby would be ready to challenge for four social work competency certifications created by the provincial College of Social Work and the open learning federation. These certifications are recognized by all post-secondary institutions in the province, allowing her to receive two years of advanced standing if she later chooses to pursue the Bachelor of Social Work program.

This blended approach enables Libby to earn while she learns, gain valuable experience in the field, and maintain multiple options while balancing her financial needs with her long-term career goals.

STRENGTH

- Learner-centric.
- Promotes a high level of learner mobility.
- Stimulate learning innovation both inside and outside the post-secondary system.
- Mentoring network expands role of learning.
- Campuses become open learning hubs housing dozens of learning organizations.
- May negatively impact the ability to recruit faculty from traditional research teaching post-secondary models.
- Industry is incentivized to collaborate to establish new system-level competency credentials.
- Employers start to shift from academic credentials to harmonized competency credentials.

WEAKNESS

- Will require a rapid transition for all stakeholders, including learners, learning providers, and employers.
- Post-secondary institutions will be challenged culturally to transition to an open recognition model.
- Divesting of public learning infrastructure will be complex.
- Will require new jurisdictional agreements to ensure credential portability.
- May negatively impact the ability to recruit faculty from traditional research-teaching post-secondary models

SCENARIO 2: OPEN LEARNING ECOSYSTEM

Scenario 2 embeds many of the same principles and tools as Scenario 1, including:

1. Personal Navigator
2. Open Recognition
3. Labour Market Passport
4. Personal Learning Accounts
5. Community Mentoring
6. Open Market Regulation
7. Ecosystem Backbone

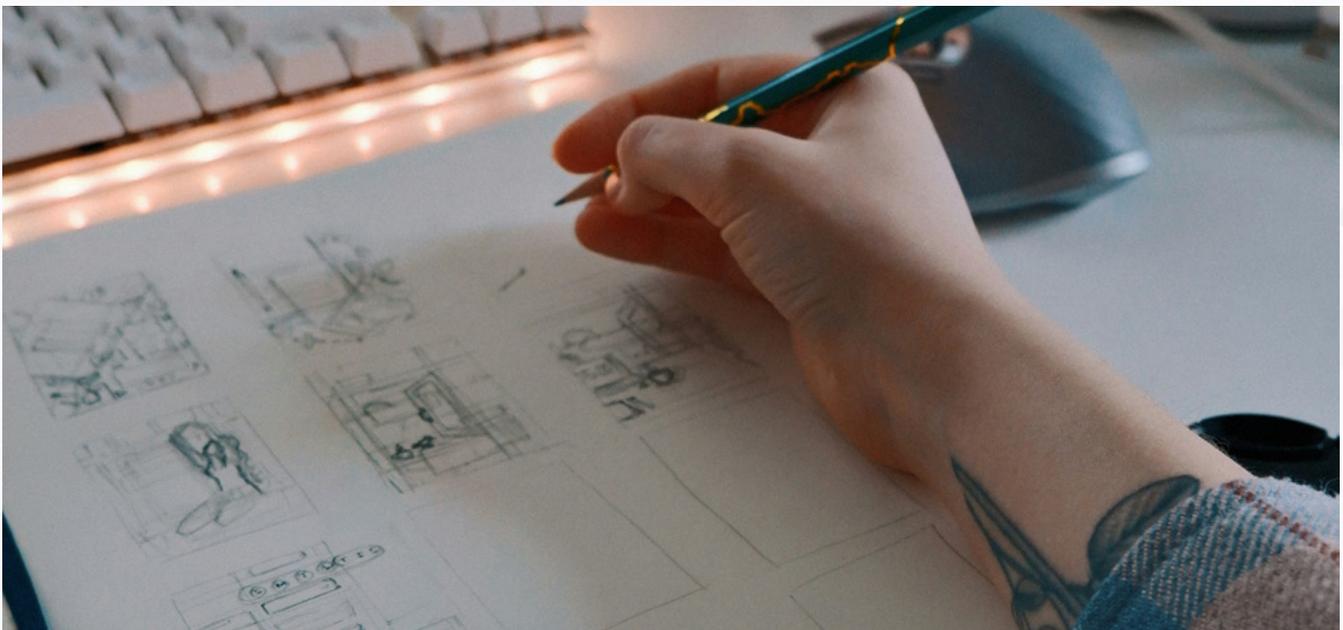
However, this scenario shifts from a centralized open learning federation to a decentralized ecosystem, where ecosystem partners can opt out of system-level initiatives. In this scenario, an ecosystem backbone replaces the independent commission. The backbone's role is to facilitate consensus and develop shared ecosystem infrastructure. The consensus nature of an ecosystem embeds power at an institutional level, risking the model's sustainability.

