



MANAGING THROUGH THE CYCLE

A Strategic Approach to Workforce
Planning in the Mining Industry



MINING INDUSTRY
HUMAN RESOURCES COUNCIL



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About MiHR

The Mining Industry Human Resources Council (MiHR) is the national HR council for the Canadian minerals and metals industry. MiHR is the recognized industry leader in the identification and analysis of human resources (HR) issues facing the industry and a catalyst for development and implementation of solutions. The Council contributes to the strength, competitiveness, and sustainability of the industry by bringing all stakeholders together to address skills and labour shortages and HR issues.

Acknowledgements

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The MiHR project team also acknowledges the generous volunteer contributions of the project steering committee members and their organizations for their hard work, expertise and guidance in the development of this research and the completion of the case studies and report.

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KPMG

Project Background

Employment in mining is tightly tied to economic cycles: employment growth is seen during boom times and employment reductions, during recessions. Recent economic uncertainty has led to cost-cutting measures and challenges in retaining key industry talent. Despite looming skills shortages, employers find it difficult to plan for the long term and to strike a balance between immediate needs and longer-term trends. Further, educational institutions are affected by fewer opportunities for their students and graduates, and students get discouraged when faced with a sudden lack of industry opportunity. Retaining experienced workers is increasingly challenging during economic downturns, as workers tend to prefer more stable employment as their career progresses. In addition, local communities can be significantly affected during an economic downturn, especially if regional employment is largely dependent on mining. To manage the effects of the economic cycle, while balancing the long-term skills shortage, there is a growing need for mining industry stakeholders to collaborate in the integration of more flexible and proactive workforce planning strategies.



In recent MiHR consultations, stakeholders acknowledged that workforce planning is typically a short-sighted reaction to economic cycles and established the need for tools and resources to help them develop proactive, long-term strategies. Furthermore, they expressed deep concerns that decisions and actions taken in downturns compound existing labour force issues and threaten to undo the hard work the industry has done over the past decade to attract and build the future workforce. Stakeholders also stated that they are missing tools and resources to help them react quickly, in response to economic pressures, without losing sight of future workforce needs. MiHR's stakeholders have identified employment volatility as a primary concern — and have expressed a need for timely, reliable and relevant labour market information and resources for workforce planning.

About this Research

The purpose of this research was to support proactive planning through the collection and dissemination of workforce planning tools and resources currently in use by Canadian mining industry employers. In addition, this research provides the foundation for the development of a collaborative industry-wide strategy to smooth employment volatility and strategically manage the workforce through economic cycles.

The research included a literature review of present practices in mining organizations; an employer survey of strategic workforce planning initiatives and practices; and stakeholder consultation sessions. Participants were asked to identify the workforce planning resources, tools and strategies their organizations use to mitigate the effects of the economic cycle. Key workforce strategies were identified and through consultation with an industry-led project steering committee, several important topics were determined.

Case studies were developed to highlight the context and application of the selected workforce planning strategies and initiatives. Case studies include discussion of the strategy or initiative; organizational context; examples of the tools and resources used by workforce planners; and the lessons learned in execution of the initiatives. The case studies illustrate examples of the design and execution of initiatives within the operational context of the company or organization. Mining industry employers and other mining-related organizations can use the case studies to guide them as they build their own strategies and initiatives. The industry then benefits from the experiences and leadership of their peers in the selected workforce planning topics.

About the Report

This report begins with a discussion on key issues and provides some theoretical grounding in workforce planning from the academic literature. This is followed by a discussion of workforce planning in the industry and an organizing framework for strategies and initiatives used in mining. Case studies are then presented for key topics within the organizing framework. Finally, a summary and industry call to action for ongoing collaboration and cooperation are presented.

Infographic – Strategic Workforce Planning Keeps Mining Working

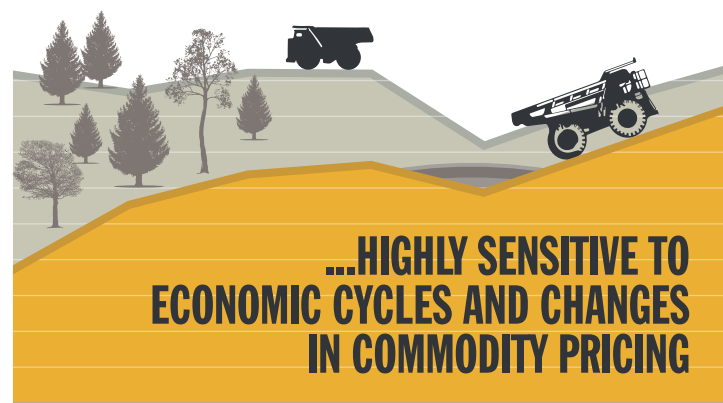
The infographic found on the following page summarizes the need for strategic workforce planning in Canada and the eight tools that are outlined in this report.

STRATEGIC WORKFORCE PLANNING KEEPS MINING WORKING

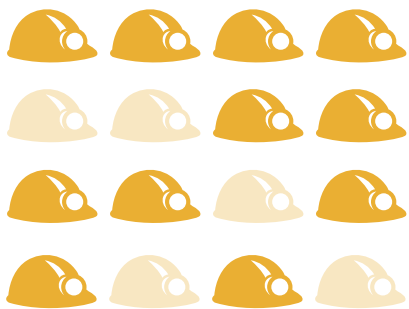


1

The mining industry is...

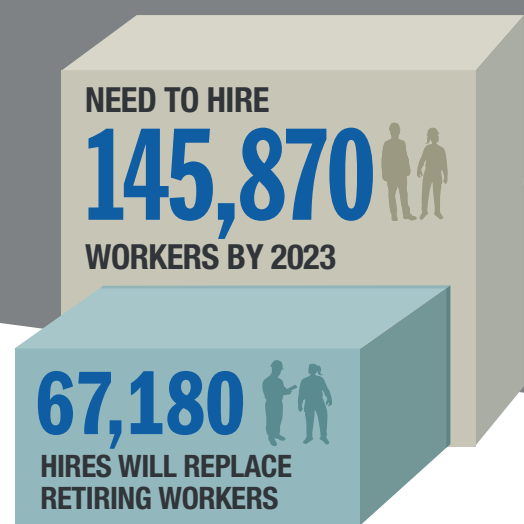


EMPLOYERS REACT TO
ECONOMIC CONDITIONS WITH
EMPLOYMENT ADJUSTMENTS



2

But we know that our mining industry
needs to build a long-term workforce



THINGS ARE CHANGING!

53% OF MINING HR MANAGERS
MENTIONED RETENTION AND
DEVELOPMENT
AS A KEY PRIORITY DURING
ECONOMIC DOWNTURN

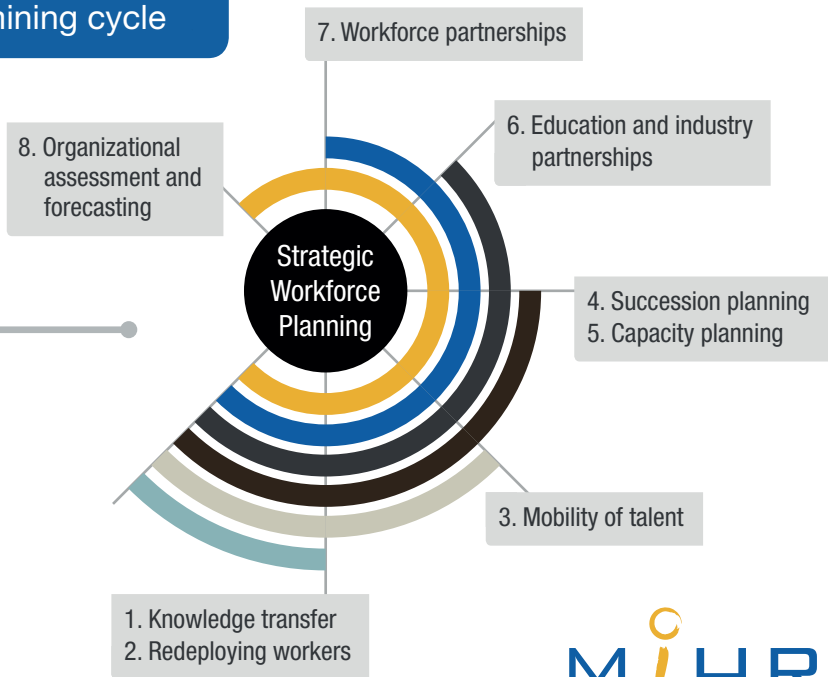


3

Strategic Workforce Planning is a proactive tool that
enables HR practioners to build long-term strategies
that manage the workforce through the mining cycle

BY CONNECTING HR STRATEGY AND
PRACTICES TO BUSINESS STRATEGY,
STRATEGIC WORKFORCE PLANNING
ENSURES THAT CANADIAN MINING
COMPANIES HAVE:

- > THE **RIGHT PEOPLE**
- > IN THE **RIGHT PLACE**
- > AT THE **RIGHT TIME**
- > AT THE **RIGHT COST**



Strategic Workforce Planning

People strategies are top-of-mind for business leaders in mining and are part of sound business strategies. Demographic shifts in the Canadian labour market have resulted in skills and labour shortages that threaten business potential and growth. In mining, these trends are compounded by economic cycles, volatility and an aging workforce. Increasingly, mining companies are shifting towards strategic human resources (HR) management, workforce planning, workforce optimization and HR analytics.

Workforce planning in mining is evolving from short-term, needs-based staffing and recruitment planning into an integrated, strategic function that enables organizations to mitigate business risks. By measuring workforce characteristics and forecasting needs, strategic workforce planning has helped organizations to proactively invest in the retention and development of their workforce, in efforts to offset skills gaps. This ensures the right knowledge, skills and abilities are in place at the right time to meet overall business objectives.

Strategic workforce planning can be designed to soften the impacts that the economic cycle and fluctuating commodity prices have on the industry's labour force. It allows for more effective and efficient use of workers and for workforce management decisions that meet both immediate and long-term needs. Advanced workforce analytics are designed to help industry predict what type of economic obstacles lie around the corner and proactively plan workforce needs over a longer time horizon.

The Canadian mining sector is comprised of a wide variety of organizations — from small companies with flat corporate structures and lean operations, to large multinational organizations with complex organizational designs and extensive resources. Despite differences in structure, all organizations in the mining industry are competing for the same skilled labour. This competition among employers can be expensive and often, only shuffles talent already employed in the industry. To address long-term issues, a coordinated industry approach to workforce planning is essential for attracting and retaining critical talent.

This report illustrates the need for timely, integrated and collaborative workforce planning in Canadian mining, to allow the industry to smooth out employment trends during booms and busts. Workforce management strategies used during various phases of the economic cycle are identified and explained, using a construct of practical short-, medium-and long-term strategies. Eight case studies were developed to give an overall view about the practices used in strategic workforce planning — so that peers in the industry can review and consider the strategies in their own planning. These case studies also illustrate a compendium of tools and resources used by workforce planners. The report concludes with an industry call to action for collaborative workforce planning strategies.

The Cyclical Mining Industry

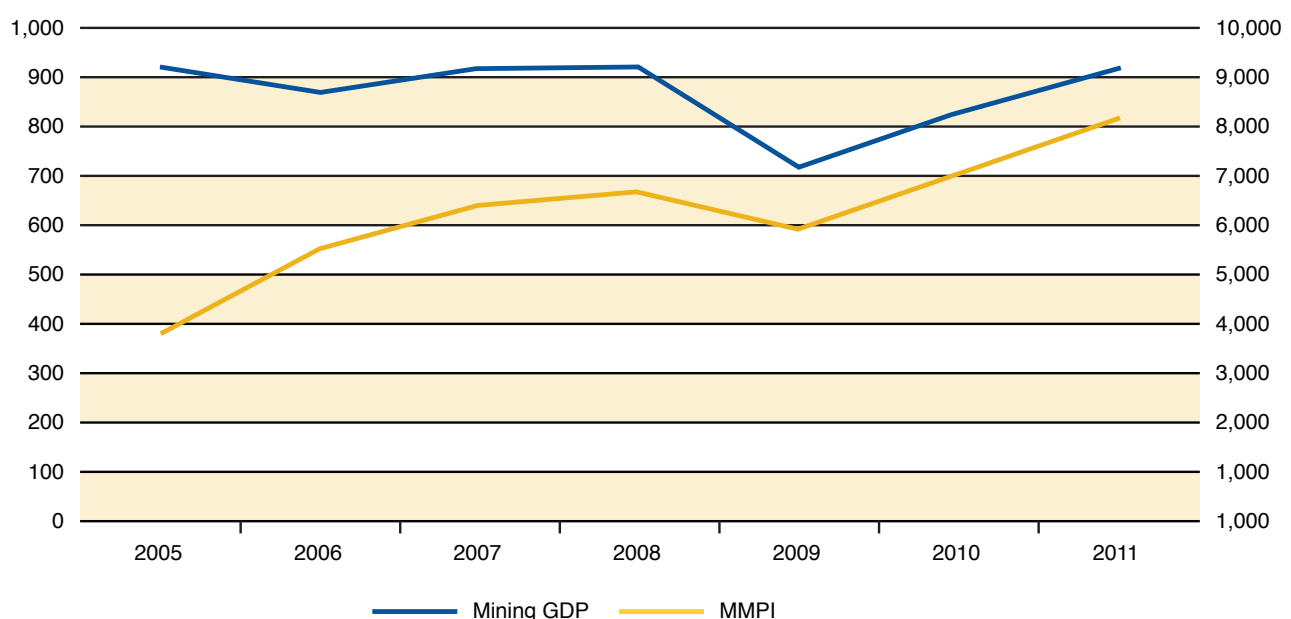
The Canadian mining industry is a pillar of the Canadian economy, employing nearly 235,000 workers in exploration and development, mining and quarrying, support services for mining, and mineral processing. However, labour and skill shortages pose a considerable threat to the sustainability and growth of the sector. According to MiHR's 2013 national mining labour market outlook, more than 145,000 workers will be needed by 2023 to fill new positions and replace workers leaving the industry.

Economic Cycles Explained

In a market-based economy, economic cycles are an inherent reality, and mining is both a cyclical and capital-intensive industry. Typically, periods of high growth result in increases in net employment, and during a recession or economic downturn, employment losses ensue. Economic growth and new development are major factors in determining demand for commodities in the international market. In recent years, countries such as China, Brazil and India have undergone periods of high economic growth that have resulted in a high demand for commodities. This international demand for commodities often results in higher prices, followed by high output, inducing a cyclical pattern in the industry. A decline in demand for commodities often results in a decrease in price and total output — resulting in job losses within the industry.

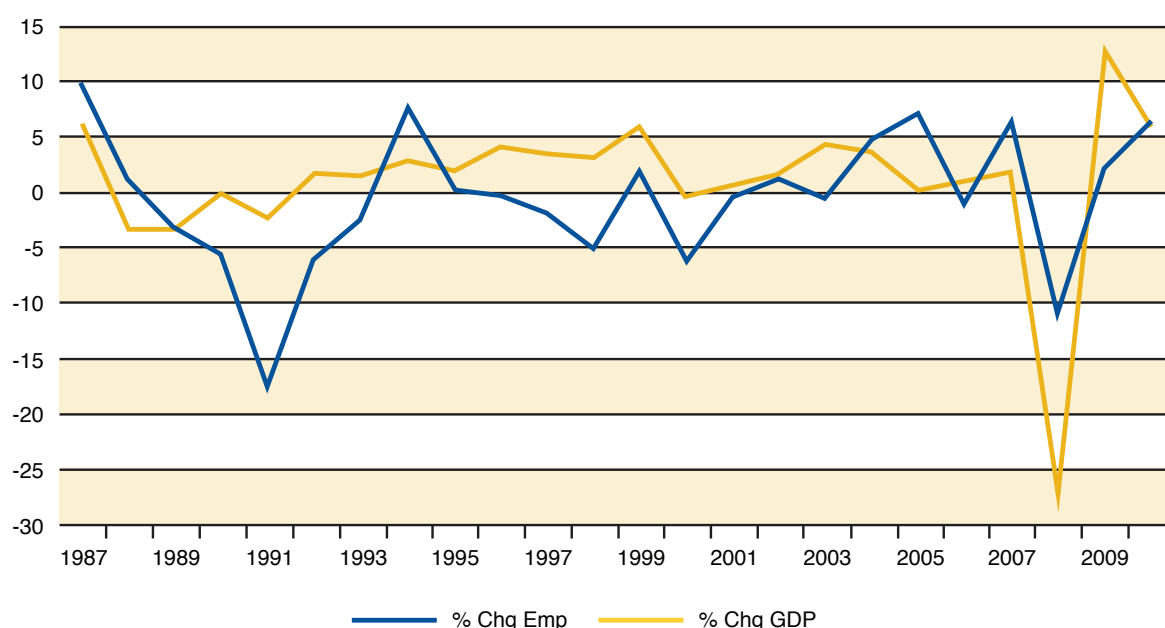
There is a strong correlation between economic cycles and employment in Canadian mining. Volatility in commodity prices creates a cyclical pattern of employment in the industry. Research at MiHR has shown that industry employment levels are sensitive to economic fluctuations, which in turn are strongly affected by commodity prices.

Figure 1: Metals and Minerals Price Index and Gross Domestic Product



Source: Mining Industry Human Resources Council, 2013; Statistics Canada, 2011; Bank of Canada, 2012

Figure 2: Gross Domestic Product and Employment in the Canadian Mining Industry (1987-2010)



Source: Mining Industry Human Resources Council, 2013; Statistics Canada

Employment in Canadian mining is volatile, making long-term workforce planning a particular challenge. Coupled with market volatility, the industry faces several labour market challenges that highlight an increasingly acute labour and skills shortage. The main labour challenges for the sector are an aging workforce and a lack of diversity – specifically an under-representation of women, Aboriginal Peoples, youth and new Canadians. Most of mining’s projected hiring requirements stem from the need to replace retiring workers and other workers leaving the sector. Employment volatility, along with the lack of workforce diversity and an aging workforce, exacerbates the projected skills gaps.

In mining, workforce planning generally aims to maximize production and minimize costs in response to immediate pressures. Workforce plans, therefore, take an operational perspective, rather than a strategic HR management perspective. In order to soften the impact of economic cycles on industry employment and to meet future labour needs, the industry needs to develop counter-cyclical workforce planning strategies.

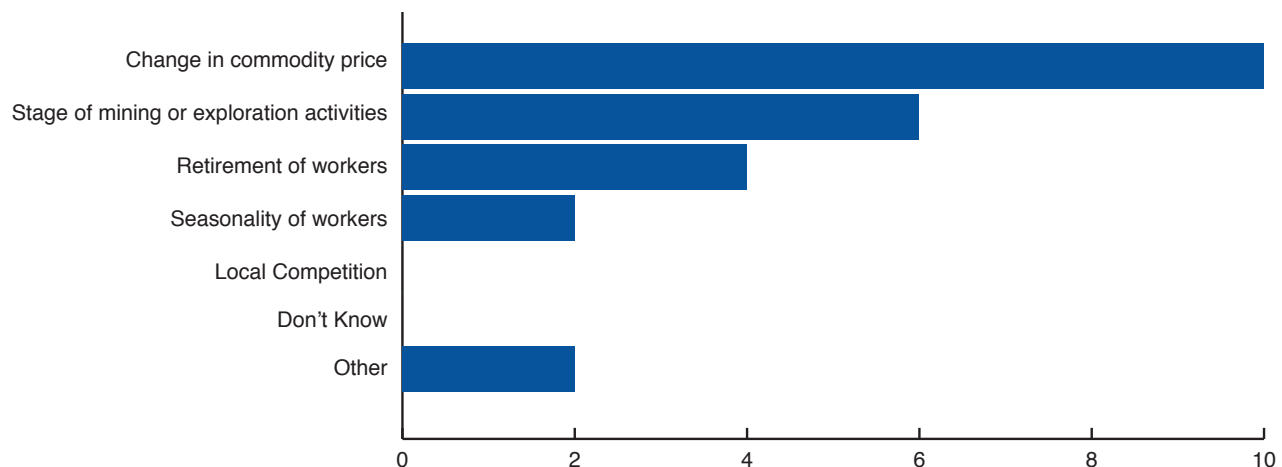
Workforce Planning in the Canadian Mining Industry

Workforce planners and human resources (HR) managers in the mining industry traditionally operate under short-term planning horizons (usually less than two years) — a practice driven mainly by the cyclical nature of the industry and the need to remain nimble in making workforce adjustments in response to changing economic conditions. However, in recent years, the industry's workforce planners have been developing and implementing more proactive long-term strategies.

The purpose of this research was to examine these strategies and provide a framework for peer organizations to develop their own practices. As a part of this research, MiHR administered a survey to industry stakeholders — focusing on strategic workforce planning and the impact of economic variability on their planning horizons. Seventy six percent of the survey participants cited commodity prices as the main reason for the variation in employment.

MiHR's survey of industry stakeholders also found that most companies do not have a coordinated workforce planning program to anticipate economic cycles — but they do react to changes in the economy. Participants stated that, on average, these reactions result in a 25 per cent change in the workforce, with increases during boom cycles and decreases during bust cycles.

Figure 3: Factors Driving Workforce Adjustment

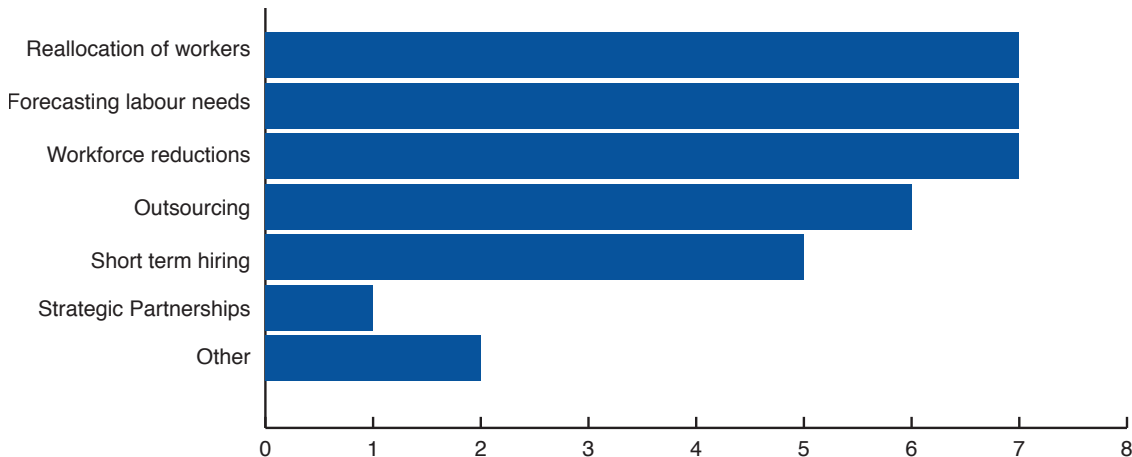


Source: MiHR Workforce Planning Survey, 2012.

Workforce planners in mining organizations use different strategies to counter the effects of the economic cycle. MiHR's survey respondents indicated that reallocation of workers; forecasting and anticipating labour needs; and workforce adjustments were the top-three strategies used by their organizations. However, some respondents also described using outsourcing or contracting; short-term hiring; and strategic partnerships to meet their needs.

Workforce planners in the industry traditionally adopt strategies that are linked with specific stages of the economic cycle. During economic slowdown, planners emphasize reallocating of workers, reducing shifts, reducing the workforce and outsourcing the work — whereas during booms, companies emphasize retaining and developing employees to increase productivity.

Figure 4: Strategies Used by Companies during Downturns in Economic Cycles



Source: MiHR Workforce Planning Survey, 2012.

Efforts to extend planning horizons and implement longer-term strategies are carefully balanced with business realities. For example, during a downturn, business priorities shift, and HR departments must align with and support cost-saving measures. Survey participants indicated that industry is gaining a broader understanding of the labour shortages it will face. As a result, approaches to cost savings are changing. Fifty three percent of the survey participants noted that retention and development are now key priorities during downturns — a strategy once seen as counter to cost-savings in the short term is now seen as part of a longer-term solution.

