Sector Partnership

Information Technology (IT) Industry

PHASE 2
FINAL REPORT

October, 2004

Submitted to:

Department of Learning

Presented by:

**The Canadian Information Processing Society
(Saskatchewan Region)**

Acknowledgements

Industry Representatives

Science Applications International Corporation (SIAC Canada)

SaskTel

Canadian Information Processing Society (CIPS) Saskatchewan

Saskatchewan Association of Health Organizations (SAHO)

Information Systems Management (ISM) Canada Corporation

Kramer Ltd.

Saskatchewan Health

Saskatchewan Advanced Technology Association (SATA)

CGI

Saskatchewan Government Insurance (SGI)

CREERUNNER Communications

Track Info Systems

Objectified Software

Public Service Commission of Sask. (PSC)

Stakeholder Representatives

Saskatchewan Learning

Saskatchewan Institute of Applied Science and Technology (SIAST)

Saskatchewan Indian Institute of Technology (SIIT)

Saskatchewan Industry and Resources

University of Regina

University of Saskatchewan

Industry Canada

Regional Colleges

First Nations and Metis Relations - formally Government Relations and Aboriginal Affairs (GRAA)

Community Access Program

Federation of Saskatchewan Indian Nations (FSIN)

First Nations Employment Centre, Regina

First Nations University of Canada

Saskatchewan Indian & Northern Affairs

Executive Summary

Introduction

The Information Technology Sector Partnership (ITSP) steering committee was established as part of the Phase 1 study and follow-up work from it. Follow-up actions involved publication and discussion of the findings, defining Terms of Reference for the permanent body, creating a prototype for the database to be built and defining what was needed to move forward.

The primary outcome of Phase 2 of the sector partnership plan was to develop a short-term strategy / actions that would make an impact on long-term human resource and training plans for the IT industry. The project would encourage more training being done in the province that would have previously required travel elsewhere. The project worked towards more awareness among Saskatchewan students of the IT career options.

Updated survey results were to be gathered to provide information to guide in planning and implementing future human resource initiatives. Information was to be gathered regarding barriers to Aboriginal students choosing IT as a career path. Some initial steps were to be taken to address those barriers. The steering committee wanted better Aboriginal input and support to determine the next short term steps and some long term plans.

Sector Profile

The Information Technology (IT) industry in Saskatchewan may be defined as companies that provide information technology as part of their business structure. Information technology has been defined as: all those elements of the economy that are involved in the collection, processing, management, retrieval, and transmission of data and information.[1] While this definition may describe the industry in succinct terms, the IT industry in Saskatchewan also includes product and program development, design, e-commerce, data transmission and, research and development. The IT industry in Saskatchewan is at the leading edge of economic growth.

Phase II Description

The Phase 2 work completed by the IT Sector Partnership included working with the Aboriginal community, building a website, promoting the IT career, and completing another survey of the sector.

The Aboriginal work identified a list of barriers reported by SIIT students, a list of key messages from the Aboriginal community to IT, progress on each of five key short term objectives in the Aboriginal community, and feedback regarding how Aboriginal business owners could help us meet our long-term needs.

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[1] Information Technology - Closing the Human Resources Gap in Newfoundland and Labrador.
Final Report May, 1998.

The website has been launched and is called the Saskatchewan Education Exchange (SEE). It allows providers to create a database of training available in the province and allows training requests to be matched by offers and thus cost sharing is facilitated. This allows smaller organizations to benefit by being able to have training in the province that they would normally have to travel to receive. Larger organizations will be able to hold this training more regularly. SEE has been launched at: http://www.saskeducationexchange.com A business plan for SEE was created to ensure it is self-supporting.

The promotion of the IT career was done mostly at events for Aboriginal students. A communication tool called "IT Truths" was created to help address some the myths believed to deter students from IT careers. This list of 7 thoughts was presented on a PowerPoint presentation at the career fair booths and in brochures. Ten Recruitment and Communication Strategies were also identified for long-term planning.

A second survey of the Saskatchewan IT community was completed in 2004 to update the findings of the Phase 1 study in 2001. Although fewer companies responded this time, the results were quite different and mostly encouraging. The IT Sector Partnership took the results into account while creating the recommendations for this report.

Findings From The Survey Report

The results of the survey indicated the companies were anticipating a thirteen (13.6) percent increase in the number of additional employees within the next 1-2 years. This percentage equates to 309 new positions. This is a reversal from the 2001 survey where the survey respondents predicted an eleven (11) percent decrease in the number of employees over the current number that was employed in 2001.

The IT industry continues to be a male dominated workplace and also continues to be under-represented by Aboriginal people, visible minorities, and persons with disabilities.
Only seven companies indicated they were involved in a specific program such as the Aboriginal Employment Development Program (AEDP), employment equity or are in a private agreement to develop a representative work force.

Over ninety-four (94.1) percent or 144 companies surveyed indicated they do not have any strategies in place for employee development in such areas as: Aboriginal awareness training and education, strategic planning, career development, mentorship or succession planning.

Only a small number, two (2.6) percent of the survey respondents indicated they would be interested in learning more about initiatives to enable their company to establish a more representative work force.

Ninety (90) percent of the survey respondents indicated that graduates from education and training institutions in Saskatchewan graduate with the necessary credentials to meet their hiring needs.

In comparison to the previous survey, the companies surveyed this time indicated the retention problem was reduced by twenty-five (25) percent. The results of this survey indicated ninety-eight (98) percent of the companies surveyed stated retention was not an issue.

Recommendations and Next Steps

Recommendations for long term work on Aboriginal issues

Objective 1 Maintaining Momentum
 ➢ Secure funding to establish a permanent Aboriginal position to continue the Aboriginal Initiative including: Aboriginal and IT industry communication, human resource research; and promoting the sector to Aboriginal community. The position will act as a liaison for the industry to the Aboriginal community and further implement the short-long-term goals.

Objective 2 Promotional Materials (print and electronic)
 ➢ Secure funding and resources to initiate the Aboriginal focused/specific promotional materials needed to recruit and retain Aboriginal people into the sector.
 ➢ It is imperative to utilize the Aboriginal resources located through this initiative in a prompt and positive manner. Include Aboriginal people in all discussions, development and delivery of the Aboriginal promotional materials. A one-half day session was held with the Aboriginal IT business owners and operators to present their business lines, vision and background. The most complete proposal looked like CREERUNNER and this option should be investigated as a way to promote the role models this project located.
 ➢ Invite the Saskatchewan Learning K-12 education staff to present essential information to the ITSP committee on their Aboriginal initiatives, demographics and secure contacts and bridge building into this specialized unit and committees within the Department of Learning.

Objective 3 Partnership Agreements Research and Development
 ➢ ITSP needs to collectively communicate "partnership approaches". Develop a method to share information as individual members to the entire ITSP committee, especially those with current partnerships with Aboriginal communities, institutions and progressive workplaces.
 ➢ Continue communication with Government Relations and Aboriginal Affairs (GRAA). They can provide updated information regarding the partnership approach, notify regarding new initiatives and help determine "how can a sector partnership committee be involved in the partnership approaches and processes?".

➢ Aboriginal awareness training data resulting from the industry survey 2004 should be cross-matched to the data collected. Follow-up data collection can occur if unidentified sources result from survey 2004.

