

PROSPECTS FOR A SATELLITE ENGINEERING OFFICE IN A REMOTE COMMUNITY

by

Ian Nesbit

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APPROVAL

Name: Ian Nesbit

Degree: Master of Business Administration

Title of Project: Prospects for a Satellite Engineering Office in a Remote Community

Supervisory Committee:

Dr. Mark Selman
Senior Supervisor
Executive Director
Learning Strategies Group
Faculty of Business Administration

Dr. Michael Parent
Second Reader
Associate Professor
Faculty of Business Administration

Date Approved:

August 8, 2005

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ABSTRACT

An established engineering office needs to consistently monitor usual business measures such as financial analysis, revenue capture and employment opportunities to be sure that the operation is on the right track. Other areas that should be evaluated as part of an ongoing commitment are: community values, long-term relationships, and internal and external corporate culture. Without this evaluation Earth Tech runs the risk of not being able match their resources to meet the customer requirements and deliver effective solutions.

Other areas that should be evaluated as part of an ongoing commitment are: community values, long-term relationships, and both internal and external corporate culture, to determine if there is a fit over the long term.

This paper reviews the intangible aspects of business and discusses their relevance when conducting business in a remote community. It presents some of the issues that are of concern at present, evaluates how previous events, decisions, and past actions may have conspired to create these circumstances, and suggests actions or guidelines for future operations.

DEDICATION

To Donna: Thanks for being there.

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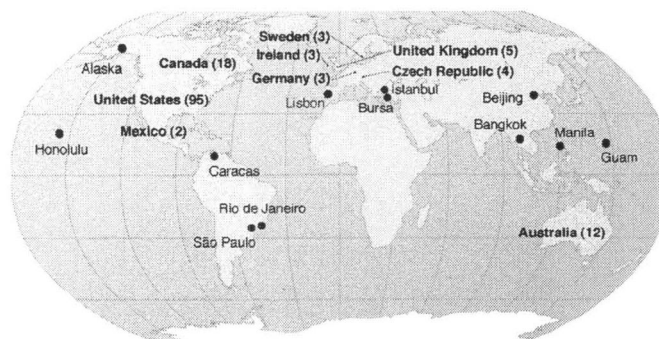
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1 INTRODUCTION

1.1 Company Overview

Earth Tech, Inc. is an industry leader and global provider of engineering, construction, environmental, infrastructure development, and facility operation services to meet the varied needs of government and industrial clients. Founded in 1970, Earth Tech has gained a legacy of expertise that dates back more than 100 years through a series of strategic acquisitions and mergers completed over the past decade. Earth Tech has 9,000 professional and support personnel in over 200 offices worldwide, and current revenues approach \$ 1.6 billion annually. Technical excellence, depth of resources, financial strength, global presence, and customer focus form the basis of reputation for providing responsive, high-quality, and innovative services, and through strategic focus in target markets and a commitment to customer service, Earth Tech has steadily expanded its service capabilities, geographic presence, and client base.

Figure 1.1 Earth Tech Global Office Locations



Source: Earth Tech

1.1.1 Financial Strength

In 1996, Earth Tech became a wholly owned subsidiary of Tyco International Ltd. Tyco is a publicly traded worldwide manufacturing and services corporation with \$ 40.2 billion in revenues (FY2004). Tyco provides Earth Tech with significant bonding capacity, access to an international network of companies, and the financial backing for project financing and strategic acquisitions. Earth Tech has a financial strength available to few companies, being the most highly capitalised engineering firm in Canada and the United States. Due to this financial strength and size, Earth Tech can offer clients a partnership in planning and executing projects. At its very core, the concept of partnering aims to lessen the client's burden of project execution, allowing them to focus on their principal line of business.

2 EARTH TECH (CANADA) INC.

2.1 Background

During the period from 1998 to 2001, Earth Tech embarked upon a series of acquisitions and mergers within domestic USA and internationally. Investment in the Canadian market was undertaken by acquiring two established and successful multi-disciplined consulting engineering firms, Proctor and Redfern in Eastern Canada, and Reid Crowther & Partners Ltd, in Western Canada. The acquisitions were undertaken over a very short period of time and the integration of Earth Tech (Canada) Inc. was completed in 2000. The Canadian operations encompassed over 1,200 professional and support personnel in 19 regional offices across Canada.

2.2 Company Comparison

2.2.1 Reid Crowther & Partners Ltd (RCPL)

Prior to the acquisition in 2000, Reid Crowther & Partners Ltd (RCPL) was an independent consulting engineering company specializing in industrial, environmental, transportation, municipal infrastructure, and building engineering. The firm was established dated back to 1906 and the professional and corporate development that followed spanned the history of consulting engineering in Canada. The company

employed more than 900 people, and served the Canadian and International markets from 11 domestic offices and 5 international offices. RCPL was a private entity with 100% of the ownership of the company being held by 130 of the employees that worked in the firm on a daily basis. The British Columbia operation was divided into four divisions: Water, Environment, Industrial, and Buildings/Transportation. The geographical representation of the divisions was spread over four office locations: Kelowna, Kitimat, Vancouver and Victoria. The mission statement of RCPL was:

“To become an engineering consultant that is highly regarded throughout the world for our innovative approach. With motivated staff, we will exceed the expectations of our clients and make a positive difference to the quality of life wherever we operate.”

The focus of the Industrial group and the Kitimat office was to forge relationships with clients that would through time foster into partnerships.

2.2.2 Earth Tech Western Canada

The financial results of Earth Tech (Canada) Inc are reported through Tyco Engineered Products and Services. Following the formation of Earth Tech (Canada) Inc, the new direction was to cut costs, increase profitability and maintain existing relationships.¹ The focus on maintaining existing relationships, both internal and external, was high given that there are always uncertainties following a takeover and both

¹ The parent company TYCO is headquartered and registered in Bermuda. It is a publicly traded company listed on the New York Stock Exchange and Bermuda Stock Exchange under the ticker symbol TYC.

clients and the marketplace had to establish a level of confidence that the acquisitions would be successful.

The mission statement following the takeover was:

“To provide quality performance and service excellence such that our clients; need not look elsewhere for any service we provide, recognise in us the ability, willingness and agility to adapt to their changing needs, recognise that our financial strength and profitability are a reflection of our service excellence and fiscal discipline, and receive the full advantage of our global resources, but with local focus.”

3 OPERATIONAL ISSUES

Companies continually face operational issues and challenges that must be addressed. These issues may have been caused by the current situation, demographics or past circumstances. In the case of a satellite office, some of the challenges are restricted resources and limited supply chain. Management has to apply a different method of approach to overcome these challenges as the resultant effects of the solution can have a major impact on operations and may not be so easily reversed. This chapter will give a brief overview of some of the problems that the Kitimat office has to face.

3.1 Geographic Location

Kitimat is situated in northern British Columbia and although very scenic, it is also relatively remote and does not have the infrastructure of urban areas; therefore, the residents have to endure limited commuter services, sparse consumer stores and a circuitous road network. The most practical form of travel is by air, and increased competition has led to more frequent flights and competitive prices; however, difficulties can still arise during winter months, as flights are not always guaranteed to land. The inclement weather, in combination with low community investment and lack of incentives by the municipality to attract new business have in part been responsible for the steady decline in population, which has been demonstrated by family relocations and retirees deciding to uproot and invest elsewhere.

3.2 Staffing Issues

As stated above, the location and limited services make it increasingly difficult to attract or retain employees. One of the key factors that restrict potential candidates from relocating to Kitimat is the unwillingness of their spouses or partners to resign from their current position to seek limited employment in the Pacific Northwest. The other factor is that the very nature of consulting itself does not always guarantee long-term employment.

The Kitimat office was established in 1996 with a core group of three. Over the course of the last nine years, the number of resident permanent staff reached a maximum of ten and the present number employed is five. The staff turnover during the nine-year period has been due to retirement, spousal transfers, or where a member of staff has been seconded to a client for an extended period of months and subsequently decided to join the client organisation. Staff from other offices have been seconded or rotated to Kitimat to provide project assistance, however none have stayed longer than the duration of the project.

3.2.1 Staff Mix

Due to the remoteness and travel complexity, the staff mix tends to be determined by the quality of personnel who reside in the local area; however, this may not necessarily be the desirable staff mix to support client and or project requirements. One commonality that exists between all of the consulting engineering firms is that the engineering staff complement consists of junior engineers and senior engineers. Intermediate engineers are not represented in Kitimat as they are in high demand because they have the required experience and yet do not demand the high wages that senior

engineers receive. Typically, a local junior, upon becoming an intermediate will seek greater rewards elsewhere and relocate.

4 FINANCIAL ANALYSIS

This chapter will look at the operating costs of the Kitimat office, from 2002 to 2004, and discuss the cause and effects that were responsible for the variations, such as employee turnover or competitors being awarded contracts.

The financial data of Earth Tech is reported internally through a branch of the TYCO network. The majority of the financial data is protected and is not made available to the public. In addition, the costs that were reported internally by Reid Crowther are not readily accessible. Therefore the financial information that was made available to the author was limited, and only covers the three-year period from 2002 to 2004. The financial data is presented in ratios with the primary ratio being the gross margin.