Talent management, workforce planning and aligning HR goals to corporate targets are essential for maintaining competitive advantage in a market with a contracting labour pool. Workforce planning is a continuous process and HR departments are increasingly involved in organizational strategy. Mining companies are integrating, redesigning and implementing new strategies to better manage their talent to balance short-term needs with long-term pressures.

How is Workforce Planning Implemented?

There are numerous ways to implement workforce planning in an organization. It generally involves analysis of the current and future goals of the company; the work needed to reach those goals; the competencies of the workforce that will be needed to accomplish the work; and development of a plan for building the workforce to ensure organizational success. Proactive planning in a cyclical industry also involves extended planning horizons and puts the current state of the organization in the context of long-term goals.

Numerous models and techniques are available to assist organizations in the execution of a strategic workforce plan. Most models are based on managing the current stock of talent and using a suite of analytic tools to determine the optimal allocation of labour required to meet current and future business goals. Some techniques make use of sophisticated software while others focus on short-term logistical planning. However, as shown by findings from other industry sectors and the international mining community, most organizations do not implement complicated approaches or processes for workforce planning. In most cases, the mechanisms used to make business decisions are also effective for HR decision making; for example, the business techniques used in aligning strategies and linking goals; optimizing risk and return; market analysis and consumer research; performance optimization; and portfolio diversification are all techniques highly applicable to workforce planning and HR management¹.

Many organizations have developed their own tailor-made workforce strategies to address specific goals. The primary approach accentuates the value of adapting proven business tools, also known as metrics, to manage talent in HR. One particularly valuable model is the “performance-based technique” in talent management. This approach defines the performance-optimizing capabilities of tested business tools, such as Kano Analysis, risk-return analysis and constraint analysis. Implementing these pre-developed concepts into HR planning will enhance the return on improved performance (ROIP) in the workforce.

Strategic workforce planning is a systematic process that identifies, builds and sustains workforce and skills requirements to ensure that business or operational goals are met. Forming an effective and responsive workforce plan involves careful analysis of metrics to track progress and manage people requirements to align with business outcomes. In mining, it also involves predicting changing economic conditions and remaining nimble and responsive to these changes. Similar to other business



processes, workforce planning can be implemented using different models and techniques. However, the basic structure of the strategy is similar across organizations. As illustrated in Figure 5, workforce planners align operational goals with workforce needs; collect and analyze workforce data and metrics; identify and collect data on operational needs; identify current and future workforce and skills needs to achieve goals; identify gaps between current and future talent requirements; and create relevant and responsive strategies for attracting, recruiting, retaining and developing the organization’s workforce.

¹ For an excellent discussion on business tools in the context of HR management, see John Boudreau’s “Retooling HR: Using Proven Business Tools to Make Better Decisions About Talent”, Harvard Business School Publishing, 2010.

Figure 5: Illustration of a Strategic Workforce Planning Cycle



Source: Mining Industry Human Resources Council, 2013

Strategic Workforce Planning — in Action

The mining industry in Canada is actively engaged in a variety of workforce planning strategies. The case studies in this report illustrate how various organizations have implemented workforce planning initiatives and tools. Resource allocation and time horizons play a crucial role in the success of a workforce strategy. Some tools are more useful for a short-term correction; others are more helpful over a long-term planning horizon.

Many of the tools and strategies referenced in the case studies have implications for both short- and long-term planning of a mining organization's workforce. The highlighted initiatives and tools are characterized based on the length of time for an expected impact at the described organizations, and on the amount of time and resources required for implementing the strategies.

Strategic Workforce Planning connects HR strategy and practices to business strategy: ensuring a company has the right people in the right place at the right time and at the right cost to execute its business plans.

Short-term Strategies: These workforce planning tools and strategies have been implemented to have an impact on the immediate needs of an organization and are useful for mitigating a sudden short-term change in the labour market. Volatility in commodity prices can result in a change in demand; in turn, a decrease in demand affects production levels. Mining organizations are using tools such as redeployment of workers and coordinated vacations to soften the impact of these changes. These short-term strategies support not only organizations’ operational goals but are also helpful in retaining skills and talent.

Medium-term Strategies: These planning tools and strategies have been implemented to meet workforce planning needs in the one-month to one-year planning horizon. These strategies target pre-planned changes in the workforce. They are more focussed on building capacity in the organization’s workforce for responding to changes in the external economic environment. They include capacity-building by investing in training and education of the workforce, and succession planning for key skill sets, to retain competitive advantage.

Long-term Strategies: These workforce planning tools are implemented to meet workforce needs in a longer than two-year planning horizon. These strategies are more focussed on aligning long-term organizational goals with HR strategies. These include organizational assessments and forecasting, integrated planning, and developing long-term workforce partnerships.

Figure 2: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Workforce planning is a continuous, iterative and long-term process that complements other organizational goals and initiatives. Every organization has its own unique needs; therefore, there is no standard formula for success or a “golden-egg” workforce plan. However, the initiatives illustrated in this report provide a unique perspective on the landscape of workforce planning in Canadian mining, and offer mining industry employers an opportunity to learn from the examples of their peers when developing their own workforce plans.

1 Knowledge Transfer



Introduction

Knowledge transfer is an important workforce planning tool that mining companies can use to maintain and improve the quality and skill level of their workforce. Knowledge transfer programs are the systematic documentation, organization, creation, capture and distribution of knowledge to ensure its availability for future users. The loss of knowledge — whether from retiring employees or organizational downsizing — is a significant issue for many companies. In the technical and potentially hazardous environment of the mining industry, knowledge loss can be very detrimental to operations and risk management. Risk management is a primary concern of all companies in the mining industry, especially in relation to technology, the environment, and health and safety. Knowledge transfer, particularly related to risk management, can counter some of the drastic effects felt when economic cycles or demographic trends cause changes within the organization. This consequently improves safety, making it easier to identify key knowledge and skills and to track whether this knowledge is concretely embedded in the workforce.

ALL INFORMATION AND STATEMENTS IN THIS CASE ARE BASED ON A SERIES OF INTERVIEWS PERFORMED WITH EXPERTS IN THE MINING INDUSTRY COVERING THEIR EXPERIENCE IN CREATING AND UTILIZING WORKFORCE PLANNING TOOLS AND COUNTER-CYCLICAL STRATEGIES UNLESS OTHERWISE INDICATED.

Using knowledge transfer effectively can help companies plan to fill important senior positions through internal promotion using apprenticeship-style rotations — to ensure future leaders are fully equipped with a sound knowledge of the business across departments. Similarly, integrating knowledge transfer into every aspect of training, safety and maintenance can reduce the abrupt learning curve for employees in new positions and validate that key concepts are well understood. These programs aid companies to identify knowledge that is critical for operational excellence, safety and environmental compliance — and to build it into every level of the business from basic training upwards. These programs also help to shape future leaders — making knowledge transfer an integral component of executive succession programs. Mature knowledge transfer programs will regularly review and update program tools, to ensure they capture the current scope of each occupation or task, as well as up-to-date health and safety control measures. Programs should also have a method or schedule for re-verification and if necessary, retraining employees on critical operations or tasks.

Mining organizations can use knowledge transfer in conjunction with other workforce planning tools to create a workforce prepared for cyclical fluctuations. For example, a defined knowledge transfer program will become part of induction and basic training — ensuring that all employees have a concrete grasp of the knowledge required to perform their occupations safely. By standardizing the knowledge transfer process, companies can more easily track each worker's skills and coordinate training for employees on new tasks and processes — as need is identified through capacity or succession planning. Given the expected shortage of employees in the mining industry and the realities of aging workforce demographics, knowledge transfer programs are becoming a critical tool. These programs enable organizations to capture knowledge from retiring and other exiting workers — and then to transfer that knowledge to the current and future workforce. Knowledge transfer programs also help increase employee engagement and reduce safety incidents, as employees feel more accountable for processes learned through these programs.

Situations that cause companies to implement knowledge transfer programs are many and can include:

- Evidence that a significant portion of the workforce does not fully understand critical operations and/or processes or the reason for doing them
- Succession planning indicating a need to prepare employees (often younger ones) for the move into supervisory roles in which they require high-level knowledge of the functions of multiple departments
- Significant safety, environmental, regulatory or technological changes affecting operations and employee roles and responsibilities
- Repeated experience of knowledge loss in the transition of key roles

Knowledge transfer fits into the suite of workforce planning programs as a short-term tool, as shown in Figure 1.

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Knowledge transfer programs counter some of the challenges related to shifting demographics and an internally mobile workforce (commonly due to unionized employees' contractual rights to transfer). Building traceable documentation of workforce skills has proven to be a key success factor for many mining companies' workforce planning programs. Companies that have this documentation can better manage training and reviews, track skills in a highly mobile workforce and offer transparency to workers.



This study analysed the knowledge transfer program at Teck — Canada’s largest diversified natural resources company, with operations across North and South America. The case provides several key insights into how to capture the benefits of knowledge transfer, as well as how to overcome some key implementation challenges.

Overview of the Program and Process

At Teck, the knowledge transfer program was established by the Superintendent, Management Systems in the Operations Administration Department — at the request of Human Resources. The Operations Administration Department is responsible for overseeing a number of areas, including training in multiple departments, maintaining International Standards Organization (ISO) systems, document control and environmental-regulation compliance. Teck realized that its current method of training — which relied on providing information and checking a box to confirm the employee had been given this information — was no longer sufficient. The company recognized a need to validate learning by having employees demonstrate or explain each training component.

The program developed for the unionized workforce was based on creation of a tool called Verifiable Learner Objectives (VLOs). VLOs are essentially a checklist of key learner objectives for an occupation or process which focus on Hazards, Risks and Control Measures of Safety, Environment, Operational Control or General Knowledge, Equipment, Tools Use, Supporting Documents/Procedures and Record Keeping. An example of the concept and format can be seen in Figure 2.



Key aspects of the VLOs are:

- *Standardized Templates* — These templates keep the process focussed and replicable across varying operating environments and ensure that all bases are covered in the development of new VLOs.
- *Cover all Training Activities* — The VLOs are used by instructors as a training tool, by experienced operators for on-the-job training and even in some classroom training. VLOs are divided by function or business area, and a large or complex process may have more than one VLO associated with it. Some VLOs include tests and quizzes on certain learning aspects.
- *Clear and Measurable* — The objectives use the phrases “can explain” and “can demonstrate” for each step, task and process.
- *Simplicity and Organization* — The VLOs run consistently through the VLO document, which provides an overview with the key objectives, and validates and lists all of the more complex job aids, instructions and other elements required for each training — thereby helping the instructor to gather all necessary tools.

- **Build Accountability** — Both the employee and the instructor/trainer are required to sign off on each task on the list. A supervisor then signs off on the completed process VLO, to ensure the employee receives credit for completion. The importance of comprehension is impressed upon employees; they are encouraged not to sign but to ask for further information and explanation, if they do not feel they fully understand the task or step. This approach is building a culture of accountability in the new workforce.

Figure 2: Verifiable Learner Objective Template

| VERIFIABLE LEARNER OBJECTIVE | | | | |
|--|--------|--------|-----------------|------------------------|
| # and Title | | | | |
| Course # | | Area: | | |
| Name | | Empl # | | |
| Section 1 - Safety, Health and Hygiene Hazards/Risks | | | | Initial When Complete |
| | | | | Employee Instructor |
| Understands and can explain, the significant safety hazards/risks and associated control measures within job/activity: | | | | |
| Activity (or Task within job where hazard/risk is most prevalent) | Hazard | Risk | Control Measure | |
| | | | | |
| | | | | |
| Section 2 – Environmental Hazards/Risks | | | | |
| Understands and can explain, the significant safety hazards/risks and associated control measures within job/activity: | | | | |
| Activity | Hazard | Risk | Control Measure | |
| | | | | |
| | | | | |

Source: Based on information provided by research participants to KPMG, 2013.

The VLOs were developed with the help of an expert consultant who suggested that “*Telling isn’t training*” — to express the importance of employees being able to demonstrate their understanding of the objectives at every stage. In the beginning of the program’s development, a few VLOs were created without an official standardized format, to pilot the idea. Today, there are over 400 standard format VLOs. The guidelines that led to successful VLO creation were:

- Keep the document as a checklist of key knowledge and capabilities, and avoid duplication of process. Find an efficient and widely applicable template to allow for ease of use and updating across all areas.
- Each VLO is reviewed by the Superintendent, Management Systems and the staff members that report to the Superintendent.
- Any new ideas or needs are incorporated into new and existing VLOs in a timely manner.

A software system for tracking both the VLOs and employees' knowledge certification has played a significant role in the success of the knowledge transfer program at Teck. The high mobility of the unionized workforce (stemming from a right to transfer jobs, in the collective agreement) creates challenges with capturing the capabilities attained and required by each employee in a process-intensive environment. Teck's software system keeps a record of all VLOs completed or credited to each employee — allowing electronic segmentation and reporting to paint a clear picture of the workforce, in real time. The system also tracks the VLOs themselves, prompting regular reviews of each one, every three years. It also flags VLOs that are linked to processes that have undergone a significant change.



Teck took a similar approach to prepare employees to step into supervisor positions. The company developed the Shift Leader Development Program, which uses Learner Outcomes. Learner Outcomes use a similar checklist and format to that of the VLOs, to support apprentice or rotational-type sessions through key departments, such as Safety and Health, Environment, Reliability, Maintenance and Production Facilities. The main difference is that while VLOs have very specific objectives, Learner Outcomes are more focussed on a high-level understanding of what is involved in each department and process.

The rotation in each department has a specified duration, designated target group, pre-requisites, recommended supporting courses and a mentor-type relationship. Each rotation covers Learner Outcomes in categories such as:

- Risk Assessment
- Incident Investigations and Follow Up
- Reporting Systems
- Project Management Safety
- Managing Ergonomic Requirements
- Safety Meetings
- Provincial Workers Safety Regulations
- Critical Parts
- Health Protection Program

The mentor in each department initials each activity once it is completed with the trainee. At the end of the rotation, the trainee has a feedback session with the Business Area Superintendent to discuss the completed Learner Outcomes. The Superintendent validates that the trainee has learned all of the concepts by signing off on completed modules. An evaluation of the program and the trainee's performance is also completed at this meeting and any concerns from either side are discussed; the evaluation is then filed through the Development Coordinator.

Expected Impact

The primary goal of the knowledge transfer program at Teck is company-wide standardization of knowledge and compliance. Some of the impacts wholly or partially attributed to the implementation of VLOs have been:

- *Reduced Number of Safety Incidents* — The company reduced the number of safety incidents occurring on site, as well as reducing major disruptions to operations and product non-conformity.
- *Culture of Accountability* — This was achieved through the sign-off process, which has led both learners and instructors to take training more seriously. Employees have a greater appreciation of the business perspective and the critical need to demonstrate the results of training. New workers have found the training records particularly rewarding, as they provide a visual representation of everything they have learned.
- *Testing the System* — The use of scheduled tests allows the company to verify knowledge retention and identify areas that need requalification. The VLO is used to retest the items on the checklist; for many processes, a test is sufficient to verify that the employee has retained knowledge of a process that has not undergone major changes. This approach is more cost-efficient than requalification.
- *Identification of Need to Revisit Standard Operating Procedures (SOPs)* — Creation of the VLOs showed the company that the desire to streamline SOPs had led to loss of the reasoning behind some processes. The “why” of a process usually stems from best practices, cost or other standard measures and metrics, but understanding the original rationale can be critical to employees retaining the process — rather than developing other habits. By revisiting SOPs and training materials to include the “why,” the company hopes to provide information that will compel people to change their habits and retain the prescribed processes.
- *Track the Knowledge* — Implementation of software tracking for the VLOs and employees has allowed the company to manipulate this data to access real-time information on the knowledge, capabilities and training of their workforce. This permits enhanced planning, preparation or administration of a highly mobile workforce, and better identification of areas of concern.
- *Networking* — This has been achieved through creation of Learning Outcomes and the rotational format of the Shift Leader Development Program, which allows soon-to-be supervisors to meet key people in the organization and begin to develop their networks.

Implementation and Dissemination

Teck’s knowledge transfer program was developed at one site — using some outside expertise, but mostly relying on existing training materials, job aids and instructions. From this material, the company extracted key objectives and captured them in the VLOs, thus optimizing use of existing documentation. The objective was to create a tool that clearly organized these materials and shifted the focus from simply *telling* the trainee what to do, to ensuring that the trainee could *demonstrate* or *explain* what they needed to do for each process.

VLOs were developed gradually and as the number increased (there are over 400 VLOs today), critical needs for enhancements were identified and implemented — for example, the requirement for a standardized template. The regular review of VLOs has also been a key to success. These reviews ensure that new employees are trained with the most up-to-date information, as well as identifying all employees that will need to be informed when a process does change.

The program has gained recognition across the mining sector and other operators have expressed interest in developing similar knowledge transfer programs — as many mining industry employers face comparable challenges with knowledge preservation and workforce renewal.



Key Challenges and Lessons Learned

The principal challenge the company faced was the attitude of some senior employees, who were reluctant to sign the VLOs for fear of being held accountable should a problem occur. Company leaders explained to employees that in reality, they had always been accountable and that without verification of their knowledge of how to perform their duties safely, they would not be allowed to perform their job. By approaching this as a frank conversation about the business imperative — rather than threatening discipline — the company was able to help employees recognize the need for this type of intervention and the value in it.

It is important to note that this program was developed over time and evolved with experience. The ongoing creation and update of the VLOs is a process of continuous improvement, and requires the collaboration of a large number of stakeholders and dedicated resources.

Key Resources

Key resources that can have a major impact on the successful development and implementation of a knowledge transfer program include:

- *Key Knowledge Workers* — It is important to utilize the expertise/skills of those employees who hold a wealth of knowledge in specific domains, by having them review and validate training materials, as well as extract the learning objectives that are critical to safe and efficient execution of each process. These individuals will be key leaders in the initial implementation — providing training for instructors and acting as on-the-job trainers.
- *Leading Practices* — The practices used in developing and updating VLOs can also be used to inform employees on the rationale behind processes.
- *Electronic Tracking* — Given the volume of processes and employees at any given site, many companies will significantly benefit from the automation that can be achieved with an electronic system.

- *An Organized Repository for Materials* — Holding materials in a centralized location provides instructors with a guide or checklist for materials required for each training. Having an accessible repository for job aids, instructions and training tools will increase efficiency and decrease the likelihood that items will be missing when needed.
- *Access to Supporting Personnel and Specialists* — Personnel are available to help address any uncertainties and help integrate the process by leading workshops, attending sessions and driving analytics.

Summary

Knowledge transfer programs can help mining companies address many challenges associated with a cyclical industry. These programs help organizations to preserve the knowledge of exiting and transferring workers, thus reducing knowledge loss during downturns in the industry. This knowledge can then be transferred to new or returning employees, as the workforce is renewed. Knowledge transfer programs benefit workers by enhancing their knowledge of specific jobs, while also assisting organizations on a broader scale — as learning outcomes on safety and environmental responsibility get integrated into all aspects of the business.

Knowledge transfer programs can complement and support other counter-cyclical workforce planning tools, such as capacity and succession planning — by creating a catalogue of existing skills within the workforce and a tool to quickly train employees with standardized knowledge to fill gaps in the workforce. The clarity of knowledge transfer programs, such as the VLO and Shift Leader Development Program at Teck, gives less experienced employees easy-to-follow documentation to aid their development and performance, as they are promoted to high-responsibility positions due to retirements or downturns. The program's electronic component supports real-time tracking of each employee's skills. The software also has an automated maintenance system for verifying, validating and updating program components as required by changes in company processes.

As the mining industry continues to see marked levels of retirement in the coming decade, it is clear that knowledge transfer programs will be an essential tool in successful workforce planning.

2 Worker Redeployment



Introduction

Redeploying workers is a critical workforce planning tool that mining companies with multiple operations can use to build strategies for managing fluctuations in both economic and production cycles. At an organizational level, workforce needs evolve with changes to company structure or slowdowns at the end of a mine's life. In addition, mining is sensitive to shifts in the broader economy and these shifts greatly affect workforce forecasts. During an economic downturn, organizations must streamline their workforces — and during upswings, organizations race to increase their workforce to capitalize on growth opportunities. Through redeployment, mining companies can offer employees relevant employment opportunities at specific locations — based on current and forecasted workforce needs.

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When this strategy is used, the company typically supports the employee to some degree in the transfer and relocation. The companies interviewed for this report highlight a number of benefits associated with moving employees to different locations to fill job vacancies. Redeployment helps improve the effectiveness of succession planning and knowledge transfer. It also reduces external hiring costs; improves access to resources for ramping up or down production; and allows organizations to retain knowledgeable skilled workers. When mines close, many companies



instinctively turn to immediate layoffs to reduce operating expenditures — but redeployment can be a valuable alternative. In addition to the labour and skills benefits previously described, this strategy also lessens the impact of mine closures on local communities, minimizes morale problems and builds loyalty within the workforce.

Redeployment is also widely used to develop employees moving into key positions that require in-depth and/or broad knowledge. Examples include managers of multiple operations, operational specialists and employees on the executive track. It is common for companies in various industries, including mining, to require managers to work at more than one production site, so they understand the complexities of multiple operations. This approach allows a company to reduce requirements for Subject Matter Experts (SMEs) — employees specializing in a particular topic, area or process. These experts are often the hardest and most expensive staff to recruit. Building redeployment into the career path of key positions, notably those that require knowledge across multiple operations, can help companies increase the use of mobility and decrease employees' resistance to relocation, as the concept becomes more familiar.

Relocating workers is a complex process and many factors influence an employee's willingness to move. The companies interviewed for this report identified the following primary factors:

- *Age and Family Situation* — Age and family situation are closely linked. Companies find that as workers age, their willingness to move significantly declines. Family considerations can create further barriers to worker relocation, with the need to consider spousal employment, new housing, new schools and other community and family resources.
- *Job Type and the External Labour Market* — Employers interviewed for this case study discussed the factors they believe affect workers' willingness to relocate, as well as their own views on redeployment as a viable strategy. From the workers' perspective, interviewees identified a number of key factors, including: how "in demand" the new position is; expectations of mobility within their current role; and the types of career opportunities available at other sites. The employers interviewed generally believed that "job type" is a major factor in a company's ability to redeploy workers. Some skills are more transferrable, more in demand and more specialized — and the nature of the relevant skills will often dictate whether redeployment is an option or if the company will simply recruit locally for positions. The labour market also has a major impact on how a company



uses redeployment. For example, a company will likely redeploy engineering and other skilled professionals that are difficult to find — but not general trades people, such as drillers or mechanics. As the labour market becomes more constricted, however, all certified labour is becoming increasingly scarce. In cases of a mine closure — such as Xstrata Zinc's May 2013 closure of its Brunswick zinc/lead mine — it is becoming more common for employers to support inter-provincial or international certification for their certified

mining and processing employees, -so they can be eligible to apply for comparable positions at other sites. Additionally, some job types require individuals to work across multiple operations, which can help encourage redeployment. For example, engineers at Goldcorp must work at three or four types of mining operations (shaft mining vs. surface mining vs. others) to be eligible for a senior engineering position at the company.

- *Opportunity* — Interviews suggest that a worker's willingness to move is heavily influenced by the opportunities offered at the new site. Generally, an employee has a greater incentive to relocate when the new position provides a promotion, a clear career-track advancement and/or increased responsibility. A higher salary and benefits are important enticements as well — and employees are also attracted to relocation opportunities that are closely tied to succession planning. Identifying workers at different locations as potential successors to more senior employees across multiple operations allows companies to broaden their redeployment strategies. Of course, the situation is different in the case of site closure, especially in a small or remote community — given that the opportunity of continued employment in the employee's field is slim to none without redeployment.