➢ Consider linking the Aboriginal cultural awareness training programs on the Saskatchewan Education Exchange Website.

➢ All ITSP members should have access and participate in cultural, historical and demographical training, thus heightening awareness to "why this Aboriginal initiative is so emergent". ITSP has access to resources to guide, develop and implement the "how to engage itself in the Aboriginal initiative".

Objective 4 ITSP Survey Questions

➢ Ensure data collected through the industry survey 2004 is highlighted appropriately demonstrating the ITSP Aboriginal initiative and efforts.

Objective 5 Annual ITSP Planning Session

➢ Host a short and long-term planning session for the specific Aboriginal initiative/strategy. ITSP members need to demonstrate commitment through a team building and personal development session to facilitate active participation and continue bridge building with the Aboriginal community.

➢ Identify current ITSP members to assist with the strategy and include the "prospective Aboriginal IT professionals and business owners/operators".

➢ Utilize the resources to further contribute to the overall goal of increasing Aboriginal participation in the IT Sector.

➢ Funding of this initiative must be addressed for future strategic planning needs such as: Aboriginal specific materials, human resources to implement the initiative, monitor the process and next phase of implementation.

➢ Develop a "yearly phase plan" to commence at the beginning of ITSP fiscal year. ITSP committee participation is crucial, communication and monitoring on monthly reporting basis and secured funds will allow an Aboriginal person and the ITSP committee to fully develop the potential of the industry and communities.

Recommendations from 2004 Survey

The Information Technology Sector Partnership (ITSP) developed the following recommendations as a result of the 2004 Needs Assessment Survey. The ITSP will be responsible to continue to partner with their stakeholders to implement these recommendations.

Objective 1

The ITSP must contact the various parties that requested more information regarding:

➢ The Saskatchewan Education Exchange (SEE) website;
➢ Learning more about establishing a representative workforce; and
➢ The Executive Summary of the survey report.

Objective 2

The ITSP will need to continue to promote their industry in order to improve the image and promote the career opportunities that are available.

➢ Expand on the initiatives such as career fairs, mentoring, job shadowing, and work placement with employers.
➢ Publicize the role the IT sector plays in the provincial economy and the many career opportunities that are available.
➢ Address the myths about the IT industry to remove the barriers to recruitment of new employees.

Objective 3

The ITSP in partnership with the relevant stakeholders develop strategies to increase the participation of all the underrepresented groups in the industry.

➢ In partnership with the provincial government departments, Aboriginal Employment Development Program (AEDP), Federation of Saskatchewan Indian Nations (FSIN), Metis Nation - Saskatchewan (MNS), Racialized Canadians, Persons with Disabilities and Women's Groups identify and address the barriers.
➢ Develop a communication plan that promotes the role the under-represented groups can have in addressing the labour force needs of the industry.
➢ Publicize and promote success stories complete with testimonials by employers who have invested time and resources into developing a representative work force.

Objective 4

The ITSP and the education and training institutions within the province need to expand on the delivery options for education and training programs and courses that will address the high cost to send employees for training and address the issue of lack of time required for training.

➢ Promote the SEE website more effectively and aggressively.
➢ Assist employers in determining how to better integrate web-based training into the workplace that is both reasonably priced and accessible in terms of when it can be accessed by employees.
➢ Investigate e-learning and how it fits with the learning styles and needs of various groups, considering the requests for on-site training in this survey.
➢ Investigate and post on the website any classes for the two skills entry-level employees were lacking: "communication" and "researching and developing from an open source".

Objective 5

The ITSP needs to work with industry and education and training institutions within the province to address the growth forecast in this survey.

> Determine if graduates over the next two years can meet this need. If not, investigate options to make more graduates available as soon as possible.
> Make industry and graduates aware of this employment trend.
> Continue to survey the industry to see if the trend will continue or fluctuate again.

Objective 6

The ITSP, in partnership with Canadian Information Processing Society (CIPS) Saskatchewan, needs to continue to expand its efforts to raise the awareness of the Information Systems Professional (I.S.P.) designation.

> Make presentations at relevant venues regarding the mandate, purpose and responsibilities that come with having employees possessing the I.S.P. designation.
> Pursue the legislation of the I.S.P. as a professional designation within Saskatchewan.

Recommendations from the Recruitment and Communications Strategies Report

The ITSP Recruitment and Communication Strategies Report recommends ten (10) strategies. The objectives of these strategies were:

> To communicate with & engage Saskatchewan IT Professionals, Educators & Parents regarding IT Career Opportunities

> To identify & communicate positive messages to rural, northern & urban Saskatchewan Children, Youth & Young Adults regarding IT Career Opportunities

> To retain & develop IT Students & Professionals.

These strategies need to be reviewed and short term goals prioritized to move them forward.

TABLE OF CONTENTS

1.0   Introduction

1.1 Objectives and Deliverables

The Information Technology Sector Partnership (ITSP) committee was established as part of the Phase 1 study and follow-up work from it. The sector description in section 1.2 was part of the Phase 1 work. Section 2 describes the year's worth of work done between the Phase 1 report and the Phase 2 proposal. It mostly involved publication and discussion of the findings, defining Terms of Reference for our permanent body, creating a prototype for the database to be built and defining what we needed to move forward.

The primary objective of the Phase 2 of the sector partnership plan was to develop short-term strategy actions that would make an impact on long-term human resource and training plans for the IT industry. The steering committee wanted to see more training being done in the province that would have previously required travel elsewhere. The steering committee worked towards more awareness among Saskatchewan students of the IT career options.

The updated survey results were to provide information that would be used to review the training strategy and for the industry to use as a guide in planning and implementing future human resource initiatives. Information was to be gathered regarding barriers to Aboriginal students choosing IT as a career path. Some initial steps were to be taken to address those barriers. The steering committee wanted increased Aboriginal input and support to determine the next short term steps and some long term plans.

The Phase 2 work completed by the IT Sector Partnership included work with the Aboriginal community, building a website, promoting the IT career, and completing another survey of the sector. This work is described in section 3.

The Aboriginal work identified a list of barriers reported by SIIT students, a list of key messages from the Aboriginal community to IT, progress on each of five key short term objectives in the Aboriginal community, and feedback regarding how Aboriginal business owners could help us meet our long-term needs.

The website has been built and is called the Saskatchewan Education Exchange (SEE). It allows providers to create a database of training available in the province and allows training requests to be matched by offers and thus cost sharing is facilitated. This allows smaller organizations to benefit by

being able to have training in the province that they would normally have to travel to receive. Larger organizations will be able to hold this training more regularly. SEE has been launched at: http://www.saskeducationexchange.com A business plan for SEE was created to ensure it is self-supporting.

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A second survey of the Saskatchewan IT community was made in 2004 to update the findings of the Phase 1 study in 2001. The results were quite different and very encouraging. The ITSP took them into account while creating the recommendations from this report.

1.2 Phase 1 Results – Sector Description

The Information Technology (IT) industry in Saskatchewan may be defined as companies that provide information technology as part of their business structure. Information technology has been defined as: all those elements of the economy that are involved in the collection, processing, management, retrieval, and transmission of data and information.[2] While this definition may describe the industry in succinct terms, the IT industry in Saskatchewan also includes product and program development, design, e-commerce, data transmission and, research and development. The IT industry in Saskatchewan is at the leading edge of economic growth.

