



TalentPool
Employers' Resource and Information Hub



TALENT POOL & CRIEC PRESENT:

COMPETENCIES AND CRITICAL SKILLS RESEARCH PROJECT

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I. INTRODUCTION

Skills shortages?

It is no news that Canada continues to face a serious labour and skills shortages. Our population is ageing. In fact, seniors are Canada's fastest-growing age group. Today the over 65s account for about 15 percent of the population or about five million people. By 2036, Statistics Canada projects the share will be about 25 percent, or around 10.5 million. Canada's birth rate is slowing and as a result, and even after accounting for immigration, the annual population growth rate for the next half-century will be the lowest in Canadian history. This means fewer people in the labour force and there will be fewer people with the requisite skills to fill vacant jobs.¹

According to Rick Miner, by 2031, Canada will have an overall worker shortage of 1,967,000 and an additional 358,500 people wanting jobs but unable to find them because their skills do not match the vacancies that exist. So in total 2,325,700 positions will be unfilled because of the lack of skilled workers.² And while we see more certificates, diplomas and degrees than ever before, Canada has huge skills mismatches in its labor market. We are all competing, within Canada and on the global stage for talent. In fact, employers are driven by the war for top talent in the market place.

To address these shortages we need more workers and we need them to have the right skill sets. We need to avoid the skills mismatches by having more of the right people with the right skills in the right place at the right time. How can Canada ensure that workers have the skills needed to do their jobs well and, at the same time, make the country a stronger international competitor? According to the Canada West Foundation "productivity and competitiveness in the West would soar if every worker had the essential skills needed to do their jobs really well. But many workers do not. Forty per cent of the workforce does not have the essential skills – including language, literacy and numeracy – needed to apply their technical skills and knowledge at globally competitive levels."³ Competency frameworks are critical. A pan-Canadian system of evaluating and certifying competence is key.



¹ Simpson, J., Why the Math of Aging Is Ignored, Globe and Mail, August 27, 2015.

² Miner, R., The Great Canadian Skills Mismatch: People without Jobs, Jobs without People and More, 2014.

³ Canada West Foundation, Smarten Up: It's Time to Build Essential Skills, 2015.

II. COMPETENCY FRAMEWORK

Why do we need it?

How can we define the skills, behaviors, and attitudes that workers need to perform their roles effectively? How do we know they are qualified for the job? Some people think formal education is a reliable measure, while others believe more in on-the-job training, and years of experience. Still others might argue that personal characteristics hold the key to effective work behavior. All of these are important, but none seems sufficient to describe an ideal set of behaviors and traits needed for any particular role. Nor do they guarantee that individuals will perform to the standards and levels required by the organization.⁴

A more complete way of approaching this is to link individual performance to the goals and values of the business, based on **competencies**. These are the integrated knowledge, skills, judgment, and attributes that people need to perform a job effectively. By having a defined set of competencies for each role in a business, it shows workers the kind of behaviors the organization values, and which it requires to help achieve its objectives. A **competency framework** defines the knowledge, skills, and attributes people need within an organization. Each individual role will have its own set of competencies needed to perform the job effectively.⁵

A competency framework is a model that broadly defines the blueprint for ‘excellent’ performance within an organization or sector. A well-crafted framework can provide a common language, which can be used as the benchmark against which the performance of an individual, team, project, or even entire organization, can be assessed.⁶ An effective competency framework has applications across the whole range of human resource management and development activities. The approach has become more popular in recruitment, for example, because it enables recruiters to assess against a clear range of criteria and behaviors. Moreover a competency framework can be a key element in any change management process by setting out new organizational requirements and a better analysis of training needs.⁷

Furthermore, every sector of the economy could improve its productivity by helping its workers increase essential skills. Essential skills are the basic communication and thinking skills needed by everyone to varying levels, depending on their job. High levels of essential skills make a technically competent worker more valuable. Workers with a shortage of the essential skills required by their jobs may be able to perform only their routine tasks well. They are less likely to be able to adapt to changing demands, think critically, work well in high-performing teams, problem solve or perform the less frequent but still important tasks

⁴ Thompson, R, Developing a Competency Framework, http://www.mindtools.com/pages/article/newISS_91.htm.