- *Location* — Interviews suggest that a new site's location also contributes to a worker's willingness to move. A worker considering a new location relative to their current location assesses a number of attributes; these may include accommodation, community services, access to major cities, proximity to home, weather, cost-of-living and reputation. Some mining companies have struggled to relocate workers to operations in isolated, rural communities and in areas with severe weather. In such cases, companies can encourage more employees to move by properly advertising the location of redeployment — using testimonials from current inhabitants and others who have moved, for example — and by providing opportunities for site visits.

Redeployment is a shorter-term complement to many other workforce planning initiatives. It can help companies retain workers as operations scale back production and as capital projects are completed — or to leverage expertise from previous projects on new ones. Certainly, companies need to consider the costs associated with redeployment. Vale — a company that uses redeployment frequently in its workforce planning program — maintains that mining companies often overstate the costs of physically relocating employees (e.g., pre-decision site visits, accommodation search support, moving expenses, cost-of-living adjustments or hardship pay and spousal career-counselling) and should more frequently consider redeployment as a planning strategy.

Vale, Goldcorp, BHP and Xstrata, were interviewed as part of this case study. Situations that cause companies to turn to tools such as redeployment to address workforce challenges are varied and may include:

- *Operational Shut-downs* — If operations need to be shut down due to economic conditions, companies use redeployment as a way to retain employees through a downturn, thereby reducing hiring costs when the economy turns around.
- *Ramp-downs* — As operations scale back over the life-of-mine plan or as capital projects are completed, companies use redeployment as a way to reduce headcount; staff new projects and operations; retain high performing workers; reduce the need to recruit externally; and reduce the negative impact of massive job loss in a community.
- *Role-based Needs* — There is a shortage of workers in certain roles in the labour force, making redeployment one of the best ways to ensure a company has a strong supply of talent to fill these roles (e.g., engineers and other professional staff and finance professionals).
- *Development-based Needs* — As individuals progress in their careers, they might be required to have multi-site experience so they can move into more senior roles (e.g., executives at headquarters, engineers and general managers).



Implementing a redeployment process is an important part of building a strategic workforce planning program. Redeployment can be most effective when integrated with a comprehensive planning program that can identify individuals and potential vacancies, and optimize strategic use of personnel. Although interviews suggest that redeployment can support long-term skills and workforce-capacity development, it can be used as a reactive, stand-alone tool for mining companies facing a workforce surplus or deficit. In this report, worker redeployment is categorized as a short-term tool in the workforce planning portfolio of Figure 1:

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

This case study profiles the use of redeployment by several global mining companies with multiple operations. It offers a number of examples to help mining companies understand the impact of redeployment and how to overcome some of the key challenges that arise when redeploying workers.

Overview of the Program and Process

The companies interviewed have all historically used redeployment in reaction to vacancies, the need for a particular skill set at another site, or to cope with a mine closure. A worker might be eligible for redeployment if a project or operation is scaling back or if they want to move into a more senior position; however, these objectives were never integrated into the companies' formal planning processes. As workforce planning programs have developed at these companies, redeployment has emerged as a vehicle to achieve the primary goal of workforce planning in general — “placing the right individual, in the right place, at the right time.”

To develop a comprehensive approach to redeployment, mining companies first must ensure that redeployment is considered in succession planning, so that it is perceived and used as part of regular operations. If succession opportunities are not considered across operations, redeployment will only be used as a last resort. “Reactive” redeployment tends to be in response to significant — and sometimes unforeseen—labour and skill gaps, for example, when a critical job cannot be filled at one operation or as a desperate measure to retain top talent in a sudden downturn. Redeployment in this urgent context may frame it as a negative response to a business crisis — causing companies to miss out on the full potential of the tool as an employee-development opportunity. Ideally, strategic use of redeployment is handled by a more centralized HR group —for a region or for the entire company — so that opportunities are visible across multiple operations.

Once redeployment is integrated into succession planning, each employee's "willingness to move" should be documented in a centralized records system. This is best done in a human-capital management system; if an appropriate system is not available, HR representatives can gather the relevant information from project managers and create a central record-keeping system. The most effective way to capture "willingness to move" information is from each employee, building on an existing process such as performance reviews, to ensure compliance. Additionally, companies can use a centralized records system to capture other indicators, such as requests for transfers and secondment opportunities.

The typical process for transferring an employee is as follows:

- *A Need is Identified* — This can be from an internal job posting or from HR identifying a potential gap in the workforce when undertaking succession or capacity planning.
- *Candidates are Identified* — Potential candidates may be identified through succession planning, in response to job postings or among employees affected by a slow-down in their work program— then, they are evaluated to select qualified candidates for different job opportunities.
- *General Manager/Supervisor is Consulted* — The employee's current supervisor and HR discuss the opportunity and the individual to further assess the employee's qualifications and willingness to relocate and to determine whether a specific local opportunity would be a better fit for this employee.
- *HR Meets with the Employee* — HR conducts a sit-down interview with the employee to discuss the opportunity, determine their interest in the new role and location, and to continue to evaluate the employee's suitability for the new position. A decision is generally made at this stage on whether to make a formal offer.
- *Site Visit and Transition Support* — Employees and family members may be taken for a site visit to learn more about the operations and the community. The company may offer services (some external) to help locate accommodation, provide employee and spousal career counselling, and support the acquisition of geographic skill-certification requirements.
- *Travel Arrangements and Costs Determined* — Moving expenses and other relocation costs are evaluated, typically with help from the local HR/attraction team. If relocation is temporary (such as fly-in/fly-out), then per diems and rental housing are considered.
- *Formal Training and Employee On-boarding* — If the employee is taking on a new role, the training and development team will ensure employees receive the appropriate training and mentorship.



These steps allow companies to react quickly to gaps that emerge, using banked information on employees' skills and interest in relocation. Using relocation to fill gaps identified in succession planning and production forecasting allows companies to capture the full- benefits of worker redeployment.

Redeployment in the case of a complete operations closure (e.g., the Xstrata mine closure) can provide some unique elements and opportunities, including:

- *Creation of a Labour Force Adjustment (LFA) Committee* — to assist with the coordination of activities relating to human resources required for the closure. The LFA Committee is composed of members from each interest group and can include company representatives, non-unionized representatives, union representatives and government representatives; it is also beneficial to include independent external resource. The LFA Committee has a mandate to support employees in a smooth adjustment process that addresses their needs, as well as those of the community. The committee also oversees sub-committees with specific responsibilities in such areas as needs assessment, evaluation, transition centre, lobbying for trades recognition, peer helpers, partnership and financial issues.
- *Partnering with Government* — For fund-matching to support employees in certification, up-skilling or education for their future goals and employability; and
 - To gain access to resources such as career and employment counsellors who can perform assessments and deliver tests, to help employees define career paths, identify education requirements for their chosen career, and hone skills in job searches and resume writing.
- *Partnering with Non-Governmental Bodies* — such as the MiHR Council to help create employees' portfolios of Prior Learning Assessments and Recognition (PLAR) to document competencies required for national certification through the Canadian Mining Certification Program (CMCP). Creating these portfolios requires on-the-job assessments and can include a number of collaborators, such as local colleges and certifying institutions.
- *Circulating Job Postings* — from other sites within the company, as well as sending lists of the numbers and types of certified employees to other sites.
- *Hosting Job Fairs* — as in the case of a job fair coordinated by Xstrata. The company's HR Department invited Xstrata companies from all over the world to come to the site of the mine that was scheduled to close. Employees were able to meet and share their resumes with global representatives over a 10- week period. Prior to the fair, HR circulated job postings from other operations and collected resumes from interested employees. The HR team also conducted a survey to gauge the level of employee interest in specific jobs and locations; this helped organizers determine the amount of time each operation would spend at the career fair. The event included opportunities for in-person interviews with employees who had previously applied for circulated job postings. Another fair — coordinated by HR and the Labour Force Adjustment Committee, and held in town — invited industry-relevant companies from across Canada. This more traditional three-day career fair was open to employees only on the first two days, while members of the public were also invited for the final day.

- *Hosting Information Sessions* – that recognize the concerns of a diverse workforce. These sessions can focus on various topics, including: the psychological impacts of job loss and stress management; financial planning for different stages of life; and insurance plans for post-retirement.

As with other aspects of workforce planning, the key to success in worker redeployment is advance planning, as everything from building cohesion within the LFA committee to government relations can take a significant amount of time. In addition, as long as the operations continue — even into shutdown — employees will be needed at work. This means that educational endeavours must take place outside working hours, often necessitating part-time enrolment and longer time-frames.



Expected Impact

The primary ways that companies are benefitting from redeployment are:

- *Increased Flexibility* — Redeployment is used to cushion the impact of economic slow-downs, while retaining workers; it allows employers to fill key workforce gaps using employees already committed to the company and familiar with certain processes.
- *Improved Succession* — Use of redeployment increases the number of candidates considered for job openings and promotions, improving the quality of the talent pool that is considered for a position, and not allowing promotion to be a function of location.
- *Better Development Opportunities* — Redeployment provides employees with access to new types of challenges and responsibilities at different locations, and exposing workers to different operating cultures, dynamics and conditions. It also offers opportunities for richer knowledge transfer, as redeployed workers bring new experience and knowledge that benefits employees already working at the site.
- *Reduced Turnover* — Redeploying people based on promotion or workforce needs helps companies generally retain employees for longer periods of time, and in particular, keeps more senior and skilled workers engaged in their work.
- *Reduced Hiring Costs* — Redeploying current employees into job vacancies reduces the need to recruit from outside the company. This, in turn, reduces the ramp-up time for new positions, which can range from 6- to 12 months for new employees.
- *Building Internal Capacity* — Employees with experience at multiple sites within one organization are in a stronger position to suggest process improvements and standardization, and to build beneficial relationships between operations. Stakeholders interviewed for this case study report that supervisors are often relocated for this reason — to bring new knowledge and leading practices to a different division or operation.

- *Shutdown with Minimal Layoffs* — In the lead-up to an operation shutdown, companies that support employees to find new positions, acquire training and higher-level certifications, or to prepare for retirement can minimize the need for employee layoffs, thereby reducing the impact on the community and stress on government programs.

Implementation and Dissemination

Implementing a formal redeployment process involves two key components:

- *Identify Key Roles and Positions* — It is important for employers to identify and publicize the specific roles in which redeployment is necessary for career progression. This transparency will help companies manage employee expectations and reduce the effort required to lobby employees to consider a transfer, and strategically develop employees for more senior roles
- *Link Redeployment to Other Workforce Planning Tools* — It is crucial to integrate redeployment strategies with other planning processes — particularly with succession planning. Capturing “willingness to move” in the employee record system will help HR identify candidates for relocation and will reduce the often lengthy transfer process. Capacity planning must also be closely tied to redeployment; this allows HR representatives to identify emerging workforce gaps and operations that will have a surplus of labour due to declining production levels. Projecting the supply and demand of labour within the company will facilitate development of redeployment opportunities.

Key Challenges and Lessons Learned

The companies interviewed on this topic have experienced significant challenges when redeploying workers to different operations. Common challenges have included:

- After lengthy negotiations and preparations deliberation, the identified employees would not be willing to transfer.
- Dual-career families are the most difficult to move, as it is often difficult to find comparable employment for a spouse in a new location.
- Older workers with families were nearly impossible to relocate, unless it was mandated in their job description.
- Employees had limited channels through which to express their willingness or desire to move; typically they could only do so in response to internal job postings.
- There was no clear process to identify redeployment opportunities and to facilitate the discussion with employees; most opportunities were ad-hoc and required immediate answers.
- There was no clear ownership or authority for redeployment decisions, which led to significant push back from supervisors if HR identified an employee for a transfer.
- Personal agendas of different factions of the LFA Committee at times hindered cooperation and slowed down or halted the Committee’s ability to move forward with planning or to make decisions.

- Other challenges were associated with keeping on top of requirements to post jobs around a geographically large site; coordinating a 10-week internal career fair; persuading external companies to commit to career fairs; and managing last-minute cancellations in fair participation.

Employers can mitigate these challenges by providing employees with clear avenues to express their willingness to move; using redeployment to help succession and capacity planning; and by having a realistic understanding of the timeline required for each initiative.

Key Resources

The primary resources supporting effective redeployment planning and execution include:

- *Data Capture Method/System* — Having a system that collects and maintains information on employees' willingness to relocate is an important way for companies to reduce the typical lengthy, back-and-forth conversations that can stall redeployment.
- *Developed Workforce Planning Tools (e.g., succession planning, capacity planning)* — Having established workforce planning processes allows redeployment to be treated as a practice, not a stand-alone program.
- *Internal HR Department* — Using HR as the central repository of information on redeployment opportunities and on employees available to relocate enhances redeployment planning.
- *Government and Non-Government Bodies* — Accessing external experts, frameworks and materials, programs and funding helps support employees in the transition to new opportunities and locations.
- *Job Counselling and Relocation Services Providers* — Using a career consultancy to coordinate logistics, identify options for family members (such as schools and housing), and monitor to ensure the family's "quality of life" is not reduced by the move helps smooth the employee's transition to a new location.

Summary

Redeployment of workers is a critical workforce planning tool for mining industry employers. Companies can use this tool in numerous ways — to address a job vacancy at another operation; to expand succession options for employees; and to aid in the ramp-down of operations due to a mine closure or economic slow-down.

Although there are many barriers to relocating workers, companies can address them, for example, by using relocation services to support employees and their families, and by developing a clear process for relocation. Some companies embed redeployment into the career path of positions that are difficult to fill, primarily professionals and subject matter experts.

By using redeployment to regulate the supply and demand of labour across their organization, mining companies can more easily address workforce planning issues. Although redeployment can be used as a stand-alone, short-term tool — and is often not well-integrated into other types of planning — its value as a long-term tool will only increase. As the mining workforce ages and talent becomes more difficult to source, redeployment will no doubt become a more important tool in the workforce planning programs of many mining companies.

3 Facilitating the Mobility of Talent



Introduction

Capitalizing on government worker mobility programs is an important workforce planning tool for mining companies seeking to counter the impacts of both economic and production cycles. Mining's inherent ties to specific geographic locations present challenges faced by very few other industries — a complete lack of choice in where to establish base operations. Because mineral deposits are frequently located in remote regions, often with extreme climates, extracting and processing ore bodies are complex undertakings from many perspectives — including in the areas of transportation and technology. Human resources, however, are often the most challenging aspect of all.

Mobility programs are often led by regional/provincial governments and supported by industry and labour groups, with the goal of attracting workers to a particular city, region or province. Unlike “natural migration” — in which people move into areas that are well-developed with high-income potential — the areas that benefit from government mobility programs tend to be remote and less developed, and the skills targeted tend to be more specific. This case study demonstrates that governments or non-governmental agencies can provide incentives and assistance to support employee relocation — but talent mobility remains a considerable challenge, especially when dealing with rural locations with extreme weather. As noted in a recent MiHR study entitled *Managing the Skills Shortage: Technology and the Canadian Miner*, technological advances are making it possible to develop mining operations in even more remote and challenging sites. Developing more permanent settlements in these locations may simply be impossible; therefore, it is critical for mining companies to increase access to a mobile group of workers.

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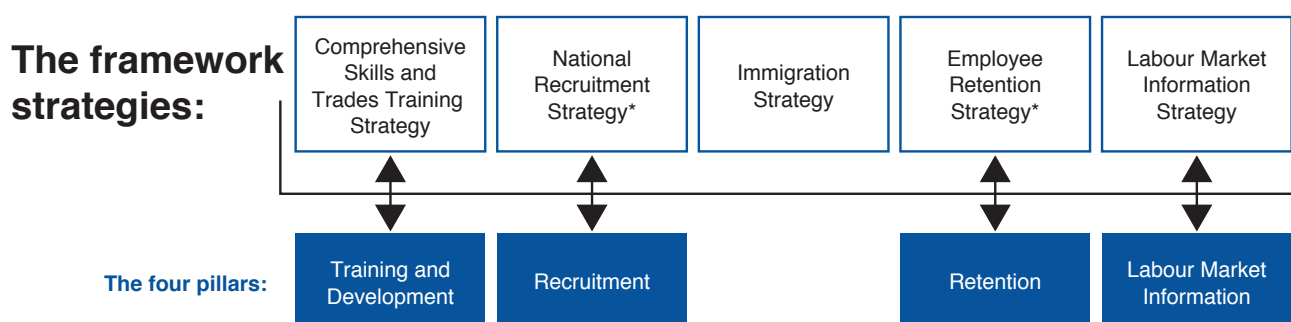


Both government and industry have a stake in building strong regional workforces. Governments benefit from increased taxes, improved employment statistics and a larger working population. The mining industry faces heavy competition for local talent, as the workforce ages across the country. Increasing available talent in certain regions will reduce (although not always eliminate) the need to overpay employees in certain roles, hire contractors, or use temporary workforce programs such as fly-in/fly-out. By bringing together major industry stakeholders, companies can work together to bring additional workers to mining regions.

One of the regions using mobility to improve companies' access to labour is Yukon, one of Canada's three northern territories. Stakeholders from Yukon were interviewed as part of this case study. In the last few years, the Yukon economy has taken on a new momentum. According to Statistics Canada, gross domestic product in Yukon in 2011 grew by 5.6%, compared to 2.6% overall in Canada. Fuelled by new exploration, this accelerated growth in the territory has created an increased demand for skilled labour. In 2008, the Government of Yukon, in partnership with a number of key labour market stakeholders, including mining companies, energy companies and labour representatives from First Nations and other groups, developed the Labour Market Framework. This program is designed to sustain growth in Yukon by filling current and anticipated future gaps in the labour market — by attracting workers with in-demand skills from across Canada and the world.

In October 2008, the Government of Yukon hosted a symposium and drafted five framework strategies² to support economic growth over the next 10 years (see Figure 1).

Figure 1: Yukon Labour Market Framework Strategies



**These are now combined into one strategy*

Source: Yukon Government, figure recreated by KPMG, 2013.

The strategies are inter-dependent to optimize results. Examples of how the strategies overlap include:

- Programs that enable immigrants to integrate into the labour force are also skills training initiatives that promote recruitment and retention; and
- Recruitment and retention require development of suitable training programs, which are designed according to the needs identified through labour market information.

The overarching purpose of the Labour Market Framework is to provide data to support the implementation of the five workforce strategies. The strategies contribute to mobility in different ways, from attracting workers to Yukon to improving learning and employment transitions. A large portion of the Labour Market Framework deals with employee retention. Using training and development to retain employees is an essential aspect of building a strong local workforce. In this case study, we focus on the main drivers of mobility, but also acknowledge some of the ways in which Yukon is striving to retain and build the workforce it has.

² <http://www.labourmarketframeworkyukon.com>

Mobility fits into the set of medium-term initiatives among workforce planning programs (see Figure 2). Mobility can support several long-term initiatives by helping employers meet many of the labour requirements identified through forecasting and integrated planning at an organizational level. Mobility can also support medium-term initiatives, such as succession planning, by providing a deeper pool of workers to fill vacancies in the workforce.

Figure 2: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Overview of the Labour Market Framework

The Labour Market Framework was developed using the following principles:

- *Adaptable* — responds to changes in the economy through innovation and flexibility
- *Inclusive* — embodies a holistic approach that considers the interests of individuals, workers and employers
- *Builds on strengths and successes* — recognizes the positive activities already underway in Yukon to attract, retain, educate and train people for the labour market, while remaining open to new ideas
- *Accountability* — focusses on results
- *Collaboration* — emphasizes partnerships

These principles guided development of the objectives and strategies within the five pillars of the framework. Identifying the key initiatives that drive mobility within each pillar provides a clear understanding of how a mobility-promoting program can be designed for other provinces or territories. The two areas that most directly facilitate mobility are recruitment and immigration.

Recruitment

Recruitment is a key lever for mobility. Attracting the right workers to relocate to the Yukon is the most important strategy for building a strong workforce. Yukon developed a National Recruitment Strategy that is supported by many of the other initiatives developed in the framework.

Some of the key challenges that Yukon faced in recruiting talent were:

- Competition with other jurisdictions for employees
- Attracting employees to rural communities
- Integrating under-represented workers, including women and minorities, into the labour force

To facilitate Yukon employers' ability to recruit suitable employees, the program outlines two key goals:

- Providing employers with the tools and information to assist with recruitment
- Employing students and specialized workers; creating entry-level positions, and hiring individuals from under-represented groups in the workforce to build an inclusive, skilled and responsive workforce

To support these goals and address challenges, six objectives were created — with associated implementation plans and tactics — to improve recruitment:

Figure 3: Yukon National Recruitment Strategy Objectives

| OBJECTIVE | RATIONALE | KEY OUTPUTS | EXPECTED RESULTS |
|--|--|---|--|
| 1. Increase awareness of Yukon as a desirable location to work and live | Recognizing the value Yukon has to offer potential workers in terms of location in or near a pristine wilderness, an outdoor lifestyle and higher wages. By promoting Yukon as a desirable place to work and live, it is expected more people will move to Yukon to help address the territory's labour shortages. | <ul style="list-style-type: none"> ● Marketing activity and national advertising campaign ● Online web-portal presence ● Recruitment job fairs and employment missions | Increased awareness, enquiries and recruitment of individuals who view Yukon as a desirable place to work and live |
| 2. Increase the rate of Yukon students returning to work in the Yukon after leaving for school | Yukon continues to lose graduates to other jurisdictions that provide incentives in areas such as training, assistance with student debt and career development. Securing the skills and talents of Yukon students is critical to addressing the labour market needs of Yukon employers. | <ul style="list-style-type: none"> ● Assessment and revision of tax incentive systems for returning students ● Programs that employ Yukon students | Increase the number of Yukon students returning to Yukon for employment |
| 3. Increase the recruitment of under-represented groups such as Aboriginal people, persons with disabilities, visible minorities, youth, older workers, Social Assistance recipients and women in trades | Increasing the employment of under-represented groups in the territory's workforce provides Yukon employers an opportunity to secure workers and develop an inclusive and diverse work environment. | <ul style="list-style-type: none"> ● Marketing activity increasing awareness of existing programs (e.g., wage subsidies) ● Policies regarding hiring under-represented groups ● Programs for targeted groups | Yukon workplaces are reflective of an inclusive and diverse workplace |

| OBJECTIVE | RATIONALE | KEY OUTPUTS | EXPECTED RESULTS |
|---|--|---|--|
| 4. Attract people to Yukon for specialized and hard-to-fill positions | Attracting a range of labour, from entry-level positions to specialized areas, trades and highly skilled labour, all of which are required to meet the demands of a strong economy. | <ul style="list-style-type: none"> ● Best practices discussions for using web-portals for jobs ● A developed practicum program ● Log of businesses willing to place students | Specialized and hard-to-fill jobs are filled more quickly |
| 5. Increase the employment of temporary casual workers | Temporary workers are a recognized flexible and multi-skilled labour resource that contributes to the Yukon workforce and its economy. For employers, temporary workers can become an asset during peak times or when there is a need to cover for temporary staff shortages. For workers, it can provide more flexible work arrangements and the opportunity to balance work with other activities. | <ul style="list-style-type: none"> ● Established list of temporary casual workers for various occupations | Casual and temporary workers are readily accessible |
| 6. Improve Yukon employers' access to information/tools to support their ability to recruit employees | Recruitment can be supported through access to best practices and community-based tools. These offer a host of solutions and approaches for assisting Yukon employers with managing the recruitment of their workforce. | <ul style="list-style-type: none"> ● Mechanism for delivery of best practices in recruitment | Yukon employers have increased information and options available for recruitment |

Source: Yukon Government, figure recreated by KPMG, 2013.

These recruiting tools all contribute to improving the mobility of workers within Yukon and to attracting workers from other locations to seek employment in the territory. The tactics for recruitment are closely tied to the tactics used to leverage and manage immigration.

