FINDING PEOPLE

A Risk Management View of Hiring

THE Productivity Project

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Please cite this report as:

Finch, D., Levallet, N., Lane, J., Ngyuen, A. T., Murgatroyd, S., Braun, M. And Griffiths, J. (2025). Finding People: A Risk Management View of Hiring. *The Productivity Project.*

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.

Today, labour market productivity is anchored in individuals who can navigate uncertainty and adapt seamlessly.

REPORT 01 — Productivity and People: Exploring Human Capital's Role in Productivity

REPORT 02 — The Coming Storm: The Eight Forces Reshaping Regional Labour Markets

REPORT 03 — Unlocking Productivity: The Human Capital Supply Chain

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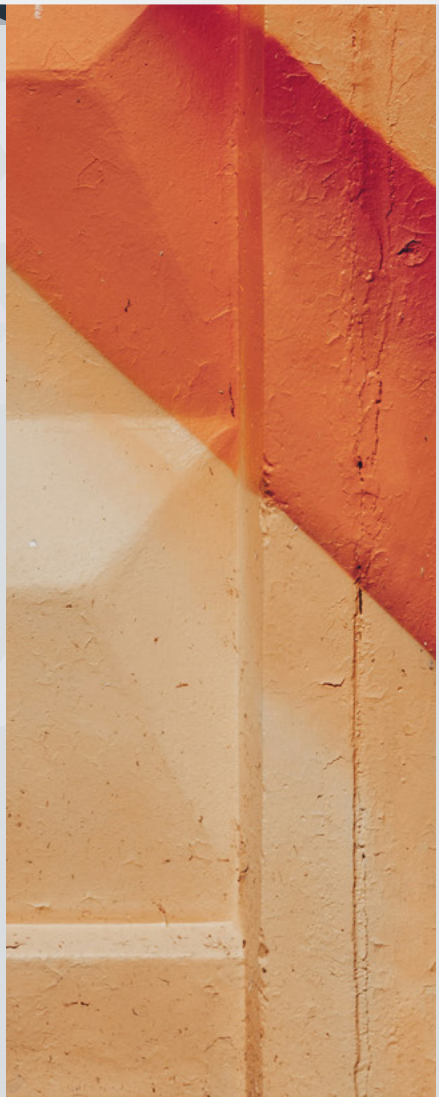
REPORT 05 — Finding People: A Risk Management View of Hiring

REPORT 06 — Path to Open Learning: A Policy Framework for Enabling Incumbents and Empowering New Entrants



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THE PROBLEM

For much of the 20th century, when competitive advantage was rooted in the ability to extract, process, and distribute goods, a region's economic strength was closely tied to its access to natural resources and its proximity to key trade routes. However, in today's knowledge economy, a region's human capital, the collective skills, knowledge, experiences, and attributes of its people, has emerged as the most critical driver of regional innovation, productivity, and economic resilience.

Converging forces, including technological disruption, demographic shifts, and changing societal values, are reshaping the nature of work in ways that current talent development and acquisition systems are ill-equipped to manage. Many competencies, the skills, knowledge and attributes required to complete the tasks of life and work, become obsolete within a few years, while entirely new ones emerge.

An overwhelming 91 percent of hiring managers acknowledge the importance of competency-based recruitment for long-term performance. However, nearly three-quarters of them report low confidence in their ability to identify, assess, or develop the competencies their organizations need. Most employers struggle to define the specific competencies required for each role or to evaluate whether skills gained in one industry context translate to another.

In this environment of rapidly evolving labour market needs, the proxies for competence, including academic credentials, industry certifications, and prior experience, traditionally used by employers often fail to predict actual job performance. Tools such as unstructured interviews and professional references attempt to compensate but have also proved to be unreliable.

Hiring is a risky business. Employers are becoming increasingly uncertain about the value of qualifications, hesitant to adopt competency-based hiring practices, and growing more unsure about the competencies they need to hire for tomorrow. The situation is a significant challenge that affects competitiveness and productivity.

THE SOLUTION

Every new hire presents a risk for the employer. The solution is to de-risk the hiring process through the verification of candidate profiles. Effective verification of learning and development, certifications, work experience, and competencies will protect both employers and candidates by ensuring accuracy and transparency.

This report proposes modernizing the fragmented and ad hoc competency verification system to improve transparency, accuracy, and trust in talent decisions. At the heart of this solution is the concept of a labour market passport that would enable candidates to present a validated profile of their abilities, providing employers with a more accurate foundation for hiring decisions. The labour market passport will provide real-time, verified competency data that keeps pace with the changing nature of work. This tool is not just an improvement on the existing ad hoc system of assessing candidates—it is a competitive necessity.

THE RISK

Verification of a candidate's claimed competencies is complex and should be based on a competency framework developed for the specific job and the individual employer. Currently, only an estimated 20 percent of occupations, mostly in the professions and skilled trades, have a clear, standard competency framework to which employers can verify the competencies of their job candidates.

As a result, employers resort to an ad hoc system of measurement, with varying levels of legitimacy, when they evaluate a candidate's qualifications for a job. However, these assessments often stem from subjective impressions rather than objective verification. Past experiences with an institution's graduates, reputational rankings, or industry conventions may influence hiring decisions. This transforms what should be an evidence-based evaluation into a social filtering process that prioritizes institutional pedigree over demonstrated capability. It can exclude capable candidates who lack traditional credentials but possess the needed competencies and overlook competent candidates with less favoured backgrounds.

In this ad hoc system, where possible, employers will depend on licenses granted by occupational regulatory bodies or certificates that have met industry standards. However, even these external qualifications will need some internal validation. That is why many employers use a probationary period or hire on a contingency basis, which enables them to verify competencies in authentic work environments.

For much of the 20th century, the ad hoc verification approach sufficed in occupationally stable labour markets. However, a volatile labour market exposes significant deficiencies in the ad hoc approach, which increases risk for employers. The approach is inefficient; it is subject to fragmentation and reductions in standards, and it reinforces systemic inequality.

THE OPPORTUNITY

The transition from an ad hoc approach to competency claim verification represents one of the most pressing challenges facing the labour market. 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, a labour market passport provides a single trusted platform to signal legitimacy. The first step in establishing a labour market passport is to define the core system-level design principles.

PRINCIPLE 1: DYNAMIC

The labour market passport must be dynamic to reflect the diversity of occupations, claimants, and evidence. Moreover, the labour market passport needs to embed a level of inter-jurisdictional and occupational portability.

PRINCIPLE 2: VERIFIED COMPETENCIES

Introducing a labour market passport is not about developing a more efficient process for verifying competency proxies, but rather, a more efficient process for verifying competency claims. To be helpful to employers, a labour market passport needs to follow a rigorous path to verify the competencies of job seekers.

PRINCIPLE 3: HARMONIZED FRAMEWORK

A labour market passport system requires a harmonized competency framework, with standardized taxonomies, definitions, and measures. This competency framework would be used by regional stakeholders, including employers, learning providers, and credentialing bodies, to allow for consistent terminology in job postings, learning outcomes, and credential verification.

Importantly, this regional framework should integrate with, rather than replace, existing professional and industry-specific competency systems. A practical alternative to establishing a single, harmonized competency framework may be to explore technical approaches that bridge existing systems while preserving their structures.

A logical starting point is to establish a harmonized framework for enabling competencies, variously labelled as soft skills, transferable skills, or meta-skills, which constitute roughly 60 percent of the work-based competencies.

PRINCIPLE 4: DECENTRALIZED

A labour market passport must be decentralized, meaning that the claimant (not an institution) owns the verification of their competencies and controls the sharing of it (referred to as "self-sovereignty"). Claimant control removes the third-party dependency that contributes to inconsistency and inefficiency today. One possible approach to decentralization is using blockchain technology.

PRINCIPLE 5: OPEN PLATFORM

The technology platform hosting the labour market passport must be open, so verifying competencies and achievements becomes seamlessly transferable across platforms and organizations. This is essential for providing individuals with autonomous control over their portable digital credentials, significantly diverging from institution-centric verification models.

