Labour Market Information Needs in a Changing Economy

by

Sherri Torjman

May 2002

Presentation to the Labour Market Information Working Group
Forum of Labour Market Ministers
Toronto, April 8, 2002

Table of Contents

I would like to thank the organizers of this forum for having invited me to make a presentation at this session. It is an important opportunity to share with you some issues with respect to labour market information needs in a changing economy.

While I will be talking about many of the gaps in the existing system, Canada has done a good job overall in collecting labour market information. This work is going to become increasingly important over the years as a result of the shifting requirements of a knowledge economy, the current focus on innovation and the move toward 'active' social policy.

The Need for Labour Market Information

a. Knowledge economy

We are living in the era of the knowledge economy in which economic success depends largely upon nations' ability to create and apply new knowledge. Knowledge economies require extensive investment in human capital – i.e., the "knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being" [OECD 2001: 18].

At the international level, the European Union and the OECD, in particular, have devoted considerable attention to the knowledge economy and to the issue of learning. The demand for learning has grown as a result of several factors – information and communications technology, the globalization of economic activity and the trend towards greater personal responsibility and autonomy.

Building on the notion of human capital as the foundation for wealth creation, the 2001 Speech from the Throne stated the federal commitment to building a world-class economy driven by innovation, ideas and talent. It pointed out that Canada could realize its potential only by investing aggressively in knowledge and skills, and that building a skilled workforce must be a national effort.

Ottawa recently announced a National Strategy on Learning and Innovation that it intends to pursue in collaboration with the provinces and other sectors. A National Strategy that seeks to promote learning and preparation for the knowledge economy must be based on clear information about current and emerging labour market trends. It is only through the collection and availability of such data that intelligent systems can be built across the country – in provinces and territories, regions, cities and rural areas.

I attended the launch of the National Strategy on Learning and Innovation, held in a warehouse that displays farm tractors. In this case, the medium truly was the message; the tractors were

equipped with sophisticated computer equipment that generated extensive information. No longer was a driver's license the only requirement to maneuver a tractor – but the driver basically had to be a computer expert in order to use the equipment.

Changing technologies have meant that there is a rising requirement for literacy, numeracy and computer skills. The knowledge economy requires higher levels of knowledge and skills as well as continual upgrading in response to evolving technologies.

There are far too many workers excluded from the labour market because they cannot meet these higher levels of skill. There is work under way throughout the country, and indeed the world, on the impact of learning and training on social exclusion and marginalization. I believe that a major weakness of the National Strategy on Learning and Innovation is that it does not pay suffi-cient attention to workers who are marginalized as a result of the pressure for greater knowledge and expertise, and the continual upgrading of skills. But the Strategy does focus considerable attention upon innovation.

b. Cluster-based economic development

Much of the concept of innovation has been expressed both in Canada and abroad through the practice of cluster-based economic development. This framework for regional economic devel-opment is predicated on the recognition that healthy regional economies are composed of clusters and their supporting economic infrastructure [Economic Development Administration 1997: 1].

The theory is founded on the assumption that industry clusters drive metropolitan economies and have the potential to generate substantial employment. Industry clusters refer to interrelated, geographically concentrated industries along with their key suppliers and supporting institutions.

This model of economic development is consistent with the growing global recognition of the role of cities as the engines of national economies. Such recognition has created pressure for major cities to become 'world class' actors on the international stage. In order to survive in this competitive environment, cities need to attract investment and the best possible talent in the world.

In theory, the cluster-based model consists of three elements. The top layer includes the major export-oriented firms – e.g., telecommunications, information technology, semiconductors, tourism, cultural industries and life sciences [Lyman 1999]. These export-oriented firms are consi-dered to be the generators of wealth in a given region. They typically comprise 20 percent of the labour market, but are responsible for generating 80 percent of the economic wealth through spin-off activity.

The second layer consists of key supplier-oriented firms. These are the producers of special machinery, office equipment and specialized components that feed the various companies within a defined cluster.

The 'quality economic foundations' comprise the third layer in the cluster-based model. These foundations consist of various forms of infrastructure: physical infrastructure, business climate, quality of life, technology, financial capital and human resources. These foundations, taken together, are essential to the economic health of any given industrial cluster.

