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State of Skills Report

Working Collaboratively to Close Skills-Related LMI Gaps

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Across Canada

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KEY INSIGHTS

1 Labour market information (LMI) is a key pillar of a well-functioning workforce development system, yet considerable gaps remain in the generation, dissemination and uptake of skills-related LMI in Canada.

2 The Future Skills Centre, working with partners across the ecosystem, is testing innovative approaches to close key skills-related LMI gaps, including:

- generating real-time and forward-looking skills-related LMI;
- leveraging new technologies to share LMI and improve its uptake;
- building capacity among stakeholders, notably career development professionals, to manage and use LMI more effectively.

3 Individuals want simple, localized, real-time and forward-looking skills-related LMI. And while technologies are helping to improve the overall availability of LMI, the choices and decisions related to education, training and careers are complex and necessitate not only information but also in-person support, often from a knowledgeable practitioner or informed influencer, e.g., parent or role model.

▶ The Issue

LMI is a core component of a well-functioning workforce development system. Accurate, practical, timely and granular information can help employers, educators, workers and policymakers, among others, make informed decisions regarding their training and skills development choices and strategies.

The demand for more relevant, forward-looking LMI has only enhanced in recent years. Canada's labour market is characterized by considerable unpredictability and volatility driven by economic and technological changes, including ongoing post-pandemic workforce transformation. All of this points to the need for LMI to help decision-makers effectively navigate the evolving workforce landscape. Individual Canadians too are looking for timely and accurate LMI to guide their own decisions about career pathways, postsecondary training programs, and opportunities for reskilling into new growth sectors.

A pivotal factor in labour market transformation is the shift toward a skills- or competency-based approach in training, recruitment and HR management. In particular, over the past number of years, skills —rather than credentials and degrees—have taken on a greater role in our skills development ecosystem. This change underscores the growing importance of skills-based LMI to align policies, programs and training with the dynamic requirements of businesses. However, the current labour market information system in Canada does not lend itself well to gathering information on the skill requirements of jobs.

Digital tools and techniques, particularly AI-driven ones, offer considerable promise in helping to close LMI gaps in a number of areas, from education and training delivery to skills assessment and recognition, career guidance and recruitment. At the same time, these new approaches are no panacea and come with a number of methodological considerations, not least of which is that defining and measuring the skill requirements of jobs is not an easy task. This is why the production and usage of better labour market information, notably as regards skills, has been a core pillar of the Future Skills Centre's strategic plan.

🔧 What We Investigated

Making LMI work for real decisions
Leveraging the most out of LMI for decision-making requires a thorough understanding of the choices that different users face and considers an individual's unique circumstances. Joint research by the [Future Skills Centre and the Labour Market Information Council](#) (LMIC) helps to shed light on how best to frame labour market information in a way that maximizes its utility in decision-making. That research helped to improve the understanding that LMI is best when it focuses on decision points associated with specific employment and career transitions and recognizes the different roles and influences that various actor (e.g., parents) have on these choices.

At the same time, despite significant research undertaken about general LMI needs by [LMIC](#) prior to the pandemic, more recent research by the Future Skills Centre and LMIC highlights that there are still knowledge gaps on what LMI is most sought after in different contexts. This is particularly the case with respect to skills in demand and how they are evolving over time and across occupations.

New approaches help close gaps in skills-related LMI

Traditional approaches to LMI (e.g., surveys) are not well suited to gathering information on the skill requirements of jobs. This is primarily because Canada has more than 500 official occupations with potentially thousands of different skills and related levels of importance of those skills that could be associated with each job. In recent years, new methods have emerged that leverage techniques such as machine learning and natural language processing to analyze the skill content of jobs, primarily relying upon job postings. A number of drawbacks to such approaches must be considered, but such novel techniques hold promise in closing gaps in skills-related LMI and complementing traditional sources of data.

How best to share LMI

Information in and of itself has limitations if it is not being deployed and used when decisions are being made. Importantly, past research shows that the uptake of LMI among workers and employers could be significantly enhanced. With the onset of the pandemic, many in-person services were closed and increased efforts were made to share information and services online, including in the career development space. In particular, a previous State of Skills report by the Future Skills Centre explored a number of issues with regard to the recent widespread adoption of technology and the digitalization of employment and skills-related activities and services. Recognizing that the first step is to improve the relevancy of LMI (i.e., improve availability of information that is being sought), the Future Skills Centre's later efforts have focused on better understanding how to improve the use of LMI.

Why making LMI useful requires more than just access

Information can often be overwhelming, especially in a digital age. In the realm of career decision-making, grappling with the overflow and intricacy of information can be challenging. Interpreting large and complex data sets and translating them into usable insights requires a certain level of sophistication.