Saskatchewan has long been a leader in Information Technology and Telecommunications (IT). For example, Saskatchewan was the first "wired" jurisdiction when SaskTel installed a fiber optics system. [3]

The IT industry in Saskatchewan was first surveyed by the IT Sector Partnership (ITSP) in March of 2001 and found the following components of the Information Technology Sector:[4]

➢ The sector is divided into two main components: manufacturing and service.

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[2] Information Technology - Closing the Human Resources Gap in Newfoundland and Labrador.
Final Report May, 1998.
[3] Saskatchewan Economic Development – Sector Overview
[4] Saskatchewan Information Technology Sector Partnership Education and Training Needs Assessment, June 2001

- Previous studies in Saskatchewan indicate there were shortages of graduates and qualified graduates.

- The IT industry in Saskatchewan has been one of the fastest growing sectors in the provincial economy over the past number of years.

- In Saskatchewan it is estimated that there are 247 Information Technology companies employing over 10,000 people. (showing the continuing growth trend from the previously reported "8,000 people in approximately 200 companies" and "the sector earns $ 1.6 billion annually" [5]);

- There are an undetermined number of companies who have IT departments and/or employees performing support to the main core of the business.

IT expertise exported by Saskatchewan companies includes: banking; insurance; health care; agriculture; geographic information systems, utilities, and government systems.

The IT industry is expanding at a very rapid rate on a global basis. Many jurisdictions have recognized the need to ensure the IT industry will be able to attract the IT professionals who will be required to maintain growth and development.

In Saskatchewan the 2001 IT Sector Partnership survey showed over 260 positions in 50 IT and communications companies were vacant or under skilled. [6] It also noted that:

> "Due to the economic downturn in the high tech sector there has been a softening in the employment growth projections. In spite of this, there appears to be opportunities of growth as multi-task resource persons and sales personnel. These two occupations reflect a shift away from the more technical/programming type positions."

1.3 Phase 1 Recommendations and Follow-up

Growth in the IT industry has clearly resulted in skill shortages not only at a provincial level but nationally and internationally. In Phase 1, the Canadian Information Processing Society (CIPS Saskatchewan) asked Trimension Training and Consulting Inc. to assist them in examining the needs of their industry. Trimension was contracted to partner with key stakeholders. A

[5] Saskatchewan Economic Development – Sector Overview
[6] IT Sector Partnership report. See http:// cips.ca/saskatchewan

human resource and training needs assessment to determine Saskatchewan's IT industry hiring trends, training requirements, and co-ordination effort, was done with the help of Phase 1 funding from the Sector Partnership Program of Saskatchewan Post-Secondary Education and Skills Training (now the Department of Learning).

The steering committee continued to meet after Phase 1 was completed. The original Trimension report included nine recommendations. A steering committee was established and worked toward these recommendations for a year (July 2001- June 2002). A great deal of progress was made towards achieving the goals and objectives set out by the original ITSP committee before the Phase 2 proposal was submitted.

1.3.1 The first recommendation was **the formation of a permanent body** to implement and coordinate the needs identified in the original study by Trimension. Towards that end, the IT Sector Partnership (ITSP) steering committee was established. It is composed of members from industry, government, universities, community colleges and private vocational schools. From this committee came the idea to create a self-sustaining, Saskatchewan-wide IT Education Exchange web site to help coordinate training opportunities and needs in the IT sector.

1.3.2 Second was a recommendation **to review the Steering Committee membership and to enhance it.** Members were to consider potential recruits and to bring forth these names at the Steering Committee meetings. The result was a substantial increase in membership, including Saskatchewan Advanced Technology Association (SATA), who has become a valued partner and ongoing discussions with Regina Information Technology Educators (RITE) about a relationship with the Steering Committee.

1.3.3 The third recommendation was to **promote the results of the study** and the ongoing work of the Steering Committee. Several important steps including, distribution of the Trimension Final Report's Executive Summary to the IT Symposium Planning Committee, a press release by CIPS in July 2001 which resulted in several articles[7] and posting on the CIPS Saskatchewan web site [8]of the Final Report, the Terms of Reference for the ITSP, a contact list, list of organizations' web sites, meeting agendas and a members' only section containing the copies of the meeting minutes for ITSP meetings. Additionally, a link from the Government of Saskatchewan's Sasknetwork website[9] to the ITSP website has been provided.

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[7] ComputerWorld, Computing Canada, Edmonton & Leader Post
[8] www.CIPS.ca/Saskatchewan
[9] http://www.sasknetwork.gov.sk.ca/

1.3..4   By way of **promoting an awareness of the IT education and training programs/courses available** in Saskatchewan for employers and IT managers; recommendation four in the Final Report, the ITSP committee has created a database subcommittee. This subcommittee has developed a prototype of a comprehensive education and training database accessible through a web site which could be hosted and maintained by SATA, and available to everyone.

1.3.5   The fifth recommendation was the recognition of the **need to market and promote the career options available and to increase participation** of women, visible minorities, persons with disabilities, youth and aboriginal people in the workforce. Among the strategies discussed was attendance at career fairs across the province to promote IT in general. Each member of the partnership was provided with the list from Sask. Education (K-12) of all the career fairs scheduled in the 2001-2002 school year. Each committee member worked to ensure industry support for them. Additionally, there are career fairs for select groups such as professional businesswomen and Federation of Saskatchewan Indian Nations (FSIN). Analysis of Software Human Resource Council's (SHRC's) IT career awareness software package, The Missing Link, which is aimed at creating awareness of IT opportunities to individuals still in the K-12 system was done with mixed results as to its effectiveness in promoting IT careers.

Victoria Gubbels, Manager of Aboriginal Employment Development Program with Saskatchewan Association of Health Organizations (SAHO) gave a presentation on SAHO's Representative Workforce Strategy. From this presentation many good ideas for training providers were given to help them create relationships with the Aboriginal community. A presentation and request for support was given to the Provincial Aboriginal Representative Workforce Council at their quarterly meeting June 18, 2002. Finally, several Aboriginal groups were invited to become members of the ITSP committee.

1.3.6   Recommendation six was that "the Steering Committee in partnership with CIPS Saskatchewan will work to raise **the awareness of the accreditation and certification options available**." CIPS has taken several steps toward this on its own.[10]

1.3.7   Recommendation seven was that "The Steering Committee needs to facilitate and conduct **follow-up survey and research work** to ensure trends and changes that are occurring are captured and addressed". A quote was obtained from Trimension to include this in Phase 2.

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[10] www.cips.ca

1.3.8   The eighth recommendation was for ITSP and industry to establish a mechanism with the training providers in Saskatchewan **to promote the manner in which programs and courses are offered,** the programs that are already available and the skill sets graduates will have upon completion. The creation of the Saskatchewan Education Exchange (SEE) web site is one significant way the ITSP is helping educators to inform employers about their training programs and the employability of their graduates. The requirements for this website were defined by committee so a quote could be obtained for inclusion in phase 2.