⁵ Thompson, R, Developing a Competency Framework, http://www.mindtools.com/pages/article/newISS_91.htm.

⁶ Excellence in Arts Practice, <https://participatoryartslearning.wordpress.com/the-framework/what-is-a-competency-framework/>.

⁷ Competence and competency frameworks, <http://www.cipd.co.uk/hr-resources/factsheets/competence-competency-frameworks.aspx>, 2014.

of their jobs. Building these essential skills would improve the capacity of workers to do their jobs well and provide a much-needed boost to labour productivity.⁸

Competencies open roads to productivity, employability, and sustainable development. The ability to identify needed competencies and the ability to develop those competencies will be key differentiators for future success of organizations, and future employability for individuals and communities. The competency approach allows portability and transferability. Competencies can be acquired in different ways and are applicable to other functions of similar nature, contributing to improve people's future employability during an economic downturn.⁹

The Organization for Economic Cooperation and Development, OECD, Competency framework comprises core competencies, which are presented in three clusters. The first cluster groups the delivery related competencies, the second has interpersonal competencies and the third relates to strategic competencies. Core Competencies are defined as personal attributes or underlining characteristics, which combined with technical or professional skills, enable the delivery of a role/job. So the OECD Competency framework does not include the technical skills.¹⁰

In the European Union the primary purpose of the majority of competence frameworks has been to raise the skill level of the workforce. Several European countries have adopted a national qualification framework and a comprehensive system of sectoral competence-based qualifications. Another, more far-ranging European initiative is the production of the European Qualification Framework that refers to learning outcomes. This is a translation tool that helps communication and comparison between qualifications systems in Europe. The inspiration behind the EQF is that lifelong learning has become a necessity in a Europe characterized by rapid social, technological and economic change.¹¹



⁸ Canada West Foundation, Smarten Up: It's Time to Build Essential Skills, 2015.

⁹ Justo, A., Developing Competencies during the economic downturn, <http://armandojusto.blogspot.ca/2010/01/developing-competencies-during-economic.html>.

¹⁰ OECD, <http://www.oecd.org/careers/oecdcorecompetencies.htm>.

¹¹ TRACE, Overview of European Competency Frameworks, 2005.

III. A CASE STUDY

Supply Chain Sector

When talking about Canada's shortage of skilled workers, the supply chain sector is certainly experiencing that shortage. According to the Canadian Supply Chain Sector Council's 2012 HR Study Update report, "the sector now is seen as facing a critical shortage of skilled employees."¹² As of 2012, there were 804,305 Canadians employed in some aspect of supply chain occupation. As of March 2012, there were 26,852 vacant supply chain positions. From 2012 – 2017, it is anticipated that there will be an additional 65,979 new and vacant supply chain positions/year for the next five years equaling a total of 356,747 positions. From 2012 – 2017, it is expected that the number of supply chain employees will increase from a rate of 8.4% for tactical occupations, to 14.9% for managerial occupations¹³

To be more specific, in Alberta, as of 2010, there were 91,944 Albertans employed in some supply chain related occupation. From 2011 – 2020 it is anticipated that there will be 50,000 job openings in just 10 key supply chain occupations (management positions; purchasing; customs, shipping and brokerage; information systems analysis; and long-haul truck drivers).¹⁴

The supply chain sector is a broad sector with many different job families. The supply chain labor force by sub-functions can be summed up as follows:

- Senior management
- Logistics information systems
- Warehousing
- Transportation
- Inventory/material Control
- Purchasing
- Marketing and Sales
- Customer Service¹⁵

A competency framework defines the knowledge, skills, and attributes needed for people within an organization. Each individual role will have its own set of competencies needed to perform the job effectively. To develop this framework, one needs an in-depth understanding of the roles within the business. Developing a competency framework can take considerable effort. To make sure the framework is actually used as needed, it's important to make it relevant to the people who'll be using it – and so they can take ownership of it.

