

**Access for Foreign-Trained IT Professionals:
An Exploration of Systemic Barriers to Employment**

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**JobStart
And
Skills for Change**

Access for Foreign-Trained IT Professionals: An Exploration of Systemic Barriers to Employment

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1. Introduction

Purpose

There is currently a serious skill shortage in the Information Technology (IT) Sector. Industry officials project up to 30,000 jobs will remain unfilled this year in the software sector alone. However, a steady stream of highly skilled IT professionals immigrating to Canada are finding it difficult to access employment opportunities commensurate with their skills and experience in the IT field. Systemic barriers may be limiting foreign-trained professionals (FTPs) in the IT field who have the potential skills and experience to address the hiring needs of Canadian employers.

The possible barriers that the foreign-trained face may be embedded in the dynamics of the labour market itself, business practices related to screening and selection, and workplace policies and procedures that work against retention. The “Access for Foreign-Trained IT Professionals: An Exploration of Systemic Barriers to Employment” research project, attempts to identify the nature and scope of these barriers and develop workable solutions. The key findings of this report will be used to support tools and strategies that facilitate the full participation of FTPs in the labour market. A two-track strategy will be implemented that focuses on both advocacy and education related to improving policies and procedures, and newcomer employment preparation and sector information.

In identifying access issues for foreign-trained IT professionals this report explores the following questions:

- 1) What are current recruiting and selection practices in the field, and how may these affect the employment of FTPs?
- 2) To what extent and in what ways does the “hidden” job market discriminate against FTPs?
- 3) Is there a degree of specialization in roles, software expertise and occupational classifications that militates against transferable skills and experience?
- 4) How are FTPs expected to integrate into the workplace? Do workplace equity policies and practices translate into hiring practices, workplace conditions and dynamics?
- 5) How do employers and job applicants perceive the potential match between prior learning, qualifications and job selection criteria?
- 6) How do trends in the knowledge economy and the dynamics of the IT labour market impact on the hiring of FTPs?

Canada Heritage Multiculturalism Program Objectives

In order to support the equitable participation of newcomers in the Canadian labour market, this action-based research aimed to include experiences of FTPs that tangibly illustrate the barriers newcomers face. FTPs were directly involved in the design, analysis and strategic development of the research process. Working closely with sector experts and employers on the project has enabled common areas of agreement, analysis and practical recommendations that are more easily implemented.

The results of this project can provide a tool for raising public awareness and informing a dialog on social development, public and corporate policy change. A key research finding from Human Resources Development Canada’s 1998 report “*Newcomer Employment Support Conference*:

Project to Support Employment of Immigrants in the City of Toronto” and the Skills for Change study *Building Bridges: Identifying Opportunities and Overcoming Barriers to Employment and Licensure for Foreign-Trained Engineers in Ontario* is the need to examine issues on a sector-specific basis.

This level of analysis will support well-targeted change efforts and elicit the degree of internal acceptance within the industry that is needed for positive change. This report focuses on occupations within a sector that reflect the current immigration flow and the needs of an important growth industry in the Canadian economy.

Project Partners

This project was conducted in a partnership between two immigrant employment preparation and training organizations, JobStart (formerly known as The Centre for Advancement in Work and Living) and Skills for Change.

JobStart has provided employment support and preparation services to youth, adults and newcomers in Toronto since 1982. Its mandate is to assist individuals facing barriers to employment with counselling and training supports that will enable them to find and keep jobs. The range of workshops, individual and group counseling and employment resources is constantly being improved to meet the ever-changing needs of job seekers and to address emerging trends in Canada’s labour market.

Also established in 1982, Skills for Change (SfC) is a community-based organization located in Toronto. As a non-profit organization, its mandate is “to provide learning and training opportunities for immigrants and refugees so that they can participate effectively in the workplace and wider community.” SfC has been at the forefront of innovative initiatives regarding professions and trades in Ontario by providing sector specific employment focused programs. SfC also works with the community to address systemic barriers that foreign-trained professionals and tradespeople face at the licensing and policy levels.

An advisory committee consisting of a broad range of individuals and representatives who share expertise on issues related to employment access for IT professionals guided and directed the research process. Participants included:

- An IT employer and recruiter
- Three foreign-trained IT professionals
- Representative from the Women in Technology and Trades National Network
- Representative from Human Resources Development Canada
- Representative from Citizenship and Immigration Canada

2. Research Methodology

The research was conducted in five stages over a six-month period. However, some activities were conducted simultaneously to ensure continuous information gathering.

Stage 1

The project commenced April 1, 2000. The initial research involved a literature review and interviews with industry experts to understand the context of access issues as they pertain to the IT sector and to define the scope of the research. In this process, a current perspective on trends in the IT labour market was developed. FTP research participants were recruited through partner agencies to begin documenting the experiences of newcomers in the IT labour market and to begin formulating research.

Stage 2

The second stage of the research project focused on designing the research and developing questionnaires for interviews with employers, recruiters and FTPs. An initial consultation was held with the advisory committee to provide advice on the design and development of the project and to prioritize research goals. A telephone survey was conducted with employers to determine key issues in the hiring of foreign-trained professionals.

Stage 3

The third stage of the project involved conducting focus groups with FTPs and IT employers. Key informant interviews were held with sector experts to provide specific information. At this stage, initial data was summarized and reviewed. Preliminary conclusions were developed.

Stage 4

The fourth stage of the project involved testing the preliminary conclusions with the advisory committee and the last focus groups with FTPs and IT employers. The principal systemic barriers were determined and a preliminary report was drafted.

Stage 5

The fifth stage of the project focused on generating recommendations for systemic improvements. A dialogue group between FTPs and employers was held to discuss solutions and share perspectives on barriers to employment. A final review with the advisory committee members integrated input and analyzed conclusions and recommendations.

Specific methodologies included:

- 1) Telephone interviews and personal interviews with employers, recruiters and foreign-trained professionals
- 2) Focus groups with employers
- 3) Focus groups with foreign-trained professionals
- 4) Dialogue group with employers and foreign-trained professionals
- 5) Key informant interviews
- 6) E-mail surveys with foreign-trained professionals and employment support agencies
- 7) Industry events
- 8) Literature and web site review

Personal Interviews with Employers

A total of fifteen employers were interviewed regarding hiring and selection practices and issues specific to the employment of foreign-trained IT professionals. Five interviews were conducted in person. Ten were conducted over the telephone due to employer time constraints and availability. Large (500 employees and up), mid-size (100 employees and up) and small enterprises (fewer than 100) were interviewed in order to provide a representative sample of

industry practices. A survey was used to conduct the interviews (*see Appendix 1 for survey questions*). Employers who provided software services, large organizations with internal IT departments, and software development firms were also included.

Employers Interviewed

Angoss Software	Motorola Canada	Oasis Technologies	Teranet
DeHavilland	Nubase Technologies	Onx.com	
Hummingbird Canada		Petro-Canada	
LGS		Ryerson Telecom Software	
MasterCard		Scotia Bank	

Employer Focus Groups

A focus group was held with three IT employers to receive commentary on the results of the foreign-trained professional research and the general employer survey.

Personal Interviews with Recruiters

Personal interviews were also held with large recruiting firms to gain an overall perspective on hiring trends in the IT field as they relate to the foreign-trained. The recruiting process was also examined. Four recruiting firms were interviewed, two in person, two over the telephone. A focus group was held with four recruiting staff at Ajilon Corporation. (*See Appendix 2 for questions*)

Recruiters Interviewed

Ajilon Corporation	CNC Global (Saber Consultants)	Procom Computer
Consultants	The GIS Group	

Personal Interviews with Foreign-Trained IT Professionals

Telephone interviews were conducted with twenty foreign-trained professionals in conjunction with an e-mail survey. Questions focused on their experience job searching to find a job in their profession in Canada. The FTPs were recruited through the JobStart mentoring program, Woodgreen Employment Services, and past participants of sector-specific (IT) job-search workshops offered through Skills for Change. The majority of respondents were male, in the 30 – 40-year-old age bracket and were applying for work in the software industry. Occupations included: IT Architect, Software Programmer, Software Developer, Network Engineer and Network Support. The professionals had a minimum of two years' work experience from their country of origin. (*See Appendix 3 for survey questions*)

Country of Origin and Gender of Respondents

Country of Origin	Female	Male	Total
India	1		1
China	3	9	12
Ukraine	1		1
Estonia	1		1
Romania		1	1
Columbia		1	1
Argentina		1	1
Iran		1	1

Focus Groups Conducted with Foreign-Trained IT Professionals

Three focus groups were held with a total of thirty foreign-trained IT professionals. Each group had 10 - 15 participants, was two hours in length and focused on standard questions in an open discussion. Participants were predominantly male and were in the same occupations as the survey participants.

Country of Origin and Gender of Respondents

Country of Origin	Female	Male	Total
China	5	12	17
India	1	1	2
Sri Lanka	1		1
Iran		1	1
Romania		1	1
Ecuador	2	1	3
Ukraine	1	1	2
Russia		1	1
Kuwait		1	1
Korea		1	1
Argentina		1	1

Foreign-Trained Women Focus Group

Two focus groups were held with a total of eight IT professional women to discuss barriers specific to women. The occupations cited by these women were computer programmer and software developer. Their countries of origin included Russia, China, Philippines, Iran, Ukraine, India, and Pakistan.

Dialogue Group

A dialogue group was held consisting of four employers and five foreign-trained professionals (See Appendix 4 for dialogue group design). The solution-oriented group was conducted during the last stage of the project to provide some validation of data and to assist in the development

of project recommendations. The group enabled an open dialogue between employers and foreign-trained professionals and helped identify stakeholders.