The Cities of Toronto, Ottawa and Hamilton – among others in the country – currently are engaged in cluster-based economic development. Many regions throughout the world, including 'Silicon Valley' in California and Austin, Texas, are involved in a similar process. These regions are identifying the drivers of their economy and are targeting the associated skills and infrastructure to support the health of their respective clusters. Once again, relevant information about the economy and about the labour market, in particular, is essential to guide this process of economic development.

c. Active social policy

But there are more than just economic factors driving the need for labour market information. Social factors have been equally important – one of the most significant is the theme of active social policy.

The OECD, in particular, was instrumental in promoting this theme. It identified as a problem the disproportionate provision of 'passive' support for the unemployed in the form of income security and social services. The OECD recommended, instead, that there be a greater focus upon so-called 'active' programs that help individuals acquire the knowledge and skills they need to move toward self-sufficiency [OECD 1994c].

(I should note that while Caledon fully supports investment in human capital, we have problems with the terms 'active' and 'passive.' We disagree with the notion that income security be considered a passive form of support – particularly in a labour market marked by wide earnings disparities, which redistributive income security programs can substantially redress.)

The theme of active programming clearly was embraced by the bureaucrats who ran the federal Social Security Review in the mid-1990s. The concept certainly influenced one of the major changes in Canadian social policy: the shift from Unemployment Insurance to Employment Insurance (essentially involving a massive shrinkage in coverage as a result of tightened access) and the associated move toward active labour market measures.

The notion of active social policy also has reshaped provincial social assistance (commonly known as 'welfare') systems throughout Canada. All jurisdictions have introduced measures to encourage the transition from 'dependency' to 'self-sufficiency.' The initiatives have different acronyms but their intent is the same: to move recipients off social assistance.

One of the most successful forms of active programming in the country has become known as 'customized training,' which Caledon has explored in our research [Torjman 1999b]. Under this approach, a designated organization engages with local employers to identify the training needs for targeted jobs. The designated organization works alone, or in association with local training institutes, to provide short-term, intensive training that prepares individuals for the targeted jobs. Training typically ranges from 16 to 160 hours and incorporates an introduction to the industry, work readiness, job-related computer literacy, customer service skills and other job-specific skills [Roberts and Padden 1998: 60].

Customized training differs from traditional training in several key ways. Because traditional training often takes (at least) several months, many unemployed workers cannot go without a source of income for so long. Ironically, some remain on social assistance because they cannot afford to invest in training for an extended period without some form of income support. Even individuals eligible for a student loan may be daunted by the prospect of carrying a large debt with no job security at the end of the day.

But customized training has broader application than simply helping welfare recipients find a job. Customized training also can be used to upgrade on an ongoing basis the skills of workers already employed. It is one way of giving life to the concept of lifelong learning – which, in the new labour market, means lots of short learning all the time. Here again, however, the approach is only as good as the information base that supports it.

Caledon Involvement

It is clear that for both economic and social reasons, there is a need for accurate information about the labour market. But much of the information we require is currently not available.

Before discussing these gaps, I want to tell you our involvement in this area. While I will be speaking from the framework of a particular project and locality, I know in having discussed this issue with several people that the identified concerns can be generalized to other communities. These concerns are not unique to the project or locality that I describe; they are truly national in scope.

The Caledon Institute was participating as a research and policy partner in a community-based initiative in Waterloo Region, called Opportunities 2000. Its goal was to help 2,000 households move out of poverty by the year 2000. To achieve this objective, the organizers sought to develop partnerships with at least 30 community organizations to create a wide range of opportunities for poverty reduction. The project also added a unique feature: a Leadership Roundtable composed of representatives from business, low-income households, government and social agencies.

A number of other communities heard about this work through a learning consortium set up as part of the project. They were interested in testing the strengths of a multisectoral approach to community-based problem solving. The Chairman of the Regional Municipality of Ottawa-Carleton (now Mayor of the City of Ottawa) approached the Caledon Institute to write a labour force development strategy for the Region, modelled on the multisectoral approach employed by Opportunities 2000 [Torjman 1999a]. He was concerned about the high rate of unemployment and underemployment that had been identified in a labour market profile published by the Ottawa Economic Development Corporation.

In response to the labour force data and strategy reports, as well as a concern to engage low-income citizens in tackling unemployment, the Regional Chairman created a multisectoral initiative called Partners for Jobs. As part of this effort, he struck a Task Force that included representatives from business, labour, anti-poverty groups, the educational sector, the social sector, and the federal and provincial governments. Its mandate was to craft an employment strategy to address unemployment and underemployment.

