



FERENCE WEICKER & COMPANY

**INVENTORY OF REGIONAL TECHNOLOGY
BUSINESSES IN THE REGION SERVED BY THE
INNOVATION RESOURCE CENTRE**

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EXECUTIVE SUMMARY

PURPOSE OF STUDY

The purpose of the project was to:

- Develop an inventory (population list) of technology companies in selected regions within British Columbia.
- Conduct a survey of a sample of these companies to collect data on the economic characteristics of the firms, the markets they serve, opportunities for development, factors that are impacting on the development of the technology sector in specific regions, and actions that could be taken to promote development.

This report was conducted for the Innovation Resource Centre and it forms part of a larger project which was conducted for the BCRSTN.

METHOD OF STUDY

The major steps that we undertook to complete this project are as follows:

- Conducted an initial meeting with the representatives of the Study Steering Committee to clarify the desired outputs and scope of the assignment.
- Developed an inventory of 287 businesses in the region based on information provided by the project partners and obtained from searches of a variety of published industry directories, telephone books, and online business and trade directories. In addition, we contacted representatives of local economic development offices, Chambers of Commerce, and various government agencies.
- Developed the questionnaire for the survey, an introductory letter, and a website for the project (www.bctech.ca).
- Followed-up with the companies to conduct interviews by telephone. In total, we conducted interviews with 116 companies in the region. There were 91 companies with whom we could not complete interviews in the available time despite repeated call backs while 32 declined participation and 48 appear to no longer be in operation.
- Coded, tabulated and analyzed the results. We then used the results to update the company database and prepare a summary report for the IRC region.

MAJOR FINDINGS

The major findings of our review are as follows:

- **The 116 companies that we surveyed employ about 2,700 people and generate about \$565 million in revenues annually from operations in the New Caledonia region.** We project that, if we had been able to survey all 239 companies believed to be active in the database, we would have found that these companies employ about 3,757 people and generate over \$730 million in revenues.
- **A few companies account for the majority of the economic activity.** The largest 9% of the companies accounted for 67% of the revenues of all the companies surveyed. Most of the businesses are small, with less than 5 employees and operate in only one location in the region

served by the IRC.

- **The companies serve a wide range of geographic and sector markets.** Leading markets include the BC, the rest of Canada and the US. Larger companies are much more likely to rely on more distant markets than are the smaller companies, who generate the majority of their sales from customers in BC. The natural resources industry was the leading customer segment amongst the companies surveyed. Although fewer companies reported sales in the construction industry, the revenues were the second largest segment.
- **The businesses are well-established.** On average, the businesses have been operating since 1988. Of the companies, 26% have been established in the past six years including 9% which have been established since the beginning of 2005.
- **The companies are growing and are projected to continue to grow.** On average, the companies indicated that their revenues have increased by an average of 6% over the past year and project that their revenues will increase by an average of 12% over the next three years. The companies project that they will employ an average of 29 people on a full-time basis in three years.
- **The companies generate significant direct economic spin-offs for the region.** On average, the companies indicated that they purchase \$838,000 in goods and services annually, of which about 51% is purchased from companies located in the New Caledonia region.
- **There are some significant competitive advantages associated with being located in the region.** When asked to identify the competitive advantages of being located in the IRC region, the companies most commonly identified proximity to key clients, materials, and markets (particularly in terms of ready access to the natural resources industry as well as Northern BC), strong community support, low overhead due to low rents, limited local competition, and a high level of awareness of the company within the region. About one-third of the companies (38%) are planning to make significant new investments in the region over the next three years.
- **A number of other factors also contribute to the success of the companies.** These include their expertise and depth of knowledge, their skills, and the level of service they provide, as well as, an innovative product, the quality and range of their products and their reputation and strong presence in the region.
- **About 43 companies (37% of those surveyed) invested in research and development over the past year.** Only 15% of the companies have or are planning to claim an SR&ED tax credit for part or all of their R&D expenditures.
- **The single biggest issue that is affecting companies is difficulties in finding or keeping qualified, capable workers.** Particular shortages were identified in a variety of areas including technical and trades people (e.g. welding, forestry workers, drivers, etc); management, marketing, and sales people; IT workers (computer technologists, developers and natural resources technologists), and engineers. The companies attributed the shortages to a variety of reasons including under-qualified workers, a lack of appropriate, local training programs, a booming economy, strong competition from other employers particularly those in Alberta, high pay scales, and a limited supply of local staff with the appropriate skills.
- **Other issues that were identified as affecting the businesses include the costs and time associated with developing new products and processes, government regulations, high labour costs, transportation issues with respect to the ability of staff to travel and meet with clients as well as issues related to shipping.**

OPPORTUNITIES FOR DEVELOPMENT

The results of our review indicate that companies are growing, committed to the IRC region and, in many cases, are planning to make further investment. That being said, there are a variety of actions that could help accelerate development and ease some of the issues facing local businesses. Some of the actions that were most commonly recommended by the businesses surveyed include moving to:

- Increase accessibility to local training, apprenticeship programs, coop programs, and information sessions for students to learn about the fields of employment where workers are most needed and provide training incentives;
- Increase and enhance government funding for the IRC and BCRSTN which in turn would increase support for small businesses;
- Ensure the Mountain Pine Beetle issue is handled with a future of forestry in mind while preparing companies to branch out into other markets;
- Streamline government procedures with respect to trade regulations and application processes;
- Build up the population in the region by making it more attractive for people to settle there through financial incentives;
- Encourage and promote sustainable practices throughout the province, in the government, and in various industries; and
- Facilitate the growth of a business community in the region through marketing or group events where partnerships, networking and collaboration opportunities can be realized.



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I. INTRODUCTION

A. PURPOSE OF THE PROJECT

The purpose of the project was to:

- Develop an inventory (population list) of technology companies in selected regions within British Columbia.
- Conduct a survey of a sample of these companies to collect data on the economic characteristics of the firms, the markets they serve, opportunities for development, factors that are impacting on the development of the technology sector in specific regions, and actions that could be taken to promote development.

This project was conducted for the member organizations of the BC Regional Science & Technology Network (BCRSTN). The BCRSTN is a not-for-profit society whose member organizations work within their regions to enhance the application of science & technology and to aid the growth and development of innovative businesses. The members of the BCRSTN have a long-standing record of success in building technology sectors outside of the Lower Mainland.

The nine member organizations of the BCRSTN represent all areas of British Columbia outside of the Lower Mainland. The organizations include:

- Innovation Resource Centre (IRC)
- Interior Science Innovation Council (ISIC)
- Kootenay Association for Science and Technology (KAST)
- Kootenay Rockies Innovation Council (KRIC)
- Mid Island Science, Technology & Innovation Council (MISTIC)
- Northwest Science and Innovation Society (NSIS)
- Okanagan Science & Technology Council (OSTEC)
- Science & Technology Association of the North (Sci-Tech North)
- Vancouver Island Advanced Technology Centre (VIATeC)

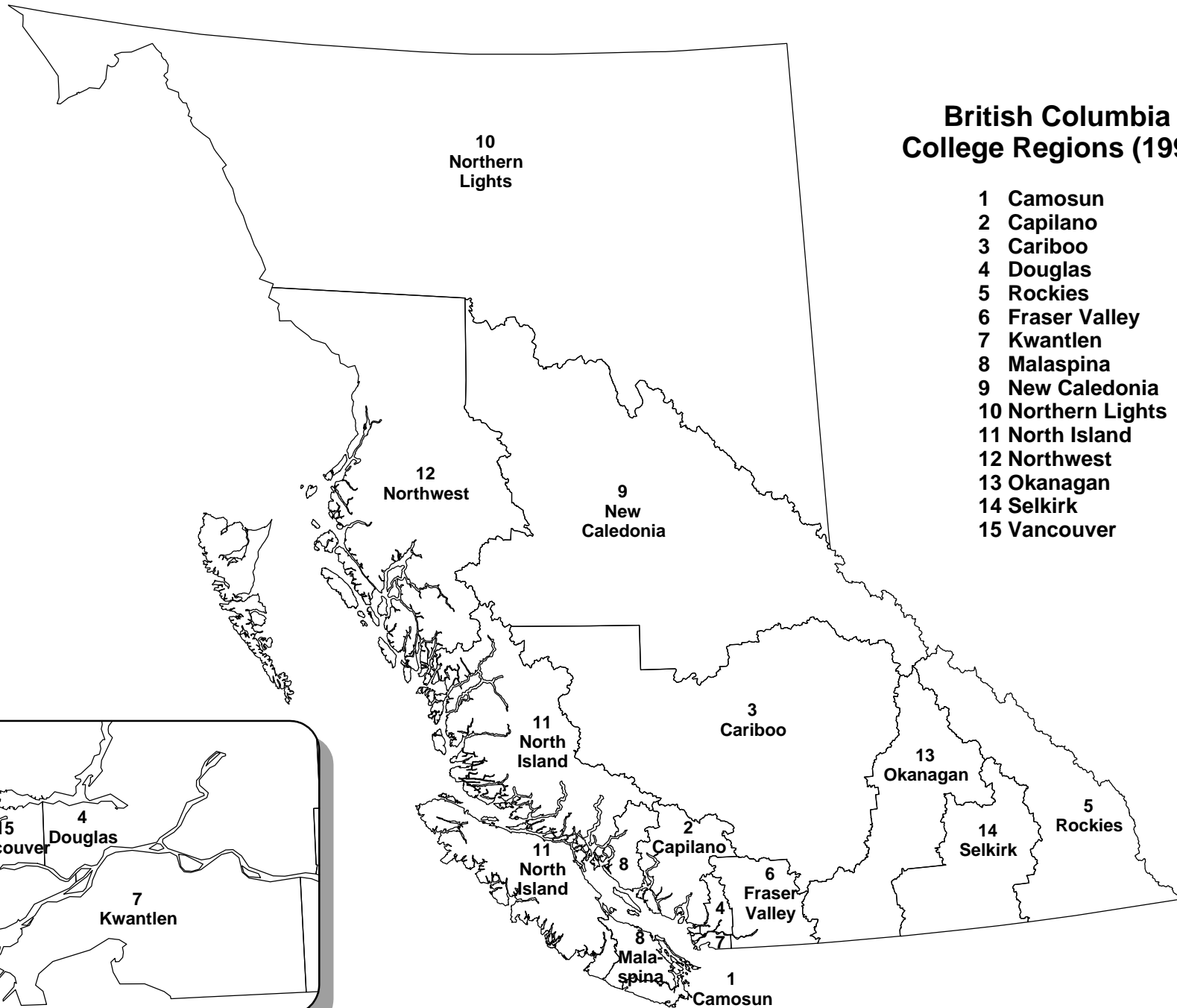
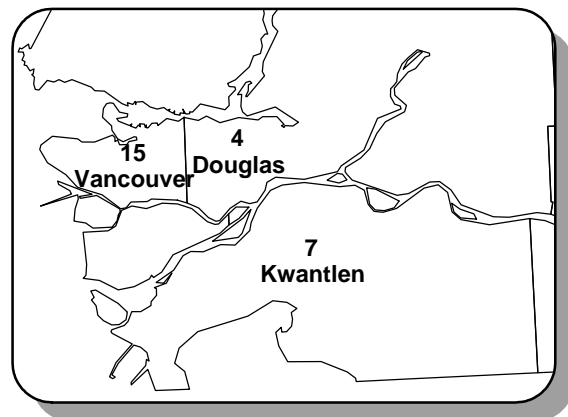
With the exception of VIATeC, the regional science councils/technology centres were established using the boundaries of the college regions in British Columbia. A map showing the boundaries of the college regions is provided on the following page. A list of communities located in each of the college regions is provided in Appendix I.

