UNLOCKING PRODUCTIVITY
The Human Capital Supply Chain

THE Productivity Project

ACLMR

CANADAWEST FOUNDATION

MOUNT ROYAL UNIVERSITY Institute for Community Prosperity

LearningCITY

THE CHALLENGE

Historically, regional competitive advantage stemmed from natural resources, such as minerals and access to trading routes. However, in recent decades, the competitive advantage in many regions has transitioned from reliance on natural resources to measures of productivity.

Productivity measures the ability to produce more output with fewer inputs. Productivity is fundamentally rooted in optimizing its human capital—its labour force. Today's labour market, demands individuals who thrive in uncertainty and possess the capacity to adapt to dynamic demands. Adaptation is the capacity to learn, unlearn, and relearn.

However, Canada's learning system remains entrenched in its 19th-century industrial roots, contributing to fragmentation, inertia, and systemic inefficiencies. Moreover, increased economic volatility has led to conditions in which no single stakeholder, whether a government, learning provider, employer, or credentialing body, can unilaterally overcome these structural challenges. The result is an increasing gap between labour market supply and demand.

39%
of the global labour force will require retraining in the next five years

The measure of intelligence is the ability to change.
— Albert Einstein

15
hours of informal learning Canadian adults engage in weekly

THE OPPORTUNITY

Over the past three decades, with the rapid expansion of global trade, supply chains have been reinvented from hierarchical and linear systems to agile, decentralized networks, emphasizing modular, just-in-time systems. These networks enabled rapid response and adjustment to changing market conditions.

Building on the principles of modern supply chain networks, we conceptualize a regional human capital supply chain deemed—the *Regional Open Loop Network (ROLN).* ROLN is a collaborative open loop network with diverse stakeholders, including individuals, learning providers, employers, credentialing bodies, and policymakers.

At the heart of ROLN is the capacity to efficiently develop the competencies and capabilities demanded by real-time labour market conditions. Like open-loop supply chains, a modern human capital supply chain will benefit from the coordination and synchronization of all stakeholders' efforts. ROLN incorporates six dimensions in the figure below

89%

of jobs in Canada are anchored to geography

17

jobs young people are forecasted to hold in their lifetime across five different sectors

1.1B

jobs are expected to be disrupted globally by 2030

FORESIGHT PLANNING

VALUE CREATION

BASE HUMAN CAPITAL

ROLN HQ

HUMAN CAPITAL SUPPLY

LEARNING & DEVELOPMENT

THE SIX ROLN DIMENSIONS

Foresight Planning

System-level foresight planning is the foundation of ROLN, providing a disciplined approach to proactive regional resource allocation. In the past two decades, foresight planning has emerged as a framework for managing uncertainty and risk. Foresight planning systematically maps future scenarios, interventions, and outcomes. For ROLN, this includes modelling factors such as economic conditions, demographics, technological disruptions, industry trends, trade, and policy changes.

Base Human Capital

Base human capital is individuals' foundational knowledge, skills, abilities, and attributes, enabling them to participate effectively in the workforce and society. These include intellectual, personality, and physical resources developed through early childhood education, health, socialization, and life experiences.

Learning And Development

Researchers recognize that learning is highly dynamic and can take infinite forms, from traditional classroom learning to lived experiences. Building on the principles of open innovation, open learning recognizes that learning providers, employers, policymakers, and individuals must collaborate to maximize learning outcomes.

Open learning encompasses diverse learning experiences beyond traditional classroom settings, including options for employment, volunteerism, artistic endeavours, athletic participation, and engagement with asynchronous resources such as books or podcasts. This approach fosters a more inclusive understanding of learning, acknowledging the diverse modalities and environments through which human capital can be developed. In ROLN, open learning is clustered into three forms: (1) certified learning, (2) non-certified learning, and (3) informal learning.

Human Capital Supply

The outcome of human capital development is the development of competencies – the knowledge, skills, and attributes that enable individuals to complete a task. We cluster competencies into two types:

Enabling Competencies: Enabling competencies are foundational to an individual's adaptive capacity and apply to their intellectual and personality resources. These resources are not context-specific and can be used in diverse situations.

Task-Specific Competencies: Task-specific competencies are the relevant knowledge, skills, and attributes that enable individuals to complete tasks. Task-specific competencies include functional competencies (e.g. computer programming), sectoral competencies (e.g. expertise in an industry), or organization-level competencies (e.g. start-up expertise).

85%
of learning is estimated to lead to no certification

50%
more applications are required from ethnic minority candidates to receive the same number of interviews as others with equal qualifications

1/3
of postsecondary students in Canada do not complete their program

Human Capital Outcomes

ROLN is optimized to deliver regional well-being. Following the guidance of the Organisation for Economic Cooperation and Development's (OECD) Better Life Index and the New Zealand Government's Living Standards Framework. ROLN defines well-being as multi-dimensional, incorporating four perspectives: (1) Economic, (2) Social, (3) Personal Development, and (4) Sustainability. ROLN establishes regional key performance indicators for each dimension and optimizes human capital development and deployment to deliver on these goals.

ROLN Coordination

The overarching goal of ROLN is to foster collaboration and eliminate silos, ultimately facilitating the acceleration of innovations to unlock the full capacity of the ecosystem. To do so, we propose establishing an independent ROLN backbone organization to coordinate ROLN. Backbone organizations are independent entities designated to oversee the essential operations needed for ecosystem collaboration. Backbone organizations help by providing the structure and resources for diverse stakeholders to identify shared priorities, which are crucial to the partnership's success. The ROLN backbone should be staffed by flexible supply chain secondments that bring in individuals with expertise from diverse contexts. We identify five ROLN coordination mechanisms: (1) Establishing a shared vision, (2) Empowering learners, (3) Optimizing knowledge sharing, (4) Facilitating a common competency taxonomy, (5) Defining harmonized metrics, and (6) commitment to continuous learning.

1M

Canadian women are self-employed

45%

of women aged 25–34 hold a bachelor's degree — 12% more than men

13%

less is earned by women in Canada than men for doing the same job

WHERE TO START

The greatest challenge facing economic regions lies not in external factors but in our embedded practices and cultures, which influence mindsets and behaviours. Therefore, the most practical path forward is to break ROLN down into small steps. For example, ROLN is founded on collaboration and trust among ecosystem partners. Therefore, developing these relationships will be the foundation of a sustainable ecosystem and ROLN.

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