Earth Tech is a service firm and an intellectual capital-intensive firm. The employees are the assets and as such, the Kitimat office has minimal fixed costs. The office rental is relatively low compared to the exorbitant rates paid in inner city or prime locations; therefore, the cost of the office rental has not been included in the financial comparison.

As depicted in figure 4.1 below, the major costs associated to the gross margin results are labour and fringe.

Figure 4.1 Kitimat Gross Margin and Costs, 2002 through 2004

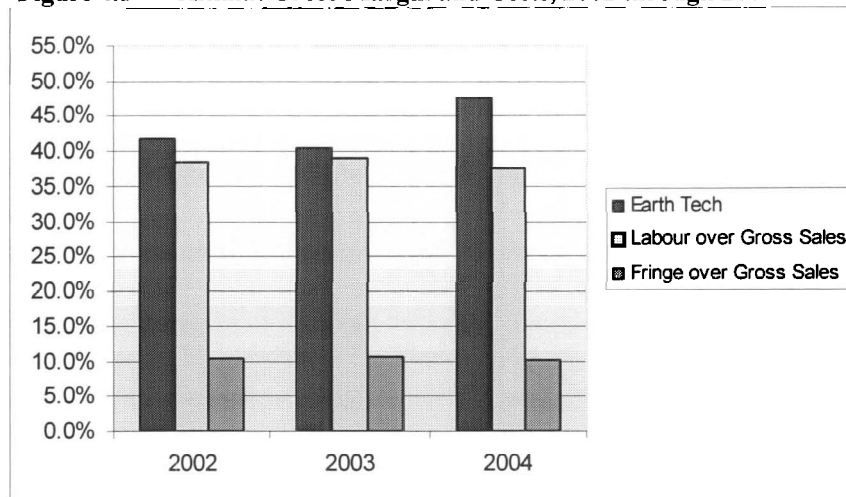


Figure created by author; data source: Internal Financial Data

Between 2002 and 2004, the gross margin values for Earth Tech range from 41.7% to 47.7% over the period analysed. The figures for 2002 are important as this was the year when Reid Crowther transitioned to Earth Tech and therefore is a benchmark year when evaluating the current financial position. The figures for 2004 are significant, however, it is difficult to determine if this was a year of exception or the beginning of an ongoing trend. The significant increase in 2004 was due to reduced operating costs and staff reductions. Senior staff members, who operated as independent contractors, parted company with Earth Tech, and their duties were undertaken by junior staff. The effect of this change in staff improved the overall gross margin. The sales figure over the three-year period has a \$ 400,000 spread (See Appendix A). The labour costs were 38%, 39% and 37% over the three-year period. The overall increase in the gross margin figure for 2004 was due to the reduction in labour and fringe costs relative to gross sales. The decrease of 1.2% between 2002 and 2003 was in part due to competition moving into town and an unusually slow year. The 7.2% gain in 2004 can be largely attributed to new projects with existing and new clients.

The labour over gross ratio percentage increased by 0.5% from 2002 to 2003, which had an impact on the gross margin figures over the same period. The figures for the following year show an increase in the gross margin values of 7.2%, and a drop in the labour and fringe values of 1.6% and 0.4 %, respectively. These lowered costs are due in part to the following factors: full time staff in the office reduced from six permanent to five, the number of independent contractors undertaking work for Earth Tech reduced from two in 2002, to zero in 2004. Over the same three-year period, the part-time personnel decreased from three in 2002 to zero in 2004. In order to address the reduction in Kitimat staff, personnel were seconded from Vancouver.

Table 4.1 Gross Margin and Cost Ratios, 2002 through 2004

	2002	2003	2004	Difference 2002 – 2003	Difference 2003 - 2004
Gross Margin	41.7%	40.5%	47.7%	-1.2%	7.2%
Labour over Gross Sales	38.5%	39.1%	37.5%	0.5%	-1.6%
Fringe over Gross Sales	10.4%	10.5%	10.1%	0.1%	-0.4%

Table created by author; data source: Internal Financial Data

During the initial stages of a takeover, there is always a period of adjustment when employees are uncertain of the future. This makes the employees prime targets for Earth Tech’s competitors as they can increase their workforce whilst depleting the internal staff of Earth Tech. During the period of 2002 to 2003 employee turnover was high in Vancouver and this had an effect on the Kitimat office.² The personnel who were seconded to the Kitimat office were unfamiliar with the staff and the client operations. In addition, a number of ‘go to’ personnel who were utilised by the Kitimat office on a regular basis departed and this placed further strain on the internal relationships.

The majority of the industrial division personnel who departed from the Vancouver office joined one of Earth Tech’s major competitors, Stantec.

Stantec has strong representation in North America and competes aggressively on the open market. The overall financial results of Stantec’s North American operations have been analysed in order to achieve a comparison with the figures for the Kitimat office. The financial data comparing the gross margin of Earth Tech and Stantec over the period 2002 to 2004 is presented in figure 4.2 below.

Figure 4.2 Earth Tech and Stantec Gross Margin Comparison

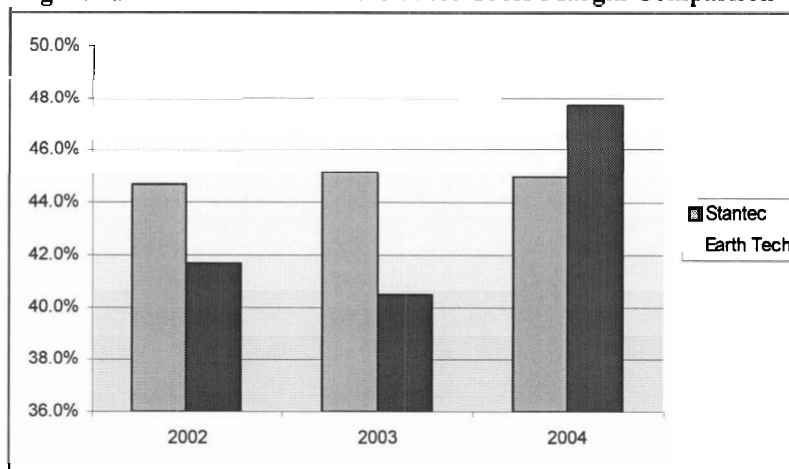


Figure created by author; data source :Internal Financial Data

Table 4.2 Earth Tech and Stantec Gross Margin Comparison

		2002	2003	2004
Gross margin	Earth Tech	41.7%	40.5%	47.7%
	Stantec	44.7%	45.2%	45.0%
Difference		-3.0%	-4.8%	2.7%

Figure created by author; data source: Internal Financial Data

² In 2003 the employee turnover rate in Vancouver reached a maximum of 33.6%. The present day figure is 11% and the current industry average is 12%.

The main points to note from the data depicted in figure 4.2 and table 4.2 above are that any costs incurred following the acquisition by Earth Tech would be reflected in the figures for 2002 to 2003. In addition, the gross margin value of 40.5 % for Earth Tech in 2003 was due in part to the fact that the overall gross sales for Kitimat had dropped by almost 50%. The figures in 2004 show an increase of 7.2% over the gross margin value for the previous year. This figure was also 2.7% over the value shown for Stantec.

The data presented for Earth Tech against Stantec shows that even though Kitimat is a remote operation, the gross margin values equate to a competitor in the industry. The satellite office is producing similar financial results and returns as if it were operating in a metropolitan area. The results suggest that the Kitimat office is competitive and healthy. Although the office still relies on support from other offices, due to shortfalls in staff or projects that require additional expertise, the overall conclusion is that the office is independent and cost competitive.

5 CLIENTS

Kitimat is primarily an industrial based town and the clients for Earth Tech are Alcan (Aluminium Smelter), Eurocan (Paper Mill), and Methanex (Methanol Refinery).³ Earth Tech has viewed Alcan as the major client and the office was originally opened to develop a relationship with Alcan and to further strengthen that relationship. Initially, any work that was captured from Eurocan and Methanex was viewed as a bonus, and although contracts were never refused, there was never any doubt that Alcan was the client with the most potential for Earth Tech to provide long-term assistance to. Alcan had the largest annual capital expenditure and the skill set of the office staff was a closer fit to Alcan's requirements.

Over the years, solid working relationships have been established with employees from all of the industries. As stated above, the initial contact and focus was with Alcan personnel; however, as new staff arrived to take up positions with Earth Tech and with our existing clients, new relationships were forged not only in the workplace, but also in recreational, social and academic settings. Although the major clients can offer a fairly secure working environment, they are also prone to staff turnover. This is primarily due to internal transfers, retirement and natural attrition. Because of these factors, any time invested with the former employees has been lost and the working relationship has to be

³ The Kitimat operation may not be producing methanol beyond Jan 2006, as announced by CEO Bruce Aitken, during Methanex investor conference call on April 28, 2005. www.methanex.com. April 2005.

established with their replacement in order to regain trust and demonstrate commitment to the overall relationship.