Discussions focussed primarily upon local labour market needs, appropriate training vehicles, support for self-employment and the creation of community business. These partners became actively involved in customized training for the high tech, tourism and financial sectors.

The project was so successful – more than 1,300 unemployed workers found work since its inception – that the concept was applied to a region-wide partnership called TalentWorks. It is being implemented by the Ottawa Centre for Research and Innovation (OCRI). What began as a small project for training the hard-to-employ has evolved into a comprehensive initiative for addressing skill shortages in the major economic clusters of the region, including high tech, life sciences and photonics (which involves the use of laser technologies and other fibre optic devices). This project is considered unique in Canada and likely will become a model for human capital development in other cities as its results are documented and shared.

Current Challenges

The following challenges are by no means an exhaustive list. But they do identify some major issues that have become apparent from our work in local economic and social development.

a. Help wanted information

One of the major tasks facing Partners for Jobs was to identify job vacancies and to facilitate the links between un/underemployed workers and these opportunities. It is difficult to have a strategic and informed approach to labour force development, in particular, and regional economic development, more generally, without good data. Solid and up-to-date information is the key to successful labour market integration. Herein lies a big gap.

The federal Department of Human Resources Development does conduct a wide range of national surveys. Its regional and local offices focus upon developing local labour market profiles. But there are many problems with the existing data.

One major weakness that came to light in the course of our work had to do with help wanted indices. There is an inordinate reliance on help wanted ads placed in local newspapers. The problem is that this source does not take into account electronic labour exchanges and other types of postings. Neither do existing surveys include job vacancies, such as construction work, typically posted in union hiring halls or even the help wanted signs that many retailers simply place in their store windows. The monthly survey of help wanted ads in *The Ottawa Citizen*, for example, accounts for only about 15 percent (likely an overestimate) of available jobs.

Jobs also are being advertised increasingly on e-based discussion lines and electronic networks. Groups and organizations posting in this way know that they will be reaching people who are interested in or already working in a given field, such as community economic development or social entrepreneurship. In effect, employers are targeting their job announcements in the hope that they are tapping into a pool of relevant knowledge and skills.

The local office of Human Resources Development Canada is working to address the inadequacies of the current methods of data collection. In Ottawa, for example, it has created an Opportunity Index. But the data are not sufficient; they are based on print wanted ads, on job requests to the local Human Resources office and on Employment Insurance claims. EI claims, in particular, are a curious measure – these are more likely to reflect the jobs being lost rather the employment opportunities that are available.

In addition to the counting problems, there is inadequate information on the skills required for the available jobs, especially in emerging areas. Nor is there consensus on the definition of available employment. Should the count focus on available jobs or work? The distinction has turned out to be quite important.

b. Jobs or work?

The nature of work is evolving as the result of globalization, increased competition, the development of new technologies and other changes in the business environment. There have been deep structural shifts in the labour market, which has moved increasingly toward nonstandard employment in the form of part-time, term and contractual work. Many larger companies carry out their work through outsourcing. Yet most survey methods and labour force data do not reflect the realities of a drastically changed labour market.

Some local groups have experienced the consequences of this data gap. In Winnipeg, for example, Opportunities for Employment is actively involved in customized training [Torjman 1999b]. It identifies work opportunities in key areas of the local economy, including finance, light manufacturing and restaurant services, and then trains welfare recipients on the basis of these opportunities.

The process used by Opportunities for Employment to identify job vacancies involves far more than a cursory review of ads in newspapers. It entails a systematic, methodical and in-depth exploration of the local labour market, called 'job development.' Job developers meet with local employers and often find positions that were not formally advertised. In determining the availability of local jobs, Opportunities for Employment found that many employers indicated they did not have current or prospective job vacancies. But further discussions revealed that many employers did, indeed, have a need for individuals to do some *work* – whether it was related to the fiscal year end, special contract, time of year or new product.

In my view, this is a significant finding. If we count only the availability of formal jobs – as labour market surveys typically do – then we might find relatively few opportunities in a given community. If, by contrast, we identify the extent of available work, then it is likely that many more opportunities will present themselves. This reality is the result of structural changes in the labour market, which have been examined extensively in the economic and social policy literature. Yet current methods of data collection still reflect the traditional labour market – as though it operated on a 9-5, full-time, full-year basis (although there are now figures and trend data on self-employment).