Not all of the regions are participating in this project. OSTEC has recently developed its own inventory of technology companies and conducted a small survey of companies. Two other regions, KRIC and KAST, are participating in a broader project that encompasses other industry sectors in addition to the technology sector. NSIS is using the questionnaire that was developed as part of this project but is developing its own inventory and conducting its own survey.

The area served by the IRC corresponds to the New Caledonia College region.

British Columbia College Regions (1999)

- 1 Camosun
- 2 Capilano
- 3 Cariboo
- 4 Douglas
- 5 Rockies
- 6 Fraser Valley
- 7 Kwantlen
- 8 Malaspina
- 9 New Caledonia
- 10 Northern Lights
- 11 North Island
- 12 Northwest
- 13 Okanagan
- 14 Selkirk
- 15 Vancouver



A listing of the largest communities located in the IRC region is provided below.

Communities Located in New Caledonia	
Community	Population
Prince George	77,148
Quesnel	10,487
Mackenzie	5,454
Vanderhoof	4,727
Burns Lake	2,005
Fort St. James	2,003
Fraser Lake	1,367
Other	49,130
Total	154,323

B. METHOD OF STUDY

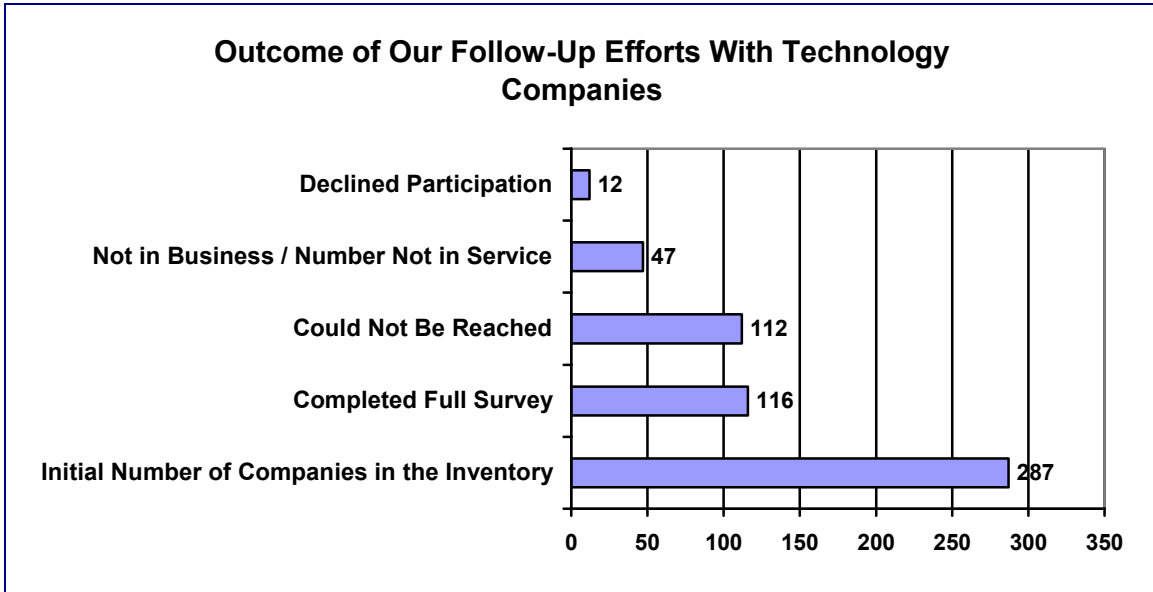
The major steps that we undertook to complete this project are as follows:

- Conducted an initial meeting with the representatives of the Study Steering Committee to clarify the desired outputs and scope of the assignment. During the meeting, we reviewed the preliminary work plan to ensure that the purpose, scope and objectives for the assignment are clearly understood, how the assignment was to be undertaken within the stipulated time frame and budget, and the major elements to be contained in the final report.
- Work with the member organizations to compile a listing of companies in the technology sectors. One of the major challenges is that different regions tend to define the technology sector differently. To augment information provided by the member organizations, we conducted:
 - Searches of a variety of published industry directories and telephone books;
 - Searches of online business and trade directories at the community, regional, national and international levels;
 - Interviews with representatives of local economic development officers, Chambers of Commerce, Community Futures Development Corporations, members of Regional Science Councils, and various government agencies to identify the names of companies or key individuals active in the region. We spoke with 55 economic development officers, 18 CFDC offices, and 42 Chambers of Commerce. Some of the representatives provided a few referrals but most have not developed company lists. We also spoke to some technology associations such as the BCTIA.
 - Other available contact lists including community directories, Chambers of Commerce listings, sector listings, and membership directories for various organizations; and
 - An internet search to fill specific gaps (i.e. where partial listings were obtained, the internet was used to fill in data such as contact names, addresses, phone numbers, and/or e-mail addresses for the organizations on the list.

- Coordinated efforts with representatives in regions that are not participating fully in the project. We met with representatives who had sponsored the technology survey that was conducted in the Okanagan. We also coordinated efforts with the projects on-going in the West and East Kootenays as well as the Northwest.
- Developed the questionnaire for the survey.
- Developed an introductory letter which was then distributed by BCRSTN member organizations to companies on the list for whom we had e-mail addresses or fax numbers.
- Developed a website for the project (www.bctech.ca). The website provided a description of the project, an overview of the BCRSTN, contact information, and a version of the questionnaire that could be completed online.
- Followed-up with the companies. We attempted to contact each of the companies and encourage them to participate in the survey. Our objectives was to conduct a full survey with the companies or, failing that, to complete a short survey which would confirm contact information and obtain basic employment information. Companies had the option to complete the full survey by telephone with us or online. We followed-up multiple times with many of the target companies to encourage their participation.
- Coded, tabulated and analyzed the results.
- Used the results to update the company database.
- Prepare a summary report for each of the participating regions. The report summarizes the quantitative and qualitative information collected through the survey

C. INVENTORY IN THE REGION SERVED BY IRC

This project summarizes the results of our review of companies in the region served by IRC. Based on a review of a variety of sources, we developed an initial list of 287 companies that are potentially active in the technology sector in this region. The result of our attempts to follow up with these companies is provided below.



As indicated, we conducted interviews with 116 companies whom completed the full survey.

D. STRUCTURE OF THE REPORT

Chapter II summarizes the responses provided by companies in participating in the full survey. Chapter III presents a short profile of the characteristics of the companies listed in the inventory that are considered to be active, including an estimate of the aggregate employment and revenues generated by these companies.

II. SUMMARY OF THE INTERVIEW RESULTS

This chapter summarizes the characteristics of the companies served in the region in terms of location, sector, head office, length of operation, revenues, employment, recent equity investments, investment plans, research & development expenditures, corporate guidance, key issues affecting their growth and development, and competitive position as well as their recommendations for action.

A. LOCATION, SECTOR, AGE AND HEAD OFFICE

The characteristics of the businesses surveyed in terms of location, sector, head office, and age are summarized below.