5.1 Alcan Smelters and Chemicals

Alcan is the largest of the three major industries that operate in Kitimat, and has been present since 1951 when the company undertook what was then the largest private construction project in Canada. The price tag was \$500 million⁴ and the smelter was in full operation by 1954. From its onset to the present day, Alcan has been the biggest investor in Kitimat and is, without doubt, the cornerstone of the community. Alcan employs 1600 people within the province, provides jobs for more than one third of Kitimat's working residents and purchases goods and services from approximately 400 vendors.

With the smelter being in operation for over 50 years, the annual budget for engineering and maintenance is quite substantial. During the period 1999 to 2005, the annual expenditure in this area has been \$47 million with \$17 million being spent to maintain the plant and \$40 million being spent on new project work to improve the process or upgrade the existing infrastructure. Over the course of the last nine years, the Kitimat office of Earth Tech has delivered more than 200 projects and assisted Alcan in implementing approximately \$50 million of capital and maintenance improvements. The work has ranged in price from \$1000 up to a full Engineering, Procurement and Construction Management (EPCM)⁵ project with a capital cost of \$17.6 million. The

⁴ If the project were undertaken today the equivalent cost would exceed \$3.3 billion.

⁵ Engineering, Procurement, and Construction Management.

revenue captured from Alcan by the Kitimat office since 1996 has been in excess of \$5 million. As stated in the above section, Alcan was viewed as the major client and was the reason for the inception of the Kitimat office as they had the most potential for revenue capture. Therefore, as long as work was being generated and relationships were being formed through this, it did not seem prudent to try and break into the other industries in town and challenge competitors at the cost of sacrificing the relationship that was being established with Alcan.

5.2 Eurocan Pulp and Paper Company

A division of West Fraser Timber the Pulp and Paper mill manufactures linerboard and sack kraft paper; it has been in operation for over 30 years and has a direct workforce of approximately 550 people, which makes Eurocan the second largest employer in Kitimat.

Historically Eurocan has spent the majority of their operating budget on maintenance or projects to improve process control and this work was typically instrumentation or electrical. The need to undertake such a high volume of electrical work led to the formation of a long-term relationship between Eurocan and Fransen Engineering. This relationship still exists today and Fransen has employees on long-term secondment, who for all intents and purposes, are part of the Eurocan operation on a full-time basis.

As Eurocan concentrated their financial resources on process project and annual maintenance 'shutdown' work, other areas of the plant were neglected or not deemed to

be of high importance. The main areas that appeared to suffer were external and the projects that arose from this were a combination of civil and environmental, i.e. underground piping infrastructure, landfill operations, and areas that were directly related to DFO issues. Although Reid Crowther undertook a structural investigation study in 1998, it was not until 2002 that Earth Tech were considered for projects or invited to submit proposals. This was due to a depletion of resources within the environmental department of Eurocan, new relationships being formed with Eurocan staff through academic studies and also an individual who had an existing relationship with Earth Tech in Vancouver had recently been appointed within the engineering department.

5.3 Methanex

Formerly Ocelot Chemicals, the Methanol plant that exists today was built in 1982. The plant, which employs 120 people, is the most modern of the Industrial facilities in Kitimat and as such does not execute a large number of projects. The majority of work being done is maintenance related, which plant personnel generally undertake. Due to market conditions and corporate investment in new facilities overseas, any projects that are proposed are evaluated by an intense selection process before they are approved and issued for tender or implementation.

Earth Tech personnel established a working relationship with Methanex in 2000 when they provided long-term drafting and engineering support for the engineering department. The initial posting was for a six-month duration and was subsequently undertaken for a period of eighteen months. Upon project completion, the individual was offered a position with the client and chose to accept.

The qualifying factors in deciding to award the initial contract to Earth Tech were a combination of familiarity with plant personnel, low 'charge-out rate' and personal reputation. The long-term secondment position enhanced the relationship and reputation of Earth Tech with Methanex. When full production was resumed at the plant in July 2001,⁶ Earth Tech was chosen to undertake a number of small projects within the plant.

⁶ Due to market conditions production at the plant was mothballed from July 2000 until July 2001.

6 COMPETITIVE LANDSCAPE

In order to remain in operation and be successful in the engineering consulting environment, a company or individual must be able to bring value or demonstrate significant factors that distinguish them from the competition. These advantages may be achieved by employing a strategy of cost competitiveness or product differentiation to establish a niche market; however, it is important that the benefits offered are distinctive and that further leverage can be gained from them. The majority of consultants operate to some degree using a combination of these factors with specialized knowledge or experience being foremost, as it allows them to operate in selected markets and makes them attractive to potential customers whom require a particular skill set. The fact that the individual or organisation holds an area of speciality allows room to manoeuvre in the area of cost; however if one or more competitors have access to this knowledge, then the factors that become important are cost or relationships. The differentiating factors utilised in regional and local operations are presented below.

6.1 Regional

The nature of work captured and undertaken by Earth Tech's western Canadian operations is primarily based on reputation and technical expertise of various individuals and company alike. Although in urban centres and especially municipal infrastructure work, cost control is an important element of project delivery and execution, it is not

always the deciding factor in contract award with quality, experience and proposal presentation being named as key areas where Earth Tech delivers consistently. However, not all clients base their selection on these factors and work is awarded to our competitors based on other facets. These factors could be in the form of reduced profit margins being applied by the competition, fixed fee components of the work or standing order agreements. It may well be that the client also has an existing relationship with our competitors and this relationship may have been strengthened or soured by personnel changes. These changes could be in the client organisation or in the competitive marketplace and can be viewed as positive or negative depending upon the relationship that exists.

The need to maintain relationships is a key factor for executing business as not only does it strengthen the network of internal resources, but it also helps establish a solid base and encourages stability. The task of maintaining internal relationships is an ongoing process and one, which is not easy to sustain. This is evident by the continual pattern of employees who seek new opportunities within the marketplace. The effect of a departure of a key resource can be very damaging, especially if, which is often the case, a small number of colleagues also decide to depart. Naturally, the counter example is one where a relationship can be established with a key member of the competition who subsequently decides to leave their present employer, and then the company should benefit from any existing client relationships that the new hire brings with them.

Just as the client portfolio increases, so does the complexity of the relationship network. Therefore the challenge is to manage not only the internal office relationships

but also the relationships and characteristics of existing clients, which will be discussed further under key success factors.

6.2 Local

The consultants in Kitimat appear to operate using a combination of relationships and cost competitiveness. The smaller operators appear to have a system whereby 90% of their business is won on cost with the remaining 10% being captured from existing relationships. The larger firms operate with a balanced strategy of 60% cost and 20% relationships, with differentiation accounting for the final 20%. Earth Tech operates on a mix of 40% cost with the remaining 60% being a blend of differentiation and relationships.

The exception to this balanced strategy is Lapointe Engineering, an independent consulting firm that has been in operation for approx 24 years, with the principal being raised in Kitimat and a long-standing member of the community. The principal is the backbone of this well-established operation and although the company experiences staff turnover, it appears that they are very successful in securing work both in the short term and in the long term.

Operating costs are kept low due to ownership of office facility and the majority of staff being Kitimat residents. This in turn, relates to low rates being applied for services rendered; however, it would appear that the majority of the contracts that are awarded are based on long-term relationships. One would expect that the work would be based on long-term relationships as Alcan have operated under a policy of preferred local vendor policy whereby if suppliers relocate to Kitimat to provide service to the industrial

operation, they would have a higher likelihood to be awarded the contract. This agreement was a key factor in the decision process that led to Reid Crowther establishing an office in Kitimat. When the initial discussions took place between Reid Crowther and Alcan one of the requirements of doing business with Alcan was that the office had to be located within Kitimat. Firms operating from Terrace were not classed as local due to commuting time and the substantial delays that were caused by the adverse weather conditions during the winter months. Alcan changed its purchasing practices in 2002 and consulting firms based in Terrace are invited to tender and have been successful.

7 COMPETITORS

The local competition for Earth Tech in Kitimat consists of the following firms: Lapointe, DRG, Westmar, Universal Dynamics and to a lesser degree McElhanney. The first three firms listed above have offices located in Kitimat, whereas the latter two firms are based in Terrace.

7.1 Company Profiles

7.1.1 Lapointe Engineering Ltd

Lapointe Engineering has developed from a staff of three employees in 1980 to its present-day staff of twenty-six employees. The company provides a wide range of engineering services including mechanical, electrical, structural and civil engineering, as well as surveying and materials testing. The head office is in Kitimat and they operate in the Northwestern B.C. region. The company undertakes project work for industrial, government and commercial clients.

7.1.2 DRG Engineering Ltd

DRG Engineering is a relatively small operation and was formed in 1992 when the President, Drago Grabovac left Lapointe engineering to form his own company. The head office is in Kitimat and they provide structural, mechanical, project management and environmental services. They have four employees and their operation was

strengthened when Jelena Grabovac left Eurocan to take up the position of Vice President. The majority of the work is structural for heavy industrial operations; however, Ms. Grabovac has experience in providing environmental services to government agencies and First Nations.

7.1.3 Westmar

Westmar operates offices on the Northwest Coast of North America. The Canadian head office is located in North Vancouver. They undertake multi-disciplinary projects in the international arena and have a small satellite office in Kitimat comprising of three staff members at present. The main focus of the Kitimat office is port terminal planning and design, bulk materials handling, electrical and controls, and structural inspections.