Scenario 2: Maria's Career Transition

Maria, a 40-year-old community organizer, wants to move into sustainability consulting. With the help of her personal navigator, she received a custom learning plan tailored to her verified experiences and self-paced courses. The navigator recommended that she start by volunteering with a local environmental group to grow her professional network and gain relevant experience.

Eighteen months later, Maria earned four microcredentials linked to her career goals, all of which were stored in her digital Labour Market Passport. These credentials provided a straightforward way to display her proven abilities as she began looking for new job opportunities.

However, Maria faced a challenge: not all learning providers or employers fully supported the new initiative. This sometimes meant she had to find additional programs and career paths independently. Despite these obstacles, she now feels confident that her competencies are recognized and that she is making good progress toward a career in sustainability.



STRENGTH

- Provides a learner-centric pathway.
- Establishes open recognition by unbundling learning and assessment.
- Enables a high level of learner mobility.
- Stimulate learning innovation both inside and outside the post-secondary system.
- Mentoring network expands role of learning.
- Incentivizes experimentation, competition, and collaboration.
- Industry is incentivized to collaborate to establish new system-level competency credentials.
- Employers start to shift from academic credentials to harmonized competency credentials.

WEAKNESS

- Decentralized ecosystem creates a power imbalance across stakeholders, risking ecosystem sustainability.
- Will require a rapid transition for all stakeholders, including learners, learning providers, and employers.
- Challenged culturally, powerful post-secondary institutions may choose to opt out of system-level infrastructure.
- Will require new jurisdictional agreements to ensure credential portability.
- May negatively impact the ability to recruit faculty from traditional research-teaching post-secondary models.



SCENARIO 3: HYBRID OPEN LEARNING

The hybrid scenario adopts components of scenarios 1 and 2. However, the most significant difference from these scenarios is that the legacy post-secondary system stays in place, including existing accreditation, credentialing, and funding models. As a result, the open recognition system runs in parallel to the current system, offering learners new learning pathways. This scenario adopts the following tools:

1. Personal Navigator
2. Open Recognition (limited)
3. Labour Market Passport
4. Personal Learning Accounts (limited)
5. Community Mentoring
6. Coordinating Body

In this model, the backbone organization plays a vital role in establishing ecosystem-level infrastructure to allow learners to define goals and identify diverse learning pathways. However, as the incumbent post-secondary institutions opt in or out of any ecosystem-level initiatives, the system risks increasing fragmentation. Moreover, as the incumbents maintain their natural monopoly advantages, including funding, infrastructure, and institutional legitimacy, their dominance may make the ecosystem unsustainable.

Scenario 3 Asif's Balancing Act

Asif, 34, has worked in the hospitality industry since high school but is eager to transition into marketing. With a young family to support, he met with his Navigator to explore his options. The first path they identified was an academic one, which involved pursuing a Bachelor of Business Administration (BBA). A full-time program would take four years and cost about \$50,000 in tuition. It would also require him to leave his job. Although this option was appealing, the financial burden and the thought of graduating at 38 made it seem overwhelming.

The Navigator also suggested an alternative: an experiential path that combined on-the-job learning with professional training. Asif chose this route and enrolled in courses offered by the Calgary Marketing Association and the Digital Marketing Association. Over the course of two years, he earned four provincial microcredentials in marketing while continuing to work. During this time, he noticed a change in what employers expected. More marketing roles began to require either a degree or these new provincial competency credentials.

Thanks to his new skills and verified competencies, Asif moved into a marketing manager position in the hospitality sector without completing a university degree. Balancing learning with work turned out to be the best choice for both his career and family. Now, he views learning as a lifelong journey and feels confident that he has taken a path that offers the most opportunities with the fewest trade-offs.