Moreover, data often comes from diverse sources and are fragmented and far from uniform. For instance, wage information from one source could be hourly and gross, but from another it might be annual and net after taxes. Often the two pieces of information cannot be reconciled. As a consequence, service providers themselves have difficulties in managing and harnessing data, including their own.

✔️ What We're Learning

Real-time and forward-looking skills-related LMI is needed for the workforce development ecosystem

One of the major gaps in Canada's labour market information system is the relative unavailability of skills-related insights. According to LMIC, skills-related insights are the second most sought after pieces of LMI after wages. Early in its mandate, the Future Skills Centre launched a research series, Skills Next, in partnership with the Public Policy Forum and the Diversity Institute, to shed light on the issue of skills within the policy landscape. Among the papers, one pointed to the central importance and urgency of developing easily accessible information about the skills demanded today and expected to be in demand tomorrow.

To close this gap, the Future Skills Centre undertook a series of projects ranging in scope to improve skills-related LMI in a number of core areas.

The Future Skills Centre, in collaboration with the Conference Board of Canada, leverages real-time data from Vicinity Jobs and machine learning to shed light on the skill requirements of jobs. OpportuNext developed a free-to-use career tool that matches a person's skills with viable career paths. The innovative tool helps a variety of stakeholders make more informed skills-related decisions, from helping students identify potential career paths based on their education and location to supporting policymakers in accessing the right information to inform program decisions.

The Model of Occupations, Skills and Technology (MOST)—developed by the Conference Board of Canada on behalf of the Future Skills Centre—is a sophisticated projection tool designed to offer unique insights into the skills that will power Canada's future labour markets. MOST has closed a significant gap in the labour market information and skills landscape. By generating detailed occupational and industry-level projections for every region in Canada, MOST is providing unprecedented local, granular insights on the skills and occupations in demand and serves as an invaluable asset to policymakers and other stakeholders within the skills development ecosystem.

The Skills Algorithm: Digital Skills Demand Across Canada's Labour Market, a joint project conducted with the Dais, used machine-learning methods and data from nine million Canadian job postings collected from January 2020 to June 2023 to understand how demand for digital skills has changed since the pandemic. The most in-demand digital skills continue to be for general workforce tasks—low-intensity digital skills that are relevant regardless of sector or industry. It also shows that employers are still seeking hybrid (digital and non-digital) skills, most often general-workforce digital skills paired with non-technical skills like teamwork, communication and time management.

The Future Skills Centre funded eCampusOntario's project known as eCampusOntario Microcredentials: Getting People into Programs and into Jobs. By consulting with industry partners and using occupational data from OpportuNext, eCampusOntario was able to map in-demand skills onto specific courses to increase understanding of which skills are developed by which programs. In the first four months after launching the revamped portal, eCampusOntario experienced a 32% increase in the number of responses it provided to postsecondary institutions and has enabled more targeted interventions to address skills shortages.

A number of other projects aimed to improve the state of knowledge regarding forward-looking skills-related LMI. FSC has integrated forward-looking LMI into several pilot projects with technical support from Magnet. This includes the Skills Learning Hub by SkillPlan – which focuses on expanding the recruitment of diverse people into the construction trades, in part by integrating timely LMI to show potential recruits current LMI about the opportunities.

Another joint project with LMIC set out three approaches to forecasting in-demand skills. This how-to-guide—intended for a diverse set of stakeholders—provides the necessary analytical framework to improve our labour market information system by providing insights on future skill needs.

LMI needs to be simple and contextualized

Working with the Future Skills Centre, the Behavioural Insights Team crafted a project to determine how to use behavioural insights to increase postsecondary and career services participation. The Behavioural Insights Team executed a number of randomized controlled trials to test how best to inform, empower and engage Canadians when it comes to making decisions about work, education and training. The project found that skills-related LMI is central to the decision-making process for students thinking about their postsecondary options and that the insights are most useful when they are simple, to the point and localized to the decision at hand. The results of the randomized controlled trials also indicate that prioritizing insights on job outlooks in a holistic manner, i.e., by providing insights on salaries along with skill requirements, is most valuable to individuals.

New techniques and technologies are making LMI more accessible

In our commitment to improving the accessibility of LMI, the Future Skills Centre has actively explored and tested new and innovative digital platforms. These initiatives sought to find more effective and widespread means of disseminating LMI. The above-mentioned OpportuNext provides robust LMI to, among others, 1) job seekers to help them discover careers that closely match their skill sets; 2) job placement organizations to offer more tailored help to job seekers and employers; 3) employers to support the recruitment process; 4) students to explore possible careers; and 5) policymakers to support employment strategies. Another example is a project with Northern Lights College: CLIMB project, which provided LMI to mid-career workers via a dedicated portal to support career development and upskilling.

One of our recent State of Skills reports, *Digital Tools in the Skills Ecosystem*, highlighted that, indeed, projects of this nature helped to improve access to and reach of labour market information. In particular, online information significantly increases access and take-up.