1.3.9   The ninth recommendation was that "The Steering Committee in partnership with industry and other stakeholders need to work together to **develop strategies** to address recruitment and retention, professional development and business growth". A "Terms of Reference" has been agreed to that includes this long-term scope. The above accomplishments move us toward this with concrete short-term work.

2.0   Phase 2 Project Description – Methodology, Actions, and Results

The IT Sector Partnership steering committee identified several opportunities that they could take as the next steps to address the needs and recommendations identified in the first study. The Phase 2 work completed by the IT Sector Partnership included work with the Aboriginal community, building a website, promoting the IT career, and completing another survey of the sector.

There was a separate subcontract required to address each of the opportunities. The first 2 subcontracts started almost at once for work in the Aboriginal community and for building the website. The promotion of the IT career was originally done by volunteers, but required a contract in 2003 to help define strategies. The survey was left until the rest of the work was done, so that it would capture the picture of the sector after the work was completed.

Most of the work with the Aboriginal community involved understanding the problems and opportunities before any actions could be taken or progress made.

2.1   Co-ordination of a Workshop and Focus Groups regarding Aboriginal Needs

Susan Stromich was subcontracted to CIPS to coordinate a workshop to investigate the barriers to Aboriginal people participating in the IT sector. There were 5 key documents from this work

➢ SIIT Students were canvassed for information about what influenced them to consider IT and what barriers they saw.
> **See Appendix B, Summary Report of Student Focus Group Session** October 28, 2002 with Saskatchewan Indian Institute of Technology (SIIT)

➢ Information Technology and Aboriginal Community Representative Fall Gathering Session was held at SIAST Wascana Campus, Regina Saskatchewan on November 21, 2002.
> **See Appendix C, ITSP Priority Aboriginal Employment Report**.

➢ Five key Objectives were distilled from all the Aboriginal Community feedback at the ITSP meeting Feb 26, 2003
> **See Appendix D, ITSP Priority Action Plan**

> ➢ Susan Stromich made progress on all 5 objectives, including finding a list of volunteers to be role models, and a list of contacts in the Aboriginal community who could help prepare and develop Aboriginal inclusive promotional materials for recruitment purposes.
> **See Appendix E, Aboriginal Initiative Final Report**

> ➢ November 25th, 2003 there were two Aboriginal IT Business Owners/Operators Presentations. The IT Aboriginal Role models and ITSP members that attended completed a survey that summarized their recommendations.
> **See Appendix F, Aboriginal IT Business Owners/Operators Presentations**

It was key that the ITSP understand the very complicated issues regarding this community before setting objectives for themselves. Those objectives were chosen by the following methodology:

Students were asked what they thought the problems were.
The Aboriginal community was asked what we should focus on.
The Aboriginal businesses were asked what they could provide.

As the ITSP felt they understood the issues, actions were taken. The results are the progress on the objectives is described in section 2.1.4.

2.1.1 Barriers reported by the SIIT students included:

> ➢ Childcare issues ; SIIT was working on this
> ➢ Some 1st year students are not aware that some 3rd year students are willing to tutor; the Focus Group helped get them in touch with each other
> ➢ Lack of resources within the institution for more "hands on" training and access, essentially the students need more computer equipment on-site to further develop skills; Co-op programs were discussed between SaskTel and SIIT as a result of this Focus group and the Fall Gathering

2.1.2 Key Messages shared at Fall Gathering(not in priority order)

a) Develop and maintain Aboriginal networks especially with education system

b) Pro-active outreach communication with the Aboriginal community, especially with Aboriginal adult learners and certainly the upcoming Aboriginal workforce in the K-12 education systems (urban and rural)

c) Opportunities for Aboriginal students to participate in the reality of IT occupations

d) Examine the current hiring process in ITSP committee members workplaces

e) Prepare the Workplace! Workplace Readiness to prepare for Aboriginal integration. Are you ready? Multifaceted Readiness will allow you to be an attractive employer to a competitive market for qualified high demand Aboriginal people

f) Seek and/or mentor Aboriginal role models in the IT Sector

g) Aboriginal youth need hope and IT occupation information to prepare for IT careers

h) Participate in forums to research the AEDP, Partnership Agreements, Aboriginal Affairs and develop networks with successful sectors

i) Develop Aboriginal inclusive promotional materials for recruitment purposes

(N.B. Items a-c above will be address ongoing, d & e were addressed in the survey questions, f-h were addressed by our objectives, and i prompted the committee to ask the Aboriginal community to see presentations from a series of Aboriginal business owners.)

2.1.3 Feedback regarding Aboriginal Business Owner presentations
Summary of Feedback from Participants:

➢ Majority of participants were interested in the concept of hearing everyone's ideas and backgrounds. Thought it was a very informative opportunity for meeting people and sharing information about various attending organizations.

➢ Eight other ideas / companies were suggested for consideration. Internships was the one idea that was repeated.

➢ Total of 2 out of 6 respondents indicated targeting all audiences above grade 6, but suggested focus different medias for different target groups. Other suggestions included targeting before grade 10 to ensure prerequisites for university are in place, working with the First Nations schools and northern school divisions (such as Northern Lights School Division) and including grades 4 –5 or younger.

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➢ 1 out of 6 respondents indicated only posters, handouts/brochures/signs and websites should be created. This might have been a result of the discussion

about what technology was available at First Nations schools to present our message. Other suggested media tools: video, PowerPoint, software, multimedia, video conferencing, TV commercials, radio, interactive hands on displays and internships.

➢ Suggestions on content included:
  • "7 Truths"
  • Job Descriptions
  • People / their history, goals
  • "How to"…get into IT/succeed in IT (suggested emphasis)
  • Different languages (translate content),
  • 7 truths but expand into further IT jobs such as graphic artists, admin. Instructors, PC Techs, Programmers (web computers etc).
  • Places to get jobs, job type match indicators like career advisors/assessments.
  • Use local ambassadors / role models
  • 7 natural laws: respect, wisdom, honour, trust, love, generosity and courage.

➢ Funding suggestions:
  • Casino Regina funds programs concerning Aboriginal youth, several times per year
  • SHRC, (recorder is unclear of the definition of this acronym)
  • In kind contributions from educational institutions and private sector
  • Federal government

➢ 2 respondents indicated they knew other people who could be Aboriginal IT role models, but need to discuss with potential people first. An organization and 3 other names were also offered.

➢ Suggested next steps were:
  • Get feedback/options from the target audiences on how to interest/present the information to them.
  • Meet again to focus on specific, generally agreed upon ideas and suggestions.
  • Work with PSC (Public Service Commission) Speakers Bureau.
  • Pilot small outreach – target audiences.
  • Keep consulting and talking.
  • ITSP host a focused session to further plan and implement the Aboriginal Initiative on behalf of the IT Sector, ensuring all Aboriginal contacts are involved in this process.
  • Work with CREERUNNER to create a targeted / balanced promotional campaign as they proposed.