Immigrant Employment Agencies Survey

A survey was conducted with community-based agencies providing support to foreign-trained IT workers to obtain a macro-view of the level of employment they were obtaining and issues and barriers they faced in the job market. The e-mail survey was conducted with four agencies that responded out of a total of ten (see *Appendix 5 for survey results*). Agencies who responded included:

A.C.C.E.S to Employment
New Canadian Program
Newcomer Opportunities for Work Experience, The Bickford Centre
Woodgreen Employment Centre

Key Informant Interviews

Sector experts in the industry were consulted to discuss labour market trends and issues related to Foreign-Trained IT professionals.

- Robert Black, The Canadian Information Processing Society
- Robert Crow, The Information Technology Association of Canada
- Jennifer Evans, Webgrrls
- Peter Gil, Devry Institute of Technology
- Michele Goldberg, Access to Professions and Trades Unit, Ministry of Training, Colleges and Universities
- Louisa Jewel, Wired Women Society
- Bill Linton, Seneca College
- Robert Swinwood, The Software Human Resources Council
- Andy Shi, The Chinese Professional Association of Canada

Industry Events

Researchers also attended the following events in order to obtain further industry information and develop an awareness of key issues related to the foreign-trained.

St. Lawrence Centre Forum, "Brain Drain, Brain Gain", June, 2,000
New Chinese Canadian's Workplace Participation Strategic Planning Forum,
The Chinese Canadian Council Toronto Chapter, May 7, 2,000
Gigabytes 2,000, June, 2,000

Literature Review

Research included a wide range of governmental reports, industry-specific publications and web sites, labour market research, and business and mainstream media articles (*See Appendix 5 References*).

Scope of the Project

The focus of this report remains on employers who provide software services. The geographical scope of this project is based on the Ontario Region. Software firms, revenues and employment tend to be clustered in the larger provinces of Ontario, Quebec, followed by Alberta and British Columbia¹. In Toronto alone there are 3,000 high-tech companies earning \$38 billion in revenues², coupled with the fact that Toronto receives the majority of immigrants to Canada, (70,000 per year), the Toronto area industry is a major employer of foreign-trained IT professionals. However, to obtain a broader Ontario outlook, this project includes findings based on research and key informant interviews from the Ottawa area.

Research limitations are primarily based on a lack of quantitative data. However, the qualitative data in this report should provide a foundation for future research.

3. The Impact of the Perceived Skills Shortage on the IT Labour Market

3.1 Lack of Standardized Skill and Occupational Requirements

Software is a global growth industry in which Canada has the sixth largest world revenue share of a US \$88 billion software market³. This strong growth has translated into a highly competitive global software labour force. Employers in the software industry assert that there is a massive software skills shortage that is putting the industry's future at stake. According to industry leaders in Canada, 20,000 jobs remain unfilled in the software sector⁴. Employers are searching for the "best global talent" to remain competitive. This search has been complicated by the fact that there has been difficulty projecting labour demands and standardizing skill and occupational requirements due to rapid change and growth in the industry⁵.

The Software Human Resource Council has done extensive research in this area in an attempt to mitigate these difficulties. The Council's research found a lack of detailed knowledge of software sub-sector activity and job titles are used without a shared understanding of their meaning within the software sector. Job skill categories have not kept pace with the changes in technology and, as a result, new categories have arisen which may be extensions of existing ones. The Council has recently developed an occupational skills profile model for twenty-four occupational streams in the industry. The objective of the model is to address the need for standardized skill definitions and a common terminology base for describing software duties in the current Canadian software industry.

Human Resources Development Canada's (HRDC) national occupational codes and immigration skilled worker selection criteria have relied on "outdated" occupations that do not

¹ "Labour Market Trends and Projections for Systems Analysts and Computer Programmers in Canada", 1999, Stagger, David, Human Resources Development Canada Applied Research Branch.

² Ditto.

³ "Evaluative Report of the Software Development Workers Pilot Project", The Software Human Resource Council, 1998, "Labour Market Trends and Projections for Systems Analysts and Computer Programmers in Canada, Human Resources Development Canada, Stager, David, 1999.

⁴ "IT Skills Shortage In Canada: A Snapshot", The Information Technology Association of Canada, 1999

⁵ "Evaluative Report of the Software Development Workers Pilot Project", The Software Human Resource Council, 1998

reflect the requirements of a contingent and emergent IT labour market⁶. However, HRDC is currently using the occupational skills profile model to revise its national occupational classification. In January 1999, Immigration Canada announced the intention to modernize the selection system for skilled workers to focus on “flexible and transferable skills” rather than the current occupation-based system of classification. However, the rapid change in increasingly specialized skill demands linked with the continuous emergence of new skill sets will continue to complicate occupational and skill classifications, further perpetuating the skills shortage.

3.2 Highly Specific Job Requirements

Although there is a shift towards generic and transferable skill requirements at the level of immigration, the industry has become more specific in its demands. Detailed lists of qualifications for IT positions reflect the high demand for skills by employers who are attempting to thrive in a competitive economy⁷. According to recruiters and sector experts, the new demands are based on technological systems that are increasingly complex. A company may have ten technology systems that require more than ten different skill sets because the systems use different programming languages and operating systems and have different applications⁸. This fragmentation of technology creates increased specialization and has reduced the interchangeability of IT workers from one project to another⁹.

In addition to the increasing use of technology and the complexity of information systems, new technologies are rapidly creating new occupations for an industry in its infancy. Most job candidates have not obtained the levels of experience required for these positions yet. One commonly cited example of this is the requirement of five years’ experience with Java when this language has only been in existence for 3 years. This also impacts on hiring managers who may not have the expertise or adequate understanding of projected requirements.

3.3 Rise in the Demand for Senior Level Positions

Senior level positions are in high demand as the implementation, deployment and management of IT networking systems plays a pivotal role in maintaining a company’s competitive advantage¹⁰. In addition, there has been an increase in large-scale projects using increasingly complex systems that require strong project management skills. According to the recent CATA report on the skills shortage, 73% of the positions in demand are at the project management level.

⁶ “Stepping Up: Skills and Opportunities in the Knowledge Economy”, Report of the Expert Panel On Skills, The Federal Government Advisory Council on Science and Technology, 2000.

⁷ “Why are Employers so Picky?”, Thomas York, Computer World Careers, Nov. 22, 1999

⁸ “Right Stuff Hard to Find”, Madhavi Acharya, The Toronto Star, June 7th, 2,000

⁹ “The IT Career Guide”, CNC Global Publication, 1999

¹⁰ “IT Skills Shortage in Canada: A Snapshot”, Information Technology Association of Canada, 1999

Two Perspectives: Employer and Foreign-Trained Professionals

Employers

When employers surveyed were asked what positions they were most frequently trying to fill, they refer to software development positions, particularly senior-level and project management. As well as the extensive technical skills required for these positions, soft-skills such as communication, project management, and teamwork were cited as very important for upper level positions. The right workplace fit is considered crucial for senior level positions. Business and industry knowledge is also an asset as employees can contribute solid business solutions in a competitive industry. In addition, there is an expectation that workers will constantly update their skill sets to ensure adaptability to rapid changes in technology.

Senior level positions require a minimum of five years' work experience. Self-taught skills are not recognized if they have not been applied through direct work experience. However, if a candidate has a self-taught skill that is not a core qualification for the job, then it may be acceptable to an employer. The expectation of workers is that they must be able to "hit the ground running" in the current work environment.

Employers said it might be difficult for FTPs to enter these upper-level positions due to communication gaps and lack of cultural awareness and business knowledge. They were advised to apply for lower-level positions and work their way up.

Employers do not consider training to meet senior level hiring needs advantageous for cost-control and staff-retention reasons. These human resource issues in the IT field are particularly relevant in smaller firms that do not have the resources or the ability to take risks. High-salaried, senior-level positions are often "raided" by competitors. The risk of losing intellectual property and the cost invested in training is too great.

Foreign-Trained Professionals

Foreign-trained IT professionals are facing difficulty matching their skills and experience with employer requirements. Many FTPs applied for upper-level positions as these job openings matched the experience they had obtained in their country of origin. However, they were frequently turned down due to communication skills and lack of Canadian experience. Some FTPs reported applying for lower-level positions and being interviewed but then rejected as overqualified. Many FTPs, who were employed, were under-employed. The foreign-trained were more likely to obtain jobs at this level of technical ability, where communication skills were not as crucial as a requirement¹¹. In other cases, they had appropriate training, certification, and cutting-edge technical knowledge, but not the number of years' experience required. This is a barrier faced by most IT professionals in the job market.

Participants in the focus groups seeking work found that job descriptions were very intimidating and had long, detailed lists of skill requirements. They felt that employers were not flexible

¹¹ The pattern of foreign-trained professionals participating in lower level IT positions corresponds with a study of the participation of foreign-trained IT professionals conducted by the Chinese Canadian Association. They found that Chinese IT professionals were underemployed and their upward mobility was limited. Some employers were turning down highly skilled workers for higher positions because of their language abilities-or "accent". Employed Foreign-Trained professionals were not given the same opportunities as they lacked presentation skills, yet they were not given the opportunity to participate in presentations that would give them the experience. "New Chinese Canadians' Workplace Participation Planning Forum", The Chinese Canadian National Council, Toronto Chapter, May 7th, 2,000.

enough. They wanted too much and demanded too many years of experience when there needed to be a learning curve. Some reported that they would need to be dishonest about their skill sets to apply for these positions successfully, although they felt competent to perform. Many computer languages are similar, so they felt that their skills were easily transferable with some additional training. They felt that the principles and logic of programming applied to all languages, and that their overall problem-solving skills and analytical talent were not recognized. Some participants said that they had been turned down due to one or two missing skills and wondered if employers really knew what they wanted in a job candidate.