¹² Supply Chain Canada, Stocking Up on Skills in the Supply Chain,

¹³ The Canadian Supply Chain Sector Council Human Resources Update Study

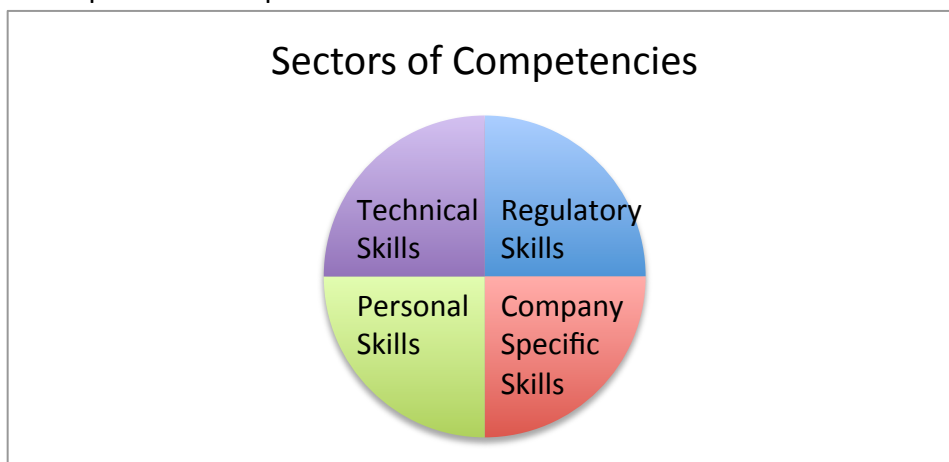
¹⁴ Calgary Logistics Council, The Accelerator Project,

¹⁵ <http://www.womeninsupplychain.org/why-supply-chain/>

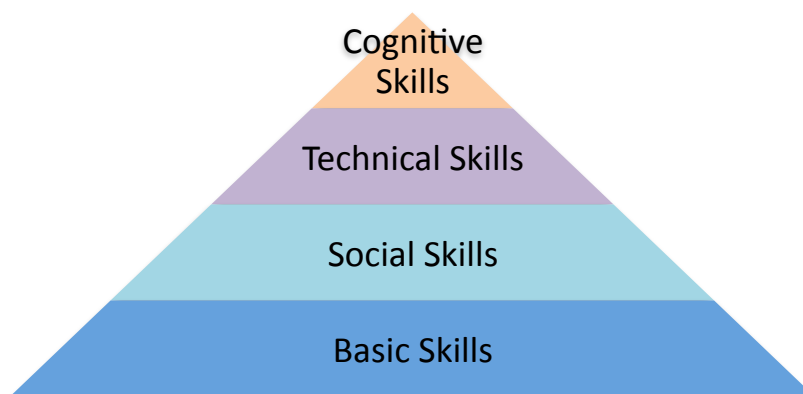
IV. PRACTICAL APPLICATIONS

The aim is to develop general job descriptions for the supply chain sector based on a competencies and critical skills model. These job descriptions are not yet linked with the organization's key business processes and this leaves space to enhance the job descriptions with company-specific competencies.

Many competency models exist today and one way to understand the requirements for a role would be to develop a 360-degree view of the role requirements when developing a competency framework as developed and used by Suncor Energy.¹⁶ First would be the specific discipline knowledge required to do the work. Secondly would be the specific way the company is executing its work. Then all the work takes place in a regulated world where compliance to standards are required and lastly it is about how the incumbent will use him or her personal competencies.



However, for the purpose of this research we will not study the company specific skills or the regulatory skills. This research focuses on a skills model that looks at personal skills and technical skills needed for specific jobs in the supply chain sector. For the personal skills this research differentiates between basic, or essential, skills and social skills. Furthermore, other than the technical skills the model will also look at cognitive skills, overarching skills like problem solving and decision-making. This can be visualized in the following graph¹⁷.



¹⁶ Source: Dirk Volschenk, Manager Learning and Competence Development, Suncor Energy.