1. Location

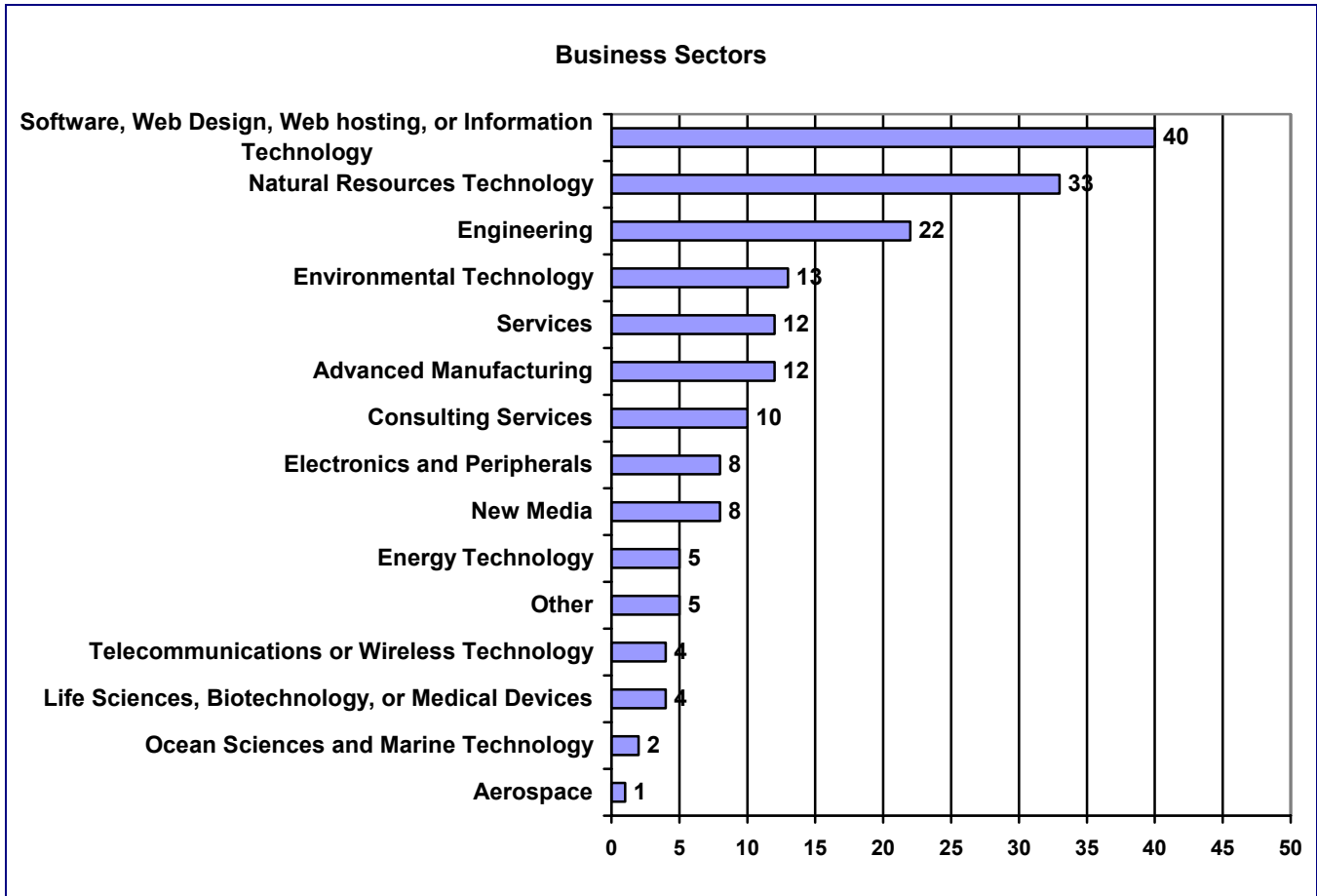
The majority of the businesses surveyed are from Prince George, Quesnel, and Mackenzie.

LOCATION OF THE BUSINESSES

Community	Respondents	Percent
Prince George	88	76%
Quesnel	10	9%
Mackenzie	6	5%
Vanderhoof	4	3%
Other (remaining)	8	7%
TOTAL	116	100%

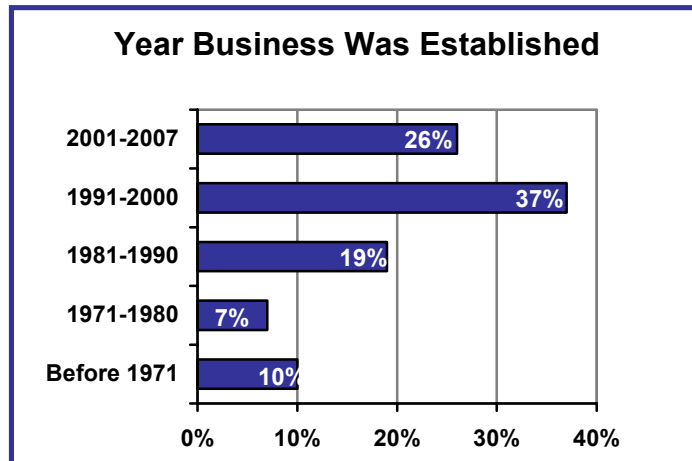
2. Sector

The businesses are drawn from a variety of technology sectors, of which software, web design, web hosting and information technology, natural resources technology and engineering are most common.



3. Age of the Business

On average, the businesses have been operating since 1988. Of the companies, 26% have been established in the past six years.



4. Number of Locations and Head Office

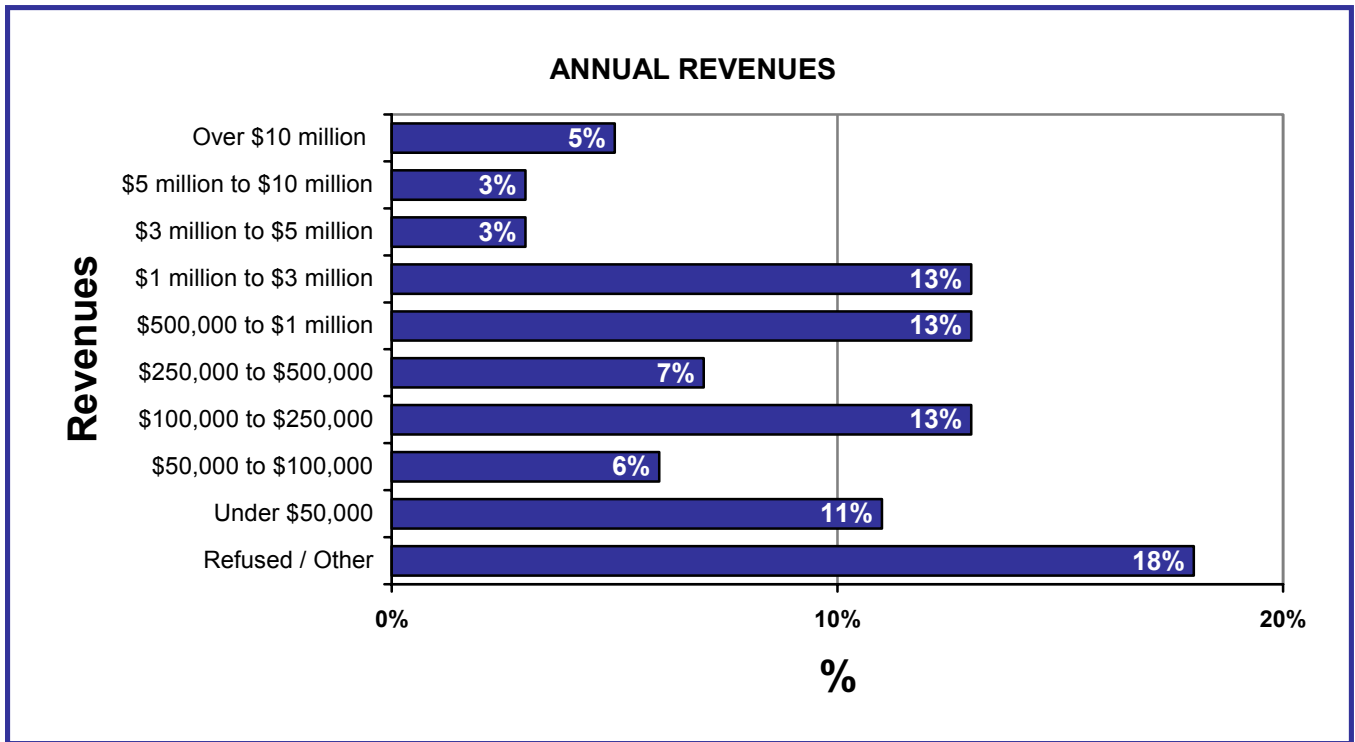
Of the businesses surveyed, 28 (24%) operate from more than one location (an average of 1.6 locations per company) outside of the Lower Mainland. Of these companies, 16 have their head office located outside of the region. These head offices were located in Toronto, Victoria, the Lower Mainland, Dawson Creek and Prince Rupert.

B. REVENUES, EMPLOYMENT AND LOCAL PURCHASES

The characteristics of the businesses surveyed in terms of revenues and employment are summarized below.

1. Revenues

Most of the companies reported revenues of \$500,000 or more for the last fiscal year, including 11% that reported more than \$1.5 million in revenues. On average, the companies reported revenues of about \$4.9 million. The average revenue figures are inflated by a few large companies – the largest 9% of the companies accounted for 67% of the revenues of all the companies surveyed.



It should be noted that, of the 28 (24%) companies that have more than one location outside of the Lower Mainland, 12 (10%) were responding for one location only while 15 (13%) were responding for all of their locations outside of the Lower Mainland.

2. Revenues By Region

Of the companies surveyed, 115 (99%) provided a breakdown of their sales by region. Most (99%) companies reported sales to customers based in BC and, on average, these sales accounted for 46% of the revenues reported by these customers.

Revenues by Region

Region	Reporting Sales to this Region		Reported Revenues	
	Companies	% of Total	Average	% of Total
In BC	114	99.1%	\$2,250,660	46.3%
The rest of Canada	42	36.5%	\$1,066,167	21.9%
The United States	14	17.6%	\$1,402,515	28.9%
Mexico	3	2.6%	\$22,758	0.5%
Europe	3	2.6%	\$33,103	0.7%
Asia	3	2.6%	\$22,844	0.5%
Other Regions	3	2.6%	\$79,370	1.7%
Total	115	100.0%	\$4,857,417	100.0%

3. Revenues By Sector

Of the companies surveyed, 111 (95.7%) provided a breakdown of their sales by sector. The natural resources sector was the leading sector in terms of source of revenues amongst the companies surveyed, accounting for 44% of reported revenues.