Immigration

Immigration is also a key driver of mobility. Attracting immigrants to relocate to Yukon, using recruiting tools and addressing the key challenges they face can help build a strong local workforce. Yukon developed an Immigration Strategy that focuses on core challenges and opportunities specific to immigration:

- Labour force integration: including language skills, foreign credential recognition and Canadian work experience
- The regional characteristics of Yukon's labour market needs: including diversity, population structure and geography, all of which affect which jobs are needed in the short, medium and long terms

The primary goal of the Immigration Strategy is to support a responsive and sustainable approach to Yukon immigration by developing immigration-related policies and supporting integration of new Canadians into Yukon's labour force.

To support the goals and address challenges, six objectives were created — with associated implementation plans and tactics — to improve immigration:

Figure 4: Yukon Immigration Strategy Objectives

| OBJECTIVE | RATIONALE | KEY OUTPUTS | EXPECTED RESULTS |
|--|---|--|---|
| 1. Be responsive to industry and business labour force needs through improving and monitoring the Yukon Nominee Program | The Yukon Nominee Program helps local employers recruit and retain much-needed skilled and semiskilled workers. The continued support and refinement of this program helps local employers navigate through skills shortages when they occur. | <ul style="list-style-type: none"> Continuation and enhanced delivery of Yukon Nominee Program Annual reviews to assess program needs and to ensure sustainability of immigration to Yukon | Increased use and satisfaction with the Yukon Nominee Program |
| 2. Assist more immigrants to engage in Yukon's labour market opportunities by providing better information and services | Information and services that help people immigrate to Yukon benefit the territory. Better access to information about investment and existing skill shortages will make the transition easier for immigrants. | <ul style="list-style-type: none"> Increased foreign investment in Yukon Sustainable number of applicants for immigration programs Maintained and expanded immigration web portal and online applications | Increased uptake and awareness of Yukon immigration programs |
| 3. Ensure that settlement services are provided for all newcomers, including temporary foreign workers and participants in the Yukon Nominee Program | Providing better access to language training and other settlement services for all immigrants is central to making effective use of their skills and expertise. Newcomers need assistance in settling into life in Canada to realise their full potential in Yukon workforce. | <ul style="list-style-type: none"> Increased awareness about immigration services and diversity issues Improved language training programs | All newcomers have access to settlement services |
| 4. Provide immigrants with the resources and training they need to seek further education for working in their chosen field or obtaining better employment | Providing immigrants with the resources and training they need to engage effectively in the labour force. Workers who are fully engaged in the labour force improve the economy's capacity for diversification and contribute to the territory's tax base. | <ul style="list-style-type: none"> Cross-cultural employment skills training Formal agreements with Foreign Credential Recognition Assessment programs | Immigrants working in chosen occupation |
| 5. Support immigrant communities within Yukon by helping them increase their capacity, their profile and the services they offer their members | Yukon's immigrant communities make an important contribution to settling and retaining immigrants. Immigrants who adapt to life in Yukon and integrate into the labour force are more likely to be retained. | <ul style="list-style-type: none"> Improved capacity of immigrant serving groups | Increased support and capacity for immigrant communities |

| OBJECTIVE | RATIONALE | KEY OUTPUTS | EXPECTED RESULTS |
|---|--|---|---------------------|
| 6. Increase immigrant retention rates by promoting the benefits of immigration and celebrating multiculturalism | Yukon currently retains a large percentage of its immigrant workers, and maintaining this trend is desirable. Retaining immigrants ensures the effective use of settlement resources and immigrant skills. | <ul style="list-style-type: none"> ● Survey of the immigrant population ● Promotional campaign about the need and benefits of immigration | Increased retention |

Source: Yukon Government, figure recreated by KPMG, 2013.

These strategies contribute to improving the immigration process, as well as supporting the recruitment strategies. Immigration from other countries and within Canada is the primary source of new talent for Yukon and the immigrant talent pool will be critical in helping mining companies maintain production levels and replace retiring workers. To support the optimal integration of immigrating workers, appropriate placement programs, social programs and training opportunities must be established. It is also important to validate that the local workforce is also being monitored and provided equal opportunities, to reduce any potential negative reaction to a major wave of immigration. Driving the acceptance of immigrants is a primary goal of this strategy; by developing materials for employers and creating marketing campaigns that celebrate and promote immigration, the strategy aims to drive retention rates.

Additional Strategies

In addition to the primary levers of mobility (recruitment and immigration), the labour market framework has three other key strategies that improve the mobility of workers to Yukon.

■ **Retention** — Programs are in place to provide employers with the proper information and tools to retain employees. These types of programs support the mobility of workers, as it can be marketed that employers are retaining and promoting employees as well as creating a stable community base which are all attractive to prospective employees. A survey by the Yukon Bureau of Statistics showed that only 20 per cent of current employers use retention practices, such as benefits, incentives and employee programs. Increasing the use of these programs will help boost Yukon's competitive edge, by adding incentives for workers to choose to pursue careers in the territory.



■ **Labour Market Information** — Labour market information (LMI) identifies trends and patterns that are essential for informing the decision making of all stakeholders — from students deciding on educational pursuits, to governments planning training programs and businesses forecasting requirements for occupational skills. The LMI also helps build a registry of online job seekers and job vacancies, allowing workers considering employment in Yukon (e.g., skilled professionals) to research job opportunities. LMI programs are also important for individual companies; they can publicize their recruiting needs to a broader talent pool, without the need for major investments in job-fairs, contracts with recruitment firms and other more costly recruiting tools. This database of hiring needs can be adjusted as economic conditions fluctuate — allowing companies and policy makers to expand or constrict broader recruiting efforts based on economic cycles.

- *Comprehensive Skills and Trades Training*
 - Skills and trades training helps mobility by improving learning and employment transitions. Some workers may not have the necessary skills to fill a workforce need. Through these types of services, immigrants and local workers can seek training in Yukon and ensure they will be able to transition effectively into the workforce
 - increasing Yukon’s attractiveness by further reducing barriers to mobility and the potential for negative worker experiences.

Each of these strategies improves employers’ access to workers from outside of the province. The strategies complement one another to improve the entire mobilization process — from attracting potential workers to facilitating the move and building the competencies of the local work force.



Expected Impact

Increased mobility of workers will benefit employers and employees (including immigrants) in a number of ways:

Employers

- Recruiting and retaining enough staff to meet the employer’s seasonal and permanent needs
- Developing workplace language, safety and cross-cultural supports for newly immigrated employees
- Increasing workplace diversity, which encourages innovation and builds a more accommodating and productive workforce
- Assessing and recognizing foreign education through more effective services, in order to have access to in-demand skills

Employees/Immigrants

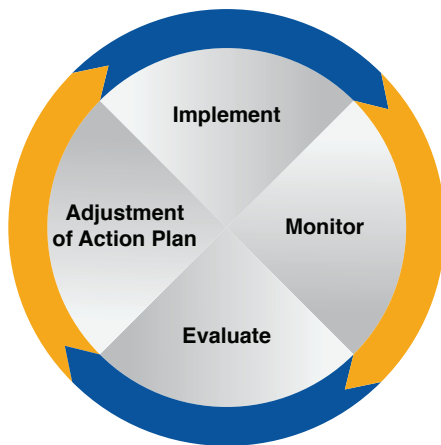
- Access to higher-paying and higher-skilled jobs
- Access to potential tax incentives, debt assistance, training opportunities and career development opportunities
- Having their potential assessed, before they arrive in Canada, to better integrate into the workforce and minimize risks and surprises
- Finding and keeping jobs that use immigrants’ in-demand foreign education and training

- Access to language training before and after immigrants become permanent residents; and
- Being able to participate fully in Yukon society, through the support of safer workplaces and community involvement

Implementation and Dissemination

Each set of strategies and the associated objectives have been designed with a set of sub-activities that designate the key stakeholders; resources required; timelines for implementation; and key metrics/indicators of success. The strategies use the four-step implementation process shown in Figure 5 below:

Figure 5: Workforce Strategy Implementation Process



Source: Yukon Government, figure recreated by KPMG, 2013.

It is crucial that performance is measured and timelines are clearly established, so that adjustments can be made in areas where targets are not being met. This cycle allows for ongoing, accurate data to be collected and for adjustments to be made as needed, to reflect changing labour market needs and conditions. Accountability is also an extremely important factor in implementing these types of programs, so that all involved parties are benefitting and contributing equally. These programs will guide the direction of labour market development for the next 10 years, making their execution a key factor in the success of Yukon's economy.

Key Challenges and Lessons Learned

The first challenge that the Labour Market Framework faced was pre-existing laws and regulations related to immigration policy. Making changes to these laws/regulations to align them with the framework was extremely time-consuming; it was difficult to move ahead with the other strategies, without the proper incentives and programs in place to support mobility. The best way to tackle this type of issue is to make policy change a first step in the program and to properly document and justify all of the required changes.

Another challenge for Yukon was a shortage of available housing and living accommodation for new workers. The lack of availability has driven up housing prices in recent years, which has become a significant barrier to attracting workers to move. The framework aims to overcome this in two main ways: 1. Building in a number of credits and incentives for immigrants, both interprovincial and international, so that the price of living is not as high and 2. Working with government and other stakeholders to identify key areas to develop moving forward.

Finally, Yukon faced the challenge of overcoming the perceived stigma of living in “the North”. It was a priority to ensure the framework incorporated plans to effectively promote the lifestyle, culture and uniqueness of living in Yukon. A key component of the recruitment strategy has been development of websites and other promotional material to combat negative stereotypes. The objective is to help potential workers grow comfortable with living in what would be considered a remote location, and to better appreciate the benefits of the activities, infrastructure and social programs available in Yukon.

Key Resources

The Labour Market Framework relies on several key stakeholders for its design and implementation. Each strategic objective identifies three key resources to support execution:

- *Stakeholders* – identifies the party or parties responsible for seeing through the initiative
- *Resources* – can be financial resources or acknowledging the need to improve or leverage pre-existing programs
- *Timeline* – determines the timeline for the initiative (whether it is ongoing or available by a certain date)

The Government of Yukon also used a major symposium and a series of follow-up meetings to put together the plan. Having a number of government employees lead initiatives, document key messages, and manage websites or portals facilitated both the creation and implementation of the various strategies.

Companies can benefit from investigating the resources available from their municipal, provincial or federal governments. Simply accessing government job postings often provides significant opportunities; companies can tap into information on workers researching or involved in the immigration process, as well as those exploring inter-provincial or national certification requirements. This provides access to potential employees already considering a move, allowing companies to overcome the first “hurdle of mobility” — a much more affordable option than devising and executing an independent search for workers.

Summary

Facilitating the mobility of talent is critical for mining companies that face a shortage of skills and labour due to economic boom cycles, aging demographics and/or geographic skills shortages. Employers seeking to fill gaps identified through workforce planning tools can significantly improve their access to inter-provincial and international talent pools by developing customized recruitment strategies for a particular region and for managing the immigration process.

As the shortage of labour intensifies and individual companies battle for workers in an ever-contracting market, it will become even more important for governments, industry and labour groups to collaborate to identify specific labour needs and devise short- and long-term solutions. The model of Yukon’s Labour Market Framework highlights the benefits that employers, employees and governments stand to gain. Without coordinating efforts — a blend of promoting job vacancies, helping people to move and providing advantageous regulatory conditions — the full potential of mobile workforces will not be realized.

4 Succession Planning



Introduction

Succession planning is an important workforce planning tool for mining companies seeking to maintain and improve the quality and size of their workforces. It can be used to counter economic cycles — making it easier for employers to identify key personnel and positions, when it becomes necessary to ramp- down or ramp- up production.

Companies that make effective use of succession planning can fill important senior positions by promoting from within, thereby reducing the need to recruit externally in a very competitive labour market. These programs allow companies to identify future workforce needs and to develop current employees to fill those needs. The best succession planning programs review the workforce on a regular basis, to assess each employee's performance in their current position, as well as their future potential to fill subject-matter expert (SME) or leadership roles. Companies are able to identify both strong and poor performers and to create individualized development plans for every employee.

ALL INFORMATION AND STATEMENTS IN THIS CASE ARE BASED ON A SERIES OF INTERVIEWS PERFORMED WITH EXPERTS IN THE MINING INDUSTRY COVERING THEIR EXPERIENCE IN CREATING AND UTILIZING WORKFORCE PLANNING TOOLS AND COUNTER-CYCLICAL STRATEGIES UNLESS OTHERWISE INDICATED.

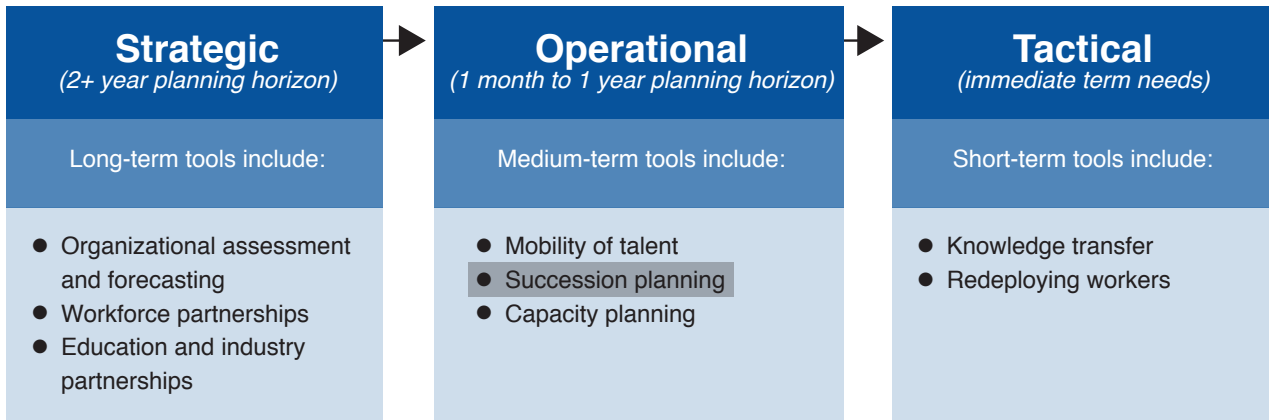
This case study is based in part on interviews with representatives of Teck, which is Canada's largest diversified natural resources company, with operations across North and South America, and a secondary major global mining organization. Various situations lead companies to implement succession planning programs, including:

- Examination of demographics, indicating a looming and potentially crippling exodus of key talent for which no pipeline of replacements exists
- Inability to recruit externally for certain roles due to constrained labour market, geographic location or level of direct site-specific experience required
- Mergers and acquisitions between companies with different cultures, creating a need for a common performance management system and transparency in opportunities within the new entity
- Repeated experience of knowledge loss in transition of key roles
- Lack of recognition or lack of transparent development opportunities for recognized high performers, causing missed opportunities and potential attrition

Mining organizations can use succession planning in conjunction with other workforce planning tools to better align their internal workforces with business objectives. For example, a succession plan can be incorporated into capacity planning for a mining operation and into the organization's overall recruitment program. Given the aging mining workforce and projected talent shortages, it is all the more critical for companies to use succession planning to improve internal mobility and to reduce the need to use the external market for hiring needs. Succession planning programs also help reduce company-wide turnover, by promoting employee engagement and skills development, which in turn, increases motivation.

Succession planning fits into the mix of workforce planning program as a medium-term tool, as shown in Figure 1.

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Succession planning programs counter some of the challenges and costs of recruiting employees externally. Encouraging existing employees to build long careers in a company has proven to be a key success factor in the workforce planning programs of many mining employers. Longevity in the workforce helps companies facilitate the growth and mobility of talent.

This report analyzes succession planning programs at two global mining companies, each with over 12,000 employees and multiple operating properties. Each has effectively used succession planning, and their experiences offer several key insights into how to capture program benefits and how to overcome some key challenges.

Overview of the Program and Process

The succession planning programs at both companies were established by HR directors in charge of talent, learning and development. Both directors sought to fill a number of senior positions that were either vacant or soon-to-be vacant. Both also recognized the opportunity to pursue this task as a company-wide initiative.

Both programs were initially piloted for senior positions only, and one pilot was limited to specific operations. The process was then rolled out across different operations and down the organizational hierarchy, as its merits were proven.

An example of one of a roll-out strategy included:

1. Train manager-level employees on the specific terminology and definitions (e.g., potential vs. performance), so that the correct groups could be established to evaluate each level of employee.
2. Begin resource planning at the regional level, so that high performers could be identified for broader leadership positions.

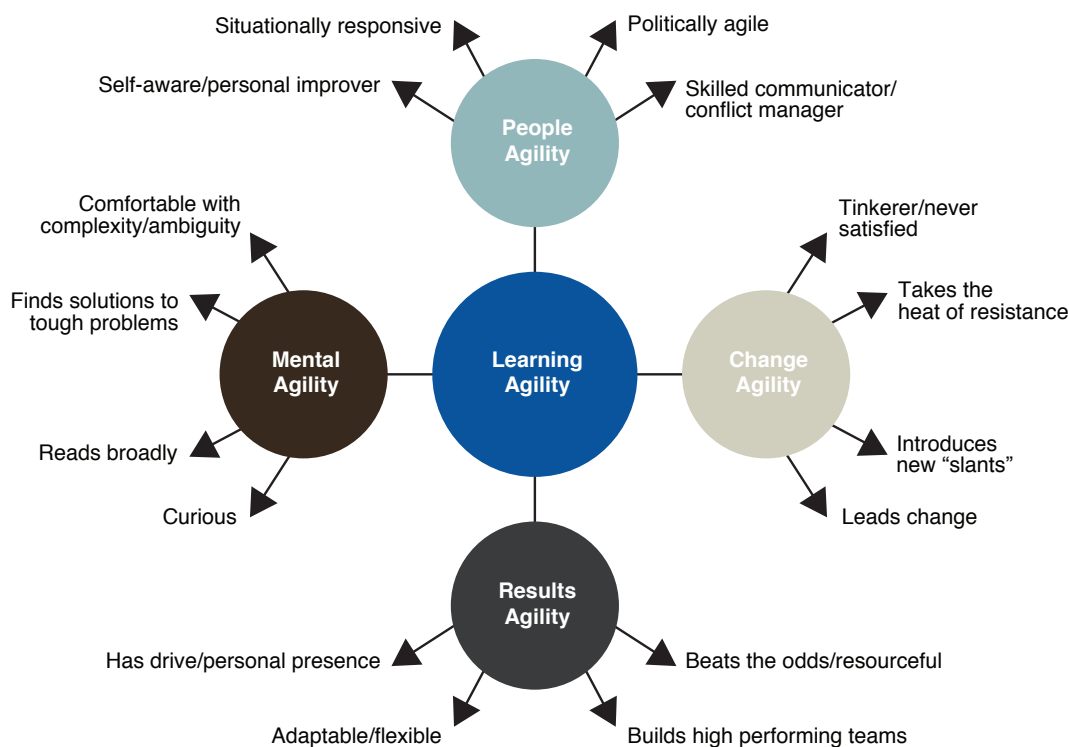
3. Ensure that each mine has a process in place, so that mobility, transfers and opportunities can be identified for all employees.

The process was purchased from a third party (Lominger International), and focuses on four critical components:

1. Evaluation
2. Validation
3. Development Planning
4. Ongoing Review

Each employee is evaluated primarily on what is called “learning agility” — defined as ‘the ability to learn how to deal effectively with first-time situations or changing conditions’. The framework used to measure learning agility is shown in Figure 2:

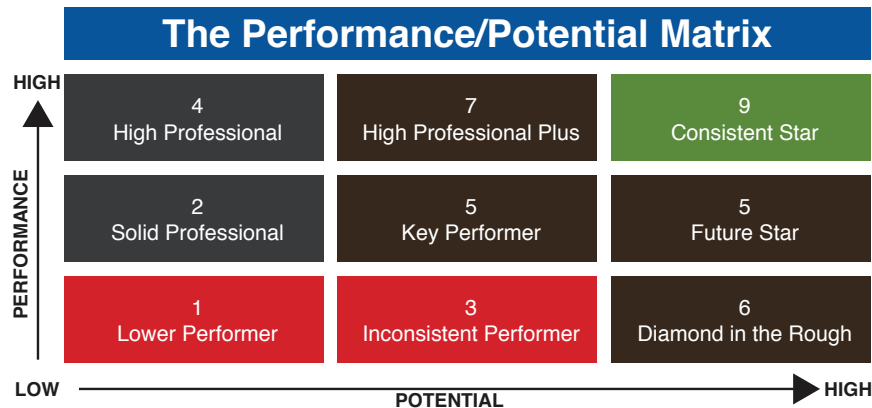
Figure 2: Example of a Succession Planning Process



Source: Recreated from Talking Talent® process created by Lominger International: A Korn/Ferry Company

After determining each individual's learning agility, the process uses a tool called the *Performance/Potential Matrix* to segment the workforce (commonly within a department). The tool helps to identify strong performers, employees with high potential and employees performing poorly and/or inconsistently. Figure 3 shows the matrix and how employees are segmented.

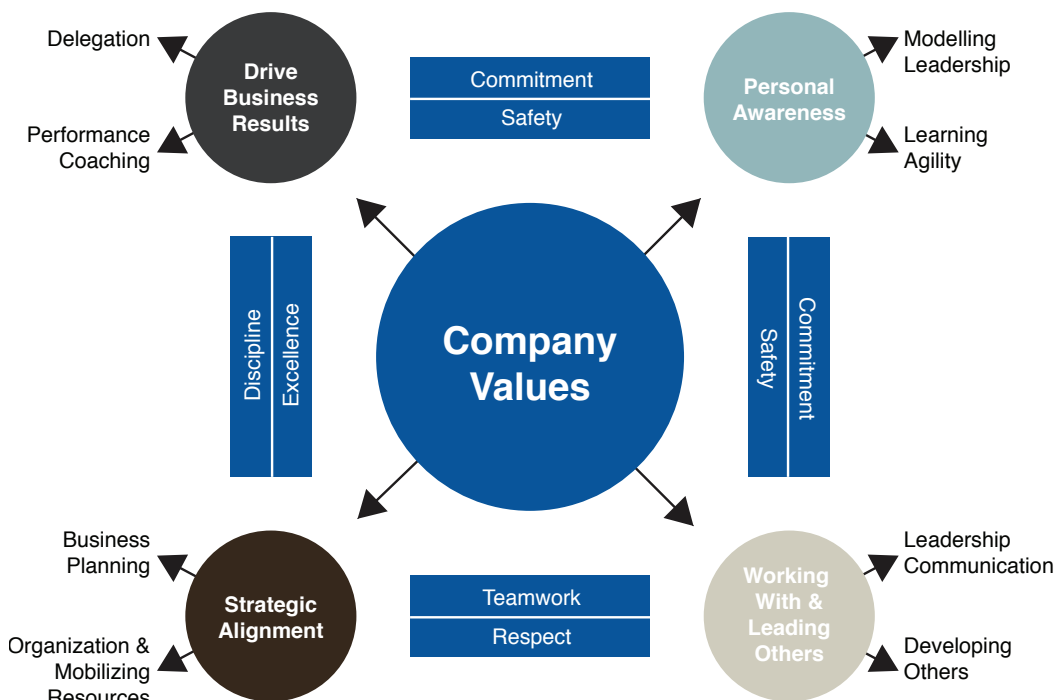
Figure 3: Succession Planning Performance/Potential Matrix



Source: Recreated from Talking Talent ® process created by Lominger International: A Korn/Ferry Company

An alternative measurement approach is for companies to build ideal competencies and profiles for different levels of employees. One company uses “leadership success profiles” to assess the potential of an employee to reach the next level. The competencies evolve through the levels; Figure 4 shows the competencies for the “supervisor level.”