¹⁷ Source: Jeff Griffiths, FCMC, CTDP, Griffiths Sheppard Consulting Group, Inc.

Competencies are the integration of skills, knowledge, aptitude and attitude to produce a product within defined conditions. Competencies are defined to a standard; they reference the application of knowledge and describe the results achieved. Therefore it is important to look at a “skill level” indicator or a scale to define a standard. For each of the required skills, there is an associated level that corresponds to acceptable performance in the workplace. For example, two different job descriptions can list the same technical skill but there can still be a difference in the level of this skill, for example one can know that certain information exists or one can actually apply the information to a real-life situation. This can be clarified by Bloom’s classification of cognitive skills.¹⁸

	Cognitive level	Definition
1	Knowledge	Remembering previously learned information
2	Comprehension	Grasping the meaning of information
3	Application	Applying knowledge to actual situations
4	Analysis	Breaking down objects or ideas into simpler parts and seeing how the parts relate and are organized
5	Synthesis	Rearranging component ideas into a new whole
6	Evaluation	Making judgments based on internal evidence or external criteria

The European Union uses eight reference levels in the European Qualifications Framework (EQF). The eight reference levels are described in terms of learning outcomes. In the EQF a learning outcome is defined as a statement of what a learner knows, understands and is able to do on completion of a learning process.¹⁹

	Learning outcomes
Level 1	Basic general knowledge
Level 2	Basic factual knowledge of a field of work or study
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study
Level 4	Factual and theoretical knowledge in broad contexts within a field of work or study
Level 5	Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge
Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles
Level 7	Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields
Level 8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields

For the purpose of this research the skill levels from the EQF have been used to determine the standard for the technical skills. This is an aspect, however, that is open for discussion and that every organization should determine for their skills models and job descriptions.

¹⁸ <https://www.enmu.edu/academics/assessment/faculty/manual/blooms.shtml>.

¹⁹ European Communities, *The European Qualifications Framework for Lifelong Learning (EQF)*, 2008.

1.A. Skills Model – Logistics Analyst

	Skill	Skill level	Background
1. Basic skills	a. English Language		Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
	b. Reading Comprehension		Understanding written sentences and paragraphs in work related documents
	c. Mathematics		Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications
2. Social skills	a. Oral Comprehension		The ability to listen to and understand information and ideas presented through spoken words and sentences
	b. Oral Expression		The ability to communicate information and ideas in speaking so others will understand
	c. Written Expression		The ability to communicate information and ideas in writing so others will understand
	d. Problem Sensitivity		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem
3. Technical skills	a. Administration and Management	Level 3	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources
	b. Transportation	Level 4	Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits
	c. Computers and Electronics	Level 5	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming
	d. Customer and Personal Service	Level 3	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction
	e. Law and Government	Level 3	Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process
	f. Production and Processing	Level 4	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods
4. Cognitive skills	a. Complex Problem Solving		Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions
	b. Critical Thinking		Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
	c. Systems Analysis		Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes
	d. Judgment and Decision Making		Considering the relative costs and benefits of potential actions to choose the most appropriate one

Source: <http://www.onetonline.org/link/summary/13-1081.02>

1.B. Generic Job Description – Logistics Analyst

Position summary:

Analyze product delivery or supply chain processes to identify or recommend changes. May manage route activity including invoicing, electronic bills, and shipment tracing.

Main responsibilities:

- Maintain databases of logistics information
- Interpret data on logistics elements, such as availability, maintainability, reliability, supply chain management, strategic sourcing or distribution, supplier management, or transportation
- Provide ongoing analyses in areas such as transportation costs, parts procurement, back orders, or delivery processes
- Prepare reports on logistics performance measures
- Confer with logistics management teams to determine ways to optimize service levels, maintain supply-chain efficiency, or minimize cost
- Remotely monitor the flow of vehicles or inventory, using Web-based logistics information systems to track vehicles or containers
- Track product flow from origin to final delivery
- Recommend improvements to existing or planned logistics processes

Knowledge:

- Administration and Management
- Transportation
- Computers and Electronics
- Customer and Personal Service
- Law and Government
- Production and Processing

Competencies:

- Complex Problem Solving
- Critical Thinking
- Systems Analysis
- Judgment and Decision-Making

Experience and education:

Mostly four-year bachelor's degrees are required. A considerable amount of work-related skill, knowledge, or experience is needed.