7.1.4 Universal Dynamics Ltd

The Canadian head office of Universal Dynamics is located in Richmond, B.C. and their branch offices in the Northwest region of the province are located at Prince George and Terrace. The Terrace office undertakes work for industrial and commercial clients. The contracts undertaken for the industries in Kitimat are predominately electrical and instrumentation engineering.

7.1.5 McElhanney Consulting Services Ltd

McElhanney provides engineering, surveying, mapping and planning services in the fields of transportation, structures, land development, drainage, water supply and

treatment, sewage treatment, and disposal and resource development. The offices in Smithers and Terrace serve the northwest corridor of the region. The main work in Kitimat to date has been, mapping and project management services.

8 SELECTION CRITERION

There are a number of factors that are used as selection criteria by the three major industrial companies in Kitimat. The factors that are cited most frequently are: costs, specialized strengths, reputation and relationships. This chapter will discuss these areas in more detail.

8.1 Costs

The most tangible factor mentioned above is cost. All businesses have to manage costs and budget accordingly for expenditure. Cost overruns can have serious implications for both the client and supplier alike, and as such, the proposed cost for undertaking work or providing a service has a strong weighting in the selection criteria. The purchasing and engineering departments of the respective industries differ in the way they manage cost and also in the way they portray it. Methanex considers cost to be of high importance but it is not the deciding factor used in awarding a contract for service. The two factors that override cost as far as Methanex is concerned are related expertise and high safety standards.

Historically, Eurocan appears to have operated on a very tight budget with cost being the overriding factor. It was common for staff to award to the lowest bidder and then attempt to drive cost down further during project execution or look for alternate ways to achieve greater cost savings. This would typically include cancelling contracts

with existing vendors mid-way through a project and opting to proceed with a new vendor believing that they would achieve a cost saving. This philosophy was inherent in Eurocan and was openly discussed among contractors and vendors in Kitimat, who were under the assumption that the majority of last minute decisions or short-term focus were due to poor budget preparation or improper planning. The new management of Eurocan appears to be adopting a different policy and this may be due to long-term focus or simply the need to draft budgetary figures earlier so that surprises can be avoided.

Alcan has been adopting a similar practice to Eurocan, although not as severe. In the past Alcan did not have cost as a deciding factor as they were very committed to ensuring that the local regional economy prospered. Although they are still committed to ensuring that the local economy is prospering, their strategy has changed to one of economic diversification. The company is also under extreme pressure to reduce its costs. In reaction to this pressure, Alcan have been slowly implementing a cost cutting program. To communicate the program, a presentation was delivered to the local suppliers in Kitimat in 2003, which was entitled 'Maximizing Value with Suppliers'. During this presentation the key mandate was that Alcan were looking for suppliers to provide a minimum cost reduction of 3% each year. The reductions were to be in the form of direct and indirect cost benefits, or contributions to the development of sustainable performance improvements. The benefits offered in turn by Alcan were quoted as "strong internal alignment, increased business, preferred supplier status, and the opportunity to grow". If Alcan does follow this approach it will lead to casualties among the local suppliers, as not all will be able to reduce costs and still provide the same standard of service. It will be very difficult for any engineering consultant to reduce the

price or charge out rate of their personnel, as salaries do not typically decrease and a multiplying factor is included in the cost of service to cover the additional overheads associated with undertaken this work. The most common fee types that are selected to form the contractual agreement are discussed below.

8.1.1 Fee Types

There are many fee types that form the payment structure of engineering and construction contractual agreement for engineering consultants. The most basic types are cost plus maximum, lump sum, lump sum turnkey or a combination of the three. Each project is assigned one overall fee type, with cost plus maximum being the preferred choice for the industrial clients in Kitimat. Lump sum contracts are issued to a lesser extent with the major determining factors being project value and the willingness of the client to transfer project risk. The most frequent use of lump sum contracts appears when undertaking municipal work for the District of Kitimat, or civil projects for the Department of Highways.

8.1.1.1 Cost Plus Maximum

The cost plus maximum contract is one where the project is contracted at cost plus any additional disbursements and charges. The maximum fee amount defines the total fee available for the project including both labour and expense amounts to be earned. A raw labour multiplier is applied to salary cost to produce the billing and earned revenue rate. In general the engineering services from conceptual through to project execution that are provided to the local industries in town are undertaken as cost plus maximum

agreements. A rate schedule is issued to the individual purchasing departments. The rates are fixed for a set period of time, normally two to three years, and work is undertaken based upon the agreed rates.

8.1.1.2 Lump Sum

A lump sum contract is typically one where there is a fixed fee to undertake and complete the work as agreed upon by both parties. This total fee will include both labour and expense amounts, however they do not have to be broken out and a formula of blended rates can be applied using a lump sum agreement. Lump sum agreements are normally issued when the client is risk averse and the engineering firm undertaking this contract has to anticipate the costs and risks associated with budget and schedule overruns. These risks are normally addressed by applying a contingency into the estimate, however this contingency cannot be excessive, as the price tendered for the work still has to be cost competitive.

8.2 Specialized Strengths

In order to narrow down the competition and carve out a niche market, firms specialize in certain types of engineering either by company, division, or individual employee. Students of all engineering disciplines are taught common engineering fundamental principles, and for the initial stages of a proposed project, i.e. conceptual and feasibility studies, the majority of the general engineering can be performed by any number of firms. Should the work progress from basic design to detailed design, the level of accuracy becomes greater and specialized knowledge may be required. This

specialized knowledge may already exist within the company. If it does not, then it will have to be found by contracting the specific section of the project to another firm or forming a partnership with a firm that specializes in that particular area of service. In order to maintain and increase business, firms look for complementary organizations within the marketplace where they can combine their respective skill sets and enhance their reputation. This combination of specialities strengthens both parties and allows the opportunity to enter markets that may not have been accessible as single entities. The majority of work undertaken within Kitimat falls under the area of industrial engineering, and is therefore attractive to any firms that have industrial divisions or have a specific speciality in industrial applications. There are a number of firms in the lower mainland who specialize in industrial applications and they are brought in on a project specific basis. Even though these firms maybe better equipped to undertake a particular project, they are unwilling to establish operations in the Pacific Northwest as these projects are sporadic and they do not have the guarantee of long-term contracts that they would need in order to be sustainable and disrupt the resident consulting engineering firms.

8.3 Reputation

Establishing a reputation for quality of services provided is of fundamental importance, not only in the area of design but also in cost and schedule estimates in order to meet the client requirements. Firms that provide engineering services are aware that clients evaluate quality standards as a means to differentiate. In the area of construction management, due diligence has to be applied in the area of safety, and the reputation of the firm depends upon having a good safety record and whether the project is delivered

on time and within budget. If a level of quality can be evidenced by reputable previous work, then the client gains a degree of security and will view the firm as a credible organisation. Even if firms can present a corporate resume demonstrating their credibility through past experience and financial capacity, the project team members must also be able to provide evidence of a strong track record.

8.4 Relationships

Relationships with business partners are essential to a company's survival and growth, yet a number of companies are still struggling to formulate, implement and manage their key client relationships. This limits growth and long-term value creation for all parties involved. The strategy adopted to address concerns with one client may not be applicable for other clients, and if this is not recognised, there is a danger of losing one or more clients or focusing solely on the relationship where the chosen approach is working. Finding a way to manage these relationships or partnerships and forge them into genuine alliances is extremely challenging for management. Trust, openness, commitment and visibility all have to be displayed to establish initial compatibility. Once the compatibility is established, regular checkpoints have to be included in the relationship, whereby any problems that may be developing can be addressed, so that mitigating action can be undertaken before the relationship is soured.

Many consulting firms that undertake projects in Kitimat are well known to the three major clients, and as mentioned above in section 5.2 some have had to form partnerships in order to obtain business. The five local consulting firms have all

undertaken work as sub-consultants to each other and, in addition, all have established a relationship with at least one major client within Kitimat.

As stated previously, Eurocan have an established relationship with Fransen to provide electrical engineering. Universal Dynamics are establishing a similar niche market with the maintenance function within Alcan to provide low cost solutions on low price contracts. Westmar are currently providing materials handling and marine services to Alcan and Eurocan. DRG have had somewhat of a monopoly within Kitimat, as they have been the sole local provider of structural engineering services. Earth Tech has been establishing a relationship with Eurocan over the last two years by undertaking environmental projects. This complements the relationship that has been in place with Alcan since the 1996. Lapointe has the longest relationship of any of the local competitors. This is in part due to the principal being a Kitimatian and through the acquisition of two former Alcan engineering staff.

9 CORPORATE SOCIAL RESPONSIBILITY

The interests of the various stakeholders Earth Tech, clients and community, range from revenue, growth, service, relationships, investment, economic diversification and cooperation. With Kitimat being a remote community, any project or corporate investment, from Earth Tech or respective clients, should consider the effects on the local community and should support capacity building, in particular for the local Haisla Nation.⁷ The majority of the issues mentioned above can be addressed under the areas of sustainability and corporate social responsibility.