PRINCIPLE 6: COORDINATION

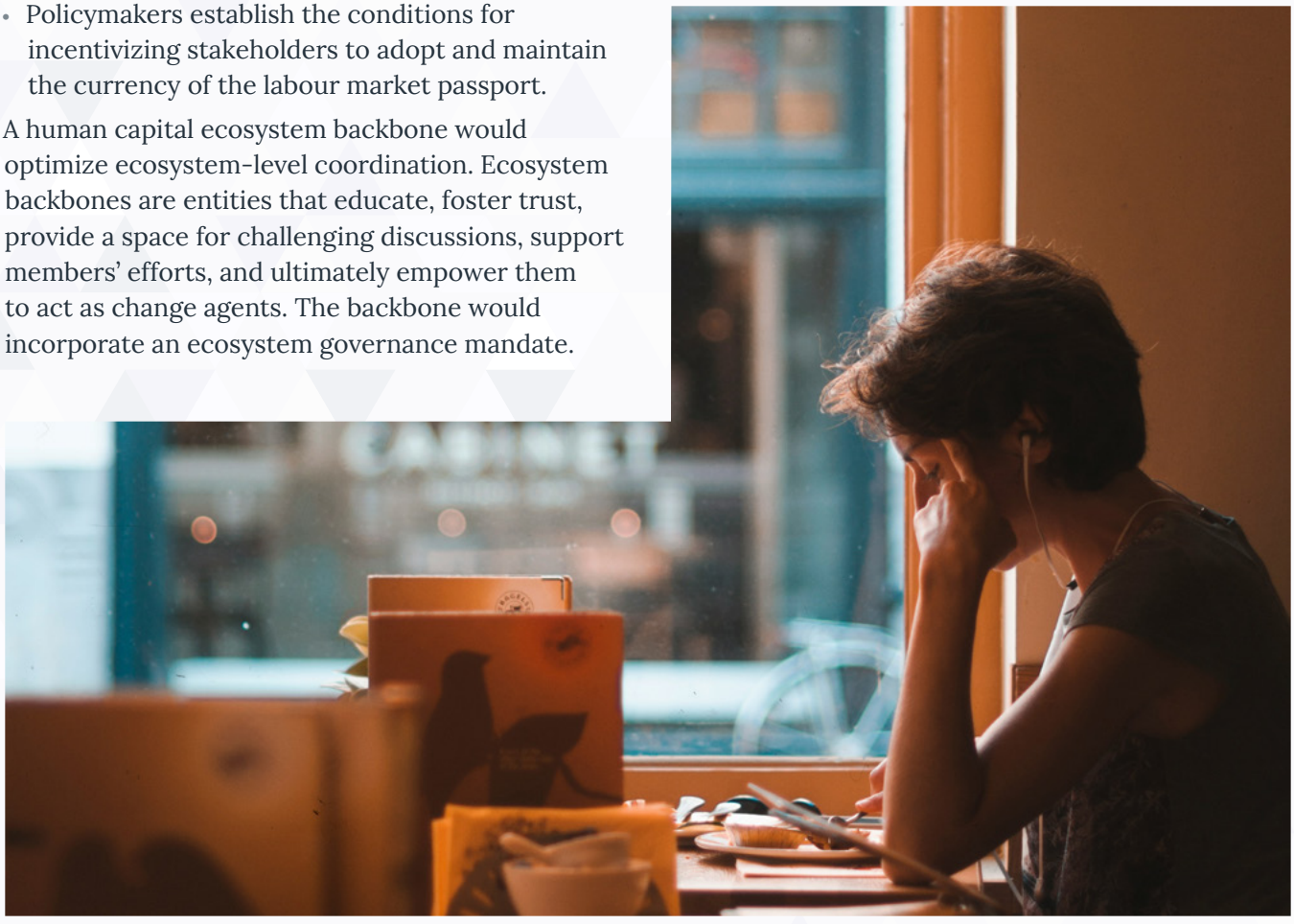
Successful implementation of a labour market passport requires that:

- Learning providers align their programs and learning outcomes to the harmonized framework.
- Employers align their hiring practices to the labour market passport.
- Candidates adopt the labour market passport on a large scale.
- Policymakers establish the conditions for incentivizing stakeholders to adopt and maintain the currency of the labour market passport.

A human capital ecosystem backbone would optimize ecosystem-level coordination. Ecosystem backbones are entities that educate, foster trust, provide a space for challenging discussions, support members' efforts, and ultimately empower them to act as change agents. The backbone would incorporate an ecosystem governance mandate.

THE PATH FORWARD

Labour markets can evolve into more inclusive ecosystems that recognize competencies irrespective of their acquisition context, creating opportunities for diverse talent pools while addressing contemporary workforce challenges. As labour markets grow in response to technological and demographic shifts, jurisdictions which implement a labour market passport will gain significant competitive advantages in talent acquisition and retention. For these labour markets, the inefficiencies evident in the current rate of poor hiring outcomes will be lessened, and the risk from the lack of verified competencies incurred every time an employer hires a new employee will be removed.



THE PROBLEM

Traditionally, a region's competitive advantage was determined by its access to scarce natural resources (e.g. timber, oil, or iron ore) and proximity to navigable trade routes.[1] These geographic and material advantages allowed regions to thrive through commodity extraction, manufacturing, and trade.[2] However, the foundation of economic competitiveness has shifted over the past four decades. Rather than relying on natural resources, regions now derive their strength more from their human capital.[3]

Human capital is the value derived from a person's competencies and capabilities—the knowledge, skills, experiences, and attributes that enable them to participate effectively in the workforce and society.[4] Human capital is measured at the individual, organizational, and regional levels. At the collective levels (organizational and regional), human capital creates intangible assets (brand value, markets, expertise), which, in some countries, have replaced tangible assets as a significant source of wealth.[5]

As considered in *Report 2, The Coming Storm*, a series of converging forces are reshaping labour markets, creating uncertainty and risk for employers. These forces include rapid technological advancements, such as artificial intelligence (AI), robotics, quantum computing, and the automation of many jobs.[6] Demographic shifts further complicate workforce dynamics, including extended working lives and the rise of contingent labour.[7] At the same time, fluctuating market needs and evolving societal values introduce additional uncertainty.[8] These forces exacerbate the labour supply and demand gap, creating both organizational risks and opportunities.[9]

An overwhelming 91 percent of hiring managers agree competency-based recruitment is essential for sustainable performance. However, nearly three-quarters of hiring managers lack confidence in their organization's ability to acquire and develop competencies effectively.[10] This disconnect reveals a critical vulnerability in today's talent strategies: hiring processes still rely on outdated verification methods that cannot keep pace with the demands of a rapidly evolving workforce.

Refer to Report 2 "The Coming Storm" for a detailed analysis of the forces reshaping the labour market.

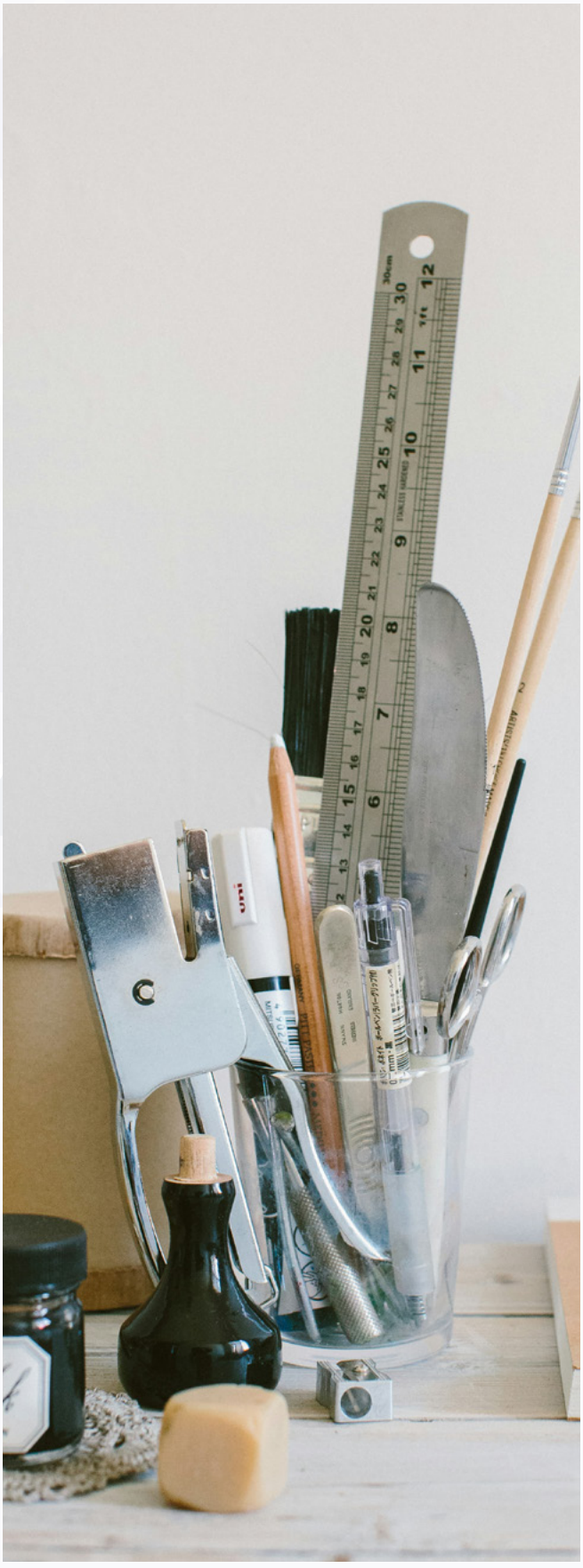
Employers know every new hire represents a risk. The root of this risk lies in employers' traditional dependence on proxies as initial screening mechanisms, such as academic credentials, industry certifications, and prior experience. While these filters help manage a large number of applications, they serve as poor predictors of actual job performance. Supplemental assessments, such as interviews and probationary periods, attempt to compensate, but the system remains fundamentally flawed. More concerning, these proxy-based approaches systematically exclude capable candidates who lack traditional