Source: <http://www.onetonline.org/link/summary/13-1081.02>

2.A. Skills Model – Purchasing managers

	Skill	Skill level	Background
1. Basic skills	a. English Language		Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
	b. Reading Comprehension		Understanding written sentences and paragraphs in work related documents
	c. Mathematics		Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications
2. Social skills	a. Oral Comprehension		The ability to listen to and understand information and ideas presented through spoken words and sentences
	b. Oral Expression		The ability to communicate information and ideas in speaking so others will understand
	c. Written Expression		The ability to communicate information and ideas in writing so others will understand
	d. Reasoning		The ability to apply general rules to specific problems to produce answers that make sense
	e. Problem Sensitivity		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem
3. Technical skills	a. Administration and Management	Level 6	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources
	b. Production and Processing	Level 5	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods
	c. Law and Government	Level 5	Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process
	d. Customer and Personal Service	Level 4	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction
	e. Transportation	Level 4	Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, incl. relative costs and benefits
	f. Economics and Accounting	Level 6	Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data
	g. Personnel and Human Resources	Level 5	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, personnel information systems
4. Cognitive skills	a. Coordination		Adjusting actions in relation to others' actions
	b. Critical Thinking		Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
	c. Management of Personnel Resources		Motivating, developing, and directing people as they work, identifying the best people for the job
	d. Negotiation and Persuasion		Bringing others together and trying to reconcile differences and persuading others to change their minds or behavior
	e. Social Perceptiveness		Being aware of others' reactions and understanding why they react as they do

Source: <http://www.onetonline.org/link/summary/11-3061.00>

2.B. Generic Job Description – Purchasing managers

Position summary:

Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Includes wholesale or retail trade merchandising managers and procurement managers.

Main responsibilities:

- Represent companies in negotiating contracts and formulating policies with suppliers
- Direct and coordinate activities of personnel engaged in buying, selling, and distributing materials, equipment, machinery, and supplies
- Interview and hire staff, and oversee staff training
- Locate vendors of materials, equipment or supplies, and interview them to determine product availability and terms of sales
- Prepare and process requisitions and purchase orders for supplies and equipment
- Develop and implement purchasing and contract management instructions, policies, and procedures
- Analyze market and delivery systems to assess present and future material availability
- Resolve vendor or contractor grievances, and claims against suppliers

Knowledge:

- Administration and Management
- Production and Processing
- Law and Government
- Customer and Personal Service
- Transportation
- Economics and Accounting
- Personnel and Human Resources

Competencies:

- Coordination
- Critical Thinking
- Management of Personnel Resources
- Negotiation and Persuasion
- Social Perceptiveness

Experience and education:

Mostly four-year bachelor's degrees are required. A considerable amount of work-related skill, knowledge, or experience is needed.

Source: <http://www.onetonline.org/link/summary/11-3061.00>

3.A. Skills Model – Supply Chain managers

	Skill	Skill level	Background
1. Basic skills	a. English Language		Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
	b. Reading Comprehension		Understanding written sentences and paragraphs in work related documents
	c. Speaking		Talking to others to convey information effectively
	d. Mathematics		Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications
2. Social skills	a. Active Listening		Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times
	b. Oral Comprehension		The ability to listen to and understand information and ideas presented through spoken words and sentences
	c. Oral Expression		The ability to communicate information and ideas in speaking so others will understand
	d. Written Expression		The ability to communicate information and ideas in writing so others will understand
	e. Problem Sensitivity		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem
	f. Reasoning		The ability to apply general rules to specific problems to produce answers that make sense
3. Technical skills	a. Production and Processing	Level 6	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods
	b. Administration and Management	Level 7	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources
	c. Transportation	Level 5	Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits
	d. Customer and Personal Service	Level 5	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction
	e. Computers and Electronics	Level 4	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming
	f. Economics and Accounting	Level 6	Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data
	g. Personnel and Human Resources	Level 6	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems
4. Cognitive skills	a. Complex Problem Solving		Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions
	b.		Adjusting actions in relation to others' actions