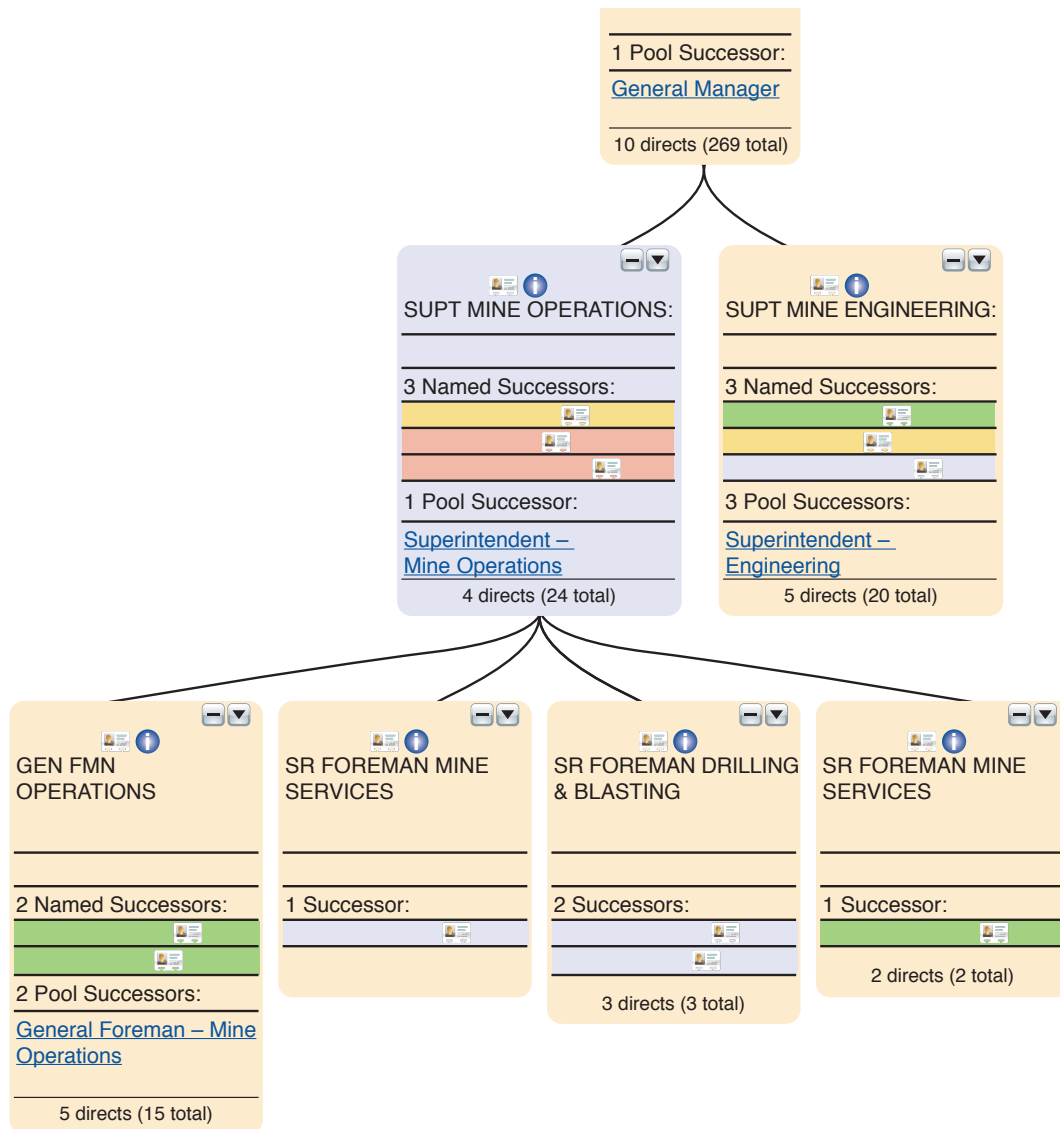
Figure 4: Leadership Success Profiles – Supervisor Level Assessment



Source: Recreated from the Teck Competency Model

Out of this segmentation and evaluation of the workforce, supervisors develop a succession and action plan for each employee. These plans identify potential promotion opportunities for strong employees and focus on improving the performance of employees who are not meeting expectations. This information is captured at both the individual-employee level and for the organization, providing a roadmap of succession across the company. Figure 5 shows how the information can be collected and displayed on an internal performance management system.

Figure 5: Succession Planning Linked to Performance Management





Source: Teck Workforce Management System, 2013.

Executing the action plan for each employee is the responsibility of supervisors and progress is measured at the next evaluation session. The incentive for supervisors to invest this time is linked to their own evaluation, where their leadership and mentorship abilities are assessed.

This process is conducted quarterly or semi-annually and is simplest, if it is run in conjunction with the existing performance-evaluation cycle. These programs have had a significant impact to date; the companies say their managers are much more aware and invested in the development of their employees. The process has been used to identify replacements for key positions in an aging workforce and to highlight areas where depth of talent is weak, signalling a need for employers to develop employees internally or recruit externally.

Expected Impact

Company-wide employee professional growth is the primary goal of this type of succession planning initiative. One company has acknowledged that even losing some employees to better and more senior positions at other mining companies demonstrates a degree of success in improving the calibre of their workforce. As a long-term goal, the company hopes to fill between 75-100 per cent of senior vacancies internally — which will significantly drive down recruiting costs and increase their competitiveness, as the entire industry faces talent scarcity.



The key ways that a succession planning program has benefitted these companies are:

- *More Targeted Recruiting* — Companies have a better understanding of workforce needs, allowing them to foresee the need to recruit for particular roles further in advance and to identify new sources of talent if specific shortages posed a significant threat to sustaining operations. Companies can also identify situations where vacant positions can be left unfilled.
- *Decreased Turnover* — Companies benefit from improved retention of their employees. One of the companies' reports that turnover has decreased from 25 per cent to below 10 per cent over the past two years, which is largely attributable to this program.
- *Improved Performance Management* — Employees have a clearer understanding of what is expected of them and how to get to the next level in their career.
- *Integrated HR Systems (IT)* — By standardizing outputs across the organization, companies can better link their HR information technology systems (such as performance management and standard workforce demographics), which can improve overall business planning.
- *Better Identifying Underperformance Due to HR Issues* — Companies acquire information to help them better assess whether an operation's underperformance is linked to human resources issues. For example, one company's warehouse was significantly underperforming compared to all of its other warehouses. The evaluation from succession planning showed that the warehousing staff group was made up of poor and inconsistent performers. In response, the company relocated a number of high-performing employees from a better-functioning warehouse operation. The new employees were able to introduce new knowledge and best practices to the operation, including processes to manage inventory and workflow.

Implementation and Dissemination

To implement their succession planning programs, both companies piloted the programs at a specific operational location and limited the initial scope to senior management and manager-level employees. This helped the company to fill immediate needs in senior positions, while also familiarizing employees with the process, so they could conduct it within their departments. The process is to gradually progress down the organizational chart as it begins to have a material impact on employees' progression into new roles.

For a company with global operations, this top-down implementation approach is critical to effective succession planning. Department managers must first participate in evaluation meetings and see how development plans are put together, so the process can be sustainable without excessive oversight from corporate representatives — as many operations in global organizations are located great distances from centralized corporate functions.

Key Challenges and Lessons Learned

One of the biggest hurdles that companies have to overcome is the potential implication of “labelling” employees throughout the process. It is critical for the company to explain to employees that performance categories (e.g. “lower performer”) can change and are used only to improve planning and development. Ensuring that results and materials are kept confidential must be a priority.

Another challenge for some companies is to ensure managers have the skills and are supported in constructive discussions and assessments of employee performance. In the case of one organization, corporate HR representatives attended the first formal evaluation sessions and led participants to use clear examples to support their evaluations. With high-quality participation from managers, the program was able to integrate multiple assessments of employees and the company was able to develop new perspectives on the workforce — primarily in terms of individual potential.



Gaining buy-in from employees is another challenge for companies. Initially, employees have a number of questions about the fairness and accuracy of the process, and they may also express some fear and frustration with the idea of such frequent reviews. Companies can address these employee concerns by clearly communicating the benefits of the process, which include promotions, transfers and personal development.

Key Resources

A number of third-party vendors can provide companies with a standard succession planning program. Using existing models is generally the best way to integrate a strong and consistent program, providing companies with:

- Standard definitions of key HR terminology
- Leading practices in succession planning
- Prepared materials (handbooks, manuals, forms, etc.) for distribution to different types of employees
- Access to supporting personnel and specialists to help explain any uncertainties and help integrate the process by leading workshops, attending sessions and driving analytics

This approach simplifies the design phase of the program and allows companies to pilot the process in a short period of time. Using a third-party framework and materials sets clear expectations throughout the organization; helps management-level employees improve resource planning in their departments; and helps employees to understand how they will be evaluated. The processes are also clear and easily customizable to the needs of an organization.

As most organizations are establishing these programs in reaction to external trends that are already posing challenges, speed of implementation becomes a key success factor. As such, finding an existing program with the appropriate tools and support services is the best starting point for most organizations.

Summary

Succession planning is an important workforce planning tool that helps companies to evaluate workers effectively and fill job vacancies internally. Developing a strong pipeline of workers is critical to adapting to changing business conditions, which is clearly, an important issue for the mining industry. Effective succession planning helps companies to understand where they are short on talent and to retain high performing workers through continued development, promotion and attention.

Succession planning is one of the most valuable workforce planning tools, as it provides the basis for many long-term tools, such as forecasting, and makes use of several short-term workforce planning tools, including redeployment and knowledge transfer. Succession planning can also highlight where underperformance is linked to HR issues; detailed evaluations of the workforce allow companies to identify employees with strong development potential and to understand the limitations of others. The succession roadmap is a critical element as mining companies work to reduce the risks associated with retirements, facilitate transitions between roles and manage their people more effectively.

5 Capacity Planning



Introduction

Understanding an organization's capacity is critical to forming a counter-cyclical strategy. Capacity is the potential output of a company, which depends largely upon — and can only be achieved with — the optimal number and type of employees. Capacity planning is the process of determining the production capacity, size and composition of the workforce an organization needs to meet the demand for its product.

Capacity planning is another important workforce planning tool. It helps mining companies anticipate labour shortages and surpluses, so they can forecast hiring needs. Capacity planning can be used to counter economic cycles — allowing a mining employer to strategically increase or decrease its workforce to reach a particular level of capacity. Use of this tool reduces the need to make reactive “gut” decisions and instead supports data-driven planning in real-time. When applied capacity planning enables, mining companies to understand the impact of ramping up or down their workforce in varied economic and commodity driven scenarios. From a long-term perspective, capacity planning enables organizations to understand the value of retaining experienced and knowledgeable workers through a recession — in the interest of meeting production targets in the future.

This case study profiles Cameco and Goldcorp, both major global mining companies. Various situations can cause companies to turn to tools such as capacity planning to address workforce challenges. These situations may include:

- A wave of retirements, foreseen or unforeseen, exacerbating the tight labour market and increasing the need for specialized skills
- Imminent risk of operation stoppage due to the departure of personnel from key role(s) considered critical to safety or compliance
- Identification of skills, labour or knowledge gaps, in either production or professional workforces, due to a highly competitive market for their services (e.g. trades, engineers, chemists)
- Changes to production plans or targets put the focus on labour as a major capacity input

Capacity planning is closely linked with forecasting, a long-term workforce planning tool. Capacity planning looks internally at the make-up of the workforce by utilizing demographic information such as job type, gender and age, and aligns this workforce projection with the level of production that a particular operation anticipates, based on a basic life-of-mine plan. Forecasting, on the other hand, looks both internally and externally to account for labour market trends, economic conditions and other factors that might impact the supply of labour and desired production for an operation. Capacity planning is conducted primarily at the individual mine-site level; however,

ALL INFORMATION AND STATEMENTS IN THIS CASE ARE BASED ON A SERIES OF INTERVIEWS PERFORMED WITH EXPERTS IN THE MINING INDUSTRY COVERING THEIR EXPERIENCE IN CREATING AND UTILIZING WORKFORCE PLANNING TOOLS AND COUNTER-CYCLICAL STRATEGIES UNLESS OTHERWISE INDICATED.

collecting capacity plans for a group of sites allows a company to better use the information for programs such as succession planning and scenario analysis. These programs can utilize tools such as redeployment to cope with gaps and surpluses identified through capacity planning.

Figure 1 shows where capacity planning fits in a strategic workforce planning portfolio:

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Interviews with a number of mining companies engaged in capacity planning revealed several leading practices and key resources. These successful approaches are highlighted in this case study, to help other companies establish and use capacity planning within their workforce planning.

Overview of the Program and Process

Capacity planning highlights the labour needs of a particular operation. Senior HR personnel can use capacity plans, often at a regional level, to support succession planning and to identify the need to fast-track high potential employees -into specialist roles (e.g., a chemical process specialist). By using a planned approach, companies can avoid having to “poach” a specialized professional on short notice from another regional site. Recruitment departments also use capacity plans to identify emerging workforce gaps that cannot be filled internally.

The first step to capacity planning is to collect information from employees, typically at the mine-site level. In one example, Goldcorp piloted capacity planning at a single mine site to establish the best way to document information about its employees. Making use of pre-existing human capital management systems, the company asked workers to fill in the required information. Companies can use various types of systems — ranging from simple administration and payroll, to complex multi-level systems including skill logs, evaluation, and scheduling and benefits administration. The process was gradual and deliberate, and gaining buy-in from site managers was crucial.

After a snap-shot of the mine-site workforce was completed, the Goldcorp operation identified a number of key positions that were currently vacant or required succession planning to mitigate the risk of future vacancy. In this case, most of the positions were managerial and engineering positions, which the organization has found to be the most competitive jobs for which to recruit. When dealing with these types of jobs, it is critical to closely link the “gap analysis” with succession planning to optimize internal promotion and minimize reliance on a continuously contracting labour market.

According to the stakeholders interviewed, the four main areas of capacity planning are:

- *Documenting the Workforce* — capturing the current demographics of the workforce to understand where gaps might emerge (for example, due to life-stage changes such as starting a family or retiring) and/or to identify shortages of junior employees in certain skill-sets, as well as documenting key employee skills to identify high-potential employees
 - Companies can use several methods to capture workforce information. While many companies use a human capital management tool to standardize company information, Cameco instead conducts a survey of department leaders that includes a workforce review and adjustment. This entails aggregating information about employees; identifying areas that are strongly and poorly staffed; and prioritizing areas of need for talent sourcing strategies.
- *Identifying Key Positions* — highlighting positions that must be filled for operations to continue, and quantifying the risks from pending retirements and shortages of skilled replacements
 - Identifying key positions is critical to capacity planning. Mining companies should identify specific roles that are critical to sustaining operations, including those required by legislation. It is also important to plot the likelihood of current employees leaving and the impact/risks posed by these departures. Several companies choose to aggregate this information as shown in Figure 2 below:

Figure 2: Capacity Planning - Workforce Risk Assessment

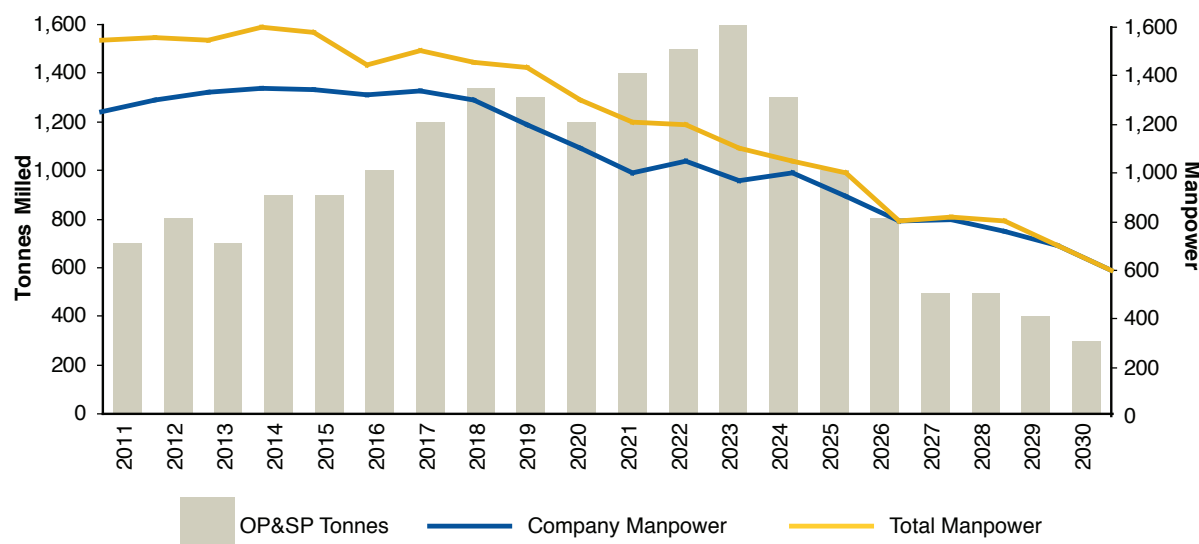
| | | | ILLUSTRATIVE |
|--------------------|---------------------|-----------|--------------|
| LIKELIHOOD | NUMBER OF EMPLOYEES | | |
| Almost Certain (5) | 3 | 0 | 0 |
| Likely (4) | 0 | 1 | 2 |
| Possible (3) | 1 | 3 | 1 |
| Impact | Moderate (3) | Major (4) | Extreme (5) |

Source: Cameco, figure recreated by KPMG, 2013.

- *Linking Workforce Capacity with Production* — using a production plan (by tonnage) to determine future labour needs and comparing that with the company's current and projected workforce

Projections are typically done at the site level, matching general hiring levels and subsequently, breaking down skills needs by position. Often, production plans will not be attainable with the current workforce, so the two factors have to be analyzed together. This type of forecast helps tie together succession and production. An example of a higher-level correlation of predicted production and manpower can be seen in Figure 3.

Figure 3: Illustration of Workforce Capacity and Production



Source: Based on information provided by research participants to KPMG, 2013.

- **Facilitating Planning at a Regional level** — breaking down operational silos to use redeployment and cross-site succession to fill workforce gaps

Capacity plans are most effectively used at a regional level to fill gaps by redeploying workers and by understanding how the organization’s overall workforce needs are affected by the needs of each operational site. Facilitating conversations among sites allows workforce planning requirements to be discussed, established and prioritized. Before Cameco implemented regional capacity planning, the constricted labour market in Saskatchewan — combined with a large proportion of mature employees — had produced considerable competition for resources between sites. When the company began sharing labour force information across sites, managers were able to see the “bigger picture” and to better understand the benefits of collaborating to create capacity plans.

Expected Impact

Capacity planning provides several distinct benefits for mining companies:

- **Efficiently Identifying and Filling Workforce Gaps** — Companies can more readily identify where additional resources are needed and can respond in various ways — with succession planning, redeployment, cancellation or delay of capital projects, or scaled-up recruitment. Without capacity planning, retirements in just a few key positions can cripple an operation. With capacity planning, companies regularly document and analyze potential gaps due to retirement, promotion and other causes, strengthening their ability to plan appropriately.
- **Increased Responsiveness** — Improved ties between operational and workforce planning means each department has a better understanding of their role and the key decisions to be made. Accurate adjustments can be made more effectively in response to changes in the economic climate or to unexpected fluctuations in the production schedule.

- *More Targeted and Effective Recruiting* — With a better understanding of their current and projected workforces, companies can predict the need to recruit for particular roles much further in advance. They can also identify new sources of talent when particular shortages pose a significant threat to sustaining operations. For example, organizations may target specific educational programs to recruit for key positions or they may recruit workers of various ages, to avoid a mass exodus of employees that become eligible to retire at the same time. Companies can also closely monitor important positions and manage the risks of attrition.

Implementation and Dissemination

It is critical for companies to prove the benefits of capacity planning by implementing their program in a staged roll-out, with an initial pilot at one site or region. Both companies profiled for this case study began collecting information for one section of an operation and then gradually expanded the collection of HR information across the site. As this data was collected, HR personnel collected the operations forecast for the mine and began to enhance this information with the highest-level forecast of the required number workers in the coming years. The



next step was to forecast how many workers they expected to have in each of those years. This was done by first applying standard hiring and attrition rates to the current workforce and then updating this data with information collected in the human capital management system.

Both companies plan to initially roll-out capacity planning for each operation and then to conduct analysis across sites at the corporate level. The ultimate goal for both is to integrate capacity planning with the remainder of their workforce planning initiatives.

Key Challenges and Lessons Learned

The companies say the primary challenge was to demonstrate the importance of workforce capacity planning across the operation. Some operational areas are skeptical of the benefits of HR initiatives and typically use only a “life-of-mine” plan to assess how many staff they will need. Often, it takes a wave of crippling retirements (as recounted by one of the mine-site managers interviewed) to inspire companies to explore solutions to prevent similar negative impacts in the future.

Companies have found that the best way to prove the benefits of capacity planning is to clearly illustrate the risks of not planning ahead. With the pending wave of baby boomer retirements, the threat of widening gaps between workforce capacity and requirements is very real for the mining sector. By illustrating the potential impact of these gaps on operations — and by using existing systems to collect strategic information — HR leaders can make capacity planning a priority for their operational counterparts.

Key Resources

Cameco and Goldcorp identified three primary resources used for capacity planning:

- *Workforce Information* — Employee information can be collected through a survey completed by supervisors or by using an existing human capital management system; the system must capture the current age, tenure and expected retirement or exit timeline for each employee in the company.
- *HR Analysts* — These individuals help to enrich workforce data with their understanding of critical operational roles and expected succession, which helps companies to determine clear gaps and surpluses based on production requirements.
- *Operations Analysts* — These analysts provide operational forecasts for each site and work with HR to determine the talent required to achieve production targets.

Summary

Capacity planning is an important tool for mining companies. It enables them to identify gaps in the workforce so they can take action to address those gaps — both now and in the future. Capacity planning helps mining industry employers mitigate risk; armed with knowledge about workforce gaps, they can reduce the negative impacts of shifts in workforce composition on their ability to meet production targets.

Mining companies employ aging workforces whose departure represents a great loss of experience and knowledge. If left unchecked, this talent loss will threaten operational sustainability. Companies can use capacity planning to determine whether their current workforces will be able to meet production targets, and to assess the business impacts of future retirements and transitions.

Once companies identify specific capacity challenges, they can make use of targeted recruiting, succession, deployment and other workforce planning programs to reduce risks and develop a strong counter-cyclical strategy.

6 Education and Industry Partnerships



Introduction

Along with other sectors in the Canadian economy, the mining industry is facing a demographic challenge. Impending retirements of baby boomers and a shortage of skilled workers are creating a significant gap in the workforce. Evidence shows that shortages of skilled workers drive up wages in the labour market and create significant operating pressure on organizations³. In order to mitigate these pressures, organizations need to build long-term partnerships with educational institutions to increase the size and qualifications of mining’s future workforce. Offering apprenticeship and training programs in collaboration with training institutions helps potential employees develop job-ready skills and ensures that mining industry employers have timely access to a pool of skilled labour.

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Building partnerships is not only a tool for harnessing innovation and research, but it also allows mining organizations to proactively invest in the future labour force during economic downturns. Similarly, investing in local partnerships fosters a sense of community, and stronger ties with local education providers translate into local hiring. Anecdotally, organizations that hire locally have lower turnover than those that hire from the outside. Organizations that engage in research and education partnerships build loyalty, as they invest in learners and employees. Partnerships can range from information sharing about required skills and programs — to active industry engagement in curriculum and training development, co-op placements and donating equipment for training.

This case study highlights the impacts of industry and education partnerships on building long-term human capital strategies, and on facilitating innovation and research within the industry. Figure 1 highlights how education and industry partnerships (also known as integrated planning) fit within the broader suite of workforce planning programs.