3.4 Keeping Skills Up-To-Date in a Rapidly Changing Industry

Due to constant change and technology innovation in the highly competitive software industry, there is a requirement for the constant knowledge upgrading of IT workers. Canada's IT industry consists of predominantly small employers who are facing human resource challenges. The cost of identifying needs, evaluating options and procuring training services seems to pose a real barrier to many small firms¹². For example, data shows that frequency and incidence of training is closely associated with the size of the firm¹³. Industry officials say that they are often unable to train workers due to resource availability. Larger firms may offer professional-development training, but will not generally train "potential" candidates for specific positions. A recent survey conducted by Carlton University interviewed 1,600 employees in the high-tech industry and found that only 20% received employer-funded training¹⁴.

In addition to the issue of few or limited resources, common sense logic in an industry characterized by "employee raiding" suggests a reluctance to train staff¹⁵. Employers fear their staff may be "raided" by competitors, and that "trainee's don't stay long enough to recoup training investment." These statements concur with reports by the Software Human Resource Council, the Information Technology Association, and the Canadian Policy Research Network¹⁶. Industry officials are currently lobbying the government to provide incentives to companies that hire untrained workers and provide training¹⁷.

In order to remain marketable in the field, workers are expected to keep their skills-up-to-date. IT workers are guided by recruiters and human resource counselors to take individual responsibility for upgrading their skills. This reflects the current trend in career management in the new economy, where employees are increasingly working on contracts and marketing their portable skills. The IT field has proportionately more contract work than permanent work. However, with the Y2K resolved, more employment is becoming available on a permanent

¹² "Stepping Up: Skills and Opportunities in the Knowledge Economy" Report of the Expert Panel on Skills, The Federal Government Advisory Council on Science and Technology, 2000

¹³ "Barriers and Incentives to Training", Graham Lowe, Kathryn McMullen, Canadian Policy Research Networks, 1998

¹⁴ "Give us a Break, High-Tech Workers Say," Margot Gibb-Clark, The Globe and Mail, February 22, 2000

¹⁵ Employers Survey and Employer Focus Group Results

¹⁶ "Barriers to Employer-Sponsored Training", Betcherman, Gordon, Leckie, Norm, Kathryn McMullen, 1998, Ottawa, Canadian Policy Research Network, "Human Resource Development and Planning in the Canadian Software Sector", Katie Davidman, Ottawa, Canadian Policy Research Network, 1998 "An Evaluation of the Software Development Worker Pilot Project, Final Report, Ekos Research Associations, 1998, "IT Skills Shortage in Canada- A Snapshot", 1999, Information Technology Association of Canada, Branham Group Inc.

¹⁷ "IT Skills Shortage In Canada- A Snapshot", 1999, Information Technology Association of Canada, Branham Group Inc.

basis. Standards for training in the sector are non-existent, making it difficult for a continuous learner to make informed training choices¹⁸.

Two Perspectives: Employers and Foreign-Trained Professionals

Employers

One employer surveyed stated that there was general agreement in the industry that it is not financially advantageous for employers to absorb training costs. Training was, however, pursued through a shared accountability between the employee and the company in some of the companies surveyed. In some smaller companies it may be the sole responsibility of the worker, while in larger companies either training benefits or on-site training were provided. Employers reported that although self-taught skills, certifications, and training were definite assets to employment, direct application of these skills in the work environment were a requirement for most positions.

Foreign-Trained Professionals

Foreign-trained professionals fear that their skills will become obsolete while they orient themselves to the IT labour market in Canada. Other professionals came to Canada and found that their skills were not considered up-to-date and recognized the need for retraining. However FTP's, who enrolled in study programs to avoid this happening or to update their skills, said they still faced employment barriers, as employers required direct work experience.

3.5 Brain-Drain/Brain-Gain

Industry leaders cite brain drain to the United States as a major contributor to the skills shortage in the IT field. The North American Free Trade Agreement has made it easier to bring Canadians to the U.S. The Canadian industry suggests that the brain drain will get bigger as the U.S. will need about 1.6 million IT workers by the end of this year¹⁹. The pull factor for those who leave for the U.S. includes the greater availability of growth opportunities and higher pay. Recruiters and other industry experts say that the real pull to the U.S. is that American companies are willing to take more risks, provide more opportunities and new challenges. This is not surprising considering that the U.S. market is ten times the size of the Canadian market. The Information Technology Association of Canada says that the "best and the brightest" are being exported, impacting enormously on Canada's ability to compete in a global economy.

According to the Statistics Canada report on Brain Drain, less than 1% of the top emigrating workers (including high-tech workers) left Canada to the U.S. during the 90's²⁰. University-educated immigrants coming to Canada outnumber those leaving for the U.S. by four to one (immigrants are on average more highly educated than the Canadian population). Seemingly, immigrant high-tech workers have become an important component of high-tech expansion; computer engineers, systems analysts and computer programmers account for 30% of employment growth in this sector²¹. Recent immigrants are twice as likely as the Canadian-born to be working as computer scientists.

¹⁸ "Evaluative Report of the Software Development Workers Pilot Project", The Software Human Resource Council, 1998

¹⁹ "Will more IT workers fly south?", Simon Tuck The Globe and Mail Business Focus, Tuesday, April 11, 2000

²⁰ "Brain Drain and Brain Gain: The Migration of Knowledge Workers from and to Canada", Murray, Zhao, and Drew, Statistics Canada Education Quarterly Review, 2000, vol.6, no.3

²¹ "Stepping Up: Skills and Opportunities in the Knowledge Economy" Report of the Expert Panel on Skills, The Federal Government Advisory Council on Science and Technology, 2000

Despite this level of participation, there is a lower rate of labour force participation among recent immigrants. It is speculated that this may reflect newcomers' initial difficulties adapting to the labour market. In addition, their salaries are lower than Canadian workers at this stage in their careers. It is expected, however, that their estimated lifetime earnings will be comparable to Canadian-born computer scientists. A very recent study on immigrant success in the knowledge economy states that there has been a rapid increase in immigrants with university degrees in the 1990's; however, the value assigned to those degrees is only half the value of degrees for native-born workers²².

Two Perspectives: Employers and Foreign-Trained Professionals

Employers:

Employers stated the "brain drain" is a major employment retention issue. U.S. recruiting is very aggressive in Canada and very competitive. However, many of the employers surveyed said their software development teams were predominantly foreign-trained, so they felt they had utilized the skills of newcomers to Canada and had received the benefits of the "brain-gain".

Foreign-trained Professionals:

Although many newcomers were ineligible to apply for positions in the U.S., they heard from their informal networks that the opportunities were much better there. Those who were unemployed would take a job there immediately if they had the appropriate immigration status. One professional said that "they don't ask for American experience, they just want related experience." The general perception was that American employers were more likely to take a risk hiring a foreign-trained newcomer, and give them the chance to learn new skill sets. They questioned why the media discussed the issue of brain drain and yet they were unemployed.

4. Recruiting and Selection Practices

4.1 The Hidden Job Market

According to a 1998 report conducted by the Software Human Resource Council²³, the most common methods of recruitment were listed in descending order: Internet, informal contacts, want ads and recruiting firms. However, current methods used by surveyed employers were Internet advertising, recruiters and informal contacts. This will be discussed in more detail in the employer perspective section. According to Industry experts, lower level jobs tend to be filled through the "hidden job market". The more upper level positions and the higher paid the position, the greater the likelihood of agency and advertising use. Recruiting practices used for senior level positions are primarily "hidden" as well. Saber, one of the largest recruiting companies in the industry cites a 95% hidden job market in the IT industry. An industry representative noted that the 20,000 unfilled jobs reported by the industry are not all advertised.

4.2 The IT Job Network According to Employer Survey

1) Informal Contacts

²² "Immigrant Success in the Knowledge Economy", Toronto, Reitz, 2,000

²³ "Evaluative Report of the Software Development Workers Pilot Project", The Software Human Resource Council, 1998

- 2) Recruiting Companies
- 3) Internal referral systems
- 4) Direct Employer Applications/advertised positions

Informal Contacts

Employers prefer to hire job candidates they are familiar with and on what they know to be reputable. This is standard in most sectors. In IT, where recruiting and advertising costs are high, this is a preferred method.

The Role of Recruiters

There is a rise in the use of recruiters in the industry to address the demand for senior-level positions and the lack of technical knowledge in human resource departments. In Toronto alone there are over 200 IT recruiting firms that “headhunt” for high-tech talent²⁴. Although recruiters will advertise position openings and screen candidates, their efforts are focused towards searching out the most highly qualified candidates: those who are already working.

According to the Information Technology Association report on the skills shortage, a 1998 Industry Canada report states a 44% increase in IT firms experiencing a high degree of difficulty retaining highly skilled workers due to raiding by other companies who offer higher pay. Employers pay substantial amounts for recruiters to identify the best candidates. One of the large recruiting firms, CNC Global, receives over 20,000 applications a month and selects one to three best candidates from these. Ajilon, another large recruiter in the Toronto area receives 8,000 applications for 500 jobs. 80% of these applicants are FTPs. This large queue of applicants allows a high degree of selectivity in hiring those with specialized skills and personalities that are conducive to the best “workplace fit.”

Recruiting Process for Hiring Standard and Senior-Level Candidates

Standard:

Internet Advertising⇒⇒ Telephone/Internet pre-screening⇒⇒ Reference Retrieval⇒⇒ Recruiter Interview⇒⇒ Referral to Employer⇒⇒ Rejection or Securing of Job under recruiter/employer contract

Senior Level:

Telephone/Internet pre-contact⇒⇒ Recruiter Interview⇒⇒ Referral to Employer⇒⇒ Negotiation of Contract⇒⇒ Candidate agreement or rejection of job offer

²⁴ “Recruiters Caught in Middle of IT Crunch”, Susan Heinrich, The National Post, Monday, April 17, 2000

Internal Referral Systems

Internal referral systems are a result of the rethinking of recruitment strategies by employers. Bonuses ranging from \$2 - 5,000 are offered to employees referring qualified candidates to the company who are successfully hired and pass through the probation period. This system is attractive to employers who obtain good candidates and save the greater expense required for hiring a recruiting firm.