2.1.4 Progress made on the Five Key Aboriginal objectives

The IT Sector Partnership steering committee took all of the above input and identified five key objectives with short term strategies for each one. Progress was made on each one. Long term recommendations were also made for each of these objectives

1. Maintaining Momentum
    ➢ Received and sent notice of Aboriginal specific events to ITSP members
    ➢ Found 8 people willing to be Aboriginal Role Models in IT Sector
    ➢ Found 2 Aboriginal Institute Representatives willing to join ITSP committee

2. I.T. Promotional Materials (print and electronic)
    ➢ Found 4 Aboriginal community contacts to help achieve goals

3. Partnership Agreements Research and Development
    ➢ SAHO has supplied the following documents regarding the steps and elements needed to initiate, develop and implement partnership negotiations and agreements:
      • Fact Sheet on Partnerships – Getting Started
      • SAHO Background
      • Development of Aboriginal Awareness Training Pilots
      • Why SAHO signed a Tripartite Agreement with CUPE and GRAA
    ➢ Developed an inventory of 5 existing Aboriginal cultural awareness training programs and methods of delivery available to workplaces;
    ➢ Distributed above material to those requesting it in the survey.

4. ITSP Survey Questions
    ➢ Developed 4 Aboriginal specific questions and included them in the IT Sector Survey. (see section 2.3)
    ➢ There were 5 Aboriginal businesses that replied to the survey.

5. Annual ITSP Planning Session
    ➢ Developed long term goals and initiatives for increasing Aboriginal participation in the IT Sector. (see Recommendations section of this report)
    ➢ Recommended participants for one-half day session with the Aboriginal IT business owners and operators to present their business lines, vision and background to the entire ITSP committee

2.2   Database to Facilitate Inventory and Cost Sharing

The project involved the development of a web-accessible database to allow recording of existing training institutions and programs relevant to the needs of the IT industry in Saskatchewan including: CIPS accredited programs at Saskatchewan Institute of Applied Science and Technology (SIAST) Palliser campus, Kelsey campus, University of Regina, University of Saskatchewan. These and other organizations are allowed to add entries and requests into the database. The Saskatchewan Education Exchange (SEE) web site will allow the requests to be matched by offers and cost sharing to be facilitated. This allows smaller organizations to benefit by being able to have training in the province that they would normally have to travel to receive. Larger organizations will be able to hold this training more regularly.

As per **Appendix G, April 4, 2003 News Release**, the SEE database was created as part of a contract with Saskatchewan Advanced Technology Association (SATA). SEE has been launched at:
http://www.saskeducationexchange.com

Monthly total hits for the website were:
April 2003: 35191
May 2003: 15772
June 2003: 5591
July 2003: 5038
August 2003: 2525

The decrease in usage was attributed partly due to lack of interest during summer vacations, but also due to a number of bugs in the site. SATA was unable to get the bugs corrected by their original subcontractor, so proposed that it be rewritten by another company. ITSP agreed on the condition that there would be no support charges until the site had been fixed.

It has been re-launched and support costs began in April 2004. As part of the re-launch a new URL was added. The SEE website is also available at:
http://saskx.com/

As per **APPENDIX H: Saskatchewan Education Exchange (SEE) Business Plan,** SATA and CIPS have a method to keep this website operational without further funding from Sask. Learning.

To date, two supporters have committed to the funding, and several more have shown interest.

2.3   Human Resource and Training Needs Follow-up Assessment

Due to the rapid changes in the sector, as in the Phase 1 proposal, there is an on-going need to understand what is happening in Saskatchewan to ensure the Phase 2 recommendations and other actions are improving the status of the sector. The assessment included questions based on the 2001 survey, to allow trending to be analyzed. An analysis was completed to evaluate the effect of strategies and confirm the issues and results found through the initial human resource and training needs assessment.

The Needs Assessment was done via a survey done by contract through Trimension Training and Consulting Group
See Appendix I: Trimension ITSP 2004 Needs Assessment Survey

A news release was issued June 24, 2004 in conjunction with Minister Andrew Thomson. It took place at the Saskatchewan Advanced Technology Association (SATA) event at the Regina Inn featuring a presentation about the "Information Technology Office (ITO) - Transformation process". The press release was just a short business item at the beginning of that event.

See Appendix K: 2004 Survey results News Release
The following is a list of the media coverage to date:
     The Leader Post (June 25, 2004);
     IT Business.ca (June 28, 2004);
     The Globe and Mail (June 30, 2004);
     Computing Canada (June 9, 2004);
     CJME-AM (June 4, 2004, 4:34pm, "news" duration:1 minute);
     CBKF-FM, CBC French Radio (July 8, 2004, 12:05pm, 7:30mins); and
     Computer World Canada (July 23, 2004).

2.3.1   Conclusions From the Survey

There were two kinds of conclusions from the survey. There were results about this particular snapshot of time in 2004, and then there were additional conclusions that could be made because most of the questions on this survey are the same as on the previous one and so trends could be seen.

Key Findings from the 2004 Survey

The key findings have been gathered from the research and provide an overview of the industry. They summarize the results of the human resource and training needs Information Technology industry survey.

Industry Demographics

➢ The total number of companies replying was less for this survey than in the 2001 survey. This may be partially due to a good recruitment climate where surveys are not seen as necessary and partly due to there being fewer companies surveyed. At the same time, the number of employees per company has increased. Thus an estimate of the total workforce and whether it has increased could not be made;

➢ Of the 154 companies surveyed, the full time employee category made up eighty-four (84.4) percent of the IT work force;

➢ Just over sixty-two (62.1) percent of the companies surveyed had fewer than six employees;

➢ Seventy-six (76) percent of the companies surveyed were classed as privately owned;

➢ Seventy-four (74) percent of the privately owned companies employed fewer than six employees;

➢ Seventy-five (75) percent of the companies surveyed were urban;

➢ Ninety-five (95) percent of the companies surveyed indicated they did not experience any network infrastructure problems in order to get internet access in some locations;

➢ The greatest majority of the IT employees are in the 25 - 44 years of age categories;

➢ The IT companies surveyed estimated a thirteen (13) percent increase, (309 positions) in the number of additional employees that will be required in the next 1-2 years;

➢ The Program/Software development occupation was identified as having the greatest growth in numbers at over twenty-one (21.3) percent (66 positions);

➢ The occupations with the greatest number of employees were:
- Computer Support and Network Administration - 21% (498 positions);
- Administrative Support - 16% (375 positions);
- Help Desk - 12% (284 positions); and
- Application Support - 11% (264 positions).

➢ Growth was the largest reason why there would be an increase in the number of new employees over the next 1-2 years.

Recruitment and Retention

➢ Ninety-six (96) percent of the companies surveyed indicated they did not have any retention problems;

➢ Good company atmosphere, good company benefits and incentives and the offer of challenging and hard work were the main reasons as to why retention was not a problem;

➢ Over ninety-eight (98.7) percent of the companies surveyed indicated they did not have a specific retention strategy for under-represented groups;

➢ In the past year 151 employees left their company, leaving voluntarily at sixty-nine (69.5) percent was the largest reason; and

➢ Of those who left voluntarily, better opportunities elsewhere in Saskatchewan was the most common reason.