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

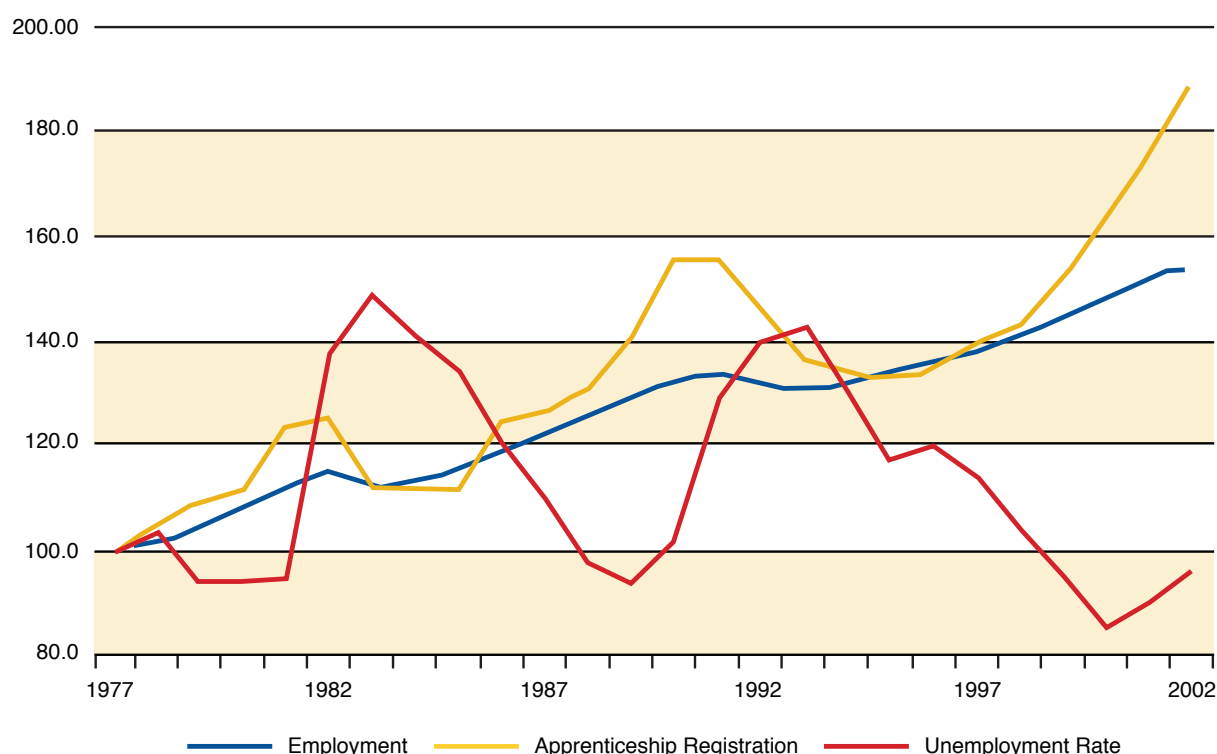
3 Refer to http://www.quaderra.com/articles/Mercer_POV_TalentCrisis_Canada_Energy.pdf

The mining industry is one of the leading employers of highly skilled workers and engineers. The technical nature of mining industry jobs, along with the critical need to ensure health and safety within mining work environments, provides a strong impetus for industry and educational partnerships. These partnerships also forge “symbiotic” relationships between educators and employers that help the industry meet localized and regional training needs. Through effective communication, participation, knowledge sharing and sometimes, financial contributions, mining organizations can influence learning outcomes to meet their operational needs. Educational institutions can use these relationships to find training opportunities for their graduates and to refine training programs to ensure they are responsive to industry needs.

Cyclical Nature of the Mining Industry and Training Challenges

The cyclical nature of the mining industry poses a unique challenge for education and training institutions. Changing market conditions not only affect enrolment rates but also alter requirements for new training. As illustrated in Figure 2, research has shown that unlike other post-secondary programs, apprenticeship training is pro-cyclical rather than counter-cyclical, and new registrations tend to be sensitive to the volatility of the business cycle.

Figure 2: Apprenticeship Registrations and Employment Indices, 1977 = 100⁴



Source: Table 1, Statistics Canada, 228-0002

4 <http://www.csls.ca/reports/csls2005-04.pdf>

According to Statistics Canada, in 2008, there were nearly 98,000 new registrants for apprenticeships across Canada. In 2009, when the economy slowed, new registrations dropped by 13 per cent. During downturns, industry brings in cost-cutting measures, and often, these measures have translated into budgetary cuts that impact co-op and training positions. These training cuts translate into skills gaps — as fewer opportunities for apprenticeship and training mean fewer graduates.

Due to the length of mining-specific training programs, students enrolled during a recession frequently graduate during a time of economic boom. Ironically, this also means that the size of the graduating class during a boom is smaller than classes graduating during an economic slowdown. Additionally, during an industry boom, organizations can find themselves in a situation where there are more jobs to fill and fewer skilled workers available to fill them. These economic shifts have created a coordination problem between industry needs and the number of students supplied by different programs.



Overview of the Program and Process

Sudbury district⁵ is home to base metal mining giants such as Vale and Xstrata. According to the 2006 census, 7 per cent of Sudbury's population is attached to the mining, oil and gas extraction sectors. Sudbury also has a thriving mining support services sector. Availability of skilled labour is essential for maintaining a competitive advantage in the market and also for sustainable long-term growth in the sector. Retirement of baby boomers, outward migration from the Sudbury district and expanded mining production have resulted in a contraction of the available labour pool.

In the late 1990s, a number of mining organizations in Sudbury recognized the need for a new model of apprenticeship to fill the intensifying gap in skilled tradespersons. Traditionally, organizations were taking on apprentices for training according to their own operational needs. Companies were also restricted in the number of apprentices they could acquire each year because of Ontario government guidelines regarding apprenticeship ratios. Skills shortages in Sudbury's labour market also meant that salaries became highly competitive among companies and skilled personnel were more frequently changing jobs.

In the face of skills shortages and inter-city labour mobility, local organizations also recognized that different skills-training programs were not consistent. Although most of the organizations were training their own apprentices, the quality of this training varied. Industry was looking for a program that could deliver quality training according to local needs, with a standard curriculum. The result was development of the SkyTech program.

⁵ District implies the Statistics Canada definition of district.

The SkyTech program at Sudbury’s Cambrian College was established primarily to provide skills-based training to students from Sudbury and Northern Ontario. Its mandate has been largely focused on localized training needs; the program addresses not only the skills shortage in the trades but has also helped to attract new talent in trade-related fields. A partnership between the College and industry increases the employability of the new graduates, making it an attractive program in terms of job prospects.

The program was built on a partnership model, in which stakeholders from government, education and industry come forward to develop skills-based training programs that cater to local needs. From its inception, one of the program’s major goals has been “innovation in learning.” Over the last few years, SkyTech has been continually upgrading its programs to meet the unique needs of Northern Ontario. With help from various industry partners and government funding, SkyTech has developed mobile training programs — with labs fitted in a trailer that can easily be moved to remote training sites.

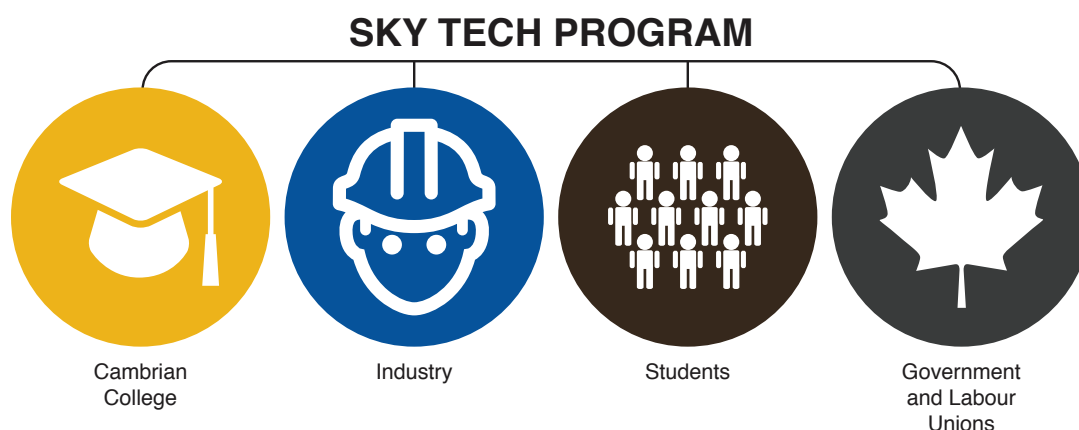
Program Partnership

Strong industry involvement in SkyTech provides much-needed funding for training equipment and operational costs, while also offering leadership, vision and direction. Collaborative interactions among the stakeholders help to identify gaps in education and training.

At Cambrian College, the SkyTech board consists of representatives from the following partners:

- Vale Inco
- Domtar Inc.
- Ontario Power Generation
- United Steelworkers of America
- Toromont Cat industries Limited
- Xstrata Nickel
- Mine Mill/Canadian Auto Workers Union
- Ontario Public Service Employee Union, Local 655
- Cambrian College

Figure 3: SkyTech Program



Source: Cambrian College, recreated by MiHR, 2013.

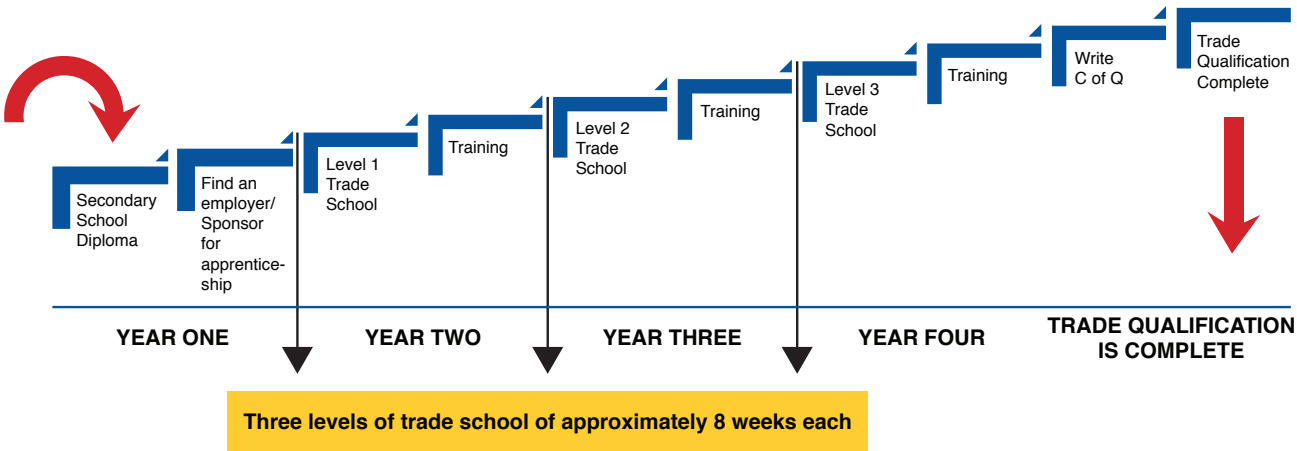
Stakeholders in the program include mining organizations, labour unions and representatives from education and government. The graduates from the educational program then move on to apprenticeship positions with the industry partners.

Implementation and Dissemination

As illustrated in Figure 4, the traditional apprenticeship training model commences with on-the-job training. A willing tradesperson who is authorized by the Ontario Ministry of Education and Training takes on an apprentice to train — teaching them practical skills while providing some payment for the work. An aspiring apprentice is responsible for finding their own apprenticeship. After fulfilling the competency requirements by undergoing on-site training, apprentices move to a training college to acquire the academic hours they need to write the final Certificate of Qualification (C of Q) exam. During their enrolment period in an educational institution, the apprentices no longer work with the organization that brought them on.

This model was a huge hurdle for employers in skills-strapped northern Ontario. Companies’ productivity was negatively affected when they lost an apprentice returning to school. For apprentices, the cost of school and the loss of wages often deterred them from going back to school. Amplifying the industry-wide skills shortages, regional skills shortages often result in apprentices taking more time to complete their academic requirements.

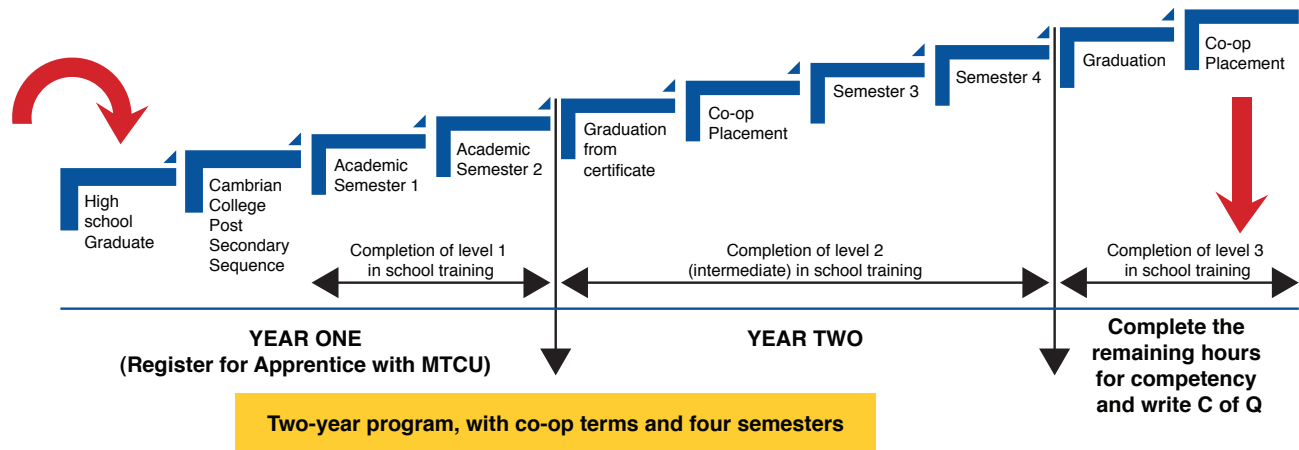
Figure 4: Traditional Apprenticeship Program — Minimum 48 months



Source: Cambrian College, recreated by MiHR, 2013.

As illustrated in Figure 5, the SkyTech program uses a different model of work-integrated training, which is designed to minimize interruptions to workplace scheduling and productivity. Students start with in-class education and then complete a co-op position, facilitated by the College’s co-op coordinator and sponsored by a SkyTech partner. The entry requirement for the program is a high school diploma, and students complete some apprenticeship requirements while also completing their college diploma. Students complete their two semesters at school and then they apply for their first co-op placement —earning their basic level of in-school apprenticeship after the first co-op.

Figure 5: Cambrian College Two-year Apprenticeship Diploma



Source: Cambrian College, recreated by MiHR, 2013.

Students complete one school term and a second co-op to acquire the intermediate level of apprenticeship. Finally, after completing their last school term and third co-op placement, students earn their final or advanced level of in-school training along with their diploma. After three co-op terms and in-class training, students do not need any additional academic training. Using a model that integrates school terms with work terms has been beneficial to both students and the industry. SkyTech sponsors guarantee quality co-op positions that help students meld theory with experience — and the model helps ensure that students are work-ready when they graduate.

Co-op students are evaluated twice during a placement — first at the midway point and then at the end of the placement. The assessments are completed by the employer and/or a supervisor that is overseeing the training. Before the student begins a co-op term, the College's Co-operative Placement Coordinator ensures the employer is approved to provide the work placement.

At any time, if an employer is not satisfied with the co-op student's job performance, the placement may be terminated — in other words, the employer is not obligated to keep the student for the full duration if the placement is not working out. However, before releasing a co-op student, an employer will inform the College — which then arranges a meeting with the student and employer to see if the difficulties can be addressed. In some cases, the problems can be resolved but if not, the co-op student is let go and as a result, fails the co-op.

Although an employer may terminate a co-op student's employment, the student does have the right to appeal the decision through the College. There have been cases where students have been terminated, and later had the decision reversed by the Appeal Committee. In these circumstances, the student would complete another placement at a different work location.

SkyTech has also introduced a 13-point matrix, through which students are encouraged to develop and demonstrate key aspects of work performance. Final evaluations are based on students' academic performance and on their score on the 13-point matrix — a tool that is focussed on cultivating soft skills in graduates, in such areas as planning, organization and communications.

Figure 6: SkyTech Work Performance Evaluation

| 13-POINT EVALUATION BY FACULTY | | |
|---------------------------------------|--|--|
| Criteria Definitions | | |
| POINT | CRITERIA | SCALE AND DEFINITIONS |
| 1 | Wears Personal Protective Equipment (PPE) | 4 – Wears Personal Protective Equipment (PPE) 3 – Has received one or two reminders to wear PPE 2 – Has received more than two reminders to wear PPE |
| 2 | Use of hand tools and equipment in a safe manner | 4 – Always uses hand tools and equipment properly, identifies and reports and damage with a proactive attitude 3 – Uses hand tools and equipment correctly 2 – Has used hand tools and equipment inappropriately 1 – Requires repeated reminders on proper and safe use of hand tools and equipment |
| 3 | Attendance | 4 – Always attends classes 3 – Missed up to two classes, with notification AND valid reason 2 – Often leaves early 1 – Missed more than one without notification |
| 4 | Punctuality | 4 – Never late 2 – Late once or twice 1 – Late more than twice |
| 5 | Assignments/projects on time | 4 – All in by due date 3 – One late with acceptable reason 2 – Two - three times late, no reason 1 – More than three times late |
| 6 | Work ethics | 4 – Exceeds expectations 2 – Meets expectations 1 – Does not meet expectations |
| 7 | Planning and organizing | 4 – Prioritizes for higher efficiencies 2 – Utilizes time effectively 1 – Does not make effective use of time |
| 8 | Interaction with others | 4 – Is a role model 2 – Always interacts appropriately 1 – Interacts inappropriately |
| 9 | Good housekeeping practices | 4 – Cleans own area and assists in other areas 3 – Cleans own area 2 – Needs reminding to clean own area 1 – Leaves area without cleaning |
| 10 | Works well on own | 4 – Works well on own 3 – Works well with minimal supervision 1 – Needs additional one-on-one supervision to work effectively |
| 11 | Attitude | 4 – Respects authority and reacts positively to feedback 3 – Accepts constructive criticism 2 – Indifferent to feedback 1 – Defensive to feedback |
| 12 | Follows instructions and standard practices | 4 – Follows instructions/standard practices, exhibits critical thinking 3 – Follows instructions/standard practices 2 – Reluctant to follow instructions/standard practices 1 – Doesn't read or follow instructions/standard practices |

| | | |
|---|---|--|
| 13 | Written and verbal communication skills | 4 – Uses appropriate trade-related written and verbal communication skills 2 – Needs improvement in either written OR verbal skills 1 – Has difficulty communicating |
| <i>Please note: A score of 0 on any of the 13 points means that the criteria is not applicable.</i> | | |

Source: <http://www.cambriancollege.ca/departments/skytech/co-opdiploma/documents/studentoverview2009.pdf>

After the third co-op term, employers can formally hire the students — with the knowledge that they have completed their in-class training. This new model shortens the training period and allows new apprentices to more quickly join the job market.

Key Challenges and Lessons Learned

Developing a successful partnership with an education provider can help mining organizations address their training needs in a more strategic way. A crucial first step for companies is to forecast their workforce and training requirements for future operations. As people often make their training and educational decisions based on the latest economic indicators and business news headlines, a downturn in mining production can lead to significantly lower student enrolments in mining training programs. However, when industry invests in co-op placements and on-site training, it can help to reduce the negative impacts of a downturn and play a role in the attraction and retention of students in mining education programs.

Companies may well find educational partnerships and training supports to be operationally challenging during a downturn; as they implement cost-cutting measures, organizations may question the affordability of apprenticeships, work placements and other supports. The decision to cut these positions, however, should not be taken lightly. When co-op placements and apprenticeship positions decline in an industry like mining, students tend to move to other sectors — and re-capturing this lost talent requires significant future investment in recruitment and re-skilling. Mining employers are wise to remember that investing in training is an investment in the future.

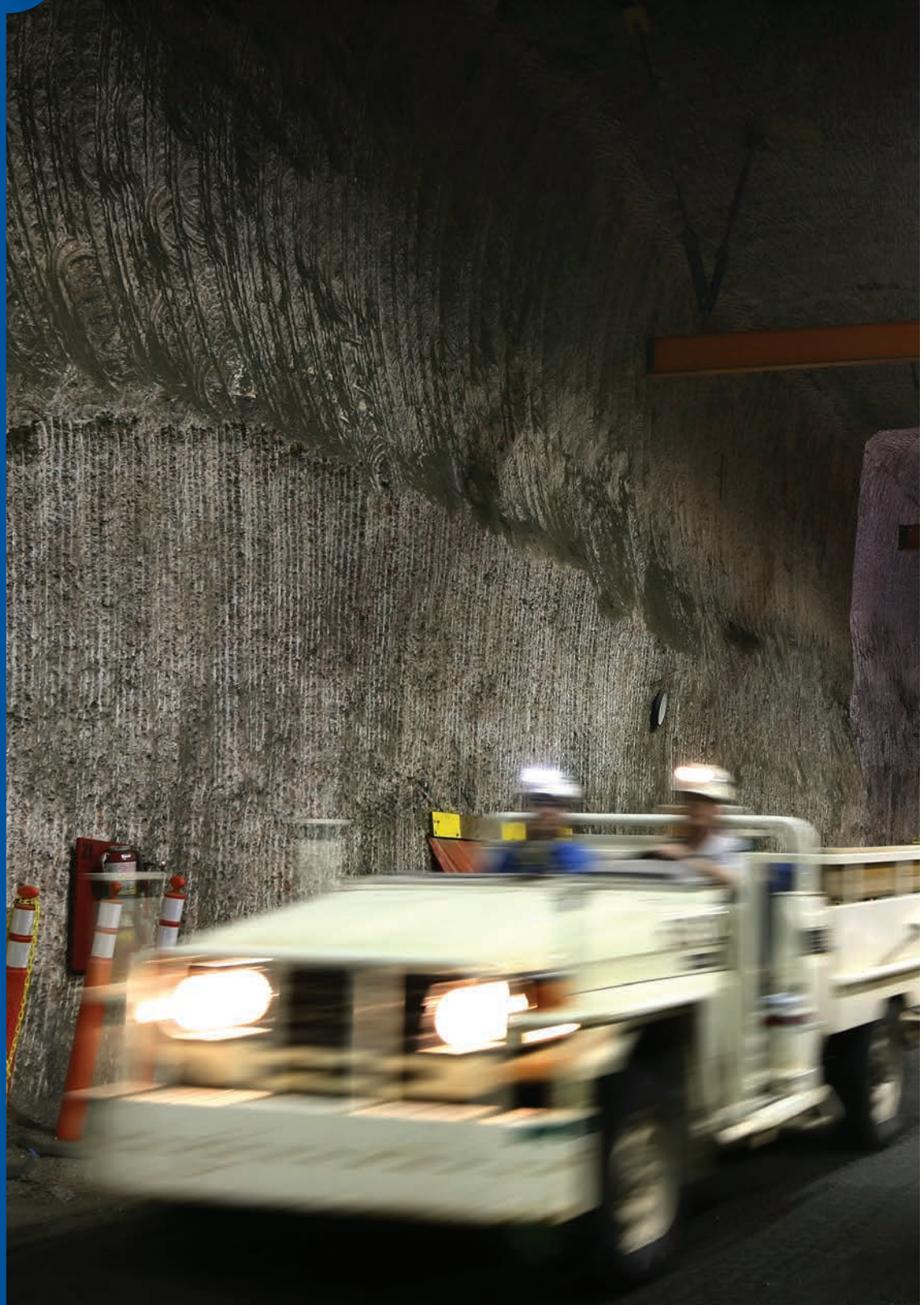
Summary

Education and industry partnerships are essential for developing long-term solutions for mining workforce training. These relationships support development of work-integrated learning initiatives that help companies meet specific requirements for workers with specialized skills, and help numbers of employers in local communities and regions expand much-needed talent pools.

These types of partnerships also support workforce planners in developing strategies for mitigating the cyclical risks associated with mining. By offering apprenticeship training and co-op placements, organizations can not only increase access to new talent but can also build strong community ties. In addition, HR planners can also align their succession planning goals with work-integrated training, by focussing on specific skills.

SkyTech is a successful example of an industry-education partnership that has produced tailored education and training programs to meet the needs of the local market. By investing and participating in initiatives like SkyTech, workforce planners can ensure their organizations have timely access to a fresh talent pool with the skills and industry know-how they require.