Advertised Positions

The Internet is the most common method for advertising IT positions. Recruiting firms, job boards, company web sites, newsgroups, and homepages that post individual resumes are prevalent. High-tech job fairs, attended by Canadian and American employers and recruiters with current job openings, are held on a regular basis. An average of 20 - 50 companies participate in these events. Applicants that apply directly through companies are routed through Human Resource Departments in larger firms and IT managers in smaller firms.

Two Perspectives: Employers and Foreign-Trained Professionals

Employers:

The current recruiting methods used by employers surveyed in this report were slightly different from those listed in the 1998 Software Human Resource Council report. This may be due to the smaller sample size and the type of companies interviewed. It may also reflect more recent trends in recruiting. Employers' preferred methods of recruiting in descending order are Internet advertising, recruiters, and internal referral systems. Smaller firms were less likely to use recruiters due to cost issues. Informal contacts were used as a recruitment method by all firms.

Recruiters and internal referral systems were beneficial for employers, as they often did not have the time to search through the flood of applications that came to their companies from direct advertising. Recruiters were necessary to facilitate the hiring process, as it was lengthy, time-consuming, and required a level of expertise (technical and human resource) that employers may not have. In a highly competitive market, they felt that hiring the right candidate was a top priority in maintaining an advantage. Hiring foreign-trained professionals posed an additional challenge, as they may not know how to evaluate the applicants' credentials and experience.

Foreign-Trained Professionals

Newcomers felt that they lacked the necessary network for job search in Canada. They had used a shot-gun approach to their job hunt, sending off hundreds of resumes to advertised positions and were surprised by the minimal response. Many of the participants had attended job search training and were aware that networking was an important skill.

However, they felt intimidated by the idea of self-marketing as this was very new to them. They felt that marketing themselves was "unprofessional" and uncomfortable for them. In their cultures, this practice would be considered "boasting." It seemed to them that a verbal description of their experience held more weight than their qualifications. One person said she "felt like an actress who is desperate to find a job". They lacked the confidence necessary to approach employers due to language and culture considerations.

Their experience with recruiters was generally not positive. They stated that recruiters had a hold over the job market, and that they had a much better chance of obtaining a job by contacting employers directly. They stated that recruiters wanted the cream of the crop for their

clients. They felt that if they didn't meet these expectations, it was not worth their time. They were frequently rejected by recruiters who turned them away as they lacked Canadian experience and needed to work on their language skills.

They also reported feeling intimidated by the pre-screening process, telephone interviews and the request for local references up front. Pre-screening interviews were particularly difficult due to their language abilities. They felt that they were often rejected due to their "accent" or inability to communicate smoothly in English. Local references were difficult to obtain as a new immigrant.

5. Integration of the Foreign-Trained into the IT Workplace

5.1 IT Workplace Culture

IT workplace culture varies according to the size and age of the firm and its management philosophy. The newer "start-up" companies strive to retain target employees with "hot skills": young and mobile Generation-Xers²⁵. These workers are 33 years old or less on average, have two to three years' experience and are recently trained in cutting-edge technologies. These are also the most mobile of IT workers. "If the job is boring, the bonus isn't high enough, or the overtime sweat isn't paying off in company recognition, they move on."²⁶ They are eager to work with the latest technology, and adapt easily to it. However, other studies indicate that staffers say that mobility is the only way to gain a variety of experience and therefore to be more secure in their career.

In response, employers are developing retention strategies, for example, alternative work schedules, stock options, paid sabbaticals, on-site recreation facilities, and professional development budgets. However, what companies are doing to retain younger workers may not meet the needs of older workers. According to a Canadian study funded by the Human Resources Research Institute, older workers are feeling neglected²⁷. According to the study of 1,600 workers in the Ottawa "Silicon Valley", retention strategies do not incorporate their needs, which were more related to work/life balance and family matters.

Small, midsize and large firms place an emphasis on teamwork and encourage relationship building in the business culture. The work environment is conducive to this, as employees are expected to work very long hours as a part of the high-tech culture. The Ottawa Valley study served as a warning to employers that shorter hours may help to retain top talent²⁸. Employees felt that their employers had unrealistic expectations about their workload. More than three-quarters of employees work on evenings and weekends. The average work hours were 48 per week. When a major project was undertaken, employees found themselves working 10- to 12-hour days for several consecutive weeks. This was particularly difficult for workers over the age of thirty who may have family responsibilities. Women were highly affected by these long work hours. In addition, it was difficult for IT workers to work on professional development due to the lack of time. Another important issue for workers was that they were not able to make internal

²⁵ "Retaining Your Hot Skills Employees-Use Dollars and Sense", Davis and Harris, High Technology Industries 2,000, ACA Journal, First Quarter 2,000, Vol 9(1)

²⁶ "Revenge of the Nerds", Ingrid Hein, Future Tech, Report on Business Magazine, March 2000

²⁷ "Give us a break, high-tech workers say" Margot Gibb-Clark, The Globe and Mail February 22,2000

²⁸ "Give us a break, high-tech workers say" Margot Gibb-Clark, The Globe and Mail February 22,2000

transfers and were often in overspecialized departments, escalating their fears of skill obsolescence.

Cultural diversity in the workplace is standard in most companies, with 60% immigrants to 40% Canadian-born in the hard skill areas²⁹. This ratio changes in the higher-level positions, with predominantly Canadian-born occupying these positions. Small to midsize firms have few resources to implement diversity programs; however, some offer ESL classes to assist newcomer integration. According to recruiters and employers in the IT field, diversity has more to do with management philosophy than it does with programs and training.

5.2 Canadian Experience in A Global IT Market

In the IT field, technical skills and terminology are international. However, the major employment barrier of lack of Canadian experience for FTPs is still applicable in the IT field. This is particularly true for senior-level positions. FTPs are readily filling other technical positions without the requirement for Canadian experience. The IT labour market is global; temporary work visas are granted for IT professionals from around the world. The U.S. began this, Canada followed, the European Union and now Australia are all realizing the importance of remaining competitive by hiring temporary workers who represent the “global best.” However, there is still a demand for Canadian experience from immigrant IT workers. Recruiters state that many employers prefer, and in some cases demand, candidates with Canadian experience. They are reluctant to hire due to the lack of familiarity with previous work experience, no local references, communication gaps and workplace fit issues.

Two Perspectives: Employers and Foreign-Trained Professionals

Employers:

When asked what they were looking for when requiring Canadian experience, some employers expressed a reluctance to hire foreign-trained professionals who held qualifications from unfamiliar institutions/organizations. Comparative education evaluations were helpful, but did not provide necessary information about institutions. They were also doubtful and unsure how to assess applicants’ skill level. This was particularly true for smaller organizations that didn’t have the resources/networks to gather this information. Larger employers had access to this information through international networks, and through current employees who may have come from the countries of the prospective hires.

Employers tend to hire foreign-trained professionals from countries of origin that have reputable companies/schools/technology. Many employers engage job candidates in technical interviews, but may not conduct individual technical testing. An example of this is the growing trend of hiring IT professionals from India, who are fluent in English and well trained in advanced technology. The majority of temporary workers in the U.S, Canada, Australia and the European Union are Indian. China is also a country that attracts employers as they have access to advanced technology.

Employers stated the importance of a job candidate’s exposure to Canadian society, culture and business knowledge, coupled with strong communication skills to the IT workplace. Senior-level positions requiring extensive client interface and business knowledge required these “soft” as well as technical skills. The right “workplace fit” was very important. Some employers cited

²⁹ Confidential Employer Survey

negative experiences concerning cultural differences, these included overly passive or aggressive communication styles, attitudes towards gender relations and authority models, peer relations, and basic hygiene issues. They felt that work styles in other countries might be quite different, for example, attitudes towards working in a team environment.

Foreign-Trained Professionals:

IT professionals expressed the usual frustration over the “Catch 22” of Canadian experience. How do they get the experience if no one is willing to hire them? IT is an international field; they didn’t understand why Canadian experience is so important. They felt that Canadian experience has less to do with technical experience and more to do with the IT professional’s exposure to the Canadian culture and work environment. Some professionals felt that employers lack a positive attitude toward newcomers coming from different cultures; they may be influenced by cultural stereotypes. They were concerned that employers were reluctant to hire them when they questioned how they would be able to adapt to the new environment and get along with colleagues.

5.3 The Importance of Communication Skills in a Technical Environment

Although IT positions are highly technical in nature, communication skills are becoming more in demand as the industry changes. Many newcomers are still acquiring the level of language necessary for them to participate fully in the Canadian economy. Current language training has not been adapted to meet the more advanced needs of foreign-trained professionals³⁰. Workplace English and task-based ESL assessments are not currently funded. Sector-specific terminology for computer scientists does not address the needs according to IT professionals and employers.

Different cultural learners have different needs; for example, Chinese IT professionals, who represent a large portion of the immigration flow of IT professionals, read and write better than they speak, leading to employment difficulties. As an example of the varied language needs of the 67% of Chinese immigrants who speak English, 23% are at a beginner level, 36% are at an intermediate level and 24% are fluent.

Two Perspectives: Employers and Foreign-Trained Professionals

Employers:

Employers cite communication difficulties as the primary barrier to hiring a foreign-trained professional. When a candidate is highly qualified, but has difficulty communicating, he is not considered as an applicant. Senior-level positions require stronger communication skills, as there is extensive interface with clients, users, and departmental staff. Technical positions require a certain level of English to function in the position effectively, but employers are more willing to hire those with potential to improve their English skills.