Skill Requirements and Training

➢ Eighty-three (83) percent of the companies surveyed stated they did not have any difficulties providing their employees with on-going training;

➢ Lack of time and the high cost to send people to training were the two main reasons given for why those respondents indicated they were having difficulties in providing on-going training;

➢ External training at fifty-one (51.6) percent and a combination of in-house and external training at twenty-nine (29.4) percent were the two main ways the survey respondents indicated were the best ways to provide IT employees with on-going skill development and although it appeared ironic, there was minimal interest in any form of technology based learning;

➢ Ninety (90) percent of the survey respondents indicated that graduates from education and training institutions in Saskatchewan graduate with the necessary credentials to meet the hiring needs;

➢ Researching and developing from a open source and communication skills were the two skill areas employees were found to be lacking;

➢ Over ninety-six (96.7) percent of the companies surveyed indicated the current education and training programs and courses offered in Saskatchewan meet their on-going training needs for existing employees;

➢ Maintaining a list of preferred vendors, was the greatest means at eighty-six (86.7) percent for survey respondents go to find information about training programs or courses; and

➢ Over eighty-six (86.9) percent of the companies surveyed were not aware of the Saskatchewan Education Exchange (SEE) website and seventy-six (76) percent (108 companies) indicated they were not interested in receiving any information about the website.

Labour Force Development

➢ From the survey results, less than one (.08) percent of the present IT sector workforce were identified as Aboriginal, just over four (4.2) percent were identified as being visible minorities, and less than one (0.25) percent were persons with disabilities;

➢ Only seven companies indicated they were involved in a specific program such as AEDP, employment equity or in a private agreement to develop a representative work force;

➢ Over ninety-four (94.1) percent or 144 companies surveyed indicated they do not have any strategies in place for employee development in such areas as: Aboriginal awareness training and education, strategic planning, career development, mentorship or succession planning; and

➢ Only a small number, two (2.6) percent of the survey respondents indicated they would be interested in learning more about initiatives to enable their company to establish a more representative work force.

Certification and Professionalism

➢ Seventy-seven (77) percent of the companies surveyed indicated they were familiar with the Information Systems Professional (I.S.P.) designation;

➢ Although the survey respondents were aware of the I.S.P. designation none encouraged their employees to possess or acquire this designation;

➢ A+ certification was identified by sixty-five (65) percent or 141 of the companies surveyed as requiring their employees to either possess or acquire this certification;

Key Trends from the 2004 survey

One of the objectives for conducting the survey of the Information Technology industry again was to identify any trends or changes that have occurred since the last survey that was done in 2001.

The following summarizes the key trends:

Growth

➢ The results of the survey indicated the companies were anticipating a thirteen (13.6) percent increase in the number of additional employees within the next 1-2 years. This percentage equates to 309 new positions. This is a reversal from the 2001 survey where the survey respondents predicted an eleven (11) percent decrease in the number of employees over the current number that was employed in 2001.

➢ This growth may be an opportunity to focus on the under representation of specific groups that presently exist in the work force.

➢ This could also mean a need to focus more training on those occupations where growth is expected. These occupations are:

  ▪ Program/Software Development;
  ▪ Computer Support and Network Administration;
  ▪ Help Desk;
  ▪ Multi-Task Resource;
  ▪ Application Support; and
  ▪ Management.

Recruitment

➢ The number of companies indicating they currently had vacancies decreased by eleven (11) percent over the 2001 study. Along with the decrease in the number of vacancies the results indicated the problems or difficulties employers faced in trying to recruit employees were greatly reduced.

➢ With the reduced vacancy rates, the companies surveyed all indicated they recruited their IT employees from within the province.

➢ The results indicated that Saskatchewan would be in a position to supply the industry with new IT employees; however the challenge will be to continue to meet the needs as the industry grows.

➢ The results also indicated that the vast majority of companies surveyed are not involved in any specific initiative for recruiting people from under-represented groups. This provides an opportunity for accessing these groups to fill in the vacancies and meet the growth demand.

Retention

➢ In comparison to the previous survey, the companies surveyed this time indicated the retention problem was reduced by twenty-five (25) percent. The results of this survey indicated ninety-eight (98) percent of the companies surveyed stated retention was not an issue.

➢ The research also found that ninety-eight (98.7) percent of the companies did not have a specific retention strategy for under-represented groups, particularly for the Aboriginal labour force in their workplace.

➢ The results indicated companies have worked hard at addressing the retention issue by creating a good company atmosphere and positive environment as their main strategies.

➢ Again, by focusing on promoting specific retention strategies, companies could improve the retention rates and be in a position to access the under-represented groups to address the projected growth.

Skill Requirements and Training

➢ The results from this survey indicated there was less of a difficulty in providing employees with the opportunity for on-going training. The number of respondents who indicated they had no difficulties increased from sixty (60) percent in 2001 to eighty-three (83) percent in this survey. This would mean there are more training opportunities and options available to the industry and they are taking advantage of this.

➢ Lack of time and the high cost to send people to training programs and courses were cited as the two most common reasons why the companies had difficulties in providing on-going training for their employees. This is a change from the 2001

survey where lack of resources, lack of training available in the province and accessibility to training in a timely manner were the main obstacles.

➢ The results indicated that education and training programs have improved over the 2001 survey by twenty-three (23) percent in providing the graduates with the necessary credentials to meet the hiring needs.

➢ There was an increase of forty (40) percent of the number of companies who indicated that existing education and training programs were meeting the on-going training needs of the companies surveyed.

➢ The findings also indicated the recently developed Saskatchewan Education Exchange (SEE) website is not widely known.

➢ There is an opportunity to continue to increase the effectiveness of the education and training programs for graduates and existing employees through greater promotion and utilization of resources, such as better promotion of the SEE.

Labour Force Development

➢ The IT industry continues to be a male dominated workplace and also continues to be under-represented by Aboriginal people, visible minorities, and persons with disabilities.

➢ The participation rates and the interest by companies surveyed in specific programs to address under representation were very small and approximately the same number did not have strategies for employee development.

➢ These results remain consistent with the survey done in 2001. With the changing demographics occurring in the province this is an area that requires greater attention, since only five companies expressed any interest, and only ten companies had existing strategies for employment development.

Certification and Professional

➢ A+ certification was identified as the certification most required by the survey respondents.

➢ The level of awareness and familiarity with the CIPS Information Systems Professional (I.S.P.) designation has increased slightly from the 2001 survey. In this survey just over seventy-seven (77.1) percent indicated they were familiar with this designation compared to seventy-three (73) percent in 2001.

➢ There were fewer companies actually encouraging their employees to possess or acquire the I.S.P. designation over the 2001 survey; twelve (12) percent in the 2001 survey and zero (0) percent in this survey.

➢ The majority of the companies surveyed were aware of the I.S.P. designation, but at the same time the I.S.P. designation is not being encouraged.

2.4 Communication Strategy

A communication strategy was to be developed by the Sector Partnership to:

➢ publicize the availability of the database to match needs for required training

➢ communicate the renewed results of the research to the industry

➢ ask for volunteers and answer career fair requests for contacts

➢ capture the progress of work within the Aboriginal communities and promote and encourage it.