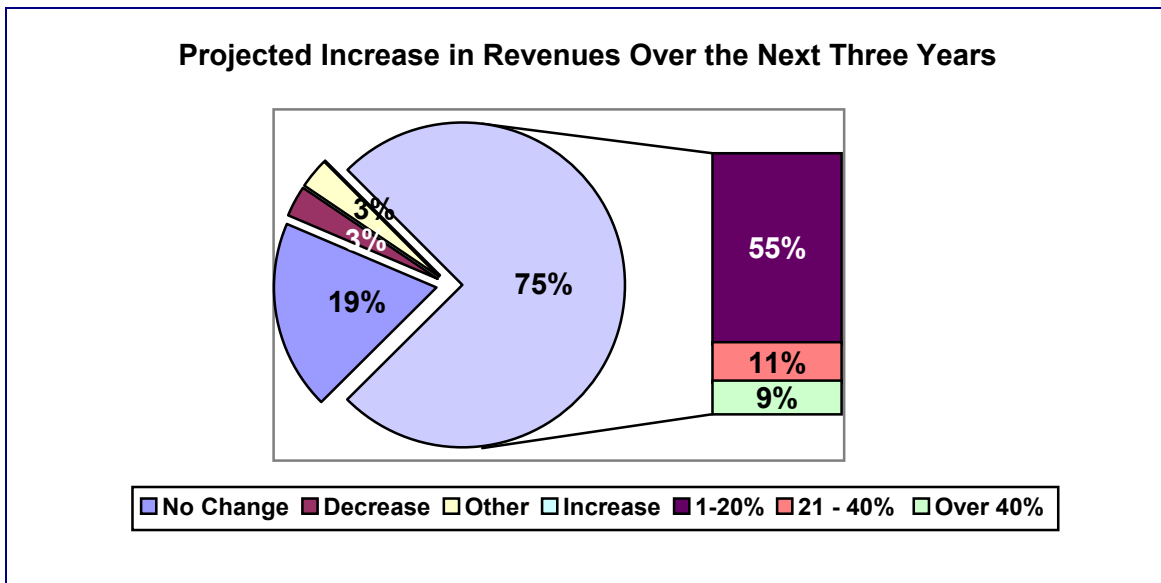
Revenues by Sector

Sector	Reporting Sales to Sector		Reported Revenues	
	Companies	% of Total	Average	% of Total
Natural resources industry	70	63.1%	\$2,108,522	44.4%
(other) Manufacturing	9	8.1%	648,793	13.7%
Construction	18	16.2%	1,659,502	35.0%
Transportation	18	16.2%	52,612	1.1%
Service sector	24	21.6%	112,064	2.4%
Retail trade and end consumers	21	18.9%	32,927	0.7%
Government	21	18.9%	76,717	1.6%
Other sectors	21	18.9%	54,379	1.1%
Total	111	100.0%	\$4,745,516	100.0%

4. Recent and Projected Growth in Revenues

Over the past year, 60% of the companies indicated that their revenues had increased, 27% indicated that revenues had remained the same, 10% indicated that they had decreased, and 3% were not sure or indicated that the business had been operating for less than one year. On average, the companies indicated that their revenues have increased by an average of 6% over the past year.

As indicated in the chart below, 75% of the companies project that their revenues will increase over the next three years, 19% expect them to remain the same, 3% expect revenues to decrease and 3% did not provide an answer. On average, the companies expected their revenues to increase by an average of 12% over the next three years.

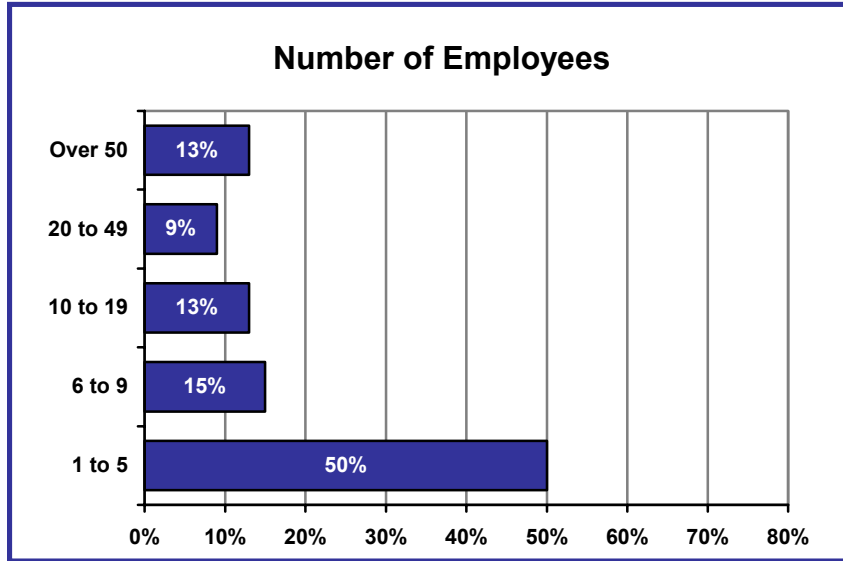


The primary market or markets that companies are most interested in further developing over the next three to five years includes:

- Natural resources, particularly in the mining or oil and gas industries;
- Renewable energy and sustainability;
- North American markets, particularly other parts of Canada;
- Internet products and network solutions; and
- The transportation industry.

5. Employment

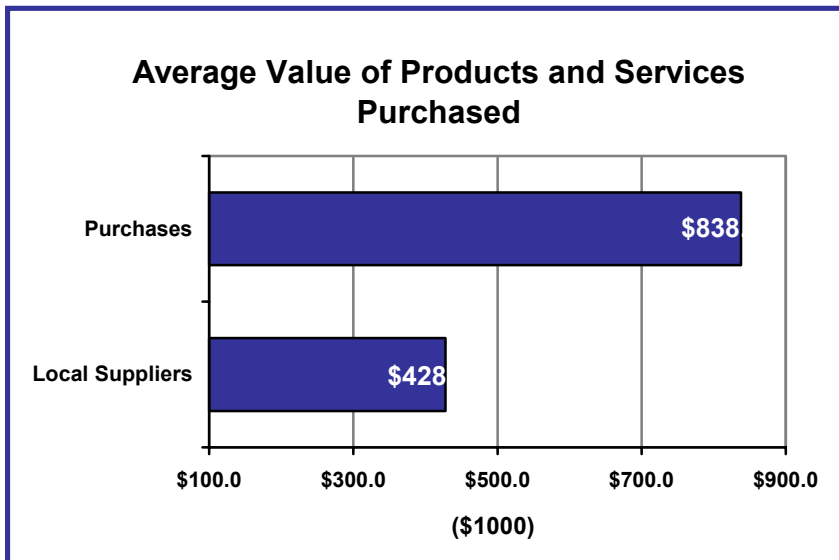
The companies currently employ an average of 24.1 employees. As indicated below, most of the companies have 5 or fewer employees.



The companies project that they will employ an average of 28.9 people in three years. Of the companies surveyed, 59% expect their employment levels to increase, 36% expect employment levels will remain the same, 4% project a decrease, and 2% did not provide an estimate of either current or projected employment.

6. Local Purchases

On average, the companies indicated that they purchase \$837,926 in goods and services annually, of which an average of 51% is purchased from companies located within 50 miles of their location.

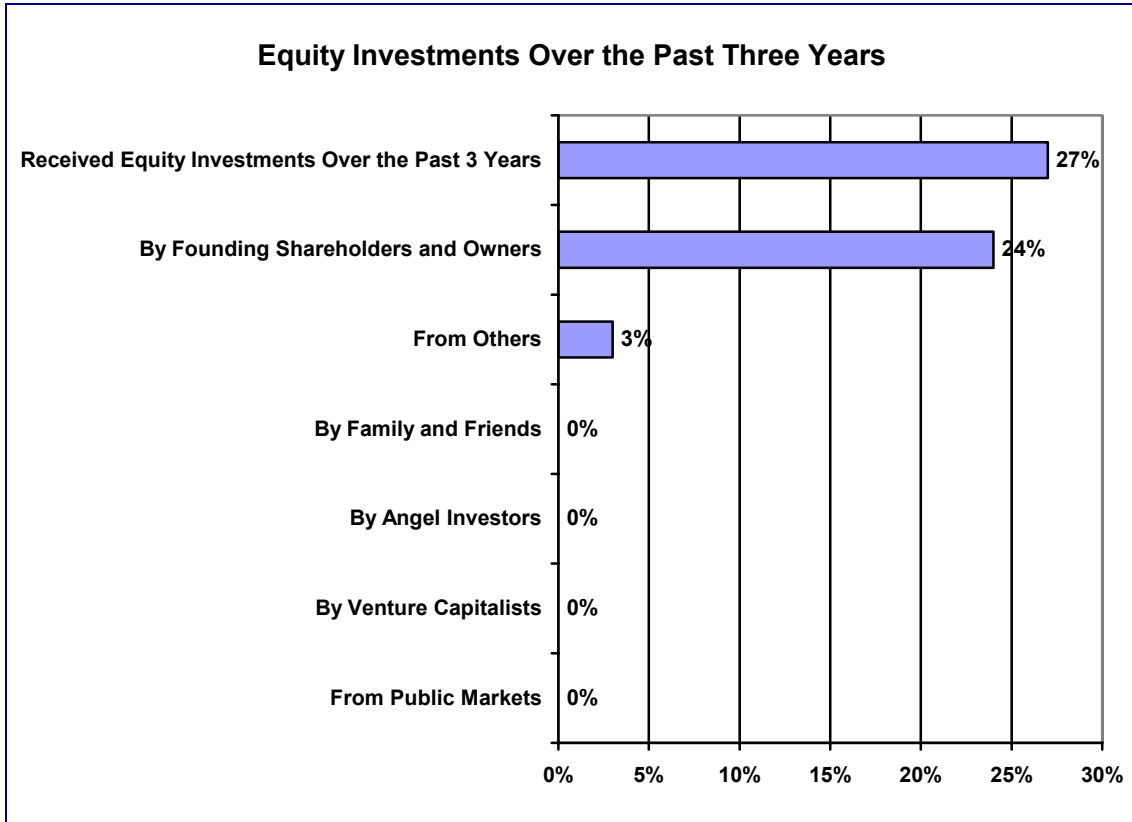


C. OTHER CHARACTERISTICS

The characteristics of the businesses surveyed in terms of recent equity investments, investment plans, research & development expenditures, and corporate guidance are summarized below.