Employers generally assess language abilities during the interview situation. Recruiters stated that there is no standard language requirement across the industry; some expressed concern with accents, others the basic ability to comprehend, while others spoke of the ability to conduct social chat in the workplace. Presentation skills were stressed as highly important, particularly the ability to discuss the technical in a non-technical way. Sector-specific terminology was not

³⁰ “New Chinese Canadians’ Workplace Participation Planning Forum”, The Chinese Canadian National Council, Toronto Chapter, May 7th, 2000

cited as a strong language requirement as the global nature of IT ensured that IT workers around the world shared the same technology. Terminology training should be workplace/industry-specific rather than technical.

Some larger employers tended to offer ESL on site, and expected that it may take a full year before their employees would be fully productive. However, smaller companies needed to hire those who could hit the ground running, having little time to integrate an employee who is still learning English.

Foreign-Trained IT Professionals:

IT professionals stated that their ability to communicate effectively and meet the cultural expectations of interviews and networking meetings were major concerns for them. They were worried about the lengthy time involved in upgrading their English skills; this puts them at risk of their technical skills becoming out of date. In addition, the time spent on ESL training would create a gap in their work history and force them to use all of their monetary resources and end up on government assistance. They felt that work site ESL classes would resolve these issues.

Some professionals expressed frustration with the level of language that was expected of them. They wondered whether it was necessary for them in a technical field. When asked about the language training that they needed, they said that they had little opportunity to practise with native speakers; in ESL classes, they practised with other learners who were unable to correct them. They stressed that communication was not just reading, writing, speaking and listening. They wanted to develop their confidence in presenting themselves to employers and learn more about the Canadian workplace and business customs.

5.4 Pre-Migration Information and Job-Search Skills

One of the major employment barriers for foreign-trained professionals is accessing pre-migration information on their occupation and the labour market. Although labour market information is available on the Internet, due to the dynamics of the market it is difficult to access. Up-to-date information would be difficult to provide considering the lack of standard industry/occupational information and the constantly changing market. Easier access to information would allow the foreign-trained to prepare before coming to Canada. Without a network in Canada, or up-to-date information, their integration is slower.

Although employers were not surveyed on this issue for this report, research conducted by Skills for Change to develop sector-specific employment preparation services for IT professionals found that job search workshops for newcomers did not provide the sector-specific strategies and information needed to secure relevant employment. Employers stated that FTP resumes were often unacceptable. Resume requirements are specific to the field; for example, standard IT resumes need to include a table that provides a technical skills summary. Job search strategies also needed to focus specifically on the field, for example self-marketing through the Internet, high-tech job fairs, professional associations, and recruiters.

Foreign-Trained Professionals:

IT professionals cite that LMI and job-search information was not easily accessible. If more information were available before arrival, they could assess their skills and gauge what appropriate directions to take with their career. Without adequate information, they felt that they “blew” their first impressions with employers, fell behind in their skill competencies and used up their financial resources. They felt it would be helpful to have a coordinated bridging system available for them to access their occupations. This system could orient them to the sector, provide resources and information and generally support them through their transition. They didn’t understand why the government invited them to come here based on their occupation, and yet they were left to find their own way with so many unexpected barriers.

6. Barriers to Employment

6.1 Barriers for Foreign-Trained Professionals

A recent report conducted by the Access to Professions and Trades Unit at the Ontario Ministry of Training, Colleges and Universities examined the barriers that qualified immigrants face when seeking jobs in their field in Ontario. Although immigrants are highly educated, they have higher unemployment rates than the Ontario average of highly educated individuals (18.2% vs. 5.4%)³¹. FTPs surveyed in this study cited lack of Canadian experience and lack of language skills as the most common barriers to employment. This concurs with the findings of this research. The surveys conducted with twenty foreign-trained professionals attempted to examine issues related to these barriers, such as what exactly Canadian experience means, and what kind of language skills are necessary to perform job tasks in the IT sector.

Barrier to Employment	IT Professional Respondents
Recruiting and Selection	20
Lack of Network in Canada	13
Qualification Recognition	12
Lack of Pre-Migration LMI	12
Communication Skills	9
Keeping Skills Up-To-Date	8
Lack of Canadian Experience	8
Workplace Culture	8

Survey Comments: FTPs stated that rigid requirements, lack of recognition of their qualifications, and non-recognition of transferable skills were major barriers to employment. Because the industry changes so rapidly, skill demands frequently change so that “hot” technologies in their country of origin may not be “hot” here. They needed to know this before coming. They felt that there needed to be a change in the attitude of employers towards on-the-job training and in the loosening of rigid experience requirements. They also expressed concern with being over-qualified for lower-level positions and under-qualified for jobs commensurate with their experience due to cultural and communication gaps implicit with lack of Canadian experience.

³¹ Barriers to Employment for Foreign-Trained Professionals, 1999, Michelle Goldberg, Ontario Ministry of Training, Colleges and Universities

6.2 Barriers According to IT Employers

Barrier To Employment	Employer Respondents
Workplace Fit/Cultural Adaptation	15
Communication Skills	15
Lack of Familiarity with Foreign Institutions/ Technology and local references	5
Skill Levels Not Up-To-Date	3

Survey Comments: Employers cited communication skills as the number one employment barrier for foreign-trained IT professionals when asked which barriers were most significant when making a hiring decision. This was very important for senior-level positions with extensive client interface, but also for lower-level positions, since most software development work is done in a team environment.

Communication skills were described in a variety of ways: clarity and comprehension in speaking and listening, pronunciation, presentation skills, and terminology. When asked what “Canadian experience” meant specifically, employers discussed a lack of Canadian industry/business knowledge, concerns about difficulty integrating FTPs into the workplace due to cultural differences, and lack of familiarity with their experience/references.

6.3 Barriers According to Immigrant Community Agencies

Barrier to Employment	Agency Respondents
Underemployment	5
Outdated software knowledge	3
Job-search skills	3
Inability to access hidden job market	2
Language abilities	2

Survey Comments: Agencies commonly cited that although their employment rates were fairly high, many FTPs were under-employed. Employers were concerned with their ability to cope in the Canadian work environment (language and culture) rather than the transfer of technical skills. Canadian experience means more than having worked for a Canadian company; it means knowledge of culture on a broad level as well as of the industry and specific organizations. Newcomers are often not culturally pre-disposed to “selling” themselves. The jobs that most FTPs are qualified for are in the “hidden job market.” Access to this market is difficult.

7. Women in IT: Double Barriers for the Foreign-Trained

7.1 Under-representation of Women in the IT Field

Although women represent 44% of Canada's labour force, only 10% of computer professionals are women³². In February 1999, the Globe and Mail reported that while women make up 52% of the population, men currently outnumber women 10 to 1 in high-tech industries. Women are under-represented in the fastest growing sector in the economy; more specifically, in an industry that cites a shortage of job candidates. According to Jennifer Evans, director of Webgrrls and Denise Short of Wired Women, the root cause of the problem is that males design computers to meet the needs of males, therefore not attracting girls and women into the industry. However, new initiatives have been launched to support girls and women wishing to explore and train for careers in IT.

Statistical reports do not break down the participation of foreign-trained IT professional women in the IT labour market; however, the trend of under-representation of women in IT is reported to be a global issue. At a local level, a pilot project, which developed and delivered sector-specific employment preparation to foreign-trained IT professionals through Skills for Change and C.A.W.L., reflected low participation by women professionals, despite outreach to community-based women's organizations. Immigrant women face double barriers to employment due to their gender and their newcomer status. On the whole, immigrant women tend to be under-employed and have higher levels of unemployment than women born in Canada³³.

7.2 Discrimination in the Workplace

According to industry organizations that promote women in technology, IT women are earning lower salaries in the IT field in spite of the IT skills shortage.³⁴ Although women are making great gains in "front-end technology," they are largely non-existent in "back-end technology."³⁵ According to sector experts who work with women, professional IT women, and in particular foreign-trained women, generally have lower confidence levels, and find it more challenging to negotiate their salary in accordance to their skills.

Language levels, cultural differences and age, in addition to repeated rejections by recruiters and employers, contribute to lower confidence levels. The IT workplace culture demands extremely long working hours, which does not provide the work/life balance that women may require. Business-minded employers are reluctant to hire women who may not be able to work long hours due to family commitments.

³² Computing Canada Report, 1999, Why do Girls shun Careers in hi-tech?, The Toronto Star, Thursday, June 1, 2000

³³ Status of Women Canada 1997, Gender and Immigration: Key Issues, Ottawa, Status of Women Canada Policy Directorate

³⁴ Interview with Louisa Jewel, Wired Women, August 10th, 2000.

³⁵ Interview with Jennifer Evans, Webgrrls, May 7th, 2000

7.3 Family Commitments

Family responsibilities were cited as a main barrier to employment in the IT field by foreign-trained professional women who participated in the focus group. In addition to the long work hours expected of employees in IT, they faced the standard barriers faced by women. One woman stated that she had recently become pregnant and was uncertain whether to inform her employer. She felt that it might have negative consequences for her career. As she was still on probation, her new employer may be reluctant to invest in someone who will be taking maternity leave.

If IT employers have few or limited resources for employee training, etc., then this issue may be heightened. Another woman expressed her fears over the six-month gap in her work history due to childcare. As employees in IT continuously have to keep their skills up to date, this gap may be particularly damaging to her job search success.

The women generally felt that it was better to avoid informing employers about their children. However, one woman was given a scenario question in her job interview that attempted to determine her level of commitment to the job. She was asked whether or not she would attend an important meeting with her employer if she found out her children were sick. Her response was that she would request that a colleague go on her behalf. She failed the interview and was told that “she thought too much about her family.”