Greenough & Associates Inc. was contracted by the Information Technology Sector Partnership (ITSP) in Saskatchewan to focus on five Recruitment and Communication Strategy Development deliverables.
 See Appendix J:
  ITSP Recruitment and Communication Strategies Report

This included the description of the booth and promotion materials needed, and development of the "IT Truths" (see 2.5.1 below). Please note these Information Technology Truths were developed with input from IT students, young IT professionals and members of the ITSP. Many of the youth were Aboriginal and the description of the booth and materials were used for the review of the Aboriginal IT business owners/operators presentations.(see 2.1.3 above)

Ten strategies were identified to:

1. To communicate with & engage Saskatchewan Children, Youth, Young Adults & IT Professionals, Educators & Parents regarding IT Career Opportunities

2. To identify & communicate positive messages to rural, northern & urban Saskatchewan Children, Youth & Young Adults regarding IT Career Opportunities

3. To retain & develop IT Students & Professionals.

These strategies need to be reviewed and short term goals prioritized to move them forward.

2.5   Communication Tools

➢ A brochure and instructions for volunteers was to be developed. The brochure will be suitable for inclusion on a career fair table along with the HRDC materials the committee has identified, and will show the Saskatchewan focus. Lists of Web sites were to be included.

➢ This brochure was an attempt to dispel some of the myths about IT jobs. It was titled the "IT Truths".   See 2.5.1 below. It was also made into a cycling PowerPoint presentation and used at career fair booths.

➢ Industry volunteers were asked to participate at career fairs and classroom discussions in order to promote IT careers within Saskatchewan.

- PARWC conference career booth in Saskatoon Feb 5-6 2003
     (Provincial Aboriginal Representative Workforce Council)
- CASTS Conference Presentation and booth Sept 18-20 2003
     (Canadian Aboriginal Science and Technology Society)
- File Hills Qu'Appelle Tribal Council Career Fair booth Sept 19
- Speaker at Brandon Manitoba October 22 "Tech 2003" conference
- Booth in Stepping Stones Career Fair April 2004

➢ Publicity was mostly word-of-mouth among ITSP members with e-mail messages, search engine registration and web links to supplement it. Two News Releases were issued. One regarding the SEE web site work and the other regarding the Survey (see above)

2.5.1 The IT Truths
Information Technology Truth #1

Information Technology professionals live a balanced, high quality of life in Saskatchewan. No traffic jams…experience the pride of home ownership due to the low cost of living…your career is waiting for you in Saskatchewan!

Information Technology Truth #2

Information Technology careers are more than just math and science; strong interpersonal, communication, creativity, and problem solving skills are an absolute must in the Information Technology field today.

Information Technology Truth #3

Information Technology Certification paves the way for many careers and opens doors to employment and career development. Information Technology is used everywhere and in all industries…you're only limited by your imagination!

Information Technology Truth #4

Information Technology careers pay well, are challenging, fun, engage your unique talents, are energizing, empowering…you can express yourself!

Information Technology Truth #5

Information Technology careers help shape the future, shrink distance, build practical solutions, empower lives, communities and nations…be part of creating tomorrow…today!

Information Technology Truth #6

Information Technology careers live in a culture of innovation…it's a rapidly changing industry….always something new to learn!

Information Technology Truth #7

Information Technology careers connect you with the pride and strength of energetic teammates and clients, dynamic, diverse and rewarding projects!

3.0   Recommendations

3.1 Recommendations for long term work on Aboriginal issues

Objective 1 Maintaining Momentum
- ➢ Secure funding to establish a permanent Aboriginal position to continue the Aboriginal Initiative including: Aboriginal and IT industry communication, human resource research; and promoting the sector to Aboriginal community. The position will act as a liaison for the industry to the Aboriginal community and further implement the short-long-term goals.

Objective 2 Promotional Materials (print and electronic)
- ➢ Secure funding and resources to initiate the Aboriginal focused/specific promotional materials needed to recruit and retain Aboriginal people into the sector.

- ➢ It is imperative to utilize the Aboriginal resources located through this initiative in a prompt and positive manner. Include Aboriginal people in all discussions, development and delivery of the Aboriginal promotional materials. A one-half day session was held with the Aboriginal IT business owners and operators to present their business lines, vision and background. The most complete proposal looked like CREERUNNER and this option should be investigated as a way to promote the role models this project located.

- ➢ Invite the Saskatchewan Learning K-12 education staff to present essential information to the ITSP committee on their Aboriginal initiatives, demographics and secure contacts and bridge building into this specialized unit and committees within the Department of Learning.

Objective 3 Partnership Agreements Research and Development
- ➢ ITSP needs to collectively communicate "partnership approaches". Develop a method to share information as individual members to the entire ITSP committee, especially those with current partnerships with Aboriginal communities, institutions and progressive workplaces.

- ➢ Continue communication with Government Relations and Aboriginal Affairs (GRAA). They can provide updated information regarding the partnership approach, notify regarding new initiatives and help determine "how can a sector partnership committee be involved in the partnership approaches and processes?."

> ➢ Aboriginal awareness training data resulting from the industry survey 2004 should be cross-matched to the sources collected. Follow-up data collection can occur if unidentified sources result from survey 2004.

> ➢ Consider linking the Aboriginal cultural awareness training programs on the Saskatchewan Education Exchange Website.

> ➢ All ITSP members should have access and participate in cultural, historical and demographical training, thus heightening awareness to "why this Aboriginal initiative is so emergent". ITSP has access to resources to guide, develop and implement the "how to engage itself in the Aboriginal initiative".

Objective 4 ITSP Survey Questions
> ➢ Ensure data collected through the industry survey 2004 is highlighted appropriately demonstrating the ITSP Aboriginal initiative and efforts.

Objective 5 Annual ITSP Planning Session
> ➢ Host a short and long-term planning session for the specific Aboriginal initiative/strategy. ITSP members need to demonstrate commitment through a team building and personal development session to facilitate active participation and continue bridge building with the Aboriginal community.

> ➢ Identify current ITSP members to assist with the strategy and include the "prospective Aboriginal IT professionals and business owners/operators".

> ➢ Utilize the resources to further contribute to the overall goal of increasing Aboriginal participation in the IT Sector.

> ➢ Funding of this initiative must be addressed for future strategic planning needs such as: Aboriginal specific materials, human resources to implement the initiative, monitor the process and next phase of implementation.

> ➢ Develop a "yearly phase plan" to commence at the beginning of ITSP fiscal year. ITSP committee participation is crucial, communication and monitoring on monthly reporting basis and secured funds will allow an Aboriginal person and the ITSP committee to fully develop the potential of the industry and communities

3.2 Recommendations from 2004 Survey

The Information Technology Sector Partnership (ITSP) developed the following recommendations as a result of the 2004 Needs Assessment Survey. The ITSP will be responsible to continue to partner with their stakeholders to implement these recommendations.

Objective 1

The ITSP must contact the various parties that requested more information regarding:

> ➢ The Saskatchewan Education Exchange (SEE) website;
> ➢ Learning more about establishing a representative workforce; and
> ➢ The Executive Summary of the survey report.

Objective 2

The ITSP will need to continue to promote their industry in order to improve the image and promote the career opportunities that are available.

> ➢ Expand on the initiatives such as career fairs, mentoring, job shadowing, and work placement with employers.
> ➢ Publicize the role the IT sector plays in the provincial economy and the many career opportunities that are available.
> ➢ Address the myths about the IT industry to remove the barriers to recruitment of new employees.

Objective 3

The ITSP in partnership with the relevant stakeholders develop strategies to increase the participation of all the underrepresented groups in the industry.