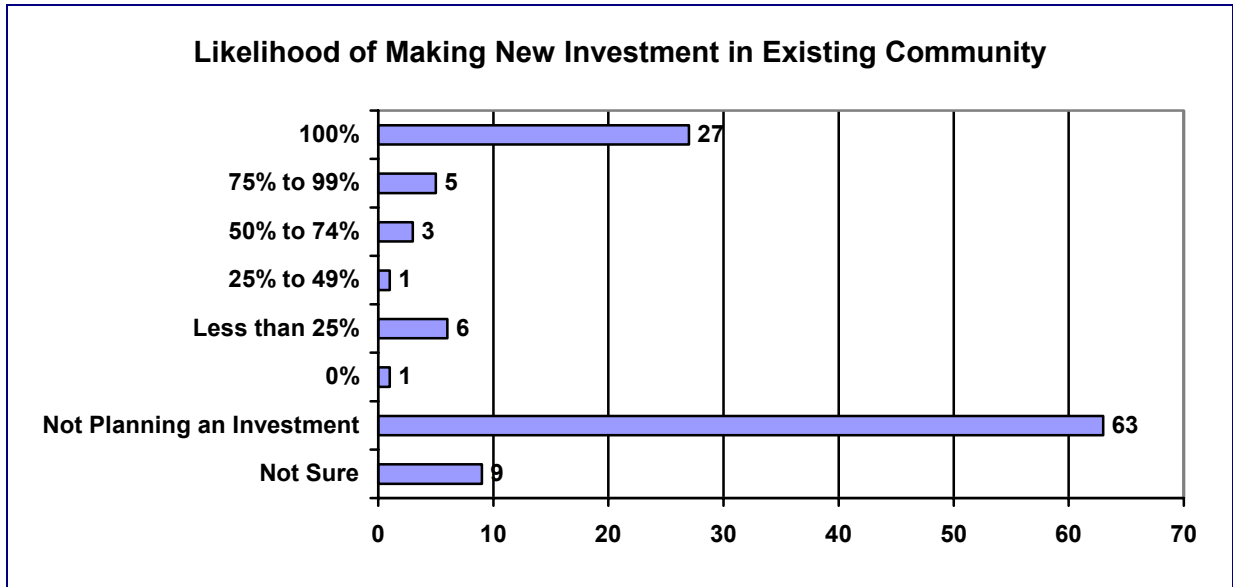
1. Equity Investments

Of the companies surveyed, 27% reported receiving new equity investments over the past few years from a variety of sources.



2. Investment Plans

Of the companies surveyed, 38% are planning to make new investments over the next three years of whom 23% are definitely planning to make these investments in their existing community or communities (a 100% likelihood).



3. Research & Development

Of the companies that were surveyed:

- 37% reported having invested in research and development over the past year;
- 28% reported the value of their investment. On average, these companies reported investments of \$151,000 in research and development over the past year. The median value was \$50,000. The largest companies, in terms of revenues, accounted for the vast majority of the reported R&D expenditures. On average, the R&D expenditures of the 33 companies reporting data represented only about 3% of their revenues or about 1% of revenues overall from operations in the IRC region;
- 15% have or are planning to claim an SR&ED tax credit for part or all of their expenditures.

4. Corporate Guidance

Of the companies that were surveyed:

- 32% reported having a Board of Directors that formally meets more than once per year;
- 10% reported having a Scientific or Technical Advisory Board;
- 26% reported using a mentor to provide assistance or guidance for future directions.

D. KEY ISSUES, COMPETITIVE POSITION AND RECOMMENDATIONS

The characteristics of the businesses surveyed in terms of revenues and employment are summarized below.

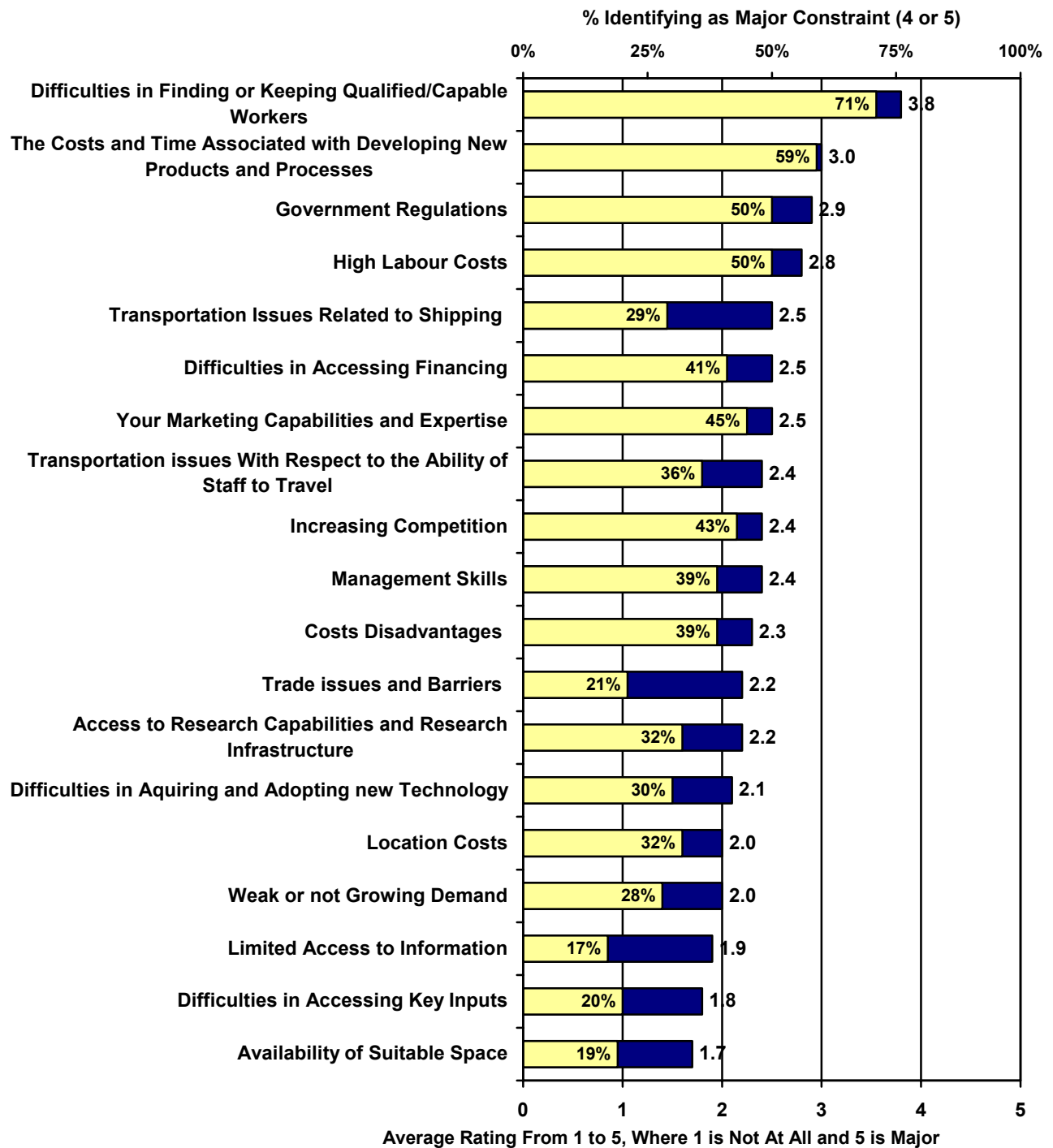
1. Key Issues

There are a variety of issues that may make it difficult for organizations to operate and grow. The respondents were asked to rate how important the following issues are to their business on a scale of 1 to 5, where 1 is not an issue for their business, 3 is somewhat of an issue, and 5 is a major issue in terms of its impact on their growth, operations and/or profitability:

- High labour costs
- Difficulties in accessing key inputs such as raw materials or supplies
- Their marketing capabilities and expertise in local and/or export markets
- Trade issues and barriers that make it difficult to export
- Limited access to information on local and export markets
- Costs disadvantages in comparison to their competition
- Difficulties in accessing the financing they need to expand and operate their business
- Difficulties in acquiring and adopting new technology that could help their business
- The costs and time associated with developing new products and processes
- Access to research capabilities and research infrastructure
- Their location costs (e.g. rents)
- Availability of suitable space
- Increasing competition
- Transportation issues related to shipping goods to their customers (e.g. road, rail, port, air)
- Transportation issues with respect to the ability of staff to travel to meet with clients and prospects
- Weak or not growing demand for products and services in their sector
- Management skills
- Government regulations
- Difficulties in finding or keeping qualified, capable workers

As indicated below, difficulties in finding or keeping qualified, capable workers, the costs and time associated with developing new products and processes, and government regulations were given the highest overall ratings.

Importance of Key Issues Facing the Businesses



As indicated, over 73% of the respondents rated difficulties in finding or keeping qualified, capable workers as a 3 or higher. Many of those who did not are small, one or two person firms. The companies who rated difficulties in finding or keeping qualified staff as a 3 or more were then asked:

- In terms of skilled workers, what will be the major needs for your company looking out over the next 3 to 5 years?
- What are the major factors that contribute to a shortage of workers (e.g. limited number of graduates in key programs, overall low levels of unemployment, competition from other regions, etc.)?