8. Immigration and Foreign-Trained IT Professionals

8.1 Immigrant Selection Model

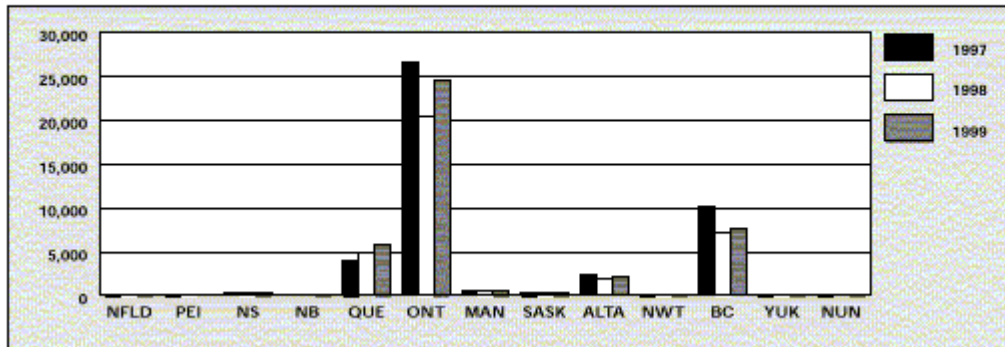
Immigrants fall under four major categories when applying to immigrate to Canada. The categories are: Skilled Workers, Business, Family, and Refugees. Immigrants who fall under the economic or independent category are ‘skilled workers’ and ‘business’ immigrants, and are seen to provide skills needed by the Canadian labour market. The current selection system was originally crafted in 1967 and is built around an “occupational demand” model.

Depending on the occupation of the applicant, and if that occupation is on the General Occupation List (GOL), the applicant can receive a maximum of 10 points. Additional points are also given for level of training (ETF) required for the occupation - a maximum of 18 points. Emphasis is placed not only on the applicant's intended occupation and practical training but also on work experience, education, ability to communicate in English or French, and personal suitability.

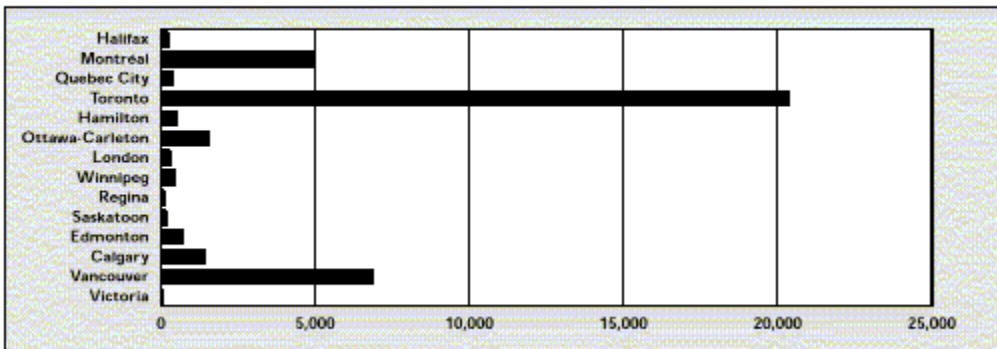
The occupations relevant to the IT sector include computer programmers and computer systems analysts. Each of these occupations carries a weight of 10 points and 15 points for the level of training. Compared to other occupations, these are among the highest point earners in the GOL.

Where Immigrants are Settling and Where They are Migrating From

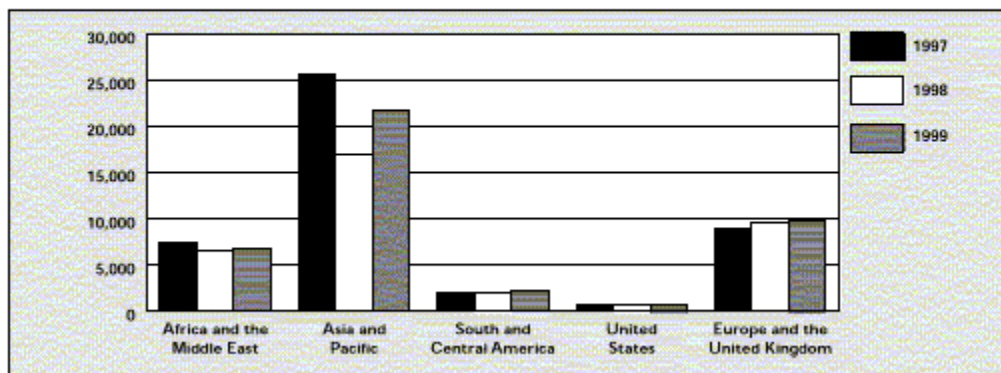
SKILLED WORKERS BY PROVINCE — PRINCIPAL APPLICANTS



SKILLED WORKERS BY CENSUS METROPOLITAN AREA, 1999



SKILLED WORKERS BY SOURCE AREA



*Charts Taken From "Not Just Numbers 1999"

8.2 New Directions in Immigration Policy

In January 1999, the federal government announced new directions for immigration and refugee legislation and policy with Bill C-31. Since the federal election in Fall 2000, the Bill has now been re-named Bill C-11. This new policy aims to change the selection system for future immigrants. Citizenship and Immigrant Canada's criticism of the current selection of skilled immigrants is that the "system focuses on achieving targets for precise occupational niches rather than looking for the flexible and transferable skills needed in a fluid and rapidly changing society and economy."³⁶

The government claims the current selection system is premised on the capacity of governments to intervene significantly in the management of labour markets and to match the skills of foreign applicants to specific Canadian labour market shortages. They claim for such an approach to be effective, very substantial resources would be required to continuously monitor labour markets, at a prohibitive cost to taxpayers.³⁷

The federal government is proposing that the new selection system would be a modified and flexible point system. The changes would include a shift away from the current occupation-based selection model, seeking to choose skilled workers with sound and transferable skill sets, with more emphasis on education and experience.

Bill C-11 also proposes to expand on the number of temporary workers coming to Canada. The government would like to make the system easier, thereby adapting to the global shift toward facilitating the movement of highly skilled workers. The government proposes to base its foreign-worker policy on the concept of net economic benefit to Canada. Canadian employers are expected to commit to efforts at hiring and training Canadian workers in exchange for the government's facilitating entry of highly skilled temporary workers to meet short-term needs. The details on how this will be implemented still need to be developed in the regulations.

Why Legislative Changes are Necessary

The current selection system has been widely criticized by many stakeholders as being outdated and unresponsive. The 'occupational-demand' model does not adapt well to our modern and dynamic economy. In the IT sector especially, occupational demand changes faster than government can adapt. Additionally, in today's labour market, individuals' occupations and careers are more varied, thereby making the single 'intended occupation' premise increasingly outdated.

Immigrants feel that they are given mixed messages when selected on the basis of their occupation. The government sends the implicit message that they will be able to find employment easily in their occupations in Canada. The reality is that it is quite difficult. Labour markets vary in different regions, provinces and cities. There are barriers newcomers face that the general Canadian public does not have to deal with when looking for employment in their fields, such as the 'Canadian experience' and English level requirements. Even when immigrants are warned that it will not be easy to get employment in Canada, they often discount

³⁶ [Citizenship and Immigration Canada Web-site](#): "Building on a Strong Foundation for the 21st Century: New Directions for Immigration and Refugee Legislation"

³⁷ Ditto

this by the very fact that they have been selected based on their occupation and therefore conclude that there must be jobs available for them in Canada.

A number of the selection factors rely on the subjective assessments of visa officers. For example, the Personal Suitability factor was designed to be a subjective assessment of an applicant's ability successfully to establish in Canada. On a scale of 1 to 10, visa officers are expected to evaluate whether or not an applicant can successfully settle in Canada based on qualities such as adaptability, motivation, and initiative. However, there is no guide to scoring standards. The language factor has also been criticized for its lack of objectivity due to the absence of a standardized test. A selection system based on high levels of subjectivity is bound to result in a system that is lacking in transparency for applicants. This results in situations where final decisions to accept or refuse an application depend on which officer or office reviews the file.

8.3 The Software Development Worker Pilot Project

The Software Development Worker Pilot Project (SDWPP) began in May 1997 and was designed as a response to the threat to the IT industry's success due to the shortage of skilled software development workers. The industry had already been looking abroad to find a more immediate temporary solution to the problem; in doing so, employers were finding immigration rules and regulations to be inappropriate in meeting their need for a timely infusion of skilled labour.

The process required the industry to prove to a Human Resources Centre of Canada, on a case-by-case basis, that an expedited process to bring temporary workers from abroad needed to be implemented. The criteria to be satisfied were: workers with the specific skills employers were seeking were not available in Canada; efforts to produce enough workers with these skills could not meet the need within the required time period; and bringing in foreign workers would not hurt employment opportunities of Canadians.

The industry was then asked to identify exactly what occupations were in short supply and to identify the training and experience requirements of these occupations. The discussions produced seven "high-end" software occupations that became the focus of the pilot project. The occupations are: senior animation effects editor, embedded systems software developer, MIS software developer, multimedia software developer, software products developer, software developer in services, and telecommunications software designer.

The expedited process temporarily replaces the case-by-case scenario with a National Validation Letter (NVL) issued by Human Resources Development Canada to Citizenship and Immigration Canada. If a worker abroad has a legitimate job offer in one of the seven designated occupations, the NVL replaces the need for case-by-case validation for temporary workers.

The project was implemented in May 1997 with a termination date of March 1998. However, the SDWPP was later extended to December 31st, 1998 and then extended again to be ongoing, mainly due to the continuing skill shortages in the sector.