1 The definition of a "region" is highly contextual. This report it is applied to communities, metropolitan areas, provinces or states, countries, or continents.
2 Enright, 2015.
3 Luksha et al., 2018.
4 Goldin, 2024.
5 Haskell, J. & Westlake, S., 2018.
6 Acemoglu & Restrepo, 2019; van der Marel & Brey, 2023.
7 Boissonneault et al., 2020; Statistics Canada, 2024a.
8 Autor, 2022; Mahmoud et al., 2021.
9 Lane & Griffiths, 2023.
10 Keller & Meaney, 2017; HBR, 2023.

credentials and experience but have built the core competencies required. This trade-off made sense in talent-rich markets, but it creates growing risks in today's dynamic environment.

The traditional ad hoc verification approach is now overwhelmed by the significant forces in the labour market.[11] Some competencies quickly become obsolete while entirely new competencies are demanded. The old proxies for competencies are increasingly disconnected from workplace requirements. Labour markets typically self-correct through feedback loops, such as job postings and credentialing data, but these signals now lag too far behind current competency needs.[12] The result is a growing mismatch between talent supply and demand, with organizations making hiring decisions based on increasingly irrelevant criteria.

Compounding the problem, many employers lack both a clear understanding of the specific competencies required for the roles they are hiring for and an ability to evaluate whether competencies from different contexts can be effectively translated into their workplace. The current verification process, which requires manual outreach to academic institutions and previous employers for each candidate, exacerbates these challenges. Not only is this approach time-consuming and resource-intensive, but it often yields incomplete or outdated information precisely when organizations need greater precision in talent evaluation.[13] Employers are becoming increasingly uncertain about the value of qualifications, hesitant to adopt competency-based hiring practices, and growing unsure about the skills they need to hire for tomorrow.



11 Wirtky et al., 2016.
12 Lane & Griffiths, 2023.
13 Lane & Griffiths, 2023.

THE SOLUTION

Job descriptions and résumés, the traditional initial communication tools for employers and job seekers, often fail to communicate effectively. Proxies used to screen candidates often fail to match candidates with suitable jobs. The talent acquisition system is risky. The solution is to de-risk the hiring process by verifying competencies.

Effective verification of learning and development, certifications, work experience, and competency ensures both employers and candidates are protected through accuracy and transparency. For employers, robust verification will reduce information asymmetry, enabling better hiring decisions. For qualified candidates, it will strengthen their market competitiveness.

This report examines how to transform the labour market's fragmented ad hoc competency verification system by optimizing the human capital ecosystem. We begin by framing the acquisition of competencies as a critical risk management challenge and then analyze the limitations of current verification models. Then, we propose a harmonized solution: a labour market passport designed to provide real-time, verified competency data that keeps pace with the changing nature of work. For organizations facing constant disruption, modernizing this foundational element of talent strategy is not just an improvement - it is a competitive necessity.

RISK AND PEOPLE

Verification of a candidate's competencies is a crucial step in mitigating risk for organizations during the recruitment process.[14] From the 1940s to the 1980s, 90 percent of roles were filled through internal promotions based on long-term performance evaluations.[15] However, today, only an estimated 30 percent of hires are internal. With the majority of new hires sourced externally, competency claim verification has become more complex.[16]

While employers bear much of the risk in the hiring process, they depend on a broader ecosystem—learning providers, credentialing bodies, and policymakers—to facilitate reliable verification. This interdependence underscores the need for systemic solutions in an era of rapid labour market changes.[17]

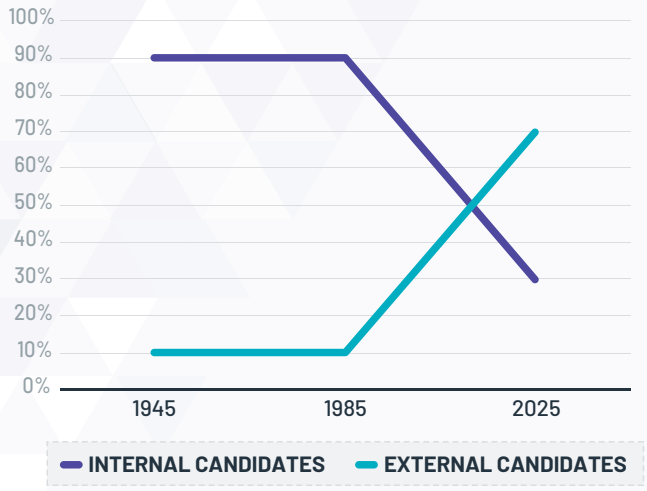
Between the 1940s and the early 1980s, 90 percent of job positions were filled internally through promotions or relocations...this has now declined to 30 percent.

In regulated professions (e.g., healthcare, skilled trades, accounting, engineering, and law), competency claim verification is built into professional licensing systems (e.g., Canada's Red Seal program; Chartered Professional Accountant). However, these licensing bodies represent just 20 percent of occupations. The remaining 80 percent of occupations instead rely on a combination of proxy mechanisms, such as degrees, work history, interviews, and references, which vary in their reliability.[18] Some organizations supplement these proxies with behavioural assessments, though their validity differs.[19]

Despite 73 percent of employers claiming to use competency-based hiring, this is most often used to define the role prior to recruitment. Only 39 percent apply internal competency verification, while 25 percent use external tools, and fewer than four percent recognize third-party certifications (e.g., digital badges).[20]

Meanwhile, a post-secondary degree is still often listed as a base requirement, highlighting a disconnect between traditional requirements and modern verification needs. Many of these jobs do not truly require a degree or related qualification, and the demand for them "feeds" overqualification, with up to 40 percent of university graduates in Canada aged 24-35 working in jobs that do not require a university degree.[21]

FIGURE 1: GROWING RISK



14 Hawthorne, 2016.
15 Cappelli, 2019.
16 Cappelli, 2019.
17 Jo et al., 2024; Nyberg et al., 2024; Price, 2023; Wolfson & Mathieu, 2021.
18 Canadian Council of Directors of Apprenticeship, 2022.
19 Kai Liao et al., 2021; McEnrue & Groves, 2006; Richter et al., 2023.
20 Gatta, 2024.
21 Vancouver Sun. (2014, April 2). Work In Progress: Overqualified for your job? Statistics Canada says you're not alone. https://vancouversun.com/news/staff-blogs/work-in-progress-overqualified-for-your-job-statistics-canada-says-youre-not-alone

MANAGING RISK

Task-specific competencies are the relevant knowledge, skills, values, experience, and abilities required to perform a specific job effectively.

While hiring risks cannot be eliminated, structured mitigation strategies can significantly improve hiring decisions, such as evidence-based competency assessments with verification.[22] Verification involves three stakeholders:

1. **The Claimant**: The candidate asserting a competency claim.
2. **The Verification Consumer**: The employer or institution requiring verification.
3. **The Verification Issuer**: The entity (e.g., former employer, certifying body) validating the claim.