The most common responses regarding future needs for skilled workers included:

- Trades people with the technical skills needed to work in forestry, mills, welding, electricity, and transportation (identified by 34 respondents);
- People with professional business skills particularly in marketing, sales, management and entrepreneurship (26 respondents);
- Computer technologists with experience in software development, computer programming and natural resources technology (identified by 30 respondents);
- Engineers with specializations in reliability, civil, and mechanical engineering (16 respondents); and
- People with applied science degrees in biology, forestry, or physics (identified by 12 respondents).

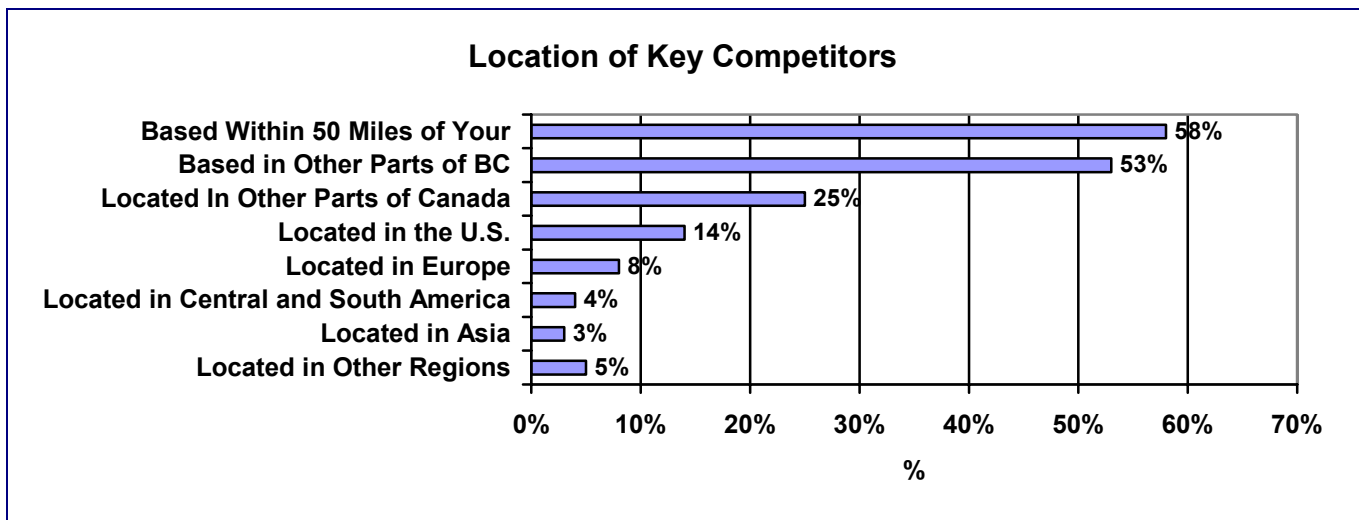
Some of the major factors that contribute to a shortage of workers include:

- Under-qualified workers that lack the necessary skills, education, and training needed by employers (identified by 21 respondents);
- The limited appeal of smaller communities, which means that few people want to relocate here for work particularly if the cost of living is higher, in conjunction with a lack of local educational institutions or training and apprenticeship programs (17 respondents);
- Competition from other employers, particularly the government and large companies, offering better salaries and more attractive benefits (identified by 16 respondents);
- Social and economic issues associated with a booming economy, such as strong demand for workers all over Canada and an increasing cost of living coupled with a poor work ethic and misconceptions about physical labour (identified by 9 respondents);
- The draw of workers to Alberta due to their strong economy and surplus of job opportunities, particularly in the mining or oil and gas sector (9 respondents);
- High pay scales make it difficult for small companies to compete with the wages offered in other parts of Canada and graduates have come to demand high wages to start (7 respondents);
- A limited local supply of skilled workers, which means that it is difficult for companies to find the skill sets they need in workers both in terms of education and experience (7 respondents);

- Low unemployment levels and not enough people in the area to fill positions (7 respondents);
- Limited number of graduates in key programs due to a lack of local educational opportunities (5 respondents);
- Internal company issues, which means that businesses that cater to niche markets find it hard to find the appropriate staff to train (identified by 2 respondents); and
- An aging population resulting in a workforce that is currently and will be retiring in the near future (2 respondents).

2. Key Competitors

When asked to identify where their major competitors are based, the companies most commonly identified their major competitors as being located within 50 miles of their location as well as throughout BC.



3. Relative Competitive Position of the Region

When asked to identify the competitive advantages of being located in this region, the companies most commonly identified:

- Proximity to key clients, markets, and materials particularly in terms of ready access to Northern BC and the proximity to resource-based clients and materials (identified by 40 respondents);
- Being a local company, which means the businesses enjoy client loyalty and community support as well as an understanding of local needs (21 respondents);
- Low overhead due to factors such as low rents, low housing costs, high traffic accessibility, and being a very small business which also allows for lower prices (15 respondents);
- Relatively little or no local competition (13 respondents);
- The strong reputation and high level of awareness of their company within the region (12

respondents);

- Local development in the area, a booming natural resources and construction industry and the availability of nearby facilities (7 respondents);
- The quality of life in this region, with a lifestyle and location that suited respondents needs (6 respondents);
- No benefit as the companies felt they could be successful regardless of location (3 respondents); and
- Good labour pool due to the availability of cheap local labour and nearby graduates from the University of Northern BC (2 respondents).

4. Competitive Strengths of the Business

When asked to identify the competitive strengths of their business, the companies most commonly identified:

- Their depth of knowledge, specialized expertise and experience in their field (identified by 21 respondents);
- The level of customer service they provide in conjunction with their exclusive capabilities and ability to respond in a timely matter or provide on-site services (identified by 19 respondents);
- An innovative product and their size which gives them the flexibility and mobility to adapt to current markets while providing a variety of services or products (identified by 17 respondents);
- The quality of the product or service they provide, local consumer confidence and a strong reputation in the community (identified by 15 respondents);
- Provide a niche product or service in a market with relatively little or no competition (13 respondents);
- A specialized set of skills, knowledge and education in their particular field (11 respondents);
- Strong local presence and connections within the community (11 respondents);
- A highly trained and skilled staff who are friendly, knowledgeable, and professional (9 respondents);
- A competitively priced product due to low overhead and strong buying power (9 respondents);
- Active, hands-on approach by both owners and managers coupled with a strong vision for the future (4 respondents);
- A strong, diverse, and loyal client base (4 respondents);
- The reputation and history of the company within the community (4 respondents);
- An advanced and specialized technology which exceeds that of their competitors (4 respondents); and

- A highly unique and rare product or service (identified by 3 respondents).

5. Recommended Actions

The companies were asked to recommend what actions should be undertaken by the IRC, government and others to promote development of technology-related companies in the region. The most common recommendations were:

- Increase accessibility to local apprenticeship programs, training, and co-op programs. Students must leave this region to get proper training and they often do not return. Moreover, information sessions should be held where students can learn about the fields of employment where workers are most needed, in particular the natural resources industry. Provide incentives to small companies who train employees and ensure the proper certifications are being given to technicians (identified by 30 respondents);
- Increase and enhance government funding and support for the IRC, the natural resources industry, and small businesses. Ensure the Mountain Pine Beetle issue is handled with a future of forestry in mind while preparing companies to branch out into other markets and increase tax breaks (21 respondents);
- Reduce the level of red tape and bureaucracy imposed by government on business owners by streamlining trade regulations and application procedures for financing or tax credits. Loosen government spending and encourage government offices to purchase locally (9 respondents);
- Build up the population in the region by making it more attractive for people to settle there and offering incentives or Northern living allowances (6 respondents);
- Encourage and promote sustainable practices throughout the province, in the government, and in various industries while addressing the Mountain Pine Beetle issue and developing more regulatory environmental procedures (6 respondents);
- Facilitate the development of a business community through group and marketing events to create opportunities for partnerships, networking and collaborations and work to build a business and technology infrastructure in the region (8 respondents);
- Improve the surrounding infrastructure with particular respect to transportation such as international airlines, shipping, ports, and roads as well as hospitals (5 respondents);
- Regulate the activities of large corporations in the area to ensure they do not monopolize markets and put small companies out of business, particularly in the forestry sector (4 respondents);
- Provide specialty programs for small businesses including grants and small business tax credits (3 respondents); and
- Increase the number of trade shows in the area (1 respondent).

F. SURVEY RESULTS BY COMMUNITY

To develop a deeper understanding of the survey results, we cross-tabulated the responses by the four largest communities in the region including: Prince George, Quesnel, Mackenzie, and Vanderhoof. Care should be taken in interpreting the results given the small size associated with most of the communities. That being said, there are a few patterns. Mackenzie and Vanderhoof were most likely to have their head offices in their community while Prince George and Mackenzie were the only regions where companies reported revenues greater than \$5 million.

Access to research facilities and the costs and time associated with developing new products or processes was rated nearly twice as difficult for companies in Vanderhoof. Prince George and Quesnel reported greater sales in the natural resources industry while Mackenzie reported 100% of their sales to the construction industry. Businesses in Vanderhoof had the highest average growth over the past year (14%) and they also expected the greatest growth over the next three years (25%).