7 Workforce Partnerships

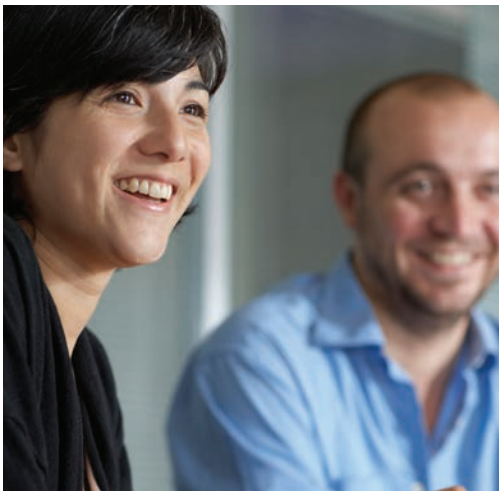


Introduction

As the mining industry grapples with long-term labour shortages, individual organizations are burdened with overcoming the HR challenges faced by the industry as a whole. These include a lack of industry awareness and widespread misconceptions about mining operations and careers; geographic barriers; and difficulties with accessing diverse labour pools. These sector challenges affect individual organizations' ability to attract and retain their workforces, however; mining industry employers do not need to face these workforce challenges alone.

There are many examples of regional and national associations, taskforces and other groups, whose work provides valuable material, programs, resources and support to help individual companies counter both economic and production cycles. These initiatives include dissemination of information about mining careers; retention and recruitment strategies developed in close collaboration with policy makers; and development of industry awareness campaigns.

Because mineral deposits are frequently located in remote regions, accessing human resources to support the extraction and processing of ore bodies can be a complex undertaking; in fact, this is often the most challenging aspect of mining operations. Mining organizations can reduce these labour pressures through meaningful engagement with local communities; by ensuring that accurate career information is readily available; and by supporting education and industry partnerships.



Disseminating correct information about the opportunities in mining and the communities that surround these often-remote sites is one of the first steps towards increasing the numbers of people considering a future in this diverse and potentially lucrative industry. Numerous target audiences exist for this type of information campaign, including students, members of groups traditionally under-represented in mining, residents of underemployed regions and immigrants. It is time-consuming and often not as effective when these types of campaigns are undertaken by individual companies, rather than executed as a coordinated multi-stakeholder effort. Workforce partnerships are a vehicle for these types of collaborations.

Workforce partnerships are broad sector partnerships involving diverse stakeholders with interests in the mining industry. Partners can include companies, labour representatives, professionals, suppliers, educators, employment organizations and governments that tackle current and future issues facing the industry. Often, these issues are linked to the availability of labour and always, they impact companies' ability to operate and plan for the future; therefore, workforce partnerships have a direct impact on workforce planning.

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Workforce partnerships are unique, in that they bring together a variety of perspectives, ideas and resources. These partnerships are integral to counter-cyclical strategies because their diverse membership insulates them from the type of reactive shifts in priorities that are often necessary for the survival of an individual company. By providing a long-term, “big picture” perspective, workforce partnerships can strategically tackle systemic industry issues that are larger than any single organization — and the partners can work together to create equally large, long-lasting and future- oriented impacts. The programs, tools and relationships developed by these multi-stakeholder alliances benefit the industry as a whole, create strong networks and provide new opportunities, particularly for smaller companies.



This case study explores initiatives from the BC Mineral Exploration and Mining Labour Shortage Task Force (the BC Task Force) and the Saskatchewan Mining Association (SMA).

Established under the provincial Labour Market Partnership Program in 2007, the BC Task Force is a broad sector partnership involving industry, labour unions, career information and employment service providers, educators, training providers and government agencies. The mandate of the task force is to develop a business plan and HR strategy to address skills shortages, as well as recruitment and retention challenges — considered imminent with the significant economic growth in British Columbia’s mining industry. The province has identified a need for the BC industry to hire 10,000 to 13,000 new workers between 2011 and 2021 — to allow companies to continue to operate and potentially expand existing mines. These figures do not account for exploration activities or the opening of new mines in the province.

The SMA is a not-for-profit industry-funded organization that represents mining and exploration companies. The association is membership-based and organized according to member commodity and activity level with five sections: Potash, Uranium, Metallic Minerals, Industrial Minerals, and Exploration. The SMA aims to provide value to its membership base through initiatives such as expert committees, partnerships in reports with organizations such as MiHR, and advocacy.

This case study demonstrates that many opportunities exist for partnerships among companies, associations, educational institutions, government and other stakeholders. It also demonstrates that a lack of knowledge and misconceptions about the mining industry may be one of the largest barriers to resolving the looming labour shortage. Creating opportunities for the entire sector to discuss challenges and brainstorm solutions on how to disseminate information is an excellent starting point. The partners can also work together to advocate for new or more targeted educational programs and government support. Further to these efforts, it is vital to get industry representatives into schools, communities and employment-information sessions to interact with the next generation of workers and those who shape them.

Increasing interest in the mining sector is in the interest of all stakeholders. This can be achieved in a number of ways: by developing public awareness programs, training qualified individuals, developing sustainable mining communities and creating jobs. As always, however, the questions that echo loudest are, “who, how, where and how much?”

Increased taxes, lower levels of unemployment, and demonstrable employment opportunities for immigrants and other under-represented groups are clearly significant wins for the government. On the other hand, companies benefit from the simple ability to operate or expand their businesses, and educational institutions benefit from the revenue of specialized programs, higher enrolment and positive placement statistics. So, who should invest in the people and resources to create and execute the programs? How can companies curb the natural competitive instinct to grab the available talent for themselves, in favour of enlarging the talent pool for everyone? And who should bear the responsibility of tracking programs’ success? This is where the marriage of diverse stakeholders into a workforce partnership can provide great value.

By bringing expertise, outside-the-box thinking, new networks, government and corporate funding, understanding of trends, cohesion and ultimately, creativity to a pervasive and long-standing challenge, workforce partnerships can create positive results for all involved. Funding by government programs or industry membership, as well as partnerships with non-governmental organizations such as MiHR, generally allow the outputs of these partnerships to be published and made available on government and/or industry-association websites. Industry professionals can access these reports and learn about what others in the industry are doing. These professionals can then incorporate the information into their workforce planning models and introduce new program opportunities to their executives.

Because of the size, spectrum and variety of stakeholders involved in workforce partnerships, these types of initiatives touch upon many other workforce planning tools. They also take a significant amount of work and time to form and implement. For these reasons, workforce partnerships fall into the long-term category of the planning toolbox, as seen in Figure 1.

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Overview of the BC Task Force and SMA Initiatives

The long-term strategic vision of the BC Task Force is: “A growing, vibrant and safe British Columbia mineral exploration and mining industry supported by a positive image, an engaged and highly skilled workforce, a responsive education and training system, and sustainable and anticipatory HR strategies and practices to match labour demand.” The BC Task Force identified and developed five categories in which to pursue long-term strategic HR goals: image and career promotion; attraction and recruitment; retention and turnover; education and training; and sustainability.

The mission of the Saskatchewan Mining Association (SMA) is: “Providing a foundation for growth through a safe, responsible mining industry.” The SMA pursues this mission by positioning itself as the voice of the industry at the forefront of mining issues and public policies that directly impact members’ bottom lines — through external advocacy of governments and the public, as well as coordinating numerous internal committees comprised of experts.

One of the largest differentiators between the two workforce partnerships is that the BC Task Force is largely government-funded, while the SMA is industry-funded through memberships. In addition, the BC Task Force is focussed on the issue of labour shortages in BC, while the SMA takes a broader approach to many mining industry issues.

Understanding labour shortages and which positions will be most affected helps companies to “adapt and survive” by adjusting their workforce planning. However, taking action to resolve the problem supports more than survival; it allows companies to plan more concretely and operate optimally. The initiatives undertaken by the BC Task Force and the SMA to tackle looming labour shortages are numerous and wide-ranging. In general, these initiatives can be classified by their intended audience, key contributors and/or purpose.



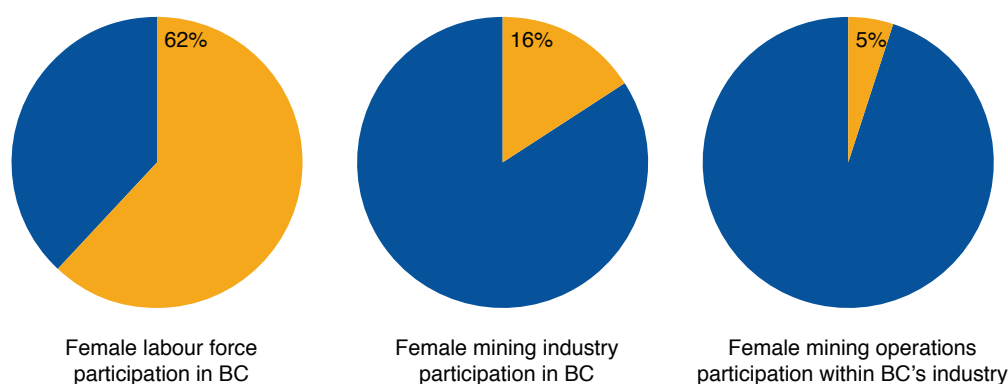
Generating and Disseminating Research

The realization that Canadian mining was facing a significant labour shortage led the sector to generate a number of responses, opinions and further questions. The journey towards comprehensive solutions inevitably produces even more questions; therefore, initiatives designed to delve deeper into root causes and potential solutions are at the foundation of many of the workforce partnerships prevalent in the industry.

Both the BC Task Force and the SMA are involved with a significant number of research initiatives to support companies and other stakeholders in workforce planning. In particular, their regional labour market information (LMI) studies provide both high level and job-by-job projections of talent surpluses and deficits. These LMI studies provide clear and concrete information for individuals seeking to understand where they will need to mitigate shortages through their workforce planning strategies. Examples of these initiatives include:

- *BC Women in Mining Study* — This 2011 study explored the numbers and roles of women in the province's mining industry. The findings, produced in a document titled *Women: An Unmined Resource* showed that women are an integral component of BC's mining labour shortage. Female participation in the general BC labour force is 62 per cent, while women's participation in the mining industry is only 16 per cent and participation in actual mining operations is just 5 per cent (see findings in Figure 2). This type of research provides valuable insights that help companies to develop strategic initiatives to target specific areas of weakness or opportunities.

Figure 2: Women in Mining Workforce Participation - BC



- *Expert Committee* — Convened by the SMA, this committee meets approximately six times per year and includes industry experts from environment, taxation, safety, geotechnical, public relations and HR. These experts bring a wealth of knowledge and insights to discussions on current industry issues. The committee, and particularly the HR individuals, contributed significant data to MiHR labour market studies that involved the SMA.
- *Two Labour Market Studies with MiHR* — SMA's involvement was initiated by the association's interest in MiHR's 2006 report, which signalled a looming crisis in mining labour. Curious to learn more about the forecasts, the SMA contacted the study's authors and learned that the roots of the problem lay in shortages of expertise and upcoming waves of retirement. The association developed a strategic plan to develop a qualified workforce, with training identified as a key input. Questions remained, however, about what type of training was needed, how much and when. These lingering questions highlighted the need for informed advocacy, prompting the SMA to approach MiHR about getting involved in the 2008 Labour Market Study.

The positive and collaborative way in which associations across Canada work together has been beneficial, as has the ability to share the costs of studies that would likely be unaffordable for a single organization. MiHR had knowledge about the demand side of the labour equation and had addressed it in previous studies; however, the 2011 Labour Market study was the first one to incorporate information on the supply side of labour —

through use of Statistics Canada data on graduating students and mining industry uptake of graduates. This evolution made the study that much more comprehensive. It also supported a targeted focus on education, with the goal of aligning supply and demand in the future. For professionals involved in workforce planning, this type of labour market information (LMI) provides a window on projected surpluses and deficits at the individual-occupation level — which allows planners to clearly understand the relationship between their current and future workforce needs, and the talent that is or will be available in the labour market.

- *MiHR Labour Market Information BC* — This study aimed to gather information specific to the BC mining industry, and to identify potential opportunities and threats particularly relevant in the BC context. This study laid a solid foundation for outreach to various stakeholders, including the BC Aboriginal Mine Training Association (BCAMTA), to enable collaboration on relevant, high-impact initiatives. Working together, the two



associations can share skills, resources and potentially funding to support new or existing HR projects. The BCAMTA has been a key contact for the BC Task Force, which helped the Aboriginal training organization to develop its website, which has generated very positive reviews and high traffic. The BCAMTA seeks to identify, recruit and train Aboriginal people to work in the mining industry in BC. To date, results include the employment of more than 500 candidates — 65 per cent of whom were transitioned from unemployment and 42 per cent of whom are under 35 years of age. Additionally, over 1,200 potential job candidates have been identified, representing 150 bands.

Attracting New Talent to the Sector

Significant misconceptions and a lack of awareness about career opportunities continue to plague the mining sector. Although tackling this issue is a potentially daunting endeavour, its importance is paramount. Through workforce partnerships such as the SMA and BC Task Force, a variety of initiatives have been undertaken to

build career awareness for the industry. Increasing career awareness is a significant strategy for the mining sector, as it works to develop a positive image and a broad, skilled and sustainable talent pool. As a workforce planning tool, this strategy helps ensure a predictable and sustainable labour supply for the sector — by creating a more responsive education and training system and reducing barriers to individual company recruitment efforts.

- *Explore for More BC* — This website dedicated to BC's mining industry was created through a licensing agreement with MiHR. The site provides information on careers, education, training, resources and research, and industry events, as well as on the BC Task Force itself. It targets everyone from interested individuals, educators and students, to companies and professionals; it covers industry information for BC, as well as some Canadian events.

- *A Career in Mining is More than You Think* Pamphlet — This product was developed using material from and in partnership with MiHR. The pamphlet, available online as well as in hard copy, contains overview cards about the BC industry, as well as career profiles. It has met with great success; more than 7,000 copies have been handed out in BC alone.
- *Mining Your Future*: TV Mini-series — This series aired in 2012 and profiled 24 jobs in the mining industry. The program showcased the diversity of opportunities available in the mining industry; the sector's focus on safety and the environment; and opportunities for under-represented groups such as women and Aboriginal people. The season consisted of eight episodes that covered jobs stemming from direct and indirect employment; located in cities and remote sites; and on the continuum from exploration through to operations. The series was viewed by 1.5 million people and is still available for viewing online. The program was so successful that a second season that will expand to cover North America is currently in production. The BC Task Force has been able to step back after helping to launch the program and to allow it to proceed under its own momentum. The first season is also being packaged into DVD sets for distribution to BC high schools and employment agencies, to complement other initiatives. The Career Education Society of BC will help to disseminate the DVDs, as well.
- *Newspaper Inserts* — Developed with Media Planet, a successful communications firm, these inserts aimed to educate urban populations about the mining industry. The eight-page pamphlets were distributed with the Vancouver Sun, and covered topics such as career profiles, job opportunities and resources, industry information, environmental initiatives and information sources.

Lobbying Government and Other Institutions

The labour shortage issue does not have a single or simple solution, and cannot be addressed with short-term fixes. A multi-pronged approach, including diversification of the labour pool, requires a long-term perspective and the support of multiple stakeholders — most notably government and related institutions, which have unparalleled influence on the development of the next generation and a unique ability to reach the general population. Workforce partnerships allow companies to contribute to discussions and initiatives that will shape workforce solutions, without putting all the responsibility on the shoulders of the companies. By engaging multiple and diverse stakeholders, partnerships such as the BC Taskforce and SMA build solid networks that outlast individual mines, professionals and organizations — thereby creating sustainable programs and tools that produce strong, long-term results.

- *Jobs BC* — This provincial government program covers the full spectrum of information related to employment — from career exploration and job postings, to training and education; it also connects people with work centres and groups with similar characteristics. The BC Taskforce has become involved in the program, offering support, content and linking resources. The site takes a unique approach, by supporting individuals at every stage of the work and career process using a variety of media, including interactive tools based on data collected from industry and educational statistics. For example, the “career pathfinder” tool invites people to enter an occupation or educational program; it then provides statistical information and related links, so they can learn about what others in those fields are doing and explore opportunities flagged as similar to their search terms.

- *Attract New Immigrants to Mining Areas* — This group was identified as a potential source of qualified skilled labour for the mining sector. Most new immigrants to BC settle in the Lower Mainland Region, rather than spreading out and exploring northern mining regions that offer numerous employment opportunities. To explore ways to attract more immigrants to mining, the BC Task Force began by conducting focus groups with selected groups of immigrants who possessed skills that could be applied to the mining industry. The objective was to better understand why new arrivals to BC did not pursue opportunities in other regions and in mining, specifically. The findings were then relayed to groups consisting of mining professionals and new immigrants who had successfully found employment and moved to mining regions. These individuals used the focus-group feedback to tailor their speaking points for videos, in which they speak about their experiences and about mining, in general. The objective is to use these videos to inform new immigrants about the industry and its career opportunities; they are distributed through various channels, including government programs and employment agencies.

- *Lobbying Governments for Funding* — Government funding for educational programs and more apprenticeship positions is critical but can be challenging to secure. Making use of information coming out of research studies and industry associations adds credibility to lobbying initiatives and demonstrates where resources can be directed to make the most impact. The SMA was able to use the MiHR Labour Market studies to demonstrate to the Minister of Advanced Education and the Apprenticeship Commission that more funding was required for apprenticeship programs to prepare the next generation of workers in specialized trades. Research and data-backed material allows stakeholders to advocate in a consistent and credible manner at all levels, and to clearly establish the case for priority funding. This was particularly important during the lead-up to government funding cuts.



- *Consultation* — Consultation has been a key factor for the SMA in its efforts to understand all sides of the labour situation and to harness the power of multiple stakeholders to construct solutions. The association has contacted a range of stakeholders — including post-secondary institutions on the topic of programming; First Nations groups on workforce skills development and educations; and companies on their needs and participation in the cross-industry Saskatchewan Labour Market Task Force, alongside the construction and oil and gas industries.
- *Participation in Related Industry Events and Bodies* — Entities such as the Saskatchewan Labour Market Task Force can provide the mining sector with valuable insight, partnerships and visibility. The participation of the SMA, alongside the construction and oil and gas industries, demonstrates the influence and visibility that initiatives such as Labour Market studies have achieved for mining in Saskatchewan.

- *Apprenticeship Program for Secondary-school Students* — This was another identified area of deficiency in the development of a labour pool. When the subject was initially raised, stakeholders gave a number of reasons as to why this type of program didn't exist; most of them centred on regulations that restrict mines from employing individuals under 18 years of age. This line of reasoning was found to be full of misconceptions and in reality; it was entirely possible for mines to have trainees. Many companies, however, did have concerns about young people in the mines due to perceptions about child labour and other potential “red flag” issues. The BC Task Force broached the subject with companies, unions, and health and safety professionals, and developed a program that is currently being piloted. From identification of the gap to the actual piloting of the program took two years.

Creating Opportunities and Educational Touchpoints

Developing sustainable solutions to labour shortages requires a longer-term perspective that looks well beyond the current workforce. Because of this requirement, programs that reach students all the way from kindergarten to university are critical to success. Outreach to younger students is an effective strategy; programs that begin to introduce concepts about mining at an early stage build knowledge and should ultimately increase interest in mining careers. Creating a longer and deeper pipeline of labour for the industry will significantly improve the predictability of the labour market. As more educational programs are created, their statistical outputs can be fed into research, such as MiHR's Labour Market studies; in turn, this will improve inputs to the type of labour-supply forecasting that is so important for workforce planning.

- *Involvement with Educational Institutions* — Linkages with educational institutions provide opportunities to apply the knowledge gained from industry research to the development of educational offerings tailored to future labour force needs. The SMA has used the learning from the Labour Market studies to support the design of targeted work-ready programs at the Saskatchewan Institute for Applied Science and Technologies (SIAST). One example is the Mining Engineering Technologist course, which was implemented over a two-year period following the release of the 2008 Labour Market report — taking in its first group of students in 2011. SIAST has recognized the monumental amount of work the SMA has done to help the mining industry address current and upcoming HR issues — particularly in advocating the importance of relevant training-to-employment in the post-secondary system — by appointing SMA's executive director to the SIAST board and having the executive director serve as board chair from 2010 to 2012.
- *Targeted Education to Secondary-school Students* — This type of initiative brings mining into the picture at the precise time when many adolescents are, for the first time, seriously contemplating their future professions. The BC Task Force uncovered the fact that many career counsellors had limited or no knowledge about the mining industry; consequently, students were not informed about the many career opportunities available in mining. To overcome this problem, the task force came up with the “Planning 10” course. To develop the course, career counsellors and teachers visited mines and mining professionals came to the schools to speak to students about their experiences. Videos of these speakers were used to develop course material and implement a curriculum that would both inform and excite students about the mining industry. The course included positive branding of the industry and information about mining jobs and education.

- *Established Mining Camps for Young People* — Camps were set up for children and youth of all ages — from kindergarten to post-secondary school. The goal was to expose the young people to the “mining environment” through various activities, depending on the age group. For example, participants in the Grade 8 mining camp live in the north for one week, during which they have the opportunity to tour mines, explore skills used for various mining occupations and interact with industry professionals. The BC Task Force has taken an approach common to many such programs, by creating and piloting the programs — and measuring success by the degree to which they are adopted and continued by others.



Spreading the Word and Recognizing Progress

The work undertaken by these groups is often invisible to those not directly involved. As a result, many individuals — both within the mining industry and in affiliated areas such as education and employment counselling — may be missing opportunities to be inspired to develop their own projects and to contribute to these wide-reaching initiatives. The results can only be positive if companies are given the chance to learn about programs they can access and support; if educational institutions see how new program structures can directly benefit their students; and if governments and non-governmental organizations gain more access to information and statistics to help them better understand the current and future state of the industry.

- *Sponsored and Involved Presence at Conferences* — Workforce partners can raise awareness about their efforts and results by sponsoring and participating in conferences and other events that reach their target audiences. These can include gatherings of mining HR professionals or industry-wide conferences, such as the AME BC Mineral Exploration Roundup Conference, which brings together 8,000 mining representatives. The BC Task Force has used such venues to profile the benefits of industry-educator collaboration and to highlight innovative approaches. One example is the apprenticeship programs in BC — in which the schools administer the program, while industry funds the administration and provides the apprenticeship placements.
- *Mining Diversity Award* — This award is given to an organization, individual or company that demonstrably improves diversity through attraction, recruitment, retention and/or career progression. The purpose is to highlight excellence in HR practices, which is critical for mining companies at a time when the need to retain and recruit employees is paramount.