9.1 Past

In the past, business practices were not focused on sustainability issues. In general, revenue was the key driver for projects and business; therefore, the advice given by the consultant would be primarily to deliver the solution, or project in the most cost effective and timely manner. Environmental and social issues were not key project requirements as there were not a great number of governing regulatory bodies; and this would in turn, dictate the business ethic or project mandate. Additionally, global trade and free trade tended to negate the respect of local socio-political aspects and indicators, and therefore displaced workers from their local environment or communities. There was little room to manoeuvre and not a great deal of incentives for corporations to enhance

social or environmental well-being, as the general mandate was to maximize profits. The historical trend was for the industry or corporation to grow and benefit at the cost of the local community.

9.2 Present

In the current business climate, it is a condition and a growing concern to address sustainability and to demonstrate that this is a core business requirement. These values must be communicated both internally and externally. With this in mind, the consultant needs to be fully aware of the client mandate, corporate statement and ideals in order to represent and address the overall concerns of stakeholder requirements and responsibilities. This information may be gleaned from the client or may be in the form of a government directive or recommendation from an independent body.

Social, ethical and environmental responsibility is a strategic imperative for all, with the prime drivers of this being: employees through their interest in having fulfilling careers and the need for confidence in the ethical conduct of their employer; and clients through their increasing demand for services that help them to understand and comply with their own business, social and environmental risks and requirements. Clients undoubtedly see consultants as part of their own supply chain; and therefore should be ensuring that their suppliers are acting in a professional and ethical manner. The key area where this comes into play is the confidentiality issue, as a high standard of integrity and ethical responsibility must be maintained in the client relationship.

⁷ The majority of the Haisla First Nation resides in Kitamaat village, which is located approximately 15 kilometres from Kitimat. The members of this indigenous community suffer from the effects of high unemployment, with only a fraction of the residents being employed by the local industries.

Senior executives are moving toward the implementation of sustainable strategies as this not only presents an ethical “mission statement”, but also has enormous commercial opportunities, as an increasing number of existing and potential clients have to manage and report on the triple bottom line. However, this societal impact itself comes under scrutiny as some of the client workforce equates job losses to consultant usage.

Embracing a long-term initiative of sustainability and corporate social responsibility requires a high level of commitment from our organisational personnel. A strategic approach cannot be achieved without this, as Earth Tech is a “people driven business”, but viewed as a commodity by its respective clients. Earth Tech needs not only to believe and demonstrate its core values; it must also deliver these values with vigour. With this in place, Earth Tech would achieve the dual purpose of “maintaining integrity in client industry and embracing transparency of self”.

9.3 Implications for local community

The following statement by the MMSD is a key point for the consultant and client relationship, “All communities of interest, including companies and governments, will fulfil the commitments that they make regarding human (social, cultural, economic) and ecological conditions”. Unless projects can actively demonstrate sustainability, their viability will come into question, which in turn will present a roadblock for the project and operation as a whole. With this in mind, any form of design or construction to be undertaken would need to be addressed to ensure that sub-contractors follow and understand the same “Good Practices” as the client. If this understanding is not in place,

the effect could be extremely detrimental and the ensuing social implications for the local community can be enormous. Any project that Earth Tech is requested to assist with should satisfy business, environmental and community requirements. This will improve relationships, reduce environmental stress and avoid suspicion in the local community, which should go a long way to enhancing the reputation of Earth Tech.

9.3.1 Engagement

The consultant will have to understand the client requirements in order to assist in the preparation of full quantitative and qualitative assessment criteria. In order to achieve success, Earth Tech would have to be assured that the voluntary consent of those affected by the project or operation has been given and that a confidential link is established to assist with client reporting and verification systems.

9.3.2 People

Earth Tech would need to take into account the effects of plant and project operational life along with the socio-political aspects (e.g. has an assessment been carried out to ensure that operational life will lead to enhancement of local people well being in general, for project duration and in post closure). Earth Tech must ensure that the local site community is represented adequately and proportionately, so that they can demonstrate their effective knowledge skills base and resources. This will give a sense of satisfaction and social and cultural integrity will be maintained and respected or even improved. The project should undertake a basic demographic study to look at the

community dependency and the basic infrastructure needs, with a full cost benefit and risk assessment undertaken for cultural and social aspects.

9.3.3 Environment

A full risk assessment should be undertaken to investigate the environmental impact and any remediation or liabilities issues that may be present or may arise. A degree of confidence must be demonstrated for the long-term well being of any renewable resources, and public acceptance of these environmental issues is critical. If any of these issues are in doubt, then full financial surety and intellectual understanding must be in place, in order to address these issues at a later date if challenged.

9.3.4 Economy

To achieve long-term viability both globally and regionally, a financial evaluation of the project and company should be undertaken. This should be a feasibility study, which encompasses operational efficiencies, and project economics in order to evaluate the overall external economic contributions and fiscal health of the client. This study should also highlight whether the client is perceived as ethical and will indicate their market position or representation on any sustainability indices (e.g. Dow Jones Sustainability Index or the Jantzi Social Index).

9.3.5 Traditional and Non-Market Activities

A baseline study would have to be undertaken to ascertain whether consideration has been given by the operation or project to the non-market activities of the region and

community. If the site is in an indigenous community, this will identify the dependency level of the local community on traditional activities. A long-term solution should be installed to guarantee the maintenance of these non-market activities.

9.3.6 Institutional Arrangements and Governance

A program would have to be developed to establish trust and instil confidence that the project has been fully assessed, all operational consequences have been evaluated, and any commitments made in accordance with this would be fulfilled. This program would have to ensure that an adequate level of funding is in place should reclamation or rehabilitation work need to be undertaken during the product life cycle or at post closure.

9.3.7 Overall Integrated Assessment and Continuous Learning

A system needs to be installed so that continual evaluation of all the factors can be undertaken. This should be the basis of an overall judgment and should re-visit the “no-go option” which would have been evaluated at the outset of any project or operational dialogue. This continual sustainability assessment should be in place to ensure that all project level and strategic level alternatives are scrutinized until a firm and final decision can be reached.

9.4 Integrating Sustainability

With an increasing number of directives and standards being put in place, it is paramount that the consultant is readily informed. Earth Tech should take a proactive stance and portray a concrete understanding of this knowledge and the expected

deliverables that are required. Earth Tech should also encourage and engage non-traditional stakeholders into the innovation process, as each company has a unique culture and a way to approach their own innovation process. The challenge of really integrating sustainability thinking into the business processes is significant, but if not successfully met, companies will not be sustainable.

Vision and leadership are critical to setting the stage for creating a more sustainable business. To assist in this endeavour, Earth Tech will need an awareness of sustainability and the relationship with the basic driving forces of the specific client or market needs.

If Earth Tech is to assist on projects, big or small, there should be an informal assessment process at key points throughout the development of the process (e.g. conceptual, preliminary, etc.). The difficulty in this is determining the level and detail of sustainability issues that are needed and how much time has been allocated for these. The key points will depend upon the organisation and culture that Earth Tech is dealing with, as each recipient will have different needs and values and each will determine the reception that Earth Tech is accorded. As consultants, Earth Tech will need to identify key points and demonstrate trust and responsibility to formulate an appropriate basis for discussion. This will lead to an understanding that all shared information will be protected and treated with confidentiality.

9.5 Future

One of the biggest drivers for change in business practices may not necessarily be a growing sense of social responsibility, but the external market: including employees,

customers, consumers and investors who are concerned about their holdings. This may be the indicator that forces companies to implement a “Must do right now” approach; compared to a former passive approach of “If the budget allows” or “We’ll get round to it one day”. These changes in citizen values and the expectations on business will mean that all aspects of the project, operation or relationships will be monitored to guarantee that ongoing concerns will be addressed. This will have to be achieved through a consensus-building process that can be utilized for areas of sustainability in the workplace as well as other issues where multi-parties and diverse issues are involved, and long lasting agreements are needed. Therefore it would appear that the future direction is to be one where Industrial developments will have to achieve a benchmark or “Certificate of Sustainability” before investors, government or local community will allow or sanction any projects, irregardless of the size or nature of the project, to be embarked upon.

10 STAKEHOLDERS' INTERESTS

As stated in the preceding section, the interests of the various stakeholders range from revenue, growth, service, relationships, investment, economic diversification and cooperation. Representatives from the three major industries have stated that they would like to strengthen the existing relationship that they have with Earth Tech. Corporate interest for Earth Tech is to form a common culture, maintain the health of the operations, strengthen the existing business model and grow the operation. The main interests for the community at large are investment and economic development. The interests of some of the stakeholders will be discussed further in the section below and are presented from the author's perspective.

10.1 Earth Tech

The key values and behaviours of Earth Tech, which include integrity, excellence, teamwork and accountability, have been implemented by the Kitimat office at every opportunity. These values strengthen the business relationships with the existing client base in Kitimat, as they too are following a similar path, by incorporating policies that adhere to the same principles and ethics.⁸ To complement these values, Earth Tech is introducing key initiatives to aid in the development of a common corporate culture.

⁸ Following the dismissal and subsequent court action against former members of the TYCO corporate management team, it is mandatory that all TYCO personnel undertake annual online testing, and gain certification, on ethical issues and business practices as a condition of their employment.

