Unearthing Possibilities: Human Resources Challenges and Opportunities in Canadian Mineral Exploration

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Summary

The purpose of the *Unearthing Possibilities* research is to provide reliable, relevant, and timely labour market information to support strategic workforce planning, and stimulate a proactive approach to the HR challenges facing the minerals exploration sector of the industry. Research discussed here will focus on workers involved in exploring for and evaluating mineral deposits that eventually lead to the establishment of new mining operations (e.g., prospectors, developers, drillers and geoscientists, and other earth scientists). In this session a recent situational analysis of labour supply and demand for the sector will be discussed and key short- and long-term human resources challenges and opportunities facing the sector will be identified.

Introduction

The Canadian Labour Market Information (LMI) system is one of the best in the world, according to the Organization for Economic Co-operation and Development (OECD). Excellent labour market systems provide necessary information to ensure that public policies and programs reduce unemployment and improve economic viability. A good system also ensures that the right people find the right jobs quickly.

Despite its strengths, the Canadian LMI system has critical shortcomings, according to the Forum of Labour Market Ministers' Advisory Panel on Labour Market Information.[1] In particular, it lacks the ability to track stocks and flows of labour through the job market and workforce. In addition, the rapid pace of technology development and innovation causes skill requirements and labour market conditions to constantly change. This puts pressure on the LMI system to keep up with changes, and also makes it difficult for education and training institutions and industry employers to coordinate to meet changing labour demands and needs. Research in labour market analysis and forecasting that focuses on new methods of tracking and analyzing information will help to fill this critical gap in the Canadian LMI System. This kind of research will ultimately ensure the long term competitiveness and success of Canadian industry.

Enhancements to the LMI system to track the stocks and flows of critical talent groups through the Canadian Minerals Exploration Sector will ensure the sustainability and success of the sector compared to global competitors. In addition, it will directly impact Canadian professional earth scientists and engineers, ensuring a smooth transition from education to industry. Professional earth scientists will enter the labour market equipped with the cutting-edge, highly demanded knowledge, skills and competencies needed in the industry. Strong LMI, specific to minerals exploration will also ensure that earth scientists can navigate the complex job market to find the right fit for their career goals.

Objective

The goal of the research program described here is to provide reliable, relevant, and timely LMI to support strategic workforce planning, and stimulate a proactive approach to the labour market challenges facing the minerals exploration sector. Overall the research will:

- enhance the LMI available to minerals and metals industry stakeholders;
- identify the short- and long-term HR challenges and opportunities facing the industry;
- provide strategies to address the issues; and
- assist the industry in achieving and sustaining its full economic potential.

Special emphasis is placed on two key segments of the industry's workforce: occupations related to the minerals exploration stage of the mining cycle; and highly qualified people (HQP) involved in all stages of the mining cycle and in the development and implementation of innovative technologies. The overarching goal of the project is to improve the quality and availability of LMI. This includes developing better ways of collecting, analyzing, disseminating and communicating mineral exploration-specific LMI and developing strategies to address the short and long-term human resource challenges facing the Minerals Exploration sector.

Research work focuses on workers involved in exploring for and evaluating mineral deposits that eventually lead to the establishment of new mining operations (e.g., prospectors, developers, drillers and geoscientists, and potentially workers involved in other non-technical support fields such as environmental management, finance and investment analysis). The primary objectives for this project are to:

- assess labour supply and demand factors of workers involved in exploring for and evaluating mineral deposits;
- develop a strategy to monitor, assess, and project the supply and demand for the minerals exploration industry's workforce;
- track the stocks and flows of HQP;
- identify the short- and long-term HR challenges and opportunities facing the minerals exploration sector and the HQP segment of the workforce; and
- serve as the basis for developing an industry strategy and action plan to address key HR issues.

Activities

Project work is broken down into two phases.

Phase 1: The Current State of Knowledge

In the first phase of research, the current state of the workforce and available LMI is assessed. Key activities in this phase include:

- define Mineral Exploration and HQP and assign relevant industry and occupational classification codes;
- conduct an analysis of the current state of knowledge and review literature on known labour market conditions for the two segments of the industry;
- determine the scope of LMI requirements and reporting needs for each study;
- develop an inventory of existing sources of information on labour supply and demand and stocks and flows;
- identify the LMI gaps, determine probable causes, who is affected, and what has been done to date to address the issues; and
- incorporate data and analysis into a novel and innovative mining-specific LMI forecasting and reporting system.

Phase 2: Primary and Secondary Research

In the second phase of research, primary and secondary research is used to identify the human resource challenges and opportunities. Activities include:

- conduct primary research (i.e., surveys, interviews, focus groups) with industry stakeholders to determine the short- and long-term HR challenges;
- conduct secondary research (i.e., review relevant academic and grey literature on HR issues for the sector, Statistics Canada data products and reports, COPs reports, etc.);
- determine short- and long-term HR challenges and opportunities, provide insights and suggest practical solutions; and
- consult with industry stakeholders about research findings and develop an industry strategy to address the issues identified.

Findings

Preliminary findings suggest that an integrated and systematic approach to collecting, analyzing, and disseminating LMI related to minerals exploration and HQP is needed. Professional Geoscientists work across various sectors and may not be fully aware of the options for employment in Minerals Exploration and Mining. Further, students in post-secondary education programs in the earth sciences are mostly unaware of career options in the sector, but are familiar with LMI and its use in finding employment. Enhanced LMI reporting will have a positive impact on the industry and future workforce.

Conclusions

In this session, current LMI on Mineral Exploration sector and its HQP will be shared. In addition, challenges in tracking the stocks and flows of HQP through the sector will be discussed. Finally, the human resources challenges facing the industry now and in the future will be outlined.

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References

FLMM Advisory Panel on LMI (2009). *Working Together to Build a Better Labour Market Information System for Canada, Final Report.*