To manage hiring risk, the verification consumer seeks evidence of three primary attributes of a claimant:

1. Enabling and task-specific competencies.
2. Experiences (work and volunteer).
3. Learning and development experiences (e.g., academic credentials).

When a candidate presents a completed training program as evidence of their competencies, employers evaluate legitimacy at multiple levels: the training provider, the program itself, and any overseeing bodies (e.g., professional associations).[23] As such, the legitimacy of the issuing authority and its processes serves as the foundation of adequate verification.

Legitimacy judgments determine the trustworthiness and reliability of a credential.[24] These assessments are context-dependent and measured against established industry benchmarks.[25] Table 1 summarizes the four forms of legitimacy and their role in verification.[26]

TABLE 1: LEGITIMACY AND RISK MANAGEMENT

FORM	SCOPE	SOURCE	ENFORCEMENT	EXAMPLE
Regulatory	Compliance with formal standards and accreditation	Laws, regulations, and certifications	Legal penalties for non-compliance	Government accreditation of a university
Structural	The reputation and institutional standing of the issuing body	Social norms, cultural expectations, and mimicry	Social sanctions, loss of credibility	A university being part of the Ivy League
Procedural	The rigour and transparency of the verification process	Assessment of processes	Social sanctions, loss of credibility	The rigour of a learning provider's procedures for developing new programs
Personal	The perceived credibility of individuals involved in issuing or endorsing the credential	Charisma, credentials, or moral authority of an individual	Social sanctions, loss of credibility	The professional reference of a claimant

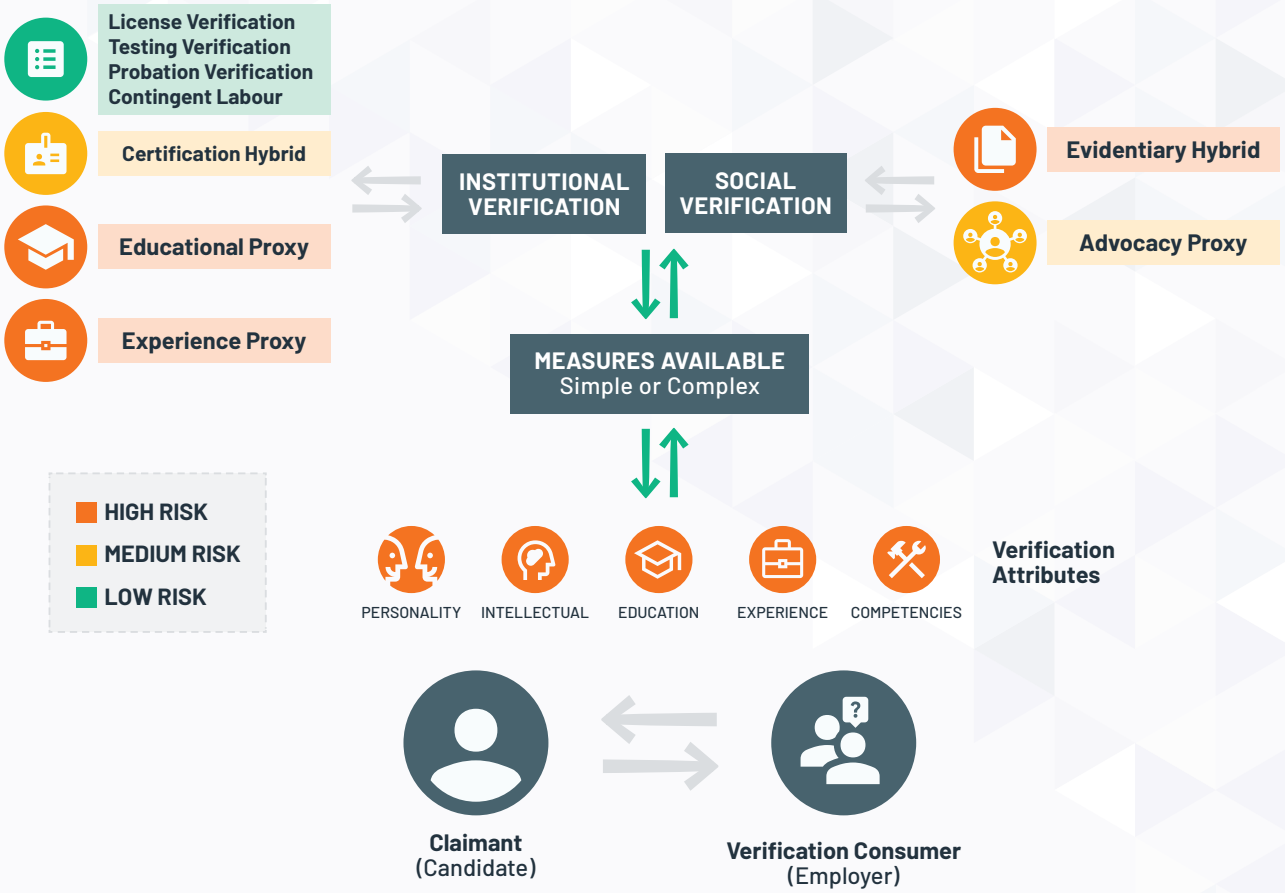
22 ISO, 2007, p. 16.
23 Belizón & Kieran, 2022.
24 From Suchman's (1995) conceptualization of legitimacy as "a generalized perception that an entity's actions are desirable or appropriate within a system of norms" (p. 574).
25 Tost, 2011.
26 O'Dwyer et al., 2011; Bitektine, 2011.

A RATIONAL RESPONSE: AD HOC VERIFICATION

As employers seek to manage hiring risk, they often rely on ad hoc verification mechanisms that rely on indirect evidence of competencies, rather than direct assessment or evidence of performance. For example, an academic credential, while signalling program completion, provides no definitive evidence of a candidate's problem-solving abilities, communication competencies, or organizational capacity.[27] These credentials serve as weak indicators that may or may not correlate with job performance. This significantly amplifies employer risk, as three-quarters of employers are unhappy with the skills of the graduates they hire.[28]

Moreover, when evaluating a candidate's academic credentials, for instance, hiring managers typically consider multiple factors: the accreditation status of the institution (regulatory legitimacy), the academic rigour of the program (procedural legitimacy), and the prestige of both the university and its alumni network (institutional legitimacy). However, these assessments often stem from subjective impressions rather than objective verification. Past experiences with graduates from particular institutions, reputational rankings, or industry conventions may influence hiring decisions. This transforms what should be an evidence-based evaluation into a social

FIGURE 2: AD HOC VERIFICATION MAP



27 Berry et al., 2006.

28 Tilo, 2024.

filtering process that prioritizes institutional pedigree over demonstrated capability.[29]

The consequence is that an ad hoc approach to verification elevates employer risk. This reliance on indirect signals creates significant challenges for modern talent acquisition. Moreover, it can lead to the oversight of capable candidates from non-traditional backgrounds, or the choice of a less than capable candidate from a more favoured one.

Figure 2 maps the ad hoc approach, showing the relationships between stakeholders (claimant, verification consumer, and verification issuer), verification mechanisms, and the activation of different forms of legitimacy.

THE AD HOC VERIFICATION MAP

Verification Complexity Assessment

The first step for a verification consumer is to determine the complexity of the attribute measures that need to be verified.[30]

- ***Simple Measures*** incorporate objective institutional verification. For example, a learning provider verifies that a claimant has completed their program of study by providing a transcript.
- ***Complex Measures*** grow increasingly subjective and depend on social verification forms. This may include evaluating the legitimacy of a professional reference or the quality of work included in a professional portfolio

Perceived Mechanism Legitimacy

Once the verification consumer has determined the complexity of the attribute measure, this determines whether the attribute will be verified by an institutional or social verification mechanism (or a combination of both). The perceived legitimacy of the mechanism defines the validity of each mechanism for the verification consumer.

29 Gioia & Corley, 2002; Marginson, 2006.

30 In 2003, ten percent of the Canadian labour force was employed through contingent labour arrangements (Statistics Canada, 2003), rising to a third of the total labour force by 2025. A McKinsey & Company survey (2021) found that 70 percent of global executives planned to rely more on contingent workers for volatility management.