Two of these key initiatives are presented below as they give an insight into the new culture that is evolving within Earth Tech.

10.1.1 Technical Practices Network

The technical practise network is the formation of ten groups within Earth Tech to set up initiatives and a common database where information can be exchanged, stored and leveraged. The initial four areas that will be covered are water, transportation, environment and facilities. Each of these areas has to deliver high quality and creative technical solutions to existing and potential clients. The company's intent is that a technical practices network will help achieve a level of technical excellence that differentiates Earth Tech from the competition. The technical practice network is chartered to achieve the following goals:

- Define and develop technical career paths for any employee,
- Be an integral component of Earth Tech growth,
- Manage quality consistently,
- Integrate resources across all districts,
- Improve productivity by advancing technology and processes,
- Achieve industry recognition for leadership in all practices, and advance innovation.

As the technical practices network is a grass roots endeavour, it gives any employee the opportunity to contribute to the growth of the company and to recognise the value of a technical practice network to the company.

10.1.2 Industrial Client Program

Most of Earth Tech's multi-national clients are undertaking a process of vendor consolidation in an effort to lower costs, improve service and ultimately leverage their buying power. The initial market signs have indicated that the clients are achieving these savings by establishing broad based business relationships with national and international companies. Following the client initiative, Earth Tech is implementing a program that will focus on existing major industrial clients where strong relationships exist. The main objectives of this program are as follows: participate in each client's business strategy, fully understand the client's service requirements, develop the relationships from corporate level to facility level, and expand the volume of business by ensuring that Earth Tech resources are deployed to address the client's needs.

10.2 Clients

The three major clients, Alcan, Eurocan and Methanex have demonstrated their commitment to strengthen their relationship with Earth Tech in a number of ways. The primary indicators are: increased business, initial involvement, confidential information access, and closer ties. It is worth noting that although Earth Tech has built their existing operation around the three major industrial manufacturers, the client base also includes

the District of Kitimat. A prospective customer with huge potential is the Haisla Nation. A brief perspective from the President of Alcan is presented in the following text.

Alcan being one of the key stakeholders is expressing interests in relationships, community development and sustainability. These interests were expressed by Travis Engen, the President and Chief Executive Office of Alcan, Inc, made the following announcements at a Vancouver Board of Trade luncheon earlier this year.⁹ “No company can be sustainable over the long term if it is not economically viable. And by the same token, no company can be economically viable in the 21st century if it fails to be an environmental leader, practice social and economic responsibility, and have ethical performance that is beyond reproach. We have an obligation to meet the expectations of our employees, stakeholders and the communities in which we operate. This is what drives the engine of a successful business model. But to be successful, we must interact with society in a way that enables society itself to succeed. Interaction is a dynamic and mutually re-enforcing force. We cannot achieve financial success if the region around us is unsuccessful. The region around us cannot succeed if we are not financially successful”.

“We cannot use the resources we depend on without careful stewardship. Over the years expectations over resources management change and stewardship has to be better understood as a condition to generate mutual benefits. We cannot secure the skills and innovation we need in our people without progressive educational systems. This is about continuously improving our skills and keeping pace with change. We cannot offer the

⁹ Responsibility and Leadership - The value of relationships, Notes for an address by Travis Engen, President and Chief Executive Officer, Alcan Inc., to Vancouver Board of Trade, Vancouver, 2005/05/04

quality-of-life conditions that will attract and retain skilled workers and their families without healthy, economically viable communities. In many cases this has meant casting our net wider within a community to help with economic development opportunities that are not within the traditional boundaries of what we are associated with.”

Mr. Engen then went on to express the value of relationships by stating “And we will do this in cooperation with our partners. The ability to develop lasting and productive relationships is the foundation for all success. This is as true in business as it is in our personal lives. Our business model is founded on the notion that success can’t be achieved without satisfied customers, healthy and motivated employees, thriving host communities, and constructive dialogue with a broad range of interests. Our success must be their success. When our host communities do well because of our presence, we do well.”

10.3 Community

Another one of the key stakeholders is the local community. The future of Kitimat is uncertain and the community members as a whole are interested in long-term investment for Kitimat. This uncertainty has led to a decline in property values. The general condition of housing in Kitimat and the low level of occupancy in rental accommodation further emphasize the uncertain future. The majority of new business enterprises that have set up during the last five years have been small or home based. The small increase of employment from these businesses has been offset by the closure or relocation of other business outlets. Therefore the general topic of discussion in Kitimat is large-scale investment or closure, as either of these will have a significant impact on

the future of the community. The recent announcement that Methanex would close has heightened the level of uncertainty, and has led to increased interest in the long-term plans of Alcan and Eurocan. The District of Kitimat has taken Alcan to court over the issue of power sales versus aluminum production, arguing that this business practice is restricting the number of potential employees that could be hired and therefore affecting the local community.¹⁰ The economic development commission, a function of the District of Kitimat, has spent a lot of time and investment trying to entice new businesses to Kitimat. There does appear to be some initial signs that additional investment will be made in the area, however it is unclear whether the dispute between the District of Kitimat and Alcan is inhibiting further outside investment. This issue needs to be brought to closure, as not only does it heighten tension within Kitimat, but also reopens the discussion on whether Alcan will continue with their current level of investment in Kitimat. The ramifications of Alcan decreasing the amount of investment in Kitimat are unknown at this time; however, it is obvious that Eurocan would not be able to support the existing community as the sole provider of employment.

¹⁰ Rick Wozney, "Kitimat disappointed after government's failure to address power sell off," [online] 2005

11 INDUSTRIAL MARKET ASSESSMENT

Although the Kitimat office is situated in a remote region, it still has the need for a market assessment. The external market is constantly changing and different technology or market trends can move both the consultant and the client into a new sector or classification. In an attempt to forecast the future market segments the client may compete in, and assist Earth Tech in choosing the correct approach a marketing plan should be undertaken. This chapter will outline a process for conducting a marketing assessment and implementing a marketing plan. These fundamental factors would have to be addressed as part of any strategic decision-making process, or scenario analysis.

11.1 Segmentation

Market segmentation was initially described in the 1950's when the primary marketing strategy used was product differentiation. During the 1970's and 1980's, market segmentation was applied more frequently to gain competitive advantages, and in the last decade, segmentation has been used to customize potential buyers or clients. The best description of market segmentation is 'the division of a market into heterogeneous groups that have homogenous characteristics or needs'. The segments are created or arranged so that the differences within each segment are minimised, whereas the differences between each segment are maximized.

A lack of understanding or consideration has led to companies who operate in the industrial market asking, “Why they should apply any time to developing or segmenting their markets?”. The most obvious answer is that no company has unlimited resources and in order to apply these resources effectively, market segments must be analysed and understood in order to be profitable.

Some firms may try to segment markets by breaking them down into smaller sub-markets but this can lead to poor results. Not only is this impractical, a huge amount of marketing data would be needed to evaluate these fine sub-divisions. Therefore, segmentation should be viewed as an aggregating process, and the more similarity that exists with the client base, the larger the market segments can be. At the very minimum Earth Tech should know what the present markets look like and what they were in the past.

11.2 Approach

Various steps should be undertaken as an approach to market segmentation for the industrial group. Criteria should be determined to identify macro segments; this process should evolve through corporate objectives and internal resource evaluation. Geographic location is a key characteristic of the client organisation, but the following characteristics are also important: industry classification type, demographics (sales volume), degree of loyalty to suppliers, nature of purchasing contracts and types of strategies used, type of conflict resolution applied (persuasion, bargaining, compromise). Once this exercise has been undertaken, the company should make this ‘initial segmentation’ selection.

The next step would be to further develop relevant client profiles to determine if there is a fit with the current marketing plan and mission statement. This will be determined through the relevance of the client micro segment characteristics. Key indicators that Earth Tech should try to identify are: characteristics of the individual decision maker, occupation, industry experience, position in client organisation and within procurement centre or decision making hierarchy, professional affiliations outside of the organisation, attitudes and preference towards competitors, degree of self confidence, Individual rewards or punishment for risk taking, buying criterion used (quality, price or reliability).

If these first two steps are in line with the selection process, then Earth Tech should further evaluate the micro segment by forecasting the market potentials and probable market share, with the final step culminating in a thorough and complete client / sector profile and a final determination to select the target and realistic market share.

11.3 Implementation

The aim of Earth Tech's segmentation should be to find an entry and position that the competition has missed. This can be achieved by finding different approaches to customers that the competition may not have considered. If the correct segmentation is chosen, the appropriate level of spending can be applied to that sector and the correct amount of resources allocated in order to have the greatest impact. If this exercise were not undertaken, Earth Tech would end up marketing the product in a generalized process, and may have to revert or rely upon price competitiveness. Past experience has shown

that this is not a very good method or arena to compete in, as the client does not see any 'value add' results, and undue stress is placed upon the relationship.

The segments that are defined must be practical and Earth Tech must be capable of achieving measurable results. Earth Tech should be able to measure the segment for potential growth or decline, as well as current and anticipated market size. A large market segment does not necessarily indicate greater profitability, as in a number of situations, if a segment is very large and easily identified, there will be a lot of competition that can also be easily identified. With this information in mind, the market segment characteristics (needs and wants) should be defined to see if Earth Tech can determine common bonds or market overlaps, which may include clients from other Earth Tech divisional sectors. Combining all of the information in a study will help assess and ask the key question, "If Earth Tech does have a niche market fit that has room for growth and is profitable, can it be managed and will Earth Tech be able to maintain its presence in that market segment?"