	Coordination		
	c. Monitoring		Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action
	d. Critical Thinking		Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
	e. Judgment and Decision Making		Considering the relative costs and benefits of potential actions to choose the most appropriate one
	f. Social Perceptiveness		Being aware of others' reactions and understanding why they react as they do

Source: <http://www.onetonline.org/link/summary/11-9199.04>

3.B. Generic Job Description – Supply Chain managers

Position summary:

Direct or coordinate production, purchasing, warehousing, distribution, or financial forecasting services or activities to limit costs and improve accuracy, customer service, or safety. Examine existing procedures or opportunities for streamlining activities to meet product distribution needs. Direct the movement, storage, or processing of inventory.

Main responsibilities:

- Confer with supply chain planners to forecast demand or create supply plans that ensure availability of materials or products
- Monitor forecasts and quotas to identify changes or to determine their effect on supply chain activities
- Define performance metrics for measurement, comparison, or evaluation of supply chain factors, such as product cost or quality
- Define performance metrics for measurement, comparison, or evaluation of supply chain factors, such as product cost or quality
- Develop procedures for coordination of supply chain management with other functional areas, such as sales, marketing, finance, production, or quality assurance
- Meet with suppliers to discuss performance metrics, to provide performance feedback, or to discuss production forecasts or changes
- Implement new or improved supply chain processes
- Design or implement supply chains that support business strategies adapted to changing market conditions, new business opportunities, or cost reduction strategies

Knowledge:

- Production and Processing
- Administration and Management
- Transportation
- Customer and Personal Service
- Computers and Electronics
- Economics and Accounting
- Personnel and Human Resources

Competencies:

- Complex Problem Solving

- Coordination
- Monitoring
- Critical Thinking
- Judgment and Decision Making
- Social Perceptiveness

Experience and education:

Mostly four-year bachelor's degrees are required. A considerable amount of work-related skill, knowledge, or experience is needed.

Source: <http://www.onetonline.org/link/summary/11-9199.04>

4.A. Skills Model – First-Line Supervisors of Production and Operating Workers

	Skill	Skill level	Background
1. Basic skills	a. Written Comprehension		The ability to read and understand information and ideas presented in writing
	b. Speech Clarity and Recognition		The ability to speak clearly so others can understand you and to identify and understand the speech of another person
	c. Vision		The ability to see details at close range and at a distance
	d. Arm-Hand Steadiness		The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position
2. Social skills	a. Active Listening		Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times
	b. Reasoning		The ability to apply general rules to specific problems to produce answers that make sense
	c. Oral Comprehension		The ability to listen to and understand information and ideas presented through spoken words and sentences
	d. Oral Expression		The ability to communicate information and ideas in speaking so others will understand
	e. Problem Sensitivity		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem
3. Technical skills	a. Production and Processing	Level 3	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods
	b. Mechanical	Level 5	Knowledge of machines and tools, including their designs, uses, repair, and maintenance
	c. Administration and Management	Level 3	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources
	d. Personnel and Human Resources	Level 4	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems
	e. Engineering and Technology	Level 5	Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services
	f. Computers and Electronics	Level 5	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming
	g. Education and Training	Level 4	Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects
4. Cognitive skills	a. Coordination		Adjusting actions in relation to others' actions
	b. Critical Thinking		Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
	c. Management of Personnel Resources		Motivating, developing, and directing people as they work, identifying the best people for the job
	d. Time Management		Managing one's own time and the time of others

	e. Judgment and Decision Making		Considering the relative costs and benefits of potential actions to choose the most appropriate one
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Source: <http://www.onetonline.org/link/summary/51-1011.00>

4.B. Generic Job Description – **First-Line Supervisors of Production and Operating Workers**

Position summary:

Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

Main responsibilities:

- Enforce safety and sanitation regulations
- Direct and coordinate the activities of employees engaged in the production or processing of goods, such as inspectors, machine setters, and fabricators
- Confer with other supervisors to coordinate operations and activities within or between departments
- Plan and establish work schedules, assignments, and production sequences to meet production goals
- Inspect materials, products, or equipment to detect defects or malfunctions
- Observe work and monitor gauges, dials, and other indicators to ensure that operators conform to production or processing standards
- Conduct employee training in equipment operations or work and safety procedures, or assign employee training to experienced workers
- Interpret specifications, blueprints, job orders, and company policies and procedures for workers

Knowledge:

- Production and Processing
- Mechanical
- Administration and Management
- Personnel and Human Resources
- Engineering and Technology
- Computers and Electronics
- Education and Training

Competencies:

- Coordination
- Critical Thinking
- Management of Personnel Resources
- Time Management
- Judgment and Decision Making

Experience and education:

Mostly high-school diploma is required. Some previous work-related skill, knowledge, or experience is usually needed.

Source: <http://www.onetonline.org/link/summary/51-1011.00>

5.A. Skills Model – Stock Clerks- Stockroom, Warehouse, or Storage Yard

	Skill	Skill level	Background
1. Basic skills	a. Speaking		Talking to others to convey information effectively
	b. Extent Flexibility		The ability to bend, stretch, twist, or reach with your body, arms, and/or legs
	c. Near Vision		The ability to see details at close range (within a few feet of the observer)
	d. Static Strength		The ability to exert maximum muscle force to lift, push, pull, or carry objects
	e. Arm-Hand Steadiness		The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position
	f. Manual Dexterity		The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects
	g. Oral Comprehension		The ability to listen to and understand information and ideas presented through spoken words and sentences
	h. Oral Expression		The ability to communicate information and ideas in speaking so others will understand
2. Social skills	a. Active Listening		Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times
	b. Time Management		Managing one's own time and the time of others
	c. Information Ordering		The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations)
	d. Problem Sensitivity		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem
3. Technical skills	a. Customer and Personal Service	Level 3	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction
4. Cognitive skills	a. Coordination		Adjusting actions in relation to others' actions

Source: <http://www.onetonline.org/link/summary/43-5081.03>

5.B. Generic Job Description – Stock Clerks- Stockroom, Warehouse, or Storage Yard

Position summary:

Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports.

Main responsibilities:

- Pack and unpack items to be stocked on shelves in stockrooms, warehouses, or storage yards
- Store items in an orderly and accessible manner in warehouses, tool rooms, supply rooms, or other areas
- Examine and inspect stock items for wear or defects, reporting any damage to supervisors
- Receive and count stock items, and record data manually or using computer
- Mark stock items using identification tags, stamps, electric marking tools, or other labeling equipment
- Verify inventory computations by comparing them to physical counts of stock, and investigate discrepancies or adjust errors
- Issue or distribute materials, products, parts, and supplies to customers or coworkers, based on information from incoming requisitions
- Provide assistance or direction to other stockroom, warehouse, or storage yard workers

Knowledge:

- Customer and Personal Service

Competencies:

- Coordination

Experience and education:

Mostly high-school diploma is required. Some previous work-related skill, knowledge, or experience is usually needed.

V. TRANSFERABILITY

Transferable skills can be role-related, technical or general. They ensure professional resilience and robustness of an individual's career. Transferable skills are competencies that can be used in many situations and many types of work. Competencies can be acquired in different ways and are applicable to other functions of similar nature, contributing to improve people's future employability during an economic downturn. Employers will look for competencies that they recognize to be present in the most effective employees.

The ability to identify needed competencies and the ability to develop those competencies will be key differentiators for future success of organizations, and future employability for individuals and communities. Additionally, a candidate's past success using a specific set of skills and competencies is the best indicator of how he or she will perform in a new role. Whether a candidate is new to a job function or to the sector, it is about this person's ability to call upon his or her competencies and skills in a new role what most ensures success. By considering candidates with a variety of transferable skills, one can diversify their staff and increase the impact of your organization.²⁰

Below two examples of job functions that are not similar in nature, but do show transferable skills in several parts.