> ➢ In partnership with the provincial government departments, Aboriginal Employment Development Program (AEDP), Federation of Saskatchewan Indian Nations (FSIN), Metis Nation - Saskatchewan (MNS), Racialized Canadians, Persons with Disabilities and Women's Groups identify and address the barriers.
> ➢ Develop a communication plan that promotes the role the under-represented groups can have in addressing the labour force needs of the industry.
> ➢ Publicize and promote success stories complete with testimonials by employers who have invested time and resources into developing a representative work force.

Objective 4

The ITSP and the education and training institutions within the province need to expand on the delivery options for education and training programs and courses that will address the high cost to send employees for training and address the issue of lack of time required for training.

> ➢ Promote the SEE website more effectively and aggressively.
> ➢ Assist employers in determining how to better integrate web-based training into the workplace that is both reasonably priced and accessible in terms of when it can be accessed by employees.
> ➢ Investigate e-learning and how it fits with the learning styles and needs of various groups, considering the requests for on-site training in this survey.

➢ Investigate and post on the website any classes for the two skills entry-level employees were lacking: "communication" and "researching and developing from an open source".

Objective 5

The ITSP needs to work with industry and education and training institutions within the province to address the growth forecast in this survey.

➢ Determine if graduates over the next two years can meet this need. If not, investigate options to make more graduates available as soon as possible.
➢ Make industry and graduates aware of this employment trend.
➢ Continue to survey the industry to see if the trend will continue or fluctuate again.

Objective 6

The ITSP, in partnership with Canadian Information Processing Society (CIPS) Saskatchewan, needs to continue to expand its efforts to raise the awareness of the Information Systems Professional (I.S.P.) designation.

➢ Make presentations at relevant venues regarding the mandate, purpose and responsibilities that come with having employees possessing the I.S.P. designation.
➢ Pursue the legislation of the I.S.P. as a professional designation within Saskatchewan.

3.3 Recommendations from the Recruitment and Communications Strategies Report
See Appendix J: ITSP Recruitment and Communication Strategies Report

The ITSP Recruitment and Communication Strategies Report recommends ten (10) strategies. The objectives of these strategies were:

➢ To communicate with & engage Saskatchewan IT Professionals, Educators & Parents regarding IT Career Opportunities

➢ To identify & communicate positive messages to rural, northern & urban Saskatchewan Children, Youth & Young Adults regarding IT Career Opportunities

➢ To retain & develop IT Students & Professionals.

These strategies need to be reviewed and short term goals prioritized to move them forward.

4.0   Data Sources

Information Technology
Closing the Human Resources Gap in Newfoundland and Labrador
Final Report May, 1998.

Sector Overview
Saskatchewan Economic and Co-operative Development
http:///www.gov.skca/econdev/investment/sixctrs/technology/sector.shtml

Current Skills Deficit
SaskNetWork (Labour Market Information) Current Skills Deficit.
http://www.sasknetwork.gov.sk.ca/pages/lmi/ssSummary/sso5.html#curVac

Human Resource Issues
Information Technology Association of America
http://www.itaa.org/govt/pubs/ppr.htm

Employment Trends
SaskNetWork (Labour Market Information) Employment Trends
http://www.sasknetwork.gov.sk.ca/pages/lmi/ssSummary/sso3.htm#where

Future Trends in Skills and Occupation
SaskNetWork (Labour Market Information) Future Trends in Skills and
Occupations
http://www.sasknetwork.gov.sk.ca/pages/lmi/ssSummary/sso_8.htm#emerge

Saskatchewan's Education and Training System
SaskNetWork (Labour Market Information) Saskatchewan's Education and
Training System
http://www.sasknetwork.gov.sk.ca/pages/lmi/ssSummary/sso_10.htm#most

Taking Action On Canada's IT Skills Shortage
Prepared by the Working Group for the Taking Action/IT Skills Secretariat
Information Technology Association of Canada, Software Human Resource
Council, Canadian Information Processing Society.
October, 1998.

Survey Results
Information Technology Market Research
Telephone Survey of Saskatchewan's Information Technology Companies
Prepared for The Software Technology Centre.
Douglas D. Bates

December, 1997

IT Skills Gap
Information Technology Association of Canada
http://www.itac.ca/client/ITAC/ITAC_UW_M…6ECAOFCD4A2852566EB001F
481F?OpenDocument

Information Technology Sector Partnership
Education and Training Needs Assessment,
July 2001
http://local.cips.ca/saskatchewan/sector/report.htm

Appendix A: Canadian Information Processing Society

The Canadian Information Processing Society (CIPS) is Canada's largest association of information technology (IT) professionals. CIPS represents over 8,200 members employed in over 4,000 companies in 29 cities across the country. CIPS membership reflects the diversity of the information technology profession. Members include private and public sector information systems managers, programmers, analysts, system designers, computer science and MIS university students, computer technology college students, independent consultants, engineers, lawyers, professors and researchers.

"CIPS strives to define and foster the information technology profession, to encourage and support the information technology practitioner and to advance the theory and practice of information technology while safeguarding the public interest."

In support of the above mission, the Society has undertaken a number of key initiatives in the area of professional standards, which include professional certification and the accreditation of computer science programs in Canada.

Professionalism implies taking responsibility and being accountable for one's work and performing that work to the highest possible standards. To fulfill these requirements, it is vital that professionals are trained to the highest standards and are thoroughly familiar with the latest techniques, theories and standards. High standards are important in any profession, particularly so in Information Technology where the rapidly changing nature of the discipline and the speed with which new developments are introduced demands it.

Certification contributes to a strong professional image, profile and credibility, high standards of practice and ethics, public protection and individual career development. Certified Members hold the Information Systems Professional of Canada (I.S.P.) designation.   The CIPS Certification Council is dedicated to establishing a registered and fully regulated information systems profession in Canada. Today, Alberta, British Columbia, New Brunswick, Nova Scotia and Ontario have all passed provincial legislation for the self-regulation of the designation in each of these provinces to manage the I.S.P. designation. Registration of the I.S.P. is also well underway in Saskatchewan. In Manitoba, the legislation went through second reading in May 2002.

CIPS has established three Accreditation Councils, one for computer science programs at Canadian Universities, one for masters of information systems (MIS) courses at Canadian universities, and one for information technology diploma courses at Canadian technical schools and colleges. Accreditation is intended to assure the best quality education possible, leading to better and more qualified

graduates. CIPS is also pleased to have signed a Memorandum of Agreement with the Newfoundland and Labrador Department of Education and Operation ONLINE for the province wide accreditation of both public and private computer science programs in the province. CIPS is providing its expertise in the area of education and accreditation and will be in a position to develop National standards for the accreditation of private institutions across Canada as a result of this important work in Newfoundland and Labrador.

In addition to professional certification and accreditation, CIPS has also lent its expertise to the Software Human Resource Council in the development of the Occupational Skills Profile Model (OSPM). The OSPM addresses the urgent need for standardized skill definitions and a common terminology base for describing software duties in the current Canadian software industry. The current release of OSPM features 24 job titles and their definitions. CIPS will also remain heavily involved in the ever greening of the OSPM.

More information on CIPS and its activities can be found at the **www.cips.ca** website.