A proactive approach should be undertaken when trying to define and determine the market segment. It is of little use taking a reactive stance, as Earth Tech will have already submitted market share to the competition, and this will present unnecessary obstacles that need to be removed in order to become the supplier of choice. If a proactive approach is taken, it is possible to try and control or tailor the market that has been selected, by concentrating on commonalities between Earth Tech and the client, and strengthening these where possible. There will of course always be external market constraints or internal company restraints that have to be challenged and managed.

The marketing segment plan should be communicated to employees as they are frequently in contact with our clients, compared to operatives in a direct manufacturing industry. The employees should also be asked for continual input, as they have invaluable knowledge that can be input into the strategy for acquiring, maintaining and retaining clients.

11.3.1 Marketing Plan

The marketing plan should be revisited annually with the following criterion being raised:

- Evaluate the position in the market place to determine if it is where Earth Tech anticipated it would be.
- Undertake a comparison of services and fees in relation to the competition.
- Estimate resource potential (the number and quality of our staff, plus their strengths and weaknesses).
- Address any emerging problems or concerns and highlight any opportunities.
- Focus on what differentiates Earth Tech from the competition and reinforce that quality throughout the company and in the market place.

11.3.2 Employees

Employees are generally overlooked however they are the most important product in the service industry. Earth Tech should target the best potential employees and hire

them for strategic fits within the company, as the general impression of the firm is delivered or communicated by its employees. This particular marketing mix is of high importance to the company.

The right client should be identified and superior value delivered to them. The basis of this theory being that the longer a customer is retained then the greater the chances of obtaining increasing amounts of projects. Also transaction costs and marketing costs are decreased as 'word of mouth' positive promotion transgresses into free marketing for the product 'Earth Tech'. If a client is impressed with the service delivery, an increasing number of contacts will also be informed of this. On the counter hand, if the impression left is a negative one, then this will have a detrimental effect as this information is shared with a greater number of associates.

11.4 Current Market Segments

The current macro segments of the Earth Tech industrial client sector are: Manufacturing, Maintenance, Repair and Overhaul (MRO); Airports (Transportation); Process Industries; and Food and Beverage. The micro segment drivers and indicators in these sectors that Earth Tech focus on are: business sales, business development, planned capital expenditures, overall project profitability, client satisfaction and additional requirements that need to be undertaken.

In order to reinforce the marketing directions and to achieve revenue growth goals, Earth Tech should develop close working relationships with the clients and

potential clients, face-to-face meetings, initial free advice on projects and increase marketing activities. Continue to develop and expand the facility planning/functional programming skills to enable the firm to be involved in the front end of projects and to position a negotiated assignment for detailed design.

Other aspects that need to be considered are: project delivery services (construction management, design-build, turnkey), technical disciplines, differentiators, expertise, and partnerships. Customers need to be reminded that Earth Tech demonstrates a willingness to partner with clients and share in risk and reward of projects. The company also needs to undertake continual market research and evaluations in the form of customer evaluation surveys to maintain feedback and to be able to benchmark against the competition. This will in turn lead to a clearer definition of customer needs and the ability to prioritise the service and product that is delivered.

11.5 Future Outlook

Market segmentation is a fundamental pre-requisite for any engineering consultant firm that aims to be successful in supplying client services. The results should be analysed for the present or prospective situation and also over time. The industrial sector should also strive to achieve a balanced portfolio, (client maintenance and business development costs, in relation to profitability and potential sales revenue) which is a blend of current economic value and future growth, mixed with current and long-term relationships. This type of relationship in the market segment would present the aspects of both value and loyalty, which are of interest to both parties concerned.

Marketing is how Earth Tech achieves successful delivery of services to the client. It involves doing market research, analysing current potential, and setting goals & objectives. Earth Tech has a specific market; and therefore, a targeted approach and personal contact is better suited to the marketing plan. The service that Earth Tech provides is also an intangible service. The obstacle that Earth Tech faces is to market its guarantee of service and deliver consistently, so that the guarantee and commitment to service becomes tangible. As a service provider, Earth Tech must continually market to clients as well as delivering the service. Positive attributes that Earth Tech brings are loyalty and success in achieving a quick and positive resolution, should conflict arise.

Continual market assessment is essential so that missed opportunities are kept to a minimum. To give increased value and indicate any areas of weakness, a proactive approach should be initiated in assessing the market sectors and segments to differentiate prospects from non-prospects and determine which clients to focus on.

The previous chapters have described the location, clients, competition, selection criterion, stakeholders' interests and an approach to implementing a marketing plan. These areas are all fundamental to the decision process that is utilized in scenario planning and analysis. The following chapter discusses the area of scenario planning.

12 SCENARIO PLANNING

Kitimat used to be a major industrial base, with a strong economy and a thriving community. This paper has briefly discussed some of the challenges that Kitimat is facing at present. These challenges have raised concerns over the future of Kitimat as an industrial base. The future of the Earth Tech office in Kitimat, and any level of investment has to be evaluated based on these uncertainties.

One of the methods that is used to determine the possible futures and changes in the external environment is scenario planning, a process where each scenario is a description of what could happen in the future. The process that will be used in this section is to describe various scenarios and then evaluate two factors that are uncertain at this moment in time, in order to discuss the variations that may occur in the future. Following the scenario descriptions, the options of whether Earth Tech should pullout, remain static, or invest will be evaluated and discussed based upon the chosen scenario. As depicted in figure 12.1 below, the four possible scenarios are Smelter Expansion, Refinery Conversion, Economic Diversification, and Industrial Action.

Figure 12.1 Possible Scenarios

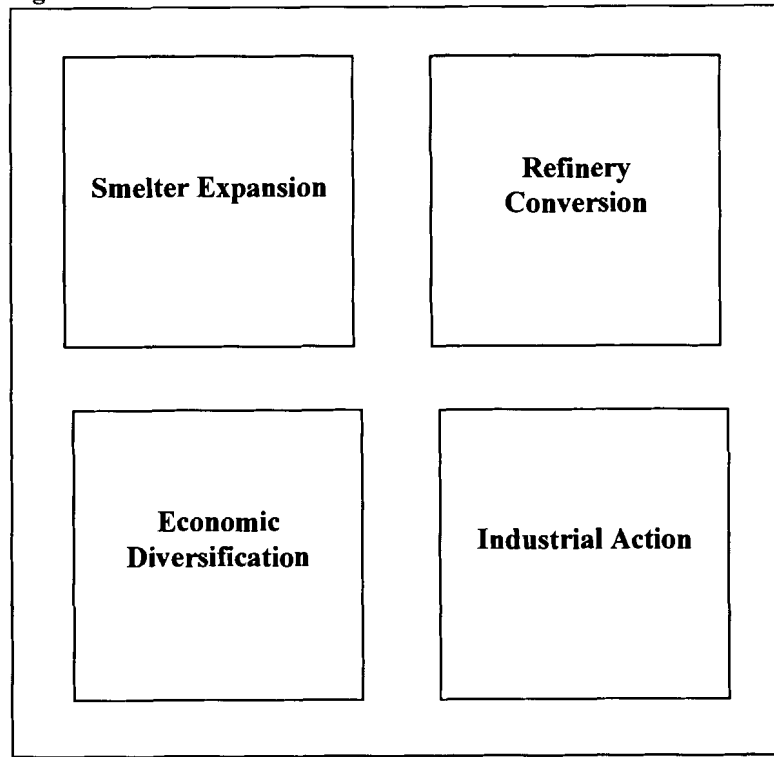


Figure created by author

12.1 Scenarios

12.1.1 Smelter Expansion

The first scenario that will be discussed is a smelter expansion at Alcan, Kitimat Works. This option was first proposed in 1997 and has been considered a number of times, with pilot studies having taken place to determine the feasibility on more than one occasion.¹¹ It is without question that any form of expansion or investment by Alcan would be good news for Kitimat, the economy and the declining population. However,

¹¹ The last major study was undertaken in 2000 by Alcan and Bechtel.

the mooted expansion has not taken place to date, with Alcan choosing to undertake expansions at Alma, Quebec and Gove, Australia over British Columbia.¹²

Another factor that may be impacting the decision is the current conflict between The District of Kitimat and Alcan. At present, The District has stated its intention to re-launch the lawsuit against Alcan. The provincial court overturned the original suit, which attempted to stop Alcan from selling electricity, but the District has decided to pursue the lawsuit from a different approach.