INSTITUTIONAL VERIFICATION

This involves mechanisms supported by an organization or governing body. For instance, a university awards a medical degree, and the College of Physicians and Surgeons (or an equivalent body) awards a medical license to practice as a medical doctor in a specific jurisdiction. Institutional verification may incorporate regulatory, structural, or procedural legitimacy (or a combination).

Institutional verification leverages organizational authority through five primary mechanisms:

- ***License Verification*** represents the gold standard, directly verifying competencies through regulatory oversight. Required for regulated professions such as medicine and engineering, this approach combines regulatory and procedural legitimacy to ensure that practitioners meet defined competency thresholds.
- ***Probation Verification*** offers real-world assessment through probationary periods or work-integrated learning programs.[31] These mechanisms enable employers to verify competencies in authentic work environments, effectively mitigating hiring risk while providing candidates with practical experience.[32]
- ***Contingent Labour Verification*** has emerged as a strategic response to workforce volatility. The growing reliance on contractors and temporary workers, projected to comprise one-third of Canada's workforce by 2025, reflects organizations' preference for flexible competency assessment through short-term engagements before making permanent commitments.
- ***Certification Verification*** occupies a middle ground, offering structured competency recognition without regulatory mandate. Credentials like a Project Management Professional (PMP) certification gain value through industry recognition and demonstrated earning potential benefits. Innovative approaches, such as prior learning assessment systems, further enhance this model by increasing credential portability across organizations.
- ***Educational Verification*** serves as the most common proxy measure, validating institutional standing rather than specific competencies. While establishing baseline credibility, this approach requires supplemental verification to assess actual mastery of a competency.

SOCIAL VERIFICATION

This incorporates mechanisms backed by an individual and may include a professional reference or submission of a professional portfolio. In both cases, they are subject to an individual's legitimacy judgments. Each verification cluster is deconstructed below.

- ***Advocacy Verification*** leverages professional networks and reputational capital. The weight of a recommendation often varies based on the endorser's position, from personal colleagues to high-status executives, blending personal and structural legitimacy in the evaluation process.
- ***Evidentiary Verification*** represents the most direct assessment method, requiring candidates to demonstrate competencies through portfolios, tests, or performance tasks. When combined with advocacy elements (e.g., client testimonials that support portfolio work), this hybrid approach provides comprehensive verification of both capability and professional impact. A challenge facing evidentiary verification is contextualizing the evidence about the required competencies.

31 Dutta & Vedak, 2023.
32 Kay et al., 2019.


THE HUNDREDS

THE CHALLENGE

For much of the 20th century, the ad hoc verification approach sufficed in occupationally stable labour markets.[33] In a stable environment, competency proxies, such as educational credentials, effectively mitigate verification risk for consumers. However, a volatile labour market exposes significant deficiencies in the ad hoc approach, which increases verification consumer risk. The implications of the ad hoc approach fall into four categories:

INEFFICIENCY

Verifying competency claims is essential for verification consumers in today's dynamic labour market. However, the ad hoc approach highlights the gap between regulated and unregulated occupations. Regulated occupations, such as medicine and skilled trades, benefit from comprehensive license verification systems that embed a certain degree of explicit competency claim verification. However, only 22 percent of U.S. occupations, for instance, are regulated.[34] The remaining 78 percent of occupations depend on the ad hoc verification approach. The current verification model creates unnecessary friction:

- Manual collection of transcripts, references, and portfolios burdens both candidates and employers.[35]
- Inconsistent standards across institutions lead to verification bottlenecks.
- Small businesses bear disproportionate costs, with only 25 percent of hiring managers satisfied by their recruitment processes (48 percent cite speed as primary concern).[36, 37]
- Research suggests that unstructured interviews and professional references are weak predictors of future performance.[38]

CREDENTIALING FRAGMENTATION

The rapid evolution of labour markets is rendering some traditional occupations obsolete while creating demand for new roles and occupations.[39] Technological advancements have shortened the lifespan of task-specific competencies and destabilized the foundations of many occupations and professions.[40] The World Economic Forum predicts that 59 percent of the global workforce will require upskilling and reskilling within the next five years.[41]

In response, a proliferation of credentialing bodies has emerged across occupations and sectors. For instance, there are now more than 50 competing digital marketing certifications.[42] Ironically, this fragmentation has eroded trust in credential verification, pushing verification consumers back toward traditional proxies, such as degrees, despite their declining relevance.

33 Lane & Griffiths, 2023.
34 U.S. Bureau of Labour Statistics, 2023.
35 Ayub Khan, 2021.
36 Harvard Business Review, 2023.
37 Calvasina, 2008.
38 Schmidt & Hunter, 1998.
39 Frey & Osborne, 2017.
40 Technological advancements have shortened the lifespan of task-specific competencies, destabilizing the foundations of many occupations (Malik, 2020) and professions (Susskind, 2022).
41 Di Battista et al., 2025; Lengnick-Hall & Beck, 2016.
42 Over 50 marketing-related certifications are available from organizations, including the American Marketing Association, Canadian Marketing Association, the Digital Marketing Institute, Google, Meta, LinkedIn, X, Reddit, Hootsuite, and HubSpot.

Digital badges once offered a promising alternative by providing verifiable metadata for professional qualifications. However, inconsistent implementation across platforms (e.g., LinkedIn, Credly) and lax verification standards have undermined their legitimacy.[43] The National Association of Colleges and Employers found that only 3.5 percent of organizations recognize external competency verification, such as micro-credentials or digital badging.[44] This underscores the urgent need for more robust competency claim verification frameworks that incorporate both structural and procedural legitimacy.

THIRD-PARTY RISK

The proxy model's dependence on external validators amplifies several challenges. In the U.S., for example, with over four million degrees awarded annually and 43 million professional certifications in circulation, verification challenges multiply. These are compounded by the country's approximately 1,000 diploma mills, as well as the potentially compromised standards of legitimate learning providers that rush through new credential programs.[45] Additional complexities arise in verifying international qualifications and work-based learning credentials.[46]

SYSTEMIC BIAS

The reliance on proxies, such as educational credentials or professional references, often reinforces systemic inequality.[47] A prominent example is the pervasive requirement of bachelor's degrees in the U.S., which excludes 62 percent of Americans, including 70 percent of African Americans. This credential inflation creates arbitrary barriers to employment, while reference-based hiring reproduces existing social hierarchies.[48] Beyond raising ethical concerns, these exclusionary mechanisms impose significant opportunity costs on organizations that strive to optimize their talent acquisition.[49] The evidence underscores the need to reassess hiring criteria to align with equity and efficiency objectives.

43 Davies et al., 2015.
44 NACE, 2024; Gatta, 2024.
45 Murgatroyd, 2024; U.S. Bureau of Labour Statistics, 2022; Ezell & Bear, 2012.
46 Adamu & Mohammed, 2022; Werquin, 2012.
47 Lane & Griffiths, 2023.
48 Hardy et al., 2022.
49 Rock and Grant, 2016; Cappelli, 2019.

THE OPPORTUNITY

DESIGNING A LABOUR MARKET PASSPORT

The human capital ecosystem's challenge is systemic; therefore, the solution must be systemic. Transitioning from the ad hoc approach to competency claim verification represents one of the most pressing challenges facing the labour market. 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, a labour market passport provides a single trusted platform to signal legitimacy. The remainder of this report examines the potential for developing and implementing a labour market passport.

The most significant challenge to introducing a labour market passport is not external or technological but rather internal to the practices and cultures of the employment ecosystem. While the current approach does not work well, the status quo is the most common response for human capital stakeholders, ranging from learning providers to employers to policymakers. Collaboration, compromise, and consensus are rarely easy, and sharing is even more difficult. The first step in establishing a labour market passport is to define the core system-level design principles.

The authors conducted a multi-stage study to explore the design principles that must be embedded in a labour market passport. The first phase included an expert design workshop, followed by a design sprint. Table 3 profiles the synthesized design principles.[50]

PRINCIPLE 1: DYNAMIC

A core challenge is the current fragmentation of verification systems, which creates inefficiency and challenges their legitimacy. The labour market passport must be dynamic to reflect the diversity of occupations, claimants, and evidence. Moreover, the labour market passport needs to embed a level of inter-jurisdictional and occupational portability.