So Opportunities for Employment made a decision to train people for available work rather than only for available jobs. In some cases, the organization was able to put together two or three pieces of work to form a full-time job. This is important not only for the participants and the success of the program. It is also significant from the perspective of how to determine the availability of work opportunities in a given city or region. Surveys and data collection methods lag behind current technologies and the new and varied methods of posting employment vacancies, earlier described.

c. Current classifications

Our work at the local level found other inadequacies with existing labour market data. One problem had to do with the timing of the available information.

Labour force information by individual occupational code is derived from the national Census, conducted once every five years. There is typically a two-year lag time for analysis. This means that the information is dated by the time it is issued. The labour market picture ends up being more like an historical profile of what the labour market looked like close to seven years ago. It is probably not an accurate reflection of the current labour market nor is it a good basis for future projections.

The nature of individual jobs is changing rapidly. Firms come and go more quickly than ever before. Even the stability of entire sectors is uncertain. Who would have known even two years ago what a devastating downturn the buoyant high tech sector would experience?

It is true that more recent labour market information is available. Statistics Canada produces labour force surveys on a monthly basis. But these are limited in that they provide information for 10 occupational categories only. It is also difficult to apply this information locally. The sample sizes typically are too small to disaggregate and apply to any given community (discussed below). Surely, the technology exists to get 'real time' labour market information as well as a more accurate and relevant picture of the workforce.

One possibility for improving current information is to request employers to check off the appropriate occupational code when they prepare T4 slips for employees for income tax purposes. This information would provide annual data by occupation, income level, gender and region. [1]

In addition to the timing of the information, there are problems with the National Occupational Classification coding system, particularly with respect to emerging occupations.

d. Emerging occupations

As a result of major technological changes and the emergence of new fields, such as photonics, many new occupations have come on stream since the development of the National Occupational Classification coding system. For example, the occupations 'webmaster,' 'web page designer' and 'multimedia master' have come into being only in recent years.

Neither does the National Occupational Classification coding system have a code for life sciences. 'Life sciences' is an umbrella term that includes medical and genetics research, nuclear medicine and cancer treatments, health information technologies, medical devices and diagnostics, plant and agricultural biotechnologies, and pharmaceuticals [Ottawa Life Sciences Council 2000]. Current national indices do not reflect the breadth and variety of occupations in the life sciences field.

This data gap makes it difficult to identify the numbers employed and the skill positions in this field. In order to come up with the numbers working in life sciences, it is essential to break down the information into six or seven subcategories of life sciences and then attribute them to this overall grouping. A related problem is that certain categories, such as managerial, research and development, and manufacturing, are not disaggregated by sector. There is not sufficient specificity in the current data.

The lack of good information is surprising given the scope of this field, in particular, whose immediate and projected human resource requirements are great. The global market for biotechnology products and services is expected to more than double from $20 billion in 1995 to $50 billion in 2005. Worldwide, it is estimated that there are between 3,000 and 4,000 broadly defined companies employing more than 300,000 workers. In Canada alone, employment in the sector was expected to reach 15,800 persons by 2001 [BIOTECanada 1999].

Yet the current data do not paint an accurate profile of this field – which I am using here for illustrative purposes. The Ottawa Centre for Research and Innovation, for example, receives calls from potential employers from outside the region or country who ask about the potential labour force available to them in the high tech sector. On the basis of current labour market data, it is not possible to provide this information with any degree of specificity. Only broad-brush estimates can be made.

But the addition of new classifications is more easily said than done. There needs to be substantial field-testing, rater reliability and general consensus with respect to emerging occupations. Ideally, potential users should be asked about the categories that are meaningful to them. [2]

Questions also arise as to how to treat new occupations – if and when they are added – relative to existing trend data. Should old data be recalibrated to reflect new positions? Or should the data indicate: "This is the picture pre- and post-change." There do not appear to be any user guidelines with respect to handling these updates. [3]

In the absence of predictive information, it is difficult to design a training system that keeps ahead of labour market needs – that is not simply responsive in a passive sense but that is leading-edge in terms of gearing up for the positions that are coming on stream.

e. Local information

Another challenge arises from trying to apply national information to the local level. I understand the technical difficulties involved in disaggregating national information to the provincial and territorial levels, let alone to the regional and local levels. But this is precisely the level of disaggregation required if regions are to have the information they need to act as true engines of economic growth.