Key Issue	Prince George	Quesnel	Mackenzie	Vanderhoof
Characteristics				
Number of Respondents	86	10	6	4
Average Years in Operation	21	11	9	18
Percent With Head Office in Region	85%	90%	100%	100%
Revenues				
Under \$250,000	29%	30%	83%	25%
\$250,000 to \$1 Million	26%	50%	0%	0%
\$1 Million to \$5 Million	28%	20%	0%	75%
Over \$5 Million	16%	0%	17%	0%
Average Ratings				
High labour costs	2.8	3.3	1.6	3.0
Difficulties in accessing key inputs such as raw materials or supplies)	1.9	1.2	2.0	2.0
Your marketing capabilities and expertise in local and/or export markets	2.6	2.3	3.0	2.3
Trade issues and barriers that make it difficult to export	2.1	2.5	2.3	3.3
Limited access to information on local and export markets	2.0	1.8	2.3	2.7
Costs disadvantages in comparison to your competition	2.2	2.5	2.5	2.0
Difficulties in accessing the financing you need to expand and operate your business	2.3	3.7	2.7	3.0
Difficulties in acquiring and adopting new technology that could help your business	2.0	2.3	2.5	1.8
The costs and time associated with developing new products and processes	2.9	3.8	3.0	4.3
Access to research capabilities and research infrastructure	2.2	2.1	2.4	3.5
Your occupancy costs (e.g. rents, taxes and utilities)	2.1	2.2	1.8	1.0
Availability of suitable space and facilities for your business	1.7	1.8	1.7	1.0
Increasing competition	2.5	2.4	1.7	1.5

Key Issue	Prince George	Quesnel	Mackenzie	Vanderhoof
Transportation issues related to shipping goods to your customers (e.g. road, rail, port, air)	2.2	2.2	3.0	2.8
Transportation issues with respect to the ability of staff to travel to meet with clients and prospects	2.3	1.9	3.5	2.5
Weak or not growing demand for products and services in your sector	2.1	1.1	2.5	2.3
Management skills	2.4	2.6	2.2	2.0
Government regulations	2.9	3.3	2.4	4.3
Difficulties in finding or keeping qualified, capable workers	3.8	4.0	3.0	4.5
Investment Plans				
Percent planning new investment	40%	40%	17%	25%
Likelihood that the investment will be made in the existing community	78%	67%	0%	97%
Revenues by Selected Sectors				
Natural Resources Industry	61%	79%	0%	54%
Construction	5%	3%	100%	0%
Service	4%	6%	0%	1%
Government	3%	3%	0%	0%
Other	17%	9%	0%	45%
Average Growth in Sales				
Total Past Year	8%	14%	0%	14%
Next 3 Years	18%	17%	0%	22%
Research and Development				
Percent Invested in R&D	37%	40%	33%	50%
Percent Claiming SR&ED	15%	10%	0%	25%

G. SURVEY RESULTS BY SIZE OF COMPANY

We also cross-tabulated the responses by four revenue categories including companies with revenues less than \$250,000, those with revenues between \$250,000 to \$1 million, those with revenues between \$1 million and \$5 million, and those with revenues over \$5 million. As indicated below, large companies are more likely to have been in operation for longer, and to have invested in research and development. Small companies are more likely to have their head office in the region and to be expecting larger growth over the next three years.

Key Issue	Under \$250,000	\$250,000 to \$1 Million	\$1 Million to \$5 Million	Over \$5 Million
Characteristics				
Number of Respondents	39	31	29	16
Average Years in Operation	9	11	30	35

Key Issue	Under \$250,000	\$250,000 to \$1 Million	\$1 Million to \$5 Million	Over \$5 Million
Percent With Head Office in Region	92%	97%	72%	75%
Average Ratings				
High labour costs	2.0	3.3	3.0	3.2
Difficulties in accessing key inputs such as raw materials or supplies)	1.7	1.7	1.7	2.1
Your marketing capabilities and expertise in local and/or export markets	2.3	2.6	2.9	2.3
Trade issues and barriers that make it difficult to export	1.6	2.3	2.3	2.7
Limited access to information on local and export markets	2.0	2.1	2.3	1.9
Costs disadvantages in comparison to your competition	2.7	2.7	2.3	2.1
Difficulties in accessing the financing you need to expand and operate your business	2.3	3.1	2.0	1.9
Difficulties in acquiring and adopting new technology that could help your business	3.0	2.1	1.9	1.9
The costs and time associated with developing new products and processes	3.1	3.0	3.1	2.8
Access to research capabilities and research infrastructure	2.1	2.3	2.4	2.1
Your occupancy costs (e.g. rents, taxes and utilities)	1.8	2.2	2.2	2.1
Availability of suitable space and facilities for your business	1.6	2.0	1.6	1.8
Increasing competition	2.1	2.6	2.5	2.4
Transportation issues related to shipping goods to your customers (e.g. road, rail, port, air)	2.6	2.7	2.2	2.4
Transportation issues with respect to the ability of staff to travel to meet with clients and prospects	2.3	2.2	2.5	2.5
Weak or not growing demand for products and services in your sector	1.5	1.7	2.5	2.7
Management skills	1.9	2.4	2.5	3.1
Government regulations	2.7	2.9	2.7	3.6
Difficulties in finding or keeping qualified, capable workers	3.4	4.0	3.6	4.2
Investment Plans				
Percent planning new investment	44%	32%	28%	56%
Likelihood that the investment will be made in the existing community	81%	85%	71%	77%
Revenues by Sector				
Natural Resources Industry	50%	52%	62%	41%
Construction	7%	3%	10%	40%

Key Issue	Under \$250,000	\$250,000 to \$1 Million	\$1 Million to \$5 Million	Over \$5 Million
Service	8%	17%	2%	2%
Government	3%	8%	6%	1%
Other	32%	20%	20%	16%
Average Growth in Sales				
Total Past Year	16%	14%	13%	4%
Next 3 Years	23%	19%	9%	12%
Research and Development				
Percent Invested in R&D	31%	32%	48%	50%
Percent Claiming SR&ED	8%	13%	24%	19%

H. SURVEY RESULTS BY SECTOR

We cross-tabulated the responses from the four largest sectors including software, web design, web hosting and information technology, natural resources technology, engineering, and environmental technology. Amongst the companies we surveyed, the software, web design and information technology sector were more likely to have their head office in the region, to have been in operation for a shorter time, and to report sales under \$250,000. The engineering sector reported the greatest growth in terms of revenues over the past year while the environmental technology sector was most likely to have invested in research and development.

Key Issue	Software, Web Design, IT	Natural Resources Technology	Engineering	Environmental Technology
Characteristics				
Number of Respondents	40	33	22	13
Average Years in Operation	10	18	27	16
Percent With Head Office in Region	93%	88%	73%	85%
Revenues				
Under \$250,000	50%	24%	23%	23%
\$250,000 to \$1 Million	28%	21%	32%	46%
\$1 Million to \$5 Million	20%	33%	23%	15%
Over \$5 Million	3%	21%	18%	15%
Average Ratings				
High labour costs	2.6	3.1	3.1	3.3
Difficulties in accessing key inputs such as raw materials or supplies)	1.6	2.0	1.9	2.0
Your marketing capabilities and expertise in local and/or export markets	2.6	2.7	2.3	2.8
Trade issues and barriers that make it difficult to export	1.7	2.7	1.8	2.8
Limited access to information on local and export markets	1.8	2.1	2.1	2.3
Costs disadvantages in comparison to	2.4	2.2	1.9	2.8

Key Issue	Software, Web Design, IT	Natural Resources Technology	Engineering	Environmental Technology
your competition				
Difficulties in accessing the financing you need to expand and operate your business	2.6	2.6	2.4	2.9
Difficulties in acquiring and adopting new technology that could help your business	2.1	2.2	2.2	2.0
The costs and time associated with developing new products and processes	3.2	3.1	2.7	3.5
Access to research capabilities and research infrastructure	2.5	2.5	1.7	2.4
Your occupancy costs (e.g. rents, taxes and utilities)	2.2	2.1	1.7	2.0
Availability of suitable space and facilities for your business	1.9	1.6	1.8	2.0
Increasing competition	2.5	2.2	2.5	2.4
Transportation issues related to shipping goods to your customers (e.g. road, rail, port, air)	2.4	2.7	2.8	1.7
Transportation issues with respect to the ability of staff to travel to meet with clients and prospects	2.3	2.3	2.5	2.3
Weak or not growing demand for products and services in your sector	1.8	1.9	1.9	1.8
Management skills	2.3	2.4	2.7	3.2
Government regulations	2.3	3.4	2.8	3.1
Difficulties in finding or keeping qualified, capable workers	3.4	3.8	4.4	4.3
Investment Plans				
Percent planning new investment	38%	37%	45%	62%
Likelihood that the investment will be made in the existing community	78%	90%	64%	87%
Revenues by Sector				
Natural Resources Industry	53%	34%	78%	96%
Construction	10%	47%	6%	0%
Service	14%	0%	1%	3%
Government	7%	0%	7%	0%
Other	16%	19%	8%	1%
Average Growth in Sales				
Total Past Year	12%	2%	31%	8%
Next 3 Years	14%	14%	9%	3%
Research and Development				
Percent Invested in R&D Development	35%	33%	45%	54%
Percent Claiming SR&ED	8%	21%	14%	23%

III. SUMMARY OF THE INVENTORY

The following tables summarize the characteristics of companies confirmed as active in the inventory list.

A. NUMBER OF COMPANIES

The inventory contains information on 287 companies, of which 239 are believed to still be active.

Number of Companies

Number of Companies	
Initial Number of Companies in the Inventory	287
Not in Business/Number Not in Service	48
Could Not Be Reached	91
Number of Active Companies	239

B. EMPLOYMENT

Based on information we obtained directly from the companies, secondary sources, and an extrapolation based on the survey results, we estimate that the 239 companies employ approximately 3,714 people.

Estimated Aggregate Employment

Employment		
Source	Companies	Employment
Confirmed	116	2,731
Secondary or Estimate	10	328
Subtotal	126	3,059
Extrapolated	113	655
Total	239	3,714

In extrapolating the survey results, we used the average employment and revenue data reported by the companies we were able to reach. However, we assumed that we were able to capture the largest companies in the region either through our survey or through secondary sources of information and therefore excluded the largest companies in calculating these averages.