PRINCIPLE 2: VERIFIED COMPETENCIES

Introducing a labour market passport is not about developing a more efficient process for verifying competency proxies, but rather, a more efficient process for verifying competency claims. At this stage, evidence-based competency claim verification is limited to regulated occupations (e.g., medicine, trades) that embed rigorous competency claim verification as part of their licensing designation.[51] In these occupations, there is an on-the-job verification that the candidate can actually perform the tasks of their job.

The result is that the remaining 80 percent of occupations depend on competency proxies during the hiring process. As evidence of this demand, organizations such as IBM, Walmart, Nestlé, and BMO Financial Group prioritize verified competencies over traditional educational credentials, citing the limitations of these credentials as signals of job readiness and adaptability.[52] To be useful to employers, a labour market passport needs to follow a rigorous path to verify the competencies of job seekers.

50 Groß & Mandir, 2024.
51 Lane & Griffiths, 2023.
52 LinkedIn, 2023; World Economic Forum, 2024.

PRINCIPLE 3: HARMONIZED FRAMEWORK

A labour market passport system requires a harmonized competency framework, with standardized taxonomies, definitions, and measures. This competency framework would be utilized by regional stakeholders, including employers, learning providers, and credentialing bodies, to ensure consistent terminology in job postings, learning outcomes, and credential verification.

Importantly, this regional framework should integrate with, rather than replace, existing professional and industry-specific competency systems. However, the vision of universal adoption faces considerable obstacles, as classification systems built over the last few decades differ across sectors and geographies. Even if governments achieve alignment, the competitive human resource technology landscape may make it challenging to reduce fragmentation in competency claim verification. This underlines more profound societal questions about whether such verification should function as a public good or remain a proprietary asset controlled by private entities.[53]

A practical alternative to establishing a single, harmonized competency framework may be to explore technical approaches that bridge existing systems while preserving their structures. Given their neutrality across sectors, regional governments are ideally positioned to spearhead this effort. The process involves three steps: core open taxonomies are defined, robust cross-mapping methodologies are developed, and then publicly accessible natural language processing tools are deployed to enhance interoperability. However, it is currently challenging to automate an intensely human and complex process. One study of experimental, automated AI-enabled mapping achieved accuracy rates of only 34 percent to 69 percent, highlighting the ongoing need for human oversight to ensure the results are reliable.[54]

The solution to harmonizing competency frameworks does not lie in imposing a single, universal standard—an unrealistic goal—but in building connective infrastructure that links existing systems and enables continuous improvement. This approach strikes a balance between the complexities of competency classification and the pragmatic need for greater global interoperability and transparency.

The development of a harmonized competency framework will become easier thanks to recent advancements in two key areas: first, technology to develop rigorously validated competency translation mechanisms that can bridge the various competency taxonomies that now exist. Second, developing tools to support individuals in aligning the evidence of their competencies with employer demands. These two steps could shift competency claim verification from the current fragmented model to a collaborative, interoperable ecosystem.

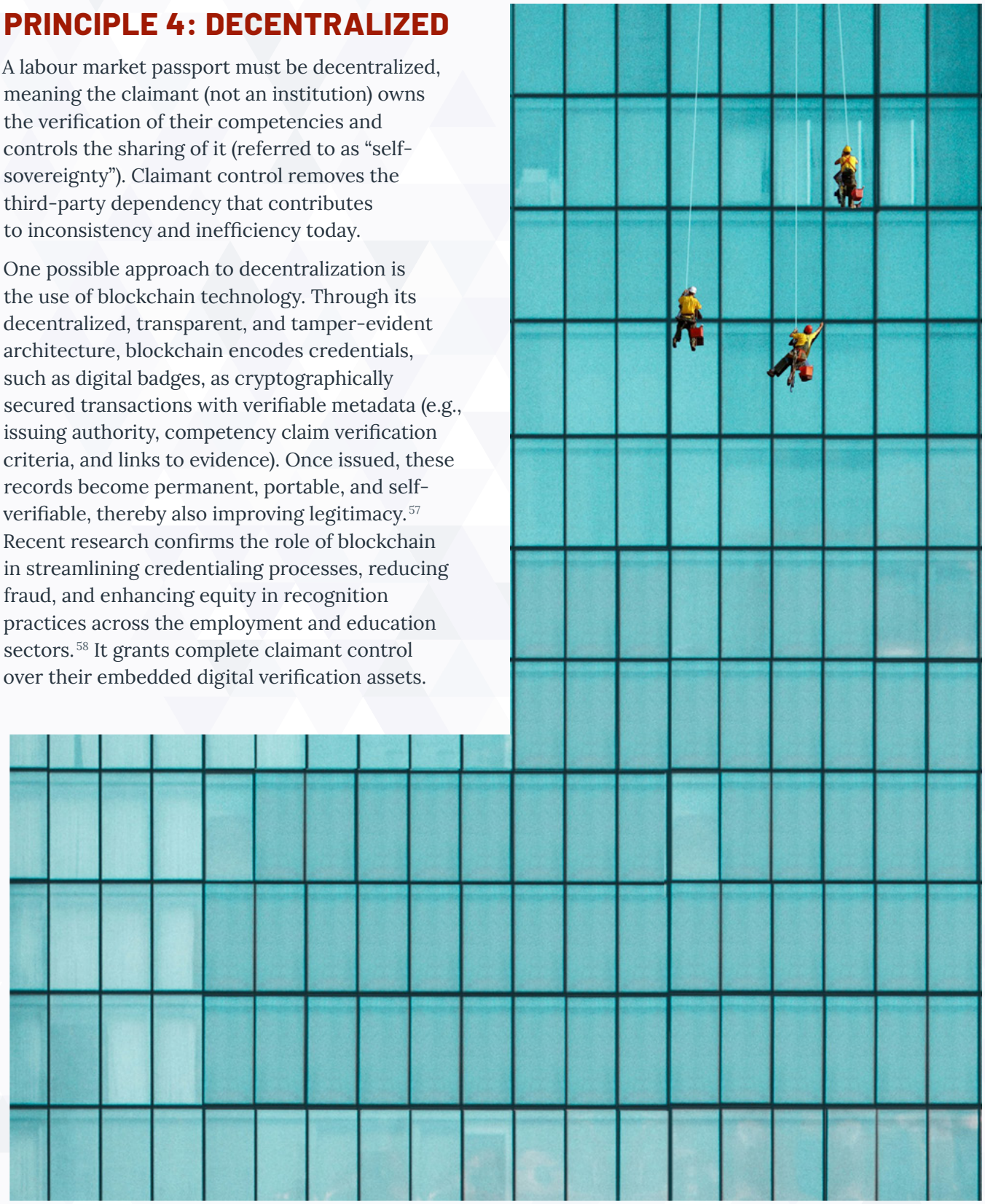
A logical starting point is establishing a harmonized framework for *enabling competencies*, which constitute roughly 60 percent of the work-based competencies.[55] These competencies—variously labelled as soft skills, transferable skills, or meta-skills—lack consistent terminology; one study found twelve distinct labels.[56] Standardizing this subset of competencies would address a critical area of disarray and lay the groundwork for broader verification efforts. Ultimately, the path forward demands a balanced strategy that respects existing systems while fostering incremental progress toward harmony.

53 Kitto, 2024.
54 Kitto, 2024.
55 Finch et al., 2023.
56 Finch et al., 2023.

PRINCIPLE 4: DECENTRALIZED

A labour market passport must be decentralized, meaning the claimant (not an institution) owns the verification of their competencies and controls the sharing of it (referred to as "self-sovereignty"). Claimant control removes the third-party dependency that contributes to inconsistency and inefficiency today.

One possible approach to decentralization is the use of blockchain technology. Through its decentralized, transparent, and tamper-evident architecture, blockchain encodes credentials, such as digital badges, as cryptographically secured transactions with verifiable metadata (e.g., issuing authority, competency claim verification criteria, and links to evidence). Once issued, these records become permanent, portable, and self-verifiable, thereby also improving legitimacy.[57] Recent research confirms the role of blockchain in streamlining credentialing processes, reducing fraud, and enhancing equity in recognition practices across the employment and education sectors.[58] It grants complete claimant control over their embedded digital verification assets.