Close to 3000 IT workers have entered Canada since May 1997 under the pilot project. This number of temporary workers in the IT sector in Canada is actually quite small and very few IT firms have participated in the project due to either not knowing about the project or being able

to find workers through other means³⁸. The majority of respondents to the evaluation of the pilot project by Ekos Research Associates Inc. were satisfied with the project and felt it was an effective way of simplifying and speeding up the temporary immigration process and reducing costs. The survey results show that wages to temporary workers were competitive with respect to the benefits and incentives employers offer to their own employees. Survey data reveal that from 1997 to 1998, the mean proportion of vacancies dropped for all firms but the pilot user firms, whose vacancies have remained stable since 1997.³⁹

Issues Regarding Temporary Workers

In Canada, the process in which industry proves it is necessary to have temporary workers for the IT industry seems to be thorough and lengthy. The policy of the federal government has been to ensure to every extent possible that job and career opportunities are protected for Canadian citizens and Permanent Residents. This has been commonly referred to as the "Canadians First Policy".

Recently, there has been a transition towards the "net economic benefit" policy. Employers, asking for temporary foreign workers from abroad, need to convince the government of how hiring temporary workers can benefit Ontario; for example, with each temporary worker hired, a number of Canadians/permanent residents will be employed as well. With this new policy, a new tri-relationship is developed between the government, employers, and when necessary, unions to bring about economic benefits to Canada.

The trend around the world is to make it easier for the IT industry to access temporary skilled foreign workers. This has received some criticism from lobbying groups, especially in the United States, since this allows corporations to by-pass training permanent residents, thereby excluding them from well-paying technical and scientific jobs. They also claim that, by hiring temporary employees, employers are allowed to pay lower wages for these workers. In Canada, it is policy that temporary foreign workers are paid the same wage as a Canadian would receive.

The issue of temporary workers was discussed in the dialogue group between IT employers and foreign-trained IT immigrants for this report. One representative from a hi-tech company hired a temporary foreign worker and was very satisfied with him, mainly because temporary workers must stay with the company for at least one year before leaving for another employer. He says this kind of assurance cannot be attained from Canadian workers.

According to a recent article in the Wall Street Journal, employers everywhere, even in places as far away as Iceland, are chasing highly proficient workers regardless of where they live⁴⁰. They believe that supporting the global trade in talented people can bolster economic growth in their own country. Some countries, however, still resist letting good jobs go to the foreigner. For example, a German company does not need a permit to invest money in the U.S., but if it wishes to employ a single American in Munich, bureaucracy steps in⁴¹.

³⁸ "An Evaluation of the Software Development Worker Pilot Project", Ekos Research Associates Inc., October 1998

³⁹ Ditto

⁴⁰ The Wall Street Journal: "People who need People", September 25th, 2000

⁴¹ Ditto

Governments are now under pressure from employers and this resistance is fading. Politicians are starting to realize that industries cannot succeed internationally with local talent alone. Rich countries cannot produce enough talent to meet demand and the ability to draw on people from other countries is becoming critical.

The other side to this argument is that governments and industry are using temporary workers as a short-term fix for the country's skill shortage and yet there is no long-term solution in place. Canada has an abundance of foreign-trained IT professionals who are not being utilized. Industry must take some leadership in encouraging better access for the internationally-trained immigrant to meet the demands of the Canadian IT industry. Employers state they are unable to provide training due to lack of resources or that employees do not stay long enough to recoup the training investment; however, the development of bridging programs and training for the foreign-trained in the IT sector must involve employers. Employers more than anyone else know the demands of the industry and they are the ones to benefit most from the employment of foreign-trained IT professionals.

8.4 Conclusions

The government seems to have accepted the criticism of the current selection system of skilled workers and is introducing new legislation with the intent of making integration of skilled immigrants into the Canadian economy easier.

Bill C-11 clearly establishes that the selection system will be changed to support the 'human capital' approach and focus on transferable skills of the applicant rather than on the applicant's intended occupation. This begs the question: how does this help the professional applicant abroad in determining whether or not s/he will be able to access jobs relevant to her/his experience and training?

Bill C-11 sets out the objective "to promote the successful integration of permanent residents into Canada, while recognizing that integration involves mutual obligations for new immigrants and Canadian society" [Section 3(1)(e)]. This, however, does not outline explicitly the actual responsibilities of the government in how this will be accomplished and details still need to be developed in the regulations. It should be noted that the federal government, through the Settlement Directorate, provides approximately \$60 million yearly in funding to non-profit organizations to assist immigrants in their integration into the Canadian economy through language training and bridging programs.

Prior to the 1990s, economic immigrants consistently averaged higher employment earnings than the general Canadian population. However, in the 1990s, while still outperforming other immigrants, the performance of economic immigrants has fallen below that of the average Canadian. Compound this fact with an increased effort to attract skilled workers to Canada and the issue of access to professions and trades will have an even greater impact on the economy.

The inadequate supports available to international professionals, and their subsequent unemployment and underemployment, has an impact not only on economic productivity but also on issues of social cohesion and immigrant settlement. As international professionals are forced by circumstance and effective barriers to take "survival jobs," they experience socio-occupational dislocation and downward social mobility.⁴² The Canadian Task Force on Mental

⁴²Fernando Mata, "The Non-Accreditation of Immigrant Professionals in Canada: Societal Dimensions of the Problem." Presented at *Shaping the Future: Qualifications Recognition in the 21st Century*, Toronto, October 1999

Health Issues singled out the barriers to trades and professions as major factors leading to an “erosion of skills, loss of technical idiom and diminishing confidence in one’s capabilities.”⁴³ In economic terms, this means a systematic de-skilling and consequent depreciation of the human capital that Canada has gained through immigration.

One of the main stumbling blocks for internationally-trained immigrants in their efforts to gain access to their profession or trade is jurisdictions. Each government will claim that access is the responsibility of another level of government. Governments federally and provincially need to make a more coordinated effort to maximize the benefits immigrants bring to Canada. A good example of this is the agreement signed by British Columbia and CIC for greater co-operation on immigration. Under the five-year agreement, BC assumes full responsibility for designing and delivering settlement and integration services and programs for newcomers. They will also play a bigger role in consultations to determine immigration policy and planning, thereby enabling BC to develop a ‘made in BC’ approach to immigration reflecting the economic and social circumstances specific to the province.

There is another example of greater co-ordination between federal and provincial jurisdictions. Manitoba, New Brunswick, Saskatchewan, British Columbia and Newfoundland have signed agreements with the federal government regarding the selection of provincial nominees to fill specific provincial labour market needs. These agreements give the provinces the right to designate immigrants who will meet specific needs consistent with their policies on immigration and economic and industrial development. Each province will recruit candidates with the potential to establish themselves successfully in the province; an evaluation framework will be developed to analyze the extent to which the nominees have contributed to the province’s industrial and economic development. The federal government has made attempts to work with Ontario on similar agreements; however, the province has yet to commit to negotiating such agreements.

A recent, welcomed initiative by Citizenship and Immigration Canada is the development of an intergovernmental committee to address access issues called the “Federal/Provincial/Territorial Working Group on Access to Professions and Trades”. The mandate of this committee is to: share information and best practices regarding assessment recognition of foreign credentials across governments; co-ordinate joint federal-provincial-territorial action on access to professions and trades initiatives; encourage stakeholders to work as partners to remove access barriers; and finally, support initiatives that facilitate the integration of immigrants into the labour market. Currently, the Working Group is limited to government representatives. For this initiative to be a success, stakeholders must be working partners.

9. Recommendations and Solutions

Both the Federal and Provincial governments have expressed great concern recently with the issue of “brain drain,” particularly to the United States. Canada’s pursuit of an economic development strategy emphasizing knowledge-based industries and emerging technologies requires maximum use of all human resources. As documented in the body of this report and in the following quote, newcomer professionals represent an immense skill resource that is being wasted by under-use and inefficient market practices.

⁴³ Canadian Task Force on Mental Health Issues, “After the Door has Been Opened: Mental Health Issues Affecting Immigrants and Refugees in Canada”, Ottawa: Health and Welfare Canada, 1988

“Subtracting the amount of both types of benefits [UI and welfare], immigrants in the Toronto CMA made a net contribution of \$578.2 Million to Canada’s treasury in 1995. Newcomers...represent an enormous saving in the cost of university and post-graduate education. In the Toronto Region alone, the benefit of this “brain gain” is estimated to be \$1.044 Billion over the 1990s....The GTA has a unique function as a gateway metropolis, having received 43% of all immigrants to Canada since 1991 and receives nearly 100% of all refugees.”
Brain Drain or Brain Gain? What do the Data Say? A presentation by Scott Murray, Policy Conference, Ottawa Congress Centre, October 1 1998. As quoted in Towards a Greater Toronto Charter: Implications for Immigrant Settlement by Laura Simich for The Maytree Foundation

Canada has long pursued an enlightened immigration policy with two key objectives. One is to stabilize a national population characterized by the aging of the current workforce and taxpayer base by the infusion of new, younger immigrants with needed skills and prior work experience who can take their place. Secondly, the preference for skilled workers supports the attempt to hit the crest of trends in the global market and the drive for knowledge capital over physical resources, brain over brawn. Indeed, the current directions set out in Bill-31 call for the acceptance of an additional 100,000 immigrants and refugees per year, a growth of nearly 50% over recent practice. Neither government objective will be met if experienced foreign-trained professionals, in particular IT specialists, are not used to their full potential.

The results of this study clearly demonstrate that the problem of access to professions of the foreign-trained is relevant to the unregulated field of Information Technology. Although IT professionals do not face the systemic barriers posed by Provincial licensing bodies, they face employment barriers embedded in the IT labour market itself: recruiting and selection practices and work place culture that prevent their access to, and full participation in, employment opportunities. These barriers are influenced by FTPs’ competence in language skills, gender and the country in which they gained their education/training and experience.