Statistics Canada and Human Resources Development Canada recently released the Workplace and Employee Survey, which profiles the type and extent of workplace training in the country along with related issues such as technology use, work arrangements and organizational change [Statistics Canada 2001]. The survey links employees to their workplace (24,600 employees to nearly 6,400 work locations). Data are collected on employee participation in workplace training, job training needs of employers and employees' level of human capital.

About 40 percent of employees report taking professional and/or computer software training. The smaller firms do not support classroom training to the same extent as the larger firms. Small firms may be using on-the-job training as a substitute for expensive classroom training. Larger firms engage in both forms of training. The financial insurance, communication and utilities sectors have the highest training participation rates while the real estate and construction sectors have the lowest participation rates. Professionals and full-time workers engage most actively in formal training.

All this is important information for a knowledge economy. But it is not possible to apply it to the local level. If a city or region, for example, wants to know the extent to which local businesses are engaged in training, it would not be able to use this national data. The sample sizes are too small in certain areas and there could be confidentiality problems in terms of identifying which firms were engaged in training activities.

In order to obtain labour market information that is relevant to the local level, surveys would have to be developed and conducted by a given city or individual sectors. This gives rise to other issues, such as cost and questions of ownership.

f. Ownership of information

The fact that information is being collected through many different methods other than government-sponsored national surveys has raised questions about the sharing of this information. Private sector information tends to be more specific and targeted, and actually may be highly relevant in terms of identifying future training needs.

The real estate sector, for example, apparently does an excellent job of collecting predictive data about local economies. [3]   But this is proprietary information. It would be helpful for other organizations, such as local government, organizations like the Ottawa Centre for Research and Innovation and educational institutions, to build upon it rather than initiate a new collection process. However, there may be a cost in acquiring this information that may render it inaccessible. Ownership of locally collected information is one concern; the availability of standards and guidelines for such collection is another issue (discussed below).

g. Ongoing training

Employer-employee relationships have changed dramatically in the knowledge economy – especially with respect to investment in human capital. The change appears to have shifted responsibility largely onto individuals to ensure that they invest in themselves. A major dimension of the post-industrial labour market is the pressure for more flexibility in the delivery of training [Betcherman et al. 1998: 5].

And training is no longer a one-shot deal. A technology-driven world means that workers continually must upgrade their knowledge and skills. Information and skills acquisition must be far more responsive to the rapidity of these changes. The training mechanisms have not yet been designed – at least on a broad scale – to match the learning pace that the new economy demands.

In the absence of just-in-time and prospective labour market information, it is difficult for individuals to plan their own training trajectory. And to whom can they turn if they require assistance with this decision? Would a guidance counsellor in BC, for example, interpret data in the same way as a human resources manager for a private company or sectoral council? The information may

or may not be meaningful depending upon the target. What careers make sense and what high school credits are required? Is the information relevant and easy to use? It would be helpful to have some resources to assist various users interpret labour market information.

Another concern relates to the financing of ongoing upgrading and training. The Workplace and Employee Survey confirms that most training takes place in larger firms [Statistics Canada 2001]. What about medium and smaller firms? They typically have neither the staff for that purpose nor the economy of scale to warrant such an approach. Many offer training through informal methods, such as mentoring and one-on-one assistance.

Customized training provides a means of creating the appropriate scale for a segment of the economy – medium and small business – that is growing rapidly but does not do sufficient training because of cost or the numbers involved. But whose responsibility should this be: individual workers, employers, governments or a combination of these sources? And who should pay? The questions of who should sponsor ongoing training and who should pay remain unresolved [Torjman 1999b].

Possible Solutions

a. Identifying the questions

It is important to assess the way in which information about the labour market is gathered. When there is a need for information, there is a tendency to go for comprehensive quantitative surveys. But these can be costly and dated by the time the information becomes available. Sometimes, a smaller but more in-depth qualitative survey of employers – especially in the case of local data – can provide the required information. This kind of data gathering also can uncover unexpected but important information that might not have come to light through other methods.

In fact, these concerns were summed up succinctly by a representative from the Ottawa Centre for Research and Innovation. She pointed out that we must be clear about what we need to know and what information we require in order to make good decisions. [3] To what extent do we need quantitative data or to what extent would qualitative data do? Is it possible to use proxy information in certain cases to provide the information required to make good decisions? What is nice to know and what is essential to know in order to make these decisions? There are no definitive answers to these questions.