Complex choices involving LMI and other factors require personal support

The Future Skills Centre also found that career- and training-related decisions, and the information used to support those decisions, are often complex and involve a variety of considerations and trade-offs. Issues are sometimes not easily addressed solely by a digital tool or by virtual career services, especially for vulnerable and underserved populations. In-person support provides significant value in the delivery of career and training guidance.

The work of the Behavioural Insights Team, discussed above, also reinforced this point. For students, at least, they highlighted the importance of engaging non-traditional intermediaries (e.g., parents, workers, teachers)—not just government websites or portals—to deliver high-quality LMI. Moreover, the more user friendly LMI is, the more effective it is as a tool in the hands of career-development and employment-services professionals.

Efforts are needed to build capacity within the ecosystem to leverage innovations

Greater efforts are needed to improve capacity among service providers given the plethora of new tools and technologies, and the importance of combining digital platforms with in-person support. Indeed, career development professionals report challenges in adapting to new technologies because of time and financial barriers. Several initiatives of the Future Skills Centre aim to build capacity in this manner, including the following:

- The Practitioner Data Initiative, led by Blueprint and the Future Skills Centre, focuses on helping community service organizations across Canada better use data to improve their decision-making and enhance service delivery to their communities.

LMIC's Equipping Career Services with LMI Tools and Data is a multi-year project that supports the development of career-planning and guidance tools to draw on relevant LMI. In particular, the project is empowering individuals and career development organizations by providing up-to-date and accurate location-based LMI via data visualizations. They do this so secondary school students can explore career pathways alongside the career professionals that support them.

⭐ Why It Matters

Skills-related LMI is a central pillar to a well-functioning workforce development system. Relevant and reliable LMI can help guide skills-related decisions of individuals, employers, training and education providers, career development professionals and policymakers.

At the same time, there remain considerable gaps in LMI, notably as it relates to skills but also in how that information is packaged and shared. The system surrounding LMI in Canada is highly decentralized, which helps to ensure data and insights are hyper-localized. But this often means that navigating and accessing prevailing LMI is confusing, often leading to inefficiencies.

Our work on LMI to date has focused on leveraging strong partnerships, such as those with LMIC, Blueprint, Magnet and the Conference Board of Canada, among others, to reduce duplication and generate economies of scale. The orientation of our projects has been to leverage partnerships and maximize the benefits of collaboration and testing new and innovative ways that lead to systemic improvements in the availability, relevance and use of labour market information.

▶▶ What's Next

Our main focus will be, first, to build upon these investments and generate new insights from ongoing projects. This means continuing to work collaboratively with partners within the skills ecosystem to address the existing and emerging gaps in skills-related information and insights. By pooling resources and expertise, these partnerships will help to strengthen the overall state of skills.

Second, efforts must be made to ensure that the insights generated are robust and actionable. This involves continuing to explore innovative methods and technologies, such as AI, and assessing how it can improve the generation and dissemination of skills-based LMI. In addition to the implementation, we need to continue to assess the results and impacts. Evaluating new LMI methods is crucial – particularly to ensure that new approaches respond to the needs of the ecosystem and evolve to address some of their weaknesses, such as inherent biases. This will inevitably entail complementary measures, such as ensuring that disadvantaged groups have access to adequate in-person support. Indeed, despite the growing reliance on digital platforms and now AI-driven models, the importance of in-person assistance cannot be understated, especially for individuals facing multiple barriers.

Finally, and relatedly, it is imperative to invest in building the capacity of career development professionals and other stakeholders to effectively utilize and leverage LMI and related tools. Building tools and platforms will not be enough if the system is not primed to use and apply the insights. This will require focus on not only generating LMI, but ensuring its usage at multiple levels: within organizations, the wider ecosystems, and by Canadians themselves.

🗐 Projects in this Report

Equipping Career Services with LMI Tools and Data, Labour Market Information Council

How to Forecast Skills in Demand: A Primer, Labour Market Information Council

Model of Occupations, Skills and Technology (MOST), Conference Board of Canada

OpportuNext, Conference Board of Canada

The Practitioner Data Initiative, Blueprint ADE

Employment in 2030, The Dais

The Skills Algorithm: Digital Skills Demand Across Canada's Labour Market, The Dais

CLIMB Restart, Northern Lights College

Responsive Career Pathways, Blueprint ADE

Microcredentials: Getting People into Programs and into Jobs, eCampusOntario and the Conference Board of Canada

Using Behavioural Insights to Increase Postsecondary and Career Services Participation, Behavioural Insights Team

Solving the Skills Puzzle: The Missing Piece is Good Information, Public Policy Forum and Diversity Institute

Skills Next Series, Public Policy Forum, Diversity Institute

Have questions about our work? Do you need access to a report in English or French? Please contact communications@fsc-ccf.ca.

How to Cite This Report
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