The under-utilization of foreign-trained IT professional skills impacts not only on the successful integration of immigrants and their contribution to the Canadian economy, but also on the sector’s specific challenges. Although 68% of Canadian companies with fewer than 100 employees provide over half the jobs in the field⁴⁴, these small and medium-sized enterprises appear to have less capacity to absorb highly skilled foreign-trained workers into senior-level positions. This fact contributes to the perceived skills shortage and impacts on the sector’s ability to enhance its global competitive position. Further quantitative research including evidence of the potential economic benefits of foreign-trained IT workers to the industry and to the government may be necessary to effect change.

In order to integrate foreign-trained IT professionals successfully into the IT workplace, industry officials, recruiters, employers, government, education and training providers, and community-based agencies need to work together on solutions and recommendations. There is a need to examine the roles of these stakeholders, and what cooperation/partnerships need to be developed to enhance the skill utilization of foreign-trained IT professionals.

⁴⁴ “Stepping Up: Skills and Opportunities in the Knowledge Economy”, Report of the Expert Panel on Skills, The Federal Government Advisory Council on Science and Technology, 2000

The economic potential of foreign-trained IT professionals is clear. Amongst the challenges and barriers cited in the Information Technology Association's recent skills shortage report is the lack of an adequate supply of qualified individuals with experience versus new graduates. Training institutes surveyed in this study state that foreign-trained professionals with maturity and experience often hold a competitive edge over new graduates. Recruiting temporary workers from abroad may provide short-term solutions, but discourages IT stakeholders from supporting the development of IT workers who are already here. In summary, it is hoped that this research can provide a foundation of understanding that will enable the Canadian labour market to better utilize the skills of immigrant high-tech talent.

Summary of Report Recommendations

Government

- 1) That the Federal/Provincial/Territorial Working Group on Access to Professions and Trades follow through on their mandate to consult stakeholders such as employers, foreign-trained immigrants, training institutions, and community organizations serving immigrants, as well as groups such as the Ontario Network for Access to Professions and Trades.
- 2) That the Working Group explore tax incentives and other financing options that address current disincentives to employee and candidate skills and language training investment by small and medium-sized firms.
- 3) That the mandate of Human Resources Development Canada incorporate a source of funding, such as the Consolidated Revenue Fund, that is not limited by the Employment Insurance Act, in order to fund employment support and preparation programs for foreign-trained professionals adequately. That the scope of contribution agreements under this section be expanded to include:
 - Mentorship and job-coaching services
 - Advanced English preparation including business presentation and workplace communications
 - Cultural awareness and cross-cultural communications preparation
 - Sector-specific information, terminology and counseling services
 - Costs for credentials assessment via a trainee allowance account.
- 4) That Citizenship and Immigration Canada make a long-term commitment of improved funding for the Language Instruction for Newcomers to Canada (LINC), Immigrant Settlement and Adaptation (ISAP) and (HOST) programs to reflect the Federal goal of increased immigration and effective settlement and economic participation. That the community-services sector and their associations be involved in ministry deliberations on program policy and procedures to augment effectiveness and efficiency.

Industry

- 1) The industry and professional associations establish a best practices code respecting non-discriminatory hiring, training and promotion practices. Newcomer qualifications and experience gained outside of Canada be recognized as equal to “Canadian experience”.
- 2) That industry and professional associations work with community advocacy groups by endorsing and participating in public education efforts against workplace and social discrimination, and provide an active role and voice to their own newcomer employees.
- 3) That the industry adopts and promotes the validity of credentials assessment services (eg. the World Education Service in Ontario) as a reliable source for documentation of prior learning for professional positions.
- 4) That industry develops common definitions and standards for position titles and descriptions that emphasize core competencies, thereby removing unintended barriers to access and recognition of prior skills and training and more readily matching newcomer skills to identified and emerging skill shortages.
- 5) That industry and professional associations work with voluntary sector training and employment preparation services to enhance the mutual understanding of employer needs and labour market supply variables.

Voluntary Sector

- 1) That a sector association (Ontario Council of Agencies Serving Immigrants, Ontario Network for Access to Professions and Trades) consider launching a test case under the Canadian Charter of Human Rights regarding the use of “prior Canadian work experience” as a violation of the prohibited grounds for discrimination such as Country/Place of Origin, Ethnic Origin, Race and Ancestry.
- 2) That community-based training organizations, individually and collectively, consult with IT employers and employer associations and seek common solutions to workplace and recruitment practices that discriminate against FTPs. That joint service ventures to improve recruitment and retention include:
 - Internal and newcomer mentorship programs
 - On-site English as a second language instruction
 - Workplace diversity and cross-cultural awareness training
 - Co-op work trials and job coaching

This report has discussed the nature of barriers within the IT sector. It is hoped that the deeper level of analysis will provide the support necessary to effect “internal” changes specific to the sector.

10.1 Appendix 1

Hiring High-Tech Talent: Utilizing the Skills of Internationally Trained Professionals

Employer Survey

- 1) Which positions are you most frequently trying to fill?
- 2) Which of the following recruiting methods do you most commonly use?
Rate them in numerical order according to their effectiveness:
 - a. recruiting firms
 - b. job fairs
 - c. Internet advertising
 - d. informal contacts
 - e. internal referral systems
- 3) Do you have a retention strategy in place? If so could you describe it?
- 4) How many years of direct work experience does a candidate need to qualify for a senior level position? An intermediate level position?
- 5) How does direct experience weigh with credentialed or self-taught skills when making a hiring decision?
- 6) If direct experience is obtained outside of Canada, is the experience equivalent to Canadian experience? Why or why not?
- 7) When hiring a Foreign-Trained IT professional, which of the following factors are most significant in making a hiring decision?
 - a. Workplace fit/cultural adaptation
 - b. Communication skills
 - c. Familiarity with qualifications, institutions and companies
 - d. References
 - e. Up-to-date skill levels
- 8) How do you assess foreign qualifications and experience? Language and cultural competencies?
- 9) In your view, what would help employers to fully utilize the skills of foreign-trained professionals?

10.2 Appendix 2

Hiring High-Tech Talent: Utilizing the Skills of Internationally Trained Professionals

Recruiter Survey

1. Could you describe the recruiting process?
2. What are the most common positions you are required to find candidates for?
3. What is the ratio of applicants to actual hires for your job candidates?
4. What percentage of these are Foreign-Trained Professionals?
5. Is experience obtained outside of Canada considered equivalent to direct work experience in Canada? Why or why not?
6. When screening a foreign-trained professional, which of the following factors are most important in considering an employers hiring decision?
 - Workplace fit/cultural adaptation
 - Communication skills
 - Familiarity with qualifications, institutions and companies
 - References
 - Up-to-date skill levels
7. What are an employer's common reasons for rejecting a foreign-trained professional?
8. What is the percentage of contract positions versus permanent positions?
9. How do rapidly changing skills impact on recruiting qualified candidates?

10.3 Appendix 3

Hiring High-Tech Talent: Utilizing the Skills of Internationally Trained Professionals

Foreign-Trained Professional Survey

- 1) Date of arrival in Canada:
- 2) Country of Origin:
- 3) Gender:
- 4) Age:
- 5) Employment status:
- 6) Professional Degree:
- 7) Which of the following barriers have prevented you from obtaining work commensurate with your skills and experience in the IT field (*write yes after your selected answers*)
 - a. lack of sector-specific job search skills
 - b. lack of familiarity with Canadian culture and work environment
 - c. Language barrier
 - d. Canadian work experience
 - e. Lack of network in Canada
 - f. Qualification recognition
 - g. Lack of labour market information before coming to Canada
- 8) What do you think would help to make it easier to find jobs in the IT field?
(*Write yes after your selected answers*)
 - a. co-op job placements/trial placements to gain Canadian experience
 - b. language and cultural training to prepare you for the workplace
 - c. LMI and skills-assessment before immigration
 - d. Job-search skills specific to the IT sector
 - e. Networking/mentoring programs
 - f. Employer education about the skills and qualifications of foreign-trained professionals
 - g. More flexible job requirements

10.4 Appendix 4

Dialogue Group Design

Employers and Foreign-trained professionals who participated in the research project were invited to attend a final focus group to discuss barriers to employment for foreign-trained IT professionals. This unique form of focus group enabled a direct discussion between parties that was solution-oriented.

Organization and Facilitation of Dialogue Group

1. Employers and FTPs were invited to attend the group by telephone or email and sent an invitation by mail.
2. Invitees included previous research participants and new participants to improve the group dynamic, initiate new insights, and further validate findings.
3. Participants were sent highlights of research findings and discussion questions in advance.
4. The group was designed as a breakfast meeting to be held before regular business hours for employer and FTP convenience. The meeting was limited to one hour in length to respect time constraints of busy IT employers.
5. Facilitation of the group involved standard questions and open discussion, but ensured that participants from both parties expressed their views.
6. Facilitation focused on problem solutions to avoid conflict and venting of frustration.
7. The group was co-facilitated. As one facilitator led the discussion, the other recorded content.

Questions:

- 1) What type of training programs could be effective in integrating IT professionals into the IT sector?
- 2) How can employers/recruiters/community-based agencies/government assist FTPs to access the hidden job market and network effectively in the IT sector?
- 3) What does Canadian experience really mean, and how can we provide opportunities for FTPs to obtain this requirement?
- 4) There is a trend towards hiring temporary workers from abroad. How can industry work with Citizenship and Immigration Canada to ensure that permanent immigrants selected for their occupation will meet the demands of the labour market?

10.5 Appendix 5

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