Because of the growing need to collect information at the local level, it would be helpful to have some national guidelines and technical support to steer this work. Such guidance would save time and would ensure some degree of inter-regional comparability.

b. Working in partnership

One of the positive spin-offs of the Partners for Jobs initiative in Ottawa is that the federal, provincial and local governments began to work together to identify labour force information requirements. They have discussed possible ways to update existing surveys, create new instruments and employ diverse methodologies to gather relevant information.

The value of this partnership arrangement is twofold. First, the potential users of the labour market information can identify their specific needs which can be taken into account in future data collection. The second strength is that this kind of partnership basically creates a system to ensure that the local information is used effectively and is channelled into the critical points where decisions about training are being made. A major barrier to lifelong learning is that there is not in place in many communities a structure that enables the informed and strategic application of labour market information into ongoing opportunities for training and upgrading.

c. Engaging sectoral councils

Another option for gathering just-in-time, locally relevant information is for various components of the private sector to undertake their own information gathering process. This work can best be carried out – and actually is being done nationally – by coordinating bodies, such as sectoral councils. The Ottawa Life Sciences Council, for example, undertook such a survey in response to the lack of information on human resource needs in that sector. As noted, the major occupational codes currently do not include sufficient categories related to the life sciences field.

The Ottawa Life Sciences Council adapted the survey developed by the national sectoral umbrella group, the Biotechnology Human Resources Council. While the local council used the national template, it modified the questions to the needs of local employers.

The survey was able to paint a picture of the life sciences sector in the region – information that previously had been unavailable. The results found more than 90 life sciences companies in the region. While the number of companies has grown dramatically, most are at an early stage.

Company sizes ranged from one to 800 employees, with 88 percent considered small, 7 percent of medium size (51 to 150 employees) and 6 percent large in size (more than 150 employees). This is important in that smaller companies are concerned primarily – at least at their early stages – with financial and initial staffing issues rather than ongoing training. If anything, the training might take place in the form of mentoring or one-on-one tutoring.

The survey identified skill requirements in the following areas: agricultural biotechnology, bioinformatics, bioproducts, clinical trials management, diagnostics, corporate management, medical devices and technologies, pharmaceuticals, regulatory compliance, product development and manufacturing, and marketing and sales. (These terms make clear just how dated is the National Occupational Classification coding system.)

The results noted the limited pool of human resources to meet the skill requirements in these areas. In fact, the survey found 1,900 unfilled positions in the local biotechnology industry in 1999. The growth of the industry actually will be constrained by the availability of knowledge workers and experienced management. As the sector matures, the limiting factor will be the ability to attract and retain qualified and experienced human resources.

The survey also was able to determine more precisely the skills required in various areas. The three most important were good manufacturing practices, business software and process development. Essential skills training requirements included teamwork and team building, communication and presentation skills, leadership and customer service.

The results found low demand for employees with a Grade 12 education and minimal requirements for employees with a skilled trades background. The survey noted 63 projected hires for certificate or diploma workers, 82 projected hires for graduates with a bachelor's degree, 37 projected hires for those with a master's degree and 45 projected hires for those with a doctoral degree. The hires were projected in research and development, clinical research, manufacturing, engineering and operations.

Finally, the survey added an important social dimension to this work. It reviewed the numbers of life sciences professionals registered with World Skills, a local organization that tracks new Canadians looking for work and classifies their experience by qualification and sector. The survey was able to identify a number of individuals – including chemists, biologists, agricultural specialists and landscape technology – who would be available to work in the sector if there were access to limited customized language training and skills upgrading.

The next challenge is to devise an appropriate training and upgrading system – be it through the sectoral council, local community colleges or universities, a consortium of private sector employers or other possible arrangement. But the first step clearly is to have the appropriate information that forms the foundation for a solid *system* of human resources development.

I should point out that the collection of information is often easier said than done. In this era of competition for skilled human capital and proprietary information, many firms are reluctant to divulge information about their human resources plans. There are concerns about poaching; firms

that reveal their current human resources complement could be the target for other firms seeking this talent. Conversely, indications of potential layoff or downsizing can be potentially damaging to a firm and actually could precipitate a stock market crisis if it is a publicly listed company. [3]

d. Gathering contextual data

This paper has focussed upon current gaps in labour market information and various means to bridge those gaps. But other types of data are also relevant to the knowledge economy.