The sample includes a small number of larger resource companies that derive the majority of their revenues from the sale of primary products. These companies would not normally be classified as

technology companies. After excluding these companies, we estimate that the other technology companies in the inventory employ about 2,000 people.

C. REVENUES

We estimate that these companies generate approximately \$730 million in revenues annually.

Estimated Aggregate Revenues

Employment		
Source	Companies	Revenues (in millions)
Confirmed	116	\$565.3
Secondary or Estimate	9	\$57.8
Subtotal	125	\$623.1
Extrapolated	114	\$106.9
Total	239	\$730.0

After excluding the larger resource companies that would not normally be classified as technology companies, we estimate that the other companies in the inventory generate about \$440 million in revenues annually.

COPY OF THE TELEPHONE QUESTIONNAIRE

INVENTORY OF REGIONAL BUSINESSES

Hello, my name is _____ and I'm with Ference Weicker & Company, a management consulting firm. We are working with (*name of regional BCRSTN organization*) to develop an inventory of companies in your region that are involved to varying degrees in the technology industry? You should have received an e-mail or fax from (*name of regional BCRSTN organization*) recently about the project. Do you recall receiving that?

(*if doesn't recall, explain the project*) We need you to answer some questions that will help us to demonstrate the economic significance of the technology sector in your region and provide the foundation for preparing strategies to support the further growth and development of companies such as yours. I can go through the questionnaire with you right now if you have a few minutes. If not, can we set up another time or do you want to complete it online (www.bctech.ca)? (if requires another letter) Can I confirm (get) your contact information (use the form below)?

A. COMPANY INFORMATION

First, I'd like to confirm your contact information:

Name of the Business	
Address	
Phone Number	
Fax Number	
Key Contact Person	
E-mail	
Website Address	
Number of Employees	

B. DESCRIPTION OF YOUR COMPANY

1. What sector or sectors would you describe your business as being in:

<input type="checkbox"/> Software, Web Design, Web Hosting, or Information Technology <input type="checkbox"/> Telecommunications or Wireless Technology <input type="checkbox"/> Life Sciences, Biotechnology, or Medical Devices <input type="checkbox"/> New Media <input type="checkbox"/> Semiconductors <input type="checkbox"/> Ocean Sciences and Marine Technology <input type="checkbox"/> Food, Nutraceuticals, or Aquaculture <input type="checkbox"/> Natural Resources Technology	<input type="checkbox"/> Electronics and Peripherals <input type="checkbox"/> Advanced Manufacturing <input type="checkbox"/> Aerospace <input type="checkbox"/> Energy Technology <input type="checkbox"/> Engineering <input type="checkbox"/> Environmental Technology <input type="checkbox"/> Services <input type="checkbox"/> Other
What are your major products and services? <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>	

2. What year was your business started? _____ Year

2a. In what region or regions is your business located in BC? _____

2b. In what community is your head office located? _____ Location

3. How many locations does your business have outside of the greater Vancouver area?
 _____ Number of locations

3a. (if more than one location) We will be asking you a series of questions about employment and revenues. For these questions, you have the option of answering for one location only or for all of your locations outside of the Lower Mainland. Will you be answering for:

- _____ One location only
- _____ All of your locations outside of the Lower Mainland
- _____ You have only one location
- _____ Other (_____)

4. Approximately how many employees do you have at this (these) location(s)?
 _____ Number of employees

5. In order to assess the economic impact of technology-related businesses outside of the Lower Mainland, we would like to get an indication of your revenues. This information will be kept confidential. For the last fiscal year, were your revenues at this (these) location(s):

- | | | | |
|-------|----------------------------|-------|------------------------------|
| _____ | Under \$50,000 | _____ | \$5 million to \$10 million |
| _____ | \$50,000 to \$100,000 | _____ | \$10 million to \$20 million |
| _____ | \$100,000 to \$250,000 | _____ | \$20 million to \$30 million |
| _____ | \$250,000 to \$500,000 | _____ | \$30 million to \$40 million |
| _____ | \$500,000 to \$1 million | _____ | \$40 million to \$50 million |
| _____ | \$1 million to \$3 million | _____ | \$50 million to \$75 million |
| _____ | \$3 million to \$5 million | _____ | Over \$75 million |

6. Approximately what percentage of the revenues from operations in this region are generated from sales to customers based in the following regions and following sectors:

Region	% of Sales
In BC	%
The rest of Canada	%
The United States	%
Mexico	%
Europe	%
Asia	%
Other Regions	%
Total	100%

Sector	% of Sales
Natural resources industry	%
(other) Manufacturing	%
Construction	%
Transportation	%
Service sector	%
Retail trade and end consumers	%
Government	%
Other	%
	100%

6a. What market or markets are you most interested in further developing over the next 3 to 5 years? _____

7. Over the past year, have your revenues:

- _____ Increased?
- _____ Decreased?
- _____ Remained the same?
- _____ Other (_____)

7a. (If increased or decreased) By what percent?

_____ % Percent change over the past year

8. Over the next three years, do you expect that your revenues will:

- _____ Increase?
- _____ Decrease?
- _____ Remain the same?
- _____ Other (_____)

8a. (If will increase or decrease) By an average of what percent per year?

_____ % Percent change per year

8b. How many employees do you expect that you will have in this region in three years?

_____ Projected number of employees

9. Approximately how much do you spend annually buying products and services from other businesses?

\$ _____ Purchase of products and services

9a. Approximately, what percent of this amount is purchased from suppliers located within 100 miles of your location(s)?

_____ % Percent spent locally

10. Over the past three years, have there been new equity investments in this business?

_____ Yes _____ No _____ Other

10a. (if yes) Were these investments provided by:

- Founding shareholders and owners?
- Family and friends?
- Angel investors?
- Venture capitalists?
- Public markets?
- Others?

11. Is the business planning to make significant new investments over the next three years?

Yes No Other

11a. (if yes) How likely is it that your business will make these investments in your existing community or communities?

% Percentage Likelihood

12. Over the past year, has the business invested in research and development activities?

Yes No Other

12a. Approximately how much have you invested?

\$ R&D expenditures

12b. Have you or will you be claiming an SR&ED tax credit for part or all of these expenditures?

Yes No Other

C. KEY ISSUES FACING YOUR BUSINESS

1. We would like to find out about some of the issues that may make it difficult for you to operate and grow your business. We would like you to rate how important the following issues are for your business on a scale of 1 to 5, where 1 is not an issue for your business, 3 is somewhat of an issue, and 5 is a major issue for your business in terms of its impact on your growth, operations and/or profitability.

Factor or Issue		Rating of Issues on a Scale of 1 to 5					
		Not At All		Somewhat		Major	
		1	2	3	4	5	n/a
a	High labour costs	1	2	3	4	5	n/a
b	Difficulties in accessing key inputs such as raw materials or supplies)	1	2	3	4	5	n/a
c	Your marketing capabilities and expertise in local and/or export markets	1	2	3	4	5	n/a

Factor or Issue		Rating of Issues on a Scale of 1 to 5					
		Not At All		Somewhat		Major	
		1	2	3	4	5	n/a
d	Trade issues and barriers that make it difficult to export	1	2	3	4	5	n/a
e	Limited access to information on local and export markets	1	2	3	4	5	n/a
f	Costs disadvantages in comparison to your competition	1	2	3	4	5	n/a
g	Difficulties in accessing the financing you need to expand and operate your business	1	2	3	4	5	n/a
h	Difficulties in acquiring and adopting new technology that could help your business	1	2	3	4	5	n/a
i	The costs and time associated with developing new products and processes	1	2	3	4	5	n/a
j	Access to research capabilities and research infrastructure	1	2	3	4	5	n/a
k	Your location costs (e.g. rents)	1	2	3	4	5	n/a
l	Availability of suitable space	1	2	3	4	5	n/a
m	Increasing competition	1	2	3	4	5	n/a
n	Transportation issues related to shipping goods to your customers (e.g. road, rail, port, air)	1	2	3	4	5	n/a
o	Transportation issues with respect to the ability of staff to travel to meet with clients and prospects	1	2	3	4	5	n/a
p	Weak or not growing demand for products and services in your sector	1	2	3	4	5	n/a
q	Management skills	1	2	3	4	5	n/a
r	Government regulations	1	2	3	4	5	n/a
s	Difficulties in finding or keeping qualified, capable workers	1	2	3	4	5	n/a
<p>(if 3 or more) In terms of skilled workers, what will be the major needs for your company looking out over the next 3 to 5 years?</p>							
<p>(if 3 or more) What are the major factors that contribute to a shortage of workers (e.g. limited number of graduates in key programs, overall low levels of unemployment, competition from other regions, etc.)</p>							

2. Does the company:

- Have a Board of Directors that formally meets more than once per year?
- Have a Scientific or Technical Advisory Board?
- Use a mentor(s) to provide assistance or guidance for future directions?

3. Would you say that your major competitors are (check all that apply):

- Based within 50 miles of your business
- Based in other parts of BC
- Located outside in other parts of Canada
- Located in the United States
- Located in Europe
- Located in Central and South America
- Located in Asia
- Located in other regions

4. What would you say are the major competitive advantages for your business of being located in this region? _____

5. (apart from location) What would you say are the major competitive strengths of your business? _____

6. Given the issues that you have identified, what if any actions do you think could be undertaken by the (name of regional BCRSTN organization), government and others to promote development of technology-related companies in your region? _____

7. Does your business have operations in BC, outside of the lower mainland that you have not included in your responses?

_____ Yes _____ No _____ Other

7a. (if yes) What other regions of BC do you have operations in? _____

7b. Who do you recommend that we contact to find out more about your operations in these other regions?

Location	Contact Person	Telephone Number

8. Do you have any recommendations regarding other companies who we should include in our inventory?

Company	Contact Person	Telephone Number

THANK YOU FOR YOUR PARTICIPATION