Logistics Analyst		Petroleum Engineer
Competency sets	Skill	Skill Transferability
1. Basic skills	a. English Language	X
	b. Reading Comprehension	X
	c. Mathematics	X
2. Social skills	a. Oral Comprehension	X
	b. Oral Expression	X
	c. Written Expression	X
	d. Problem Sensitivity	X
3. Technical skills	a. Administration and Management	X
	b. Transportation	
	c. Computers and Electronics	X
	d. Customer and Personal Service	
	e. Law and Government	
	f. Production and Processing	
4. Cognitive skills	a. Complex Problem Solving	X
	b. Critical Thinking	X
	c. Systems Analysis	X
	d. Judgment and Decision Making	X

Source: <http://www.onetonline.org/link/summary/17-2171.00>

²⁰ <http://commongoodcareers.org/index.php?/articles/detail/an-introduction-to-competency-based-hiring>.

First-Line Supervisors of Production and Operating Workers		Petroleum Pump System Operators, Refinery Operators, and Gaugers
	Skill	Skill Transferability
1. Basic skills	a. Written Comprehension	X
	b. Speech Clarity and Recognition	X
	c. Vision	X
	d. Arm-Hand Steadiness	X
2. Social skills	a. Active Listening	X
	b. Reasoning	X
	c. Oral Comprehension	X
	d. Oral Expression	X
	e. Problem Sensitivity	X
3. Technical skills	a. Production and Processing	
	b. Mechanical	X
	c. Administration and Management	
	d. Personnel and Human Resources	
	e. Engineering and Technology	
	f. Computers and Electronics	
	g. Education and Training	X
4. Cognitive skills	a. Coordination	X
	b. Critical Thinking	X
	c. Management of Personnel Resources	
	d. Time Management	X
	e. Judgment and Decision Making	X

Source: <http://www.onetonline.org/link/summary/51-8093.00>



VI. CONCLUSION

How can Canada ensure that workers have the skills needed to do their jobs well and, at the same time, make the country a stronger international competitor? Canada will need to address its skills shortages and mismatches: the right people with the right skills need to be in the right place at the right time. Competency frameworks are critical. A pan-Canadian system of evaluating and certifying competence is key. At a local level, using competency frameworks will help private businesses to drive up performance and enabling recruitment and retention.

Creating a competency framework is an effective method to assess, maintain, and monitor the knowledge, skills, and attributes of people in your organization. The framework allows you to measure current competency levels to make sure your staff members have the expertise needed to add value to the business. It also helps managers make informed decisions about talent recruitment, retention, and succession strategies. And, by identifying the specific behaviors and skills needed for each role, it enables an organization to budget and plan for the training and development it really needs.

In this paper, a first effort was made to create competencies and critical skills model for several jobs in the supply chain sector and consequently to develop a generic job description for these jobs. Based on the findings of this research the following best practices are recommended:

1. Canada should join the ranks of other OECD and European countries and develop a national framework for qualifications.
2. Companies need to commit to and invest in developing competency frameworks for their workforce.
3. People who do the work must be involved in deciding what the success factors should be in that particular job/activity.
4. Your hiring and recruitment practices must follow competency models, including adjusting assessment tools (applicant tracking systems) accordingly.
5. Training models as well as future recruiting strategies must follow the competency models.

Competency frameworks are even more important in the current economic climate. For many organizations, the impact of the current economic downturn will result in a climate that expects managers to make best use of their limited resources and to enable and encourage staff from different professional backgrounds and from different working cultures to work together and be highly productive. Competency frameworks will be proof to be key in these challenges.²¹ The linkage between individual roles and organizational performance makes the effort of creating a competency framework for you organization well worth it.

At a broader level, provincial and national policies should focus on the establishment of national qualification models to encourage business, educational and other organizations to commit and develop models of their own.

²¹ <http://www.oakleigh.co.uk/page/4413/News/News-Archive/Articles/Competency-Frameworks---Why-they-are-even-more-vital-now>