The City of Ottawa is in the process of preparing a workforce development strategy. Its first step was to produce a report entitled *Ottawa Works,* which collected not only labour market data but also information about the factors deemed to attract and motivate talent. The relevant context can be determined through such measures as indicators of innovation, educational achievement levels and quality of life indicators.

Indicators of innovation included, for example, the percentage of the adult population with a postsecondary degree, local research and development spending per Ottawa GDP cluster, number of patents produced in the National Capital Region per capita and venture capital spending. Quality of life was represented by average mortgage, the percentage of household income spent on shelter costs, volunteering and charitable giving, crime rates, traffic accidents, amount of commuting time and amount of green space. Data on income levels were used as a proxy for the degree to which knowledge is permeating the workforce.

In short, there is more to information on the labour force than the numbers of persons employed or being sought in certain areas. Information regarding the broader context that affects a region's ability to attract and retain human resources is also important.

Conclusion

Information needs have changed dramatically in light of profound structural shifts in the labour market, rapidly evolving technologies, the growing interest in the economic potential of local economies and the need for ongoing learning, training and upgrading. These pressures have resulted in data gaps in many areas including the extent of available work, emerging occupations and locally relevant information.

Various responses to these needs are being developed. But many of the answers to our new and emerging information requirements likely will come from methods that have yet to be developed. It is essential first to identify the key questions and challenges that must be addressed. Thank you for the opportunity to contribute to that process.

Endnotes

1. This proposal was made by Scott Murray of Statistics Canada. He noted that such an arrangement would have to be worked out through a multi-party agreement involving business (possibly through the Conference Board of Canada), the Department of Finance and the Canada Customs and Revenue Agency.

2. This point was raised in a discussion with Cheryl Gorman and Kathy McKinlay of the TalentWorks program, Ottawa Centre for Research and Innovation.

3. Cheryl Gorman of the TalentWorks program, Ottawa Centre for Research and Innovation, raised this issue.

References

Betcherman, G., K. McMullen and K. Davidman. (1998). *Training for the New Economy: A Synthesis Report.* Ottawa: Canadian Policy Research Networks.

BIOTECanada. (1999). "Canadian Biotechnology '98: Success from Excellence." Ottawa, April.

Economic Development Administration. (1999). *Cluster-Based Economic Development: A Key to Regional Competitiveness.* Prepared by Information Design Associates with ICF Kaiser International. Washington: United States Department of Commerce, October.

Hum, D. and W. Simpson. (1999). "Training and Unemployment." In K. Battle and S. Torjman eds. *Employment Policy Options.* Ottawa: Caledon Institute of Social Policy, pp. 71-106.

Lyman, T. (1999). "The Economic Generators Initiative: Building Prosperity for the 21st Century." Presentation on Cluster-based Economic Development, Ottawa, November 24.

Organisation for Economic Co-operation and Development. (OECD). (2001). *The Well-Being of Nations: The Role of Human and Social Capital.* Paris.

Organisation for Economic Co-operation and Development. (OECD). (1994a). *The OECD Jobs Study: Facts, Analysis, Strategies.* Paris.

Organisation for Economic Co-operation and Development. (OECD). (1994b). *The OECD Jobs Study: Evidence and Explanations, Part I: Labour Market Trends and Underlying Forces of Change.* Paris.

Organisation for Economic Co-operation and Development. (OECD). (1994c). *The OECD Jobs Study: Evidence and Explanations, Part I: The Adjustment Potential of the Labour Market.* Paris.

Ottawa Life Sciences Council. (2002). "Recruitment and Training in the Life Sciences." Presentation by Ken Lawless to the Partners for Jobs Working Group, January 15.

Ottawa Life Sciences Council. (2000). "The Next Wave: Harnessing Our Potential." Life Sciences Human Resource Needs in the Ottawa Region. Ottawa, September.

Roberts, B. and J. Padden. (1998). *Welfare to Wages: Strategies to Assist the Private Sector to Employ Social Assistance Recipients.* Flint, MI: Charles Stewart Mott Foundation, August.

Statistics Canada and Human Resources Development Canada. (2001). *Employer and Employee Perspectives on Human Resource Practices.* Ottawa: Minister of Industry, September.

Torjman, S. (1999a). *A Labour Force Strategy for Ottawa-Carleton.* Ottawa: Caledon Institute of Social Policy, May.

Torjman, S. (1999b). *Reintegrating the Unemployed Through Customized Training.* Ottawa: Caledon Institute of Social Policy, April.