STRENGTH

- Learner-centric pathway.
- Stimulates learning innovation outside the post-secondary system by providing a path to credentials.
- Incentivizes experimentation and collaboration between non-accredited service providers.
- Industry is incentivized to collaborate to establish new competency credentials.
- Employers start to shift from academic credentials to competency credentials.

WEAKNESS

- Non-certified learning providers will compete directly with entrenched publicly subsidized post-secondary institutions.
- Creates no incentive for innovation for existing post-secondary institutions.
- The status quo option allows inertia to protect incumbents from competitive pressure.
- The voluntary nature of participation risks underinvestment in essential system-level infrastructure, further advantaging the incumbents.
- Will require new jurisdictional agreements to ensure credential portability.
- May negatively impact the ability to recruit faculty from traditional research-teaching post-secondary models.

Table 4 compares the three scenarios.

FEATURE / TOOL	SCENARIO 1: OPEN LEARNING FEDERATION	SCENARIO 2: OPEN LEARNING ECOSYSTEM	SCENARIO 3: HYBRID OPEN LEARNING
Open Learning Policy Tool Role			
Personal Navigator	✓ Embedded at system level (mandated)	✓ Embedded at the system level (opt-in)	✓ Embedded at the system level (opt-in)
Labour Market Passport	✓ All institutions	✓ All institutions (opt-in)	✓ All institutions (opt-in)
Learning Accounts	✓ All learners	✓ All learners	✓ Partial
Open Recognition	✓ System-wide	✓ System-wide	✓ Partial (opt-in)
Unbundled Infrastructure	✓ Through the commission	✗ No	✗ No
Market Regulation	✓ Fully implemented	✓ Implemented, but institutions may opt out	✓ Implemented, but institutions may opt out
Coordinator	✓ Commission	✓ Backbone	✓ Backbone
Operational Factors			
Institutional Role	Host and Partner	Institutions can opt out of participating in some areas.	Remain core. Institutions can opt out of participating in some areas.
Employer Engagement	Employers co-create competencies	Employers co-create competencies	Optional
Equity & Access	Foundational to the model	Fragmented and risk the tiering of learning	Fragmented and risks the tiering of learning
Scalability	Legislative mandate	At risk due to the institutional opt-out option.	At risk due to the institutional opt-out option.
Radical System Shift	■ High	▲ Medium	▲ Medium
Sustainability of an open learning marketplace	■ High	▲ Medium	● Low



THE PATH FORWARD

This report explores how the characteristics of natural monopolies in public post-secondary education systems limit the adaptability of the human capital ecosystem to changing economic and labour market needs. Our analysis shows institutional legacies, regulatory frameworks, and economic advantages work together to stifle innovation and marginalize alternative learning models. Current policy approaches focused on institutional effectiveness are inadequate for creating truly open systems.

Jurisdictions that maintain rigid monopoly conditions through specific funding models and credentialing protections risk becoming increasingly misaligned with labour market demands. On the other hand, educational systems that embrace portable, interoperable learning pathways demonstrate greater adaptability to technological and demographic changes.

Structural reform is needed to address the entrenched incentives that reward institutional conformity over innovation. Faculty and administrative incentives, as well as collective agreements, often perpetuate existing models, even amid calls for change.

Instead of advocating for deregulation, we propose reimagining education as an inclusive, agile, open learning system that drives innovation through competition and collaboration. This involves promoting credential interoperability, funding innovative learning models, and ensuring alignment with regional priorities. Similar to regulated utilities, an open learning system requires strong leadership to foster innovation and offer oversight, striking a balance between agility and equity.

This report has limitations, particularly its focus on the OECD and Global North, highlighting the need for future research across diverse contexts. While we draw parallels to infrastructure sectors, we also acknowledge the unique social and pedagogical

dimensions of human capital. The proposed reforms, open learning, will require empirical studies to explore implementation challenges and obstacles.

Key research opportunities include longitudinal studies on the impacts of open learning, investigations into emerging credentialing models, and analysis of regulatory experiments like credential sandboxes. Additional work should investigate how redesigning educational systems affects regional innovation capacity.

Our findings conclude that a structural reassessment of post-secondary education is essential. Without systemic change, current models will continue to undermine equity and economic resilience. Policymakers face a critical choice: uphold exclusionary status quos or pursue transformative openness. While ambitious, the proposed strategies offer pathways toward a more adaptive and inclusive learning system.

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