Expected Impact

The varied initiatives of the BC Taskforce and the SMA have yielded positive impacts for many different stakeholders within the mining industry; these include:

- The success of supported programs (for example, the BCAMTA website), which are now fostering creation of additional initiatives— and the quantifiable improvements achieved in such areas as employment placements and educational enrolments

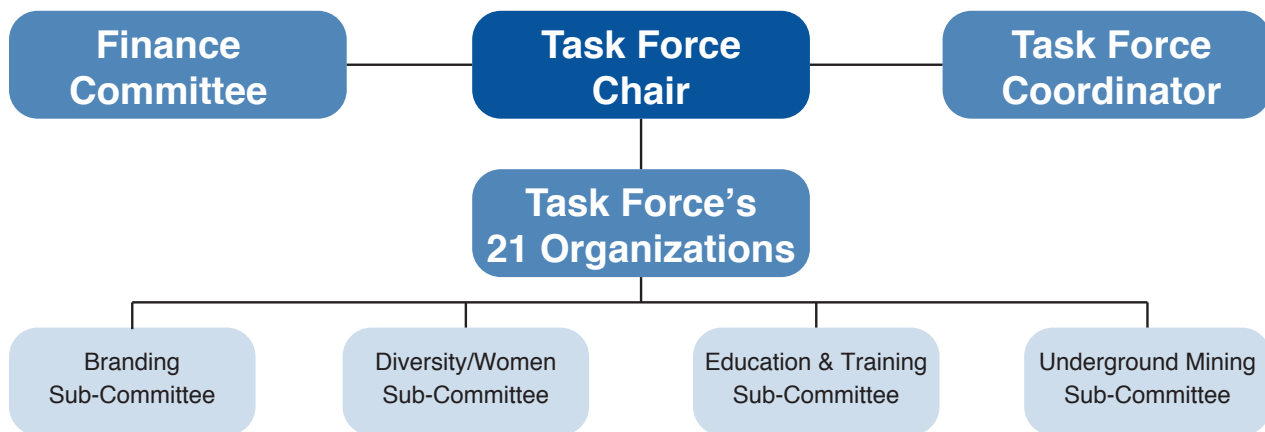
- The TV mini-series, which has proved very popular, with the second season running on its own
- A long list of new programs; increased engagement of multiple stakeholders; and the provincial government's renewal of the BC Task Force's mandate
- The 2008 Labour Market study supported the SMA's efforts to advocate for a specialized Geological Engineering program at the University of Saskatchewan, a program which is now funded.
- After the release of the 2008 study, the SMA's executive director was appointed to the board of the Saskatchewan Institute of Applied Science and Technology (SIAST), giving the association further influence in industry and education-related arenas.
- SIAST used the 2011 Labour Market study to develop new courses aimed at supplying trained workers to the mining industry. These programs are full with waiting lists — demonstrating the success that can occur from training people for specific occupations, rather than “training for training's sake.”
- Saskatchewan's Minister of Advanced Education has recognized the planning value of the Labour Market study — identifying it as a model for the type of studies needed to facilitate change. Other tangible outcomes of this stream of work and SMA's lobbying efforts include higher numbers of apprenticeship and training positions, due to increased government funding for these programs.
- The International Mining Institute for Innovation shifted from a single-pillar focus on research alone, to a two-pillar focus on both research and education/training. The Institute made the shift in response to workforce requirements clearly identified in the two Labour Market studies, as well as in Canadian and Western Canada research reports that showed similar demands in other regions.

These examples illustrate the wide range of opportunities and successes workforce partnership make possible. It is important to note that these successes benefit all of the contributing stakeholders. For example, companies clearly benefit from a broader, deeper and better educated workforce; governments benefit from corporate taxes, royalties, salary taxes and better employment statistics; and educational institutions benefit from tuition fees for new programs and higher employment rates for their graduates.

Implementation and Dissemination

Both the BC Task Force and the SMA began with and continue to rely upon the work of one or more committees to achieve their program successes. It is never an easy task to convene a committee, particularly with multiple stakeholders. The BC Task Force subcommittees have autonomy and assigned leaders that allow them to pursue initiatives in an independent manner (see Figure 3). The task force continues its critical work on innovation and new-program development — but the next important step is to build partnerships that will support broader information campaigns to positively brand the mining industry and to raise awareness of the initiatives already underway.

Figure 3: BC Taskforce Subcommittee Structure



Cooperation between the SMA and MiHR was essential for the 2008 Labour Market study. The model was primarily designed by MiHR, with the SMA's HR Committee providing input to refine model. The association helped MiHR to tailor key elements of the research to Saskatchewan's somewhat unique mineral resources — through the use of a commodity basket that included potash and uranium, for example.

Workforce partnerships rely heavily upon the participation of key industry professionals and on industry events to connect with employers, HR and operations managers, and others who stand to benefit from partnership programs. Through these connections, workforce partners also acquire resources (e.g., information that can be fed into LMI studies) and key partners for programs such as apprenticeships.

Industry events provide partners with excellent opportunities to exchange ideas, disseminate information, develop relationships and widen networks. Partners can share their successes in workforce planning and talent management with many key audiences — junior and major mining companies, new and seasoned mining professionals, policy makers, educators, recruiters and many others. Clearly, networking is the underpinning of workforce partnerships.

Key Challenges and Lessons Learned

The first challenge for workforce partnerships is to unite the partners around common goals and a common mission — which can be difficult when dealing with many stakeholders with frequently conflicting purposes and priorities. Clearly, many partners have been able to overcome such challenges; workforce partnerships have become “best practice” in the mining industry because they have been able to organize around addressing an urgent need.



Another challenge is a lack of consistency in messaging and branding. The BC Task Force, for example, has recognized the critical need to disseminate information about its membership and initiatives. To address this requirement, Task Force members have made presentations to key groups, such as corporate HR associations, to explain how HR professionals can contribute to and benefit from its programs.

As is true for all disciplines, the methodology for creating mining labour market studies is continually being refined and collecting consistent data from multiple sources remains a significant challenge. For example, the SMA faced considerable difficulty with data collection, due to inconsistencies in the characterization and coding of jobs from one company to another. As labour market studies and other forms of research continue to grow in number and importance, stakeholders will need to address these reporting inconsistencies.

Key Resources

Companies looking to learn more about the opportunities available through workforce partnerships should turn to their regional and/or national associations. Industry associations and professional networks can provide valuable information on key resources and on programs, research projects and other initiatives that mining companies can support or access.

Key resources for workforce partnerships are wide-ranging and include:

- Provincial and federal governments
- Educational institutions of all levels
- Industry organizations, associations and experts
- Companies and mining professionals

Further information and materials can be found on websites of the BC Task Force (<http://www.acareerinminingbc.ca/>) and SMA (<http://www.saskmining.ca/>).

Summary

The future success of the mining industry will depend on the availability of talent to operate existing mines, and to locate and develop new mineral deposits. Failure to deal with the increasing competition for skilled professionals in a shrinking labour market could spell disaster for an industry so crucial to the Canadian economy.

The cyclical nature of the industry leads individual organizations to constantly shift priorities to survive. Most mining companies cannot at the same time “carry the torch” of a long-term strategic vision for keeping the entire industry on course, in the face of critical labour shortages. Workforce partnerships allow companies to join forces to meet the industry’s urgent talent requirements.

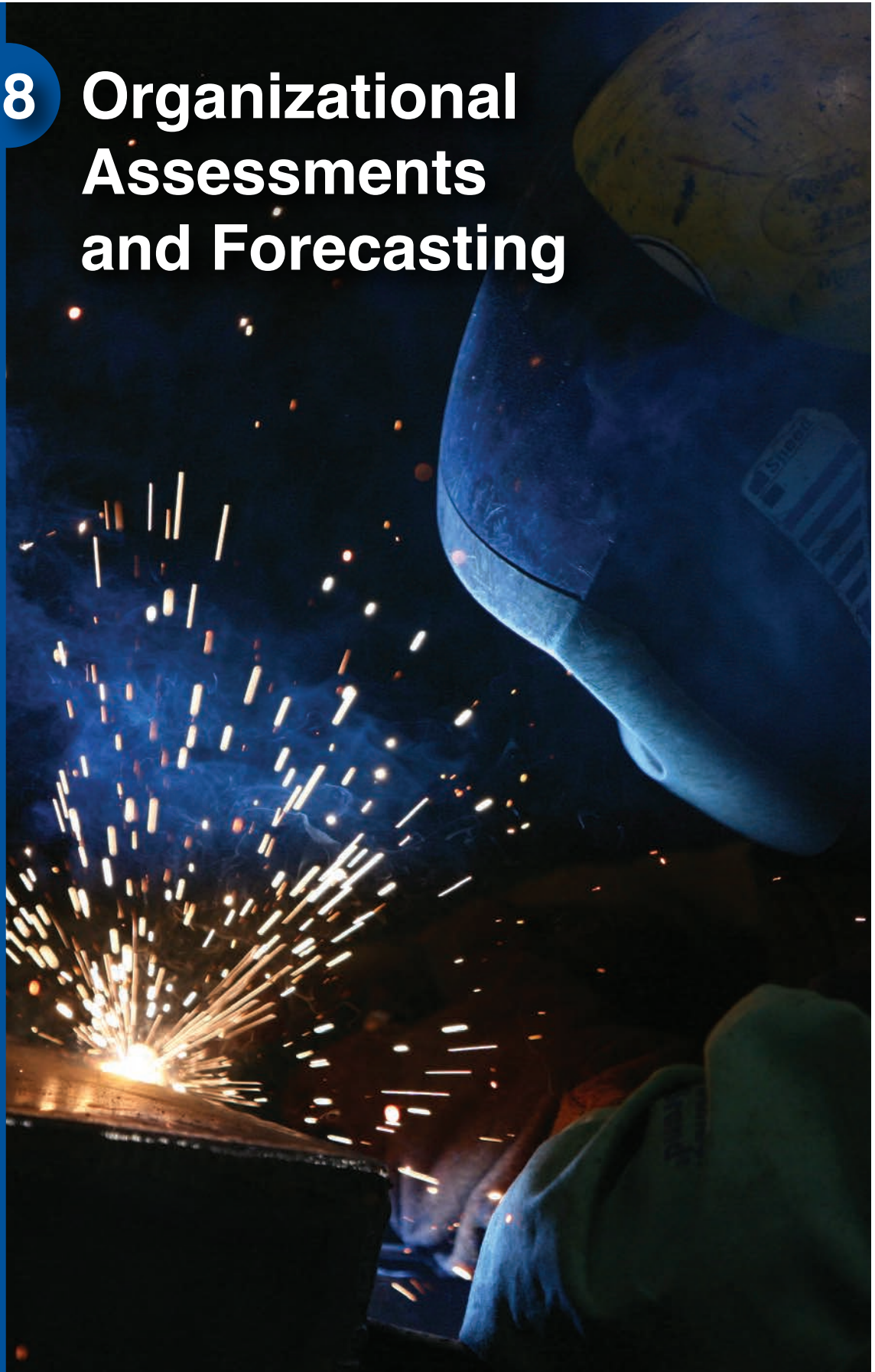
Workforce partnerships foster development of solid labour market information and career-awareness programs — bolstering individual companies’ efforts to design and implement more effective workforce planning programs. Because action at the company level has limitations, the industry needs to take a “power in numbers” approach by building strong workforce partnerships.

The examples profiled in this case study demonstrate that workforce partnerships can achieve extraordinary and far-reaching successes. The coordinated efforts of governments, educators, associations and companies can lead to creation of a long-term strategic vision and concrete action to foster labour-pool growth, skilled and engaged employees, and superior HR practices for the mining and minerals industry.

The achievements of the BC Task Force and the SMA are many: recruitment of new employees; syndicated educational television programming; new university programs and certifications; and more funding for apprenticeships and job placements. These partnerships have also taken the long-term view by working to generate interest in mining careers among young people of all ages.

The success of these workforce partnerships should serve as an inspiration to all stakeholders. The next major priority will be enhanced communications to raise awareness about these partnerships and their accomplishments. The goal is to find broader audiences and more participants, to entrench these programs and extend their reach well into the future.

8 Organizational Assessments and Forecasting



Introduction

Organizational assessments and talent forecasting measure a company's workforce needs by depicting "plausible future outcomes" and considering the optimal workforce structure. This assessment and forecasting process is conducted to ensure an organization has a detailed understanding of today's organizational capacity and how different business scenarios will influence workforce needs in the future. This tool incorporates the outputs from capacity planning, succession planning and departmental budgeting to help companies make key workforce decisions. In addition, these decisions are continuously evaluated and refined based on labour forecasting information. This process of analyzing and forecasting the talent that a company will need to achieve its strategic business objectives, helps companies make better decisions in volatile economic conditions.

ALL INFORMATION AND STATEMENTS IN THIS CASE ARE BASED ON A SERIES OF INTERVIEWS PERFORMED WITH EXPERTS IN THE MINING INDUSTRY COVERING THEIR EXPERIENCE IN CREATING AND UTILIZING WORKFORCE PLANNING TOOLS AND COUNTER-CYCLICAL STRATEGIES UNLESS OTHERWISE INDICATED.

Cameco, one of the world's largest uranium producers with four major mine sites in Canada, was interviewed as part of this case study. Situations that cause companies to turn to tools such as assessments and forecasting can include:

- Facing an overheated labour market where reactive actions in the absence of predictive data are no longer sufficient; approaching expected growth with no clear plan of how, who and where to recruit to meet both current and future requirements
- Finding themselves unable to get ahead and relying on just-in-time operating models, which can lead to increased tension between departments

Organizational assessments and forecasting are long-term workforce planning tools and provide the context for many medium-term tools such as succession and capacity planning. By understanding what the supply and demand of workers will be for each operation in the short, medium and long terms, a mining company can make informed decisions today — in terms of more targeted recruiting efforts, leveraging attrition to reduce the workforce, and matching production targets with human resource needs. Forecasting is one of the most common tools used by HR professionals to plan their organization's workforce. Forecasting can vary from simple raw-data analysis to very complicated models — but at its foundation, the "slicing and dicing" of data helps organizations to discover trends and challenges. This information can be used to support development of strategies such as succession planning to maximize the employee performance and engagement across the workforce, and to mitigate foreseen talent gaps.



This planning tool fits into the “long-term” category of strategic workforce planning program, as shown in Figure 1:

Figure 1: Time Horizons of Workforce Planning Strategies



Source: Mining Industry Human Resources Council, 2013

Overview of the program and process

Cameco structures its human resources forecasting program around its fiscal calendar; it forecasts both one-year out and on a longer-term horizon, and then shares the results with senior management.

Cameco has a staged approach to workforce planning, which progresses from initial strategic planning through to tactical recruitment plans. As illustrated in Figure 2 — at each stage, a specific function (e.g., corporate planning or HR) is responsible for initiating the planning process and for engaging the operational departments in that process.

Figure 2: Cameco Workforce Planning Functional Responsibilities

| STAGE | RESPONSIBILITY | INVOLVEMENT |
|---|---------------------------------------|------------------------------|
| 1. Corporate strategic planning | Corporate planning | Senior management |
| 2. Corporate identification of key priorities | Human resources | Senior management |
| 3. Critical position review | Human resources | Operations HR and others |
| 4. Operations strategic planning | General manager of operation | Operations senior management |
| 5. Corporate workforce planning meetings | Workforce planning | Department heads |
| 6. Completion of personnel assumptions | Workforce planning | Workforce planning |
| 7. Operation workforce planning meetings | Workforce planning/HR | Operations senior management |
| 8. Compilation of workforce plans | Workforce planning | Operations |
| 9. Block requisition and recruitment plans | Workforce planning/talent acquisition | Operations |

Source: Cameco, figure recreated by KPMG, 2013.

These stages are run over the fiscal year, beginning with key quick changes in the first quarter (Q1) and culminating in the preparation of detailed workforce plans for senior management by Q4. The process overview is provided in Figure 3:

Figure 3: Cameco Workforce Planning Q1-Q4



Source: Cameco, figure recreated by KPMG, 2013.

Q1 and Q2 (engaging business units)

To inform development of a robust organizational assessment and forecasting plan, Cameco distributes a department-level survey in Q1 to establish the each department's key workforce priorities for the fiscal year. Maintaining the quality of the data collected is integral to the process, as Cameco utilizes this data to make budgeting decisions. Cameco also has its department heads fill out the priorities survey at the same time that they are asked to prepare budgets for the upcoming year. This engages department heads when the information is top-of-mind and also helps them understand what changes might be coming for their workers in the year ahead. The structure of the survey questions is provided in Figure 4.

Figure 4: Cameco Workforce Planning Priority Survey

| SECTION | OBJECTIVES | KEY INFORMATION GATHERED |
|--|---|--|
| A. Annual Department Priorities | <i>Determine how the strategic plan has impacted the division</i> | <ul style="list-style-type: none"> Three main priorities for each department |
| B. Operations and Capital Impacts | <i>Determine how other operations, capital projects and acquisitions impact the division</i> | <ul style="list-style-type: none"> List of top three changes that will impact resources and how |
| C. Workforce Review and Adjustment | <i>Provide an overview of the department as it stands today</i> | <ul style="list-style-type: none"> Resource requirements in one year and six years Demographic information for the department Identify strategies to address changes List of potential retirements, the probability of each departure and the associated risk to the business List of positions that need to be replaced and those that need not be |
| D. Skills, Competencies or Knowledge Changes | <i>Identify the skills, competencies and knowledge that will be important for the business unit in the next five years</i> | <ul style="list-style-type: none"> List of anticipated changes that will affect the types of employees required Top three expected changes in business activity in both the short and long term List of skills and competencies required ranked by level of importance in the short and long term List of technological changes that will impact resources |
| E. Employee Development | <i>Determine key employees and positions in each department to help develop employees appropriately</i> | <ul style="list-style-type: none"> List of high potential employees based on identified characteristics List of critical positions at each site/division List of potential successors for critical positions and those with potential retirements (feeds into succession planning) |
| F. HR Supports | <i>Identify what useful programs, sessions or material could be provided by the Corporate HR team to help each division/business unit</i> | <ul style="list-style-type: none"> List of areas where HR can contribute (org redesign, training sessions, external transfers for employees, etc.) |
| G. Contractors and Consultants | <i>Confirm the need for contractors and evaluate each contract and how it will be affected by business changes</i> | <ul style="list-style-type: none"> List of contractors to replace or ramp-down Areas where contractor use should be increased or decreased Overview of service agreements |
| H. Summary | <i>Additional talent management concerns or requests</i> | <ul style="list-style-type: none"> Areas that were not covered or require additional explanation |

Source: Cameco, figure recreated by KPMG, 2013.

From this survey, the HR department completes a series of next steps, the results of which are conveyed to each business unit and department:

- *Summary of Personnel Needs* — This is presented at the beginning of the budget process to identify the potential impact of each personnel plan.
- *Produce Requisitions for New Personnel and New Positions* — After the plans are discussed, HR gets approval for new positions and the hiring of new employees, which are agreed upon during the budgeting meetings.
- *Forward Requisitions to Talent Acquisition* — These needs are built into the annual recruitment plan and a compensation specialist will conduct a rating of new jobs, if required.

At the same time, business units and departments have another set of responsibilities that include completing the necessary paperwork and articulating the business case for each additional person to be hired.



Q3 and Q4 (drafting operational plans)

In the second half of the year, the group focuses on developing operational plans for each location. At the beginning of the period, a series of *Talent Roundtables* are held with vice-presidents, general managers and HR leaders, where workforce gaps are discussed at length. Four meetings are held to discuss different employee levels within the organization.

Succession planning is discussed at length at these meetings. Each potential employee for an operation is run through a standard assessment that evaluates:

1. The willingness to learn
2. Business acumen
3. Interest to move roles
4. Performances
5. Ensuring they have been in their current role for one year at minimum

Also discussed at these meetings is the talent acquisition strategy for filling additional gaps. The outputs of the meetings are distributed with operations leaders (with the exception of sensitive succession planning information) to help inform the operational plan of each location.

The resource plan is held alongside the capacity/production plan for the period, to ensure targets can be effectively met within budget. Operational and human resource forecasts are conducted with the help of standing bodies, such as the Saskatchewan Mining Association (SMA) and MiHR's labour market forecasting tools, to build in an understanding of the external market and the potential challenges it might provide.

Expected Impact

For Cameco, a period of expected growth made strategic workforce planning a priority. Resourcing was going to be a significant challenge, especially in 2007, which was marked by an extremely overheated labour market and a time of mass expansion for many mining companies. Cameco felt the need to better understand how its labour requirements would evolve at each operation through the cycles in the mining industry. The company also wanted to have an objective and standard process to forecast and assess labour needs in a variety of possible future scenarios, thereby creating the ability to craft a counter-cyclical strategy.



The key benefits that Cameco has experienced from organizational assessments and forecasting are:

- *Better use of workforce planning programs* such as succession planning, capacity planning and recruitment plans
- *Increased visibility of operational and resource plans* across operations and better sharing of best practices
- *More rigorous approaches* to succession, recruitment and adding new positions
- *Improved retention* due to better employee development through identification of high-potential individuals and critical roles
- *Improved "bench strength"* for key positions at each operation to reduce the risk and impact of retirements and attrition

Perhaps the most important impact of implementing an assessment and forecasting process is that companies are better able to respond to changing economic cycles because each year, time is set aside for making adjustments using standardized historical and forecasted data.

Implementation and Dissemination

The approach that Cameco used to successfully implement this program was to closely tie assessment and forecasting meetings to budgeting, to ensure widespread buy-in from department heads. The program was designed to limit the time commitment for both the survey (taking approximately 1.5 hours to complete) and the meetings (roughly two hours per quarter), so that department heads could provide valuable input without becoming frustrated with an additional set of tasks. Since issues of resourcing needs and retirements are top-of-mind during the budgeting process, the information gathered is more accurate and the risks of losing employees to retirement become more concrete for each operation. In addition, the program was rolled out in phases, beginning with two operations in Northern Saskatchewan in 2008, and moving enterprise-wide in 2009.

The biggest obstacle for HR has historically been that operations leaders have not been willing to consider workforce planning, when in the throes of meeting budget and production targets. By having this program strongly endorsed by senior management at planning sessions, HR expects to secure buy-in from operational units, which will help the company run a more planned and deliberate operation.

Key Challenges and Lessons Learned

The key challenge in implementing an organization and assessment process is maintaining process standards across the organization. Using a clear and objective framework ensures that the data collected is comparable, consistent and accurate. The survey and resource-request forms are a few of the tools being used to collect



consistent and manageable data from all operations.

This program has been operating in times of growth since it was launched; maintaining the success of the program in slower economic times will be a significant challenge. In times of non-growth, not all resource requests will be approved, capital projects will be slowed down and some operations might face temporary closures. The program will be even more critical as operations vie for resources. The survey outputs will help identify which decisions must

be made, regardless of the economic climate, and which human resource challenges must still be addressed through investments. The program will reduce the risk of foregoing investments today that might pose significant challenges in future years (e.g., not hiring new employees in critical positions that face a wave of potential retirements). The company will manage the expectations of operations leaders and rely on forecasts to make decisions. It also hopes the reliance on demonstrable facts and data points will reduce resistance to planning.

Key Resources

The key resources Cameco used to implement this program were:

- *Existing Workforce Planning Programs* — changing pre-existing programs to use the output from operational and resource forecasts such as succession planning and recruitment
- *Survey for Department Leaders* — the survey provides an objective way to collect data that can be compared across locations
- *New Talent/Resource Meetings* — developing the new meetings outlined above with different departments to discuss key employees and the risk/impact of retirements
- *Resource Request Tools and Templates* — ensuring that all resource needs are run through a standard process to help make objective decisions

Summary

Forecasting helps companies to tie together their business and human-capital needs for upcoming years. By first looking internally at the risk and likelihood of retirements, companies can determine if they need to source more talent to maintain a specific level of production. Companies can then weigh external factors, namely the state of the economy and the availability of labour, to determine if adjustments should be made to production levels, which will affect the need for resources.

Forecasting is an iterative process; by linking resource forecasting with the budgeting process for the coming year and beyond, a company will improve the visibility of operational and resource plans. Forecasting helps tie together various strategic workforce planning initiatives. Mining companies can adopt a similarly rigid forecasting approach to quickly adapt their operational and resource plans to the state of the economy and use other workforce planning tools, such as redeployment or knowledge transfer to make these adjustments. In this way, mining companies can create a counter-cyclical strategy that prepares them to face the whole spectrum of possible economic shifts.

Conclusion

Canada's mining industry is grappling with shifting demographics, aging workforces, volatile economic conditions and skills gaps — and the need for proactive planning has never been greater. The case studies illustrated in this report show that a successful strategic workforce plan is strongly linked to an organization's business and other strategic goals, and to the external economic environment. Workforce planning requires HR departments to be equal strategic partners that forge meaningful alliances between a company's business goals and people strategies.

Economic cycles and volatility are an inherent reality in the mining industry. As stakeholders, organizations can either be reactive to change or can be decision makers influencing a company's future success. Strategic workforce planning provides the tools to build human capital, mitigate the cyclical risks to workforces, create sustainable plans for retention, identify risks from the external labour market and strongly support larger business strategies.

While proactive workforce planning strategies help individual organizations survive the ebbs and flows of economic cycles, collectively, they hold much promise for ensuring the entire mining industry thrives over the long term.



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