57 Grech & Camilleri, 2017; Cheng & Yuen, 2022.

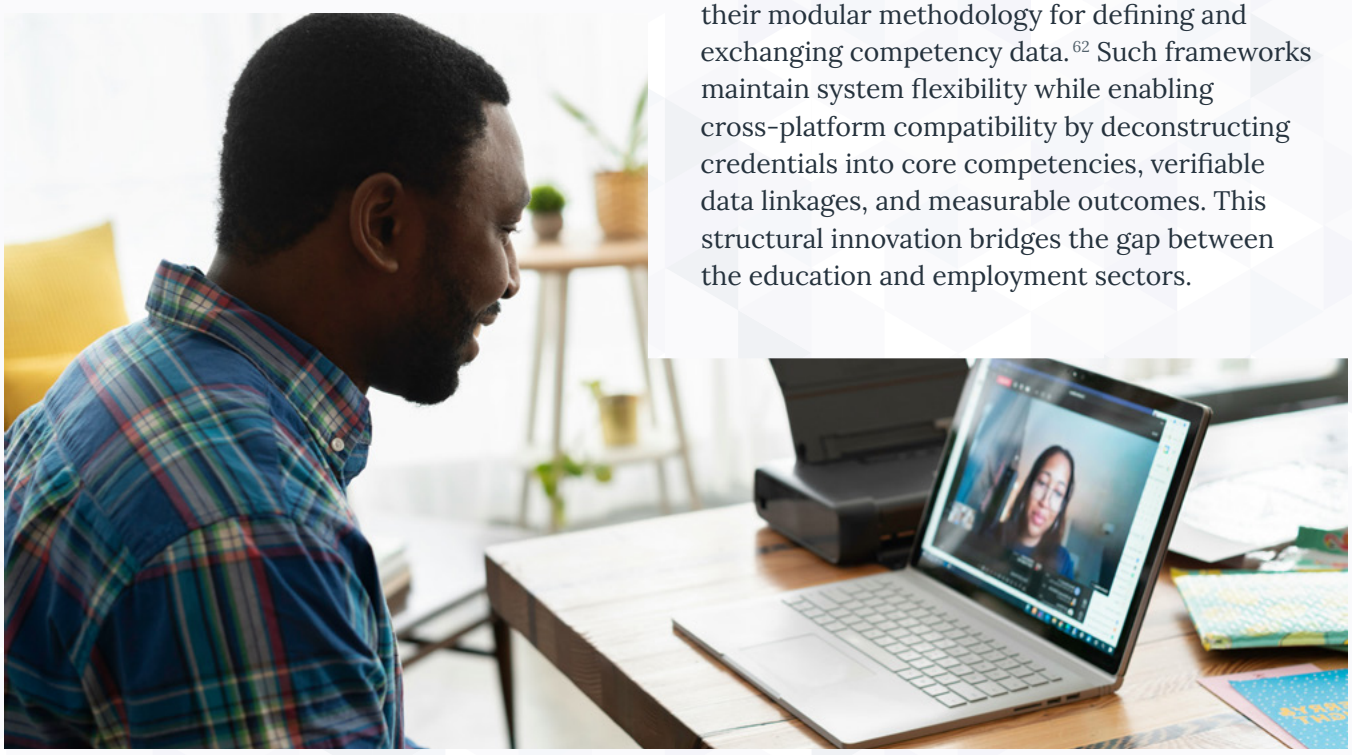
58 Saleh et al., 2020.

PRINCIPLE 5: OPEN PLATFORM

Integrating emerging technologies enhances credentialing systems by establishing a decentralized, semantically structured data ecosystem. Unlike traditional models, this approach could leverage Web 3.0's ontology-driven architecture to enable real-time interoperability. Verified competencies and achievements become seamlessly transferable across platforms, organizations, and borders, as demonstrated by the World Economic Forum.[59] When augmented with dynamic labour market intelligence, this system reduces information asymmetry while facilitating talent mobility, transforming competencies into a universal currency that efficiently matches capabilities with emerging opportunities.[60] The resulting framework provides individuals with autonomous control over their portable digital credentials, significantly diverging from institution-centric verification models.

This paradigm shift from proprietary systems to open standards ensures credential portability and cross-border recognition. Multiple jurisdictions have already implemented foundational frameworks to support this transition. Australia's National Microcredentials Standard establishes governance protocols for micro-credential development, while Canada's eCampus Ontario initiative creates equivalent benchmarks for credential transparency (eCampus Ontario, n.d.). Similarly, Alberta's Post-Secondary Education Micro-Credential Framework proposes standardized criteria across diverse learning providers, including policy recommendations for provincial authorities.[61] Such interoperability investments enhance competency comparability, granting regional labour markets competitive advantages in global labour markets.

Standardization plays a crucial role in ensuring the adaptability and reliability of this ecosystem. The IEEE 1484 Learning and Competency Standards exemplify this principle through their modular methodology for defining and exchanging competency data.[62] Such frameworks maintain system flexibility while enabling cross-platform compatibility by deconstructing credentials into core competencies, verifiable data linkages, and measurable outcomes. This structural innovation bridges the gap between the education and employment sectors.



59 Gauthier et al., 2022; Di Battista et al., 2025.

60 Gauthier et al., 2022; World Economic Forum, 2023. When augmented with dynamic labour market intelligence, this system reduces information asymmetry while facilitating talent mobility, transforming competencies into a universal currency that efficiently matches capabilities with emerging opportunities (Pérez et al., 2023).

61 Alberta Post-Secondary Micro-credential Forum, 2024.

62 IEEE, 2022.

Data standards are the foundational rules governing how information is structured, stored, and shared. A harmonized data standard for competencies presents a significant challenge. This fragmentation complicates efforts to create a seamless, harmonized system. Moreover, there is growing concern about the expansion of privately owned credentialing platforms, which raises concerns about data sovereignty and student privacy, as these entities may exert disproportionate control over personal and academic records.[63]

Digital credentialing platforms operationalize these standards by providing scalable solutions for recognizing non-traditional learning. Empirical research on labour market signalling confirms that competency verification surpasses traditional qualifications in terms of predictive accuracy.[64] Artificial intelligence applications demonstrate this advantage quantitatively, showing 35 percent greater validity in talent matching than conventional methods.[65] However, these technological advancements introduce new ethical considerations, particularly regarding algorithmic bias, necessitating deliberate design safeguards and human oversight to ensure equitable evaluation processes.

PRINCIPLE 6: COORDINATION

Implementing a labour market passport demands ecosystem-level coordination:

1. Learning providers must align their programs and learning outcomes to the harmonized framework.
2. Employers must align their hiring practices to the labour market passport.
3. Candidates must adopt the labour market passport on a large scale.
4. Policymakers must establish the conditions for incentivizing stakeholders to adopt and maintain the currency of the labour market passport.

To optimize ecosystem-level coordination, we propose establishing a human capital ecosystem backbone. Backbone organizations originated from the collective impact and community development fields; they are independent entities responsible for managing the essential operations necessary for ecosystem collaboration and coordination.[66] They help by providing the structure and resources for diverse stakeholders to identify and share priorities. Ecosystem backbones are entities that educate, foster trust, provide a space for challenging discussions, support members' efforts, and ultimately empower them to act as change agents. The backbone would incorporate an ecosystem governance mandate.[67]

63 EDUCASE, 2023.
64 Autor, 2015.
65 Raghavan et al., 2020.
66 For more information on collective impact, see DuBow et al., 2018.
67 DuBow et al., 2018.

THE LABOUR MARKET PASSPORT

FIGURE 3: THE LABOUR MARKET PASSPORT MAP

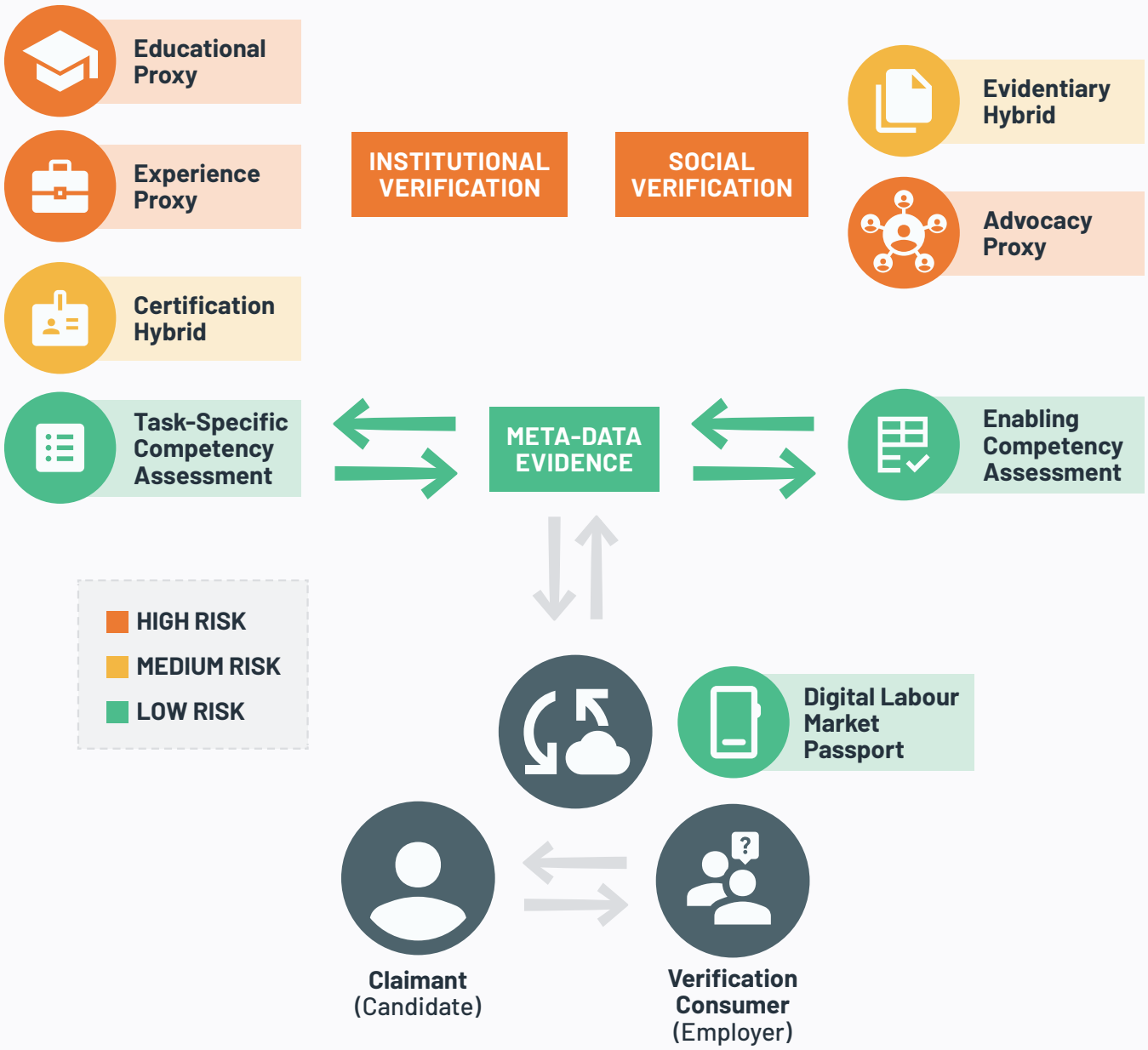


Figure 3 maps the Labour Market Passport.

TABLE 2: FROM PROXIES TO PASSPORT

	AD HOC	LABOUR MARKET PASSPORT
Claimant	***Academic Transcripts:*** Secure academic transcripts from certified learning providers for a fee. ***Ad hoc ePortfolio:*** Develop an ePortfolio to profile past work. The portfolio can be accessed via public sites, such as LinkedIn. ***Professional References:*** Provide professional references upon request from the verification consumer.	An open recognition system that enables secure verification of competency claims, including supporting metadata: • Verified competencies • Verified experiences • Verified certified learning credentials • Verified advocacy
Learning Providers	***Certified Learning:*** Certified learning providers offer academic transcripts for a fee. ***Non-Certified Learning:*** Largely undocumented. ***Informal Learning:*** Largely undocumented.	
Employers	***Professional References:*** Request professional references from the claimant. Conduct a brief interview with a reference using standardized questions. ***Academic Transcripts:*** Request the claimant to provide an academic transcript. ***Ad hoc ePortfolio:*** Request the claimant to provide an ePortfolio. ***Competency Assessment:*** Have the claimant complete a real-time competency assessment during the recruitment process.	
Credentialing Organizations	***Time as a Proxy:*** Certifications based on perceived requirements often include time (e.g., education, training, and experience) as a proxy for competencies.	
Policymakers	***Inertia:*** Policymakers recognize that the legacy learning system is not meeting emerging demands, but the scope of the changes and the associated political risk contribute only to incremental adjustments.	

THE PATH FORWARD

Realizing the full potential of the labour market passport requires coordinated action across multiple societal sectors and stakeholders. Educational institutions must continually adapt their curricula to meet the evolving requirements of the workplace. At the same time, employers need to collaborate with learning providers as they update their curricula and integrate competency claim verification into their hiring protocols. Policymakers can stimulate adoption by providing targeted funding for verification research and offering evidence-based recruitment incentives. Professional associations contribute by developing industry-specific competency frameworks that strike a balance between standardization and adaptability, thereby enhancing the overall quality of the workforce. Concurrently, technology providers bear responsibility for embedding ethical principles into system architectures to prevent bias propagation.

Through such multidimensional collaboration, labour markets can evolve into more inclusive ecosystems that recognize competencies irrespective of their acquisition context, creating opportunities for diverse talent pools while addressing contemporary workforce challenges. As labour markets evolve in response to technological and demographic shifts, jurisdictions which implement a labour market passport will gain significant competitive advantages in talent acquisition and retention. For these labour markets, the inefficiencies evident in the current rate of poor hiring outcomes will be mitigated, and the risk associated with the lack of verified competencies incurred every time an employer hires a new employee will be reduced.

The policy reports in Series 1 identified that Canada's productivity problem cannot be solved without making changes to the human capital development system (Report 1) and the multiple forces which make these changes imperative (Report 2). Report 3 presents the case for considering human capital development within a dynamic supply chain. Report 4 proposes an approach to mapping a region's demand and supply of human capital, a crucial step to operationalizing the supply chain. This report conceptualizes a digital labour market passport as a harmonized platform to support competency verification and enhance labour mobility. The sixth and final report in this series argues that the most significant barrier to developing the human capital essential to Canada's productivity is the natural monopoly structures that suppress innovation in post-secondary and adult education.

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ACKNOWLEDGEMENTS

We thank all the researchers and community partners of the Productivity Project for their contribution to *Series 1: Productivity and People.* Their diverse knowledge, experience, and expertise were invaluable, enhancing the depth and insights of this project.

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Dr. D'Andre Wilson	Career Pathways, Experiential Learning, Work Integrated Learning, Workforce Development	Calgary Economic Development
Dr. Yifei Wang	Work-integrated learning (WIL) curriculum and program design	Mount Royal University
Dr. Gini Weber	Marketing, consumer behaviour, service ecosystem	Mount Royal University

THE Productivity Project

ACLMR

The Alberta Centre for Labour Market Research (ACLMR) is a premier resource for labour market expertise in Canada. It offers unbiased, high-quality information and research on labour markets to inform provincial, regional, and federal policies. The ACLMR is funded by Alberta's Ministry of Jobs, Economy, and Trade. Visit ACLMR.ca

MOUNT ROYAL UNIVERSITY
Institute for Community Prosperity

The Institute for Community Prosperity is a hub of social innovation, systems-learning and community engagement that bridges the knowledge, wisdom and experience of community with academic learning and scholarly insight. We bring together community, students and faculty from across disciplines, sectors and backgrounds to tackle the complex social and ecological challenges of our time. Visit MtRoyal.ca

CANADAWEST FOUNDATION

The Canada West Foundation is the only public policy think tank that focuses on issues that matter to the West. We provide solutions in three areas: resources, environment, and economy; skills, innovation, and productivity; and trade and trade infrastructure. We advance policies that decision makers trust. Visit CWF.ca

LearningCITY

The LearningCITY Collective is an independent, member-founded, and funded organization committed to transforming Calgary into a city that never stops learning. The research and policy group conducts research to stimulate evidence-based policy debate on education, learning, and labour force development. Visit LearningCITY.ca