There are a number of factors that increase the pressure on Alcan to invest in Kitimat. The first is that a number of areas within the plant are suffering from ageing technology and need upgrading. As stated earlier, the annual maintenance costs are in the region of \$17 million. This figure would surely be reduced in a new modernized facility. The second area being evaluated is the system used in the reduction process¹² within the plant. New environmental regulations have set tighter limits for acceptable levels of emissions. The new laws and stringent controls have increased the burden on a plant that uses older technology, and this has led to continual monitoring of the emissions that are released from the existing reduction process. The process system used for smelting aluminum in more modern plants can bring substantial cost savings and increased metal production; and therefore the Kitimat plant would be under pressure to install this proven technology, as it would allow the smelter to be more sustainable and bring greater environmental benefits. The third factor is the physical size or ‘footprint’ of the smelter. It would be very difficult to find a Greenfield site in a location where an industrial plant

¹² The capital cost of each expansion is \$4 billion and \$2 billion respectively.

could be constructed at an affordable cost, without environmental opposition, and where a power supply was readily accessible and available. Also regulations require that an existing Brownfield site has to be cleaned and maintained if it is being abandoned. The last two factors alone carry substantial cost items and would have to be compared against the cost of expansion before any decision was made. One further point to be considered is that, if any major expansion was initiated, it would have to be undertaken in phases that considered the local community and infrastructure. Alcan has undertaken a study that revealed that the community has the capacity to handle an additional workforce of one thousand. The constraints appeared in accommodation and road infrastructure; therefore, additional lodging and a secondary river crossing would have to be included as part of any expansion plan should the project be fast tracked.

12.1.2 Refinery Conversion

Due to external market conditions, the current forecast is that the existing Methanol refinery will not be manufacturing methanol for export beyond January 2006. This decision would mean that the existing facility would have to be sold, mothballed or converted in order to import methanol, import a different product, or export a different product. Along with all of the scenarios being discussed, the decision on the above is unknown at this time; however, it does seem probable that the refinery will either be converted or sold. The ramifications of either event would be temporary or permanent redundancies, and Methanex employees have already begun to resign from the company, having secured employment in Alberta. A small number of employees will be given the opportunity to transfer to other Methanex locations, i.e. Egypt and Trinidad. The

engineering personnel, who decide to remain in town, will seek employment with other manufacturers, local consulting firms, or start up independent consulting operations. The outcome of this will be interesting as it will further change the balance of work that is awarded to the consulting group in Kitimat. It may be the case where fewer projects are awarded, or they may not be tendered as “full packages” as the additional engineering capacity may allow a lot of the “front end” engineering to be undertaken “in house”. Three other alternatives are: more contracts being awarded as the additional employees can assist in developing the internal project requests and help clear any backlog of work, increased competition due to the new small business enterprises that are set up and competing for a share of the engineering contracts, and finally the existing consulting firms increasing their office staff and securing more work due the additional personnel and their respective skills and knowledge.

12.1.3 Economic Diversification

The region of Kitimat-Stikine has suffered from a lack of investment and economic development for a number of years. Robin’s Donuts and SAAN were the last businesses to move into Kitimat and hire a substantial number of staff in 1996.¹³ The most recent non-industrial project undertaken was the construction of a new Hospital in Kitimat, which was completed in 2001. Even though local political and economic relations are strained, attempts to attract new business to the area are still ongoing.

¹³ The SAAN store closed in 2005.

12.1.3.1 Enbridge Inc.

Enbridge Inc, is proposing to transport condensate and petroleum through two pipelines, along the same right-of way, from Edmonton to Prince Rupert or Kitimat. The Gateway Pipeline project also includes a marine tanker terminal to service both pipelines. Enbridge has commenced environmental, engineering and land field studies to determine the best possible route, however the final decision to proceed is still subject to commercial considerations, and public and Aboriginal consultation. The president of Gateway Pipeline Inc, Art Meyer stated, “We value our relationships with the communities in which we operate, and we look forward to building similar relationships along the proposed pipeline corridor”.¹⁴ If approved, construction of the project would commence in 2008 with and be in operation by 2010.

12.1.3.2 Economic Development Corporation

The Chief Councillor of Kitimaat village, Steve Wilson, has embarked upon a strategy of economic development by partnering with existing businesses, and is creating an economic development corporation. The Haisla Nation has taken an interesting course of action with the formation of the economic development corporation, as it is separate from the overall band council. This was a bold step to take, and it allows the two separate entities to operate independently. This should help the Haisla move ahead and not be encumbered by political roadblocks. The path going forward will include training programs to develop internal resources with ultimate goal being able to manage economic development with complete self-governance. In the initial stages of development these

¹⁴ Jim Rennie, “Enbridge begins field studies for Gateway Pipelines Project [online], 2005

goals will only be achieved through partnerships with educational institutions, and both existing and prospective businesses.¹⁵

12.1.3.3 The Nechako - Kitamaat Development Fund Society

The Nechako-Kitamaat Development Fund Society is a non-profit society currently governed by six directors and staffed by one part-time manager. The society works to promote and enhance sustainable economic development in British Columbia's northwest communities, particularly those affected by the Kitimat-Kemano project and the creation of the Nechako Reservoir. The Government of B.C. and Alcan Inc. each contributed \$7.5 million to establish the Northern Development Fund in 1999, and another \$1 million in funding was granted for the 2004-2005 fiscal year. The investment income generated from this fund supports the grants program.

Colleen Nyce, Manager Corporate Affairs and Community Relations, Alcan, British Columbia, and member of the board of the Nechako-Kitamaat Development Fund Society stated, "I was very pleased to know that Alcan's \$7.5 million dollar economic contribution to this perpetual fund is being utilized on a consistent basis. We are also encouraged to see the calibre of economic initiatives all across the Nechako Watershed being made possible by the work of the Nechako Kitamaat Development Fund".¹⁶ The Nechako-Kitamaat Development Fund Society review projects throughout the year and their goal is to approve at least \$1 million per year.

¹⁵ Alcan and the Haisla Nation signed a letter of intent on June 2nd, 2005 to promote economic development in the region. The letter guides the parties' discussion towards a final land transfer agreement, which has been a key Haisla objective since signing the Alcan Haisla Relationship Protocol Agreement in 2002.

¹⁶ Nechako Kitimat Development Fund Society

12.1.3.4 Kitimat Liquefied Natural Gas

At present, an engineering and pre-construction assessment is being undertaken by Tractebel Gas Engineering GmbH, in relation to the proposed Liquefied Natural Gas (LNG) receiving terminal at Emsley Cove, 18 km south of Kitimat. The gas would be received at the terminal and then transported for use in the North American market. The environmental assessment application is under formal review and pending approval construction of the \$500 million facility is expected to commence in Spring 2006 and full operation is scheduled for 2009.¹⁷

12.1.3.5 Mining and Export

Cascadia Materials Inc, and Arthon Construction Ltd, intend to mine sand and gravel from an existing sandhill in Kitimat, for export to markets in southern British Columbia and the United States. It is also Cascadia's intent to construct port facilities to ship other products from Kitimat in the future. Agreements have been signed between Alcan and the two developers that include options to purchase and develop existing Alcan land for the port facility.¹⁸ In addition, discussions have also taken place between all of the parties, the Haisla Nation, local and regional economic bodies and local businesses.

¹⁷ Glen Edwards, "International firm wins Kitimat LNG Terminal bid," [online] 2005

¹⁸ Colleen Nyce, "Alcan Announces Economic Development Opportunity in Kitimat," [online 2005]

12.1.4 Industrial Action

The collective union agreement between Alcan and the manual labour workforce at Kitimat¹⁹ is re-negotiated every third year. The negotiations are generally undertaken over period of five to six months. Over the last thirty years only minor industrial action has taken place, i.e. the workforce has ‘walked out’ for periods up to 48 hours, before the two parties have reached agreement. It is possible in the future that agreement will not be reached and the workforce would strike en-masse.²⁰ This would leave Alcan with a number of options. If the ‘pots’ in the potlines are not in continual operation for a period of twenty-four hours, the smelting process is shut down and therefore no aluminum would be produced. The smelter would be effectively closed with only the staff members remaining to continue operations.

Alcan would have two options if industrial action does take place and the smelter is closed. The first option that Alcan would have is, undertake a full assessment of any expansion or rebuild. It takes a lot of planning to restart a smelter once it has been down for a period of time, so it would make sense to undertake engineering and construction projects before restarting smelting operations. The second option may be that Alcan choose to sell power, instead of smelting aluminum. This would strain the relationship between Alcan and the District of Kitimat further. This decision would also increase tensions within the community, and this may lead to acts of sabotage on the actual transmission lines. A further point to note is that if Alcan were to undertake a small

¹⁹ This is in sharp contrast to a smelter in Quebec, where agreement was reached and a contract was signed that covered a seventeen-year period.

²⁰ The last major strike at Alcan was in 1970. The strike lasted three and a half months and ill feeling still exists between Kitimat residents, as a number of workers crossed the picket lines to continue working whilst other union members and their families suffered hardship.

expansion due to an enforced closure, they would probably not re-hire the manual labour workforce en-masse. The plant re-start would have to be undertaken in a phased approach; therefore the re-hiring would also be undertaken in a phased approach. One could expect that Alcan would probably initiate a system whereby employees who had a good record of attendance and good conduct, would be hired back first.

13 SCENARIO ANALYSIS

The scenarios that have been chosen for the analysis are presented in figure 13.1 below. The axes show directly opposite conditions and this discussion is based upon whether Alcan will decide to rebuild coupled with the degree of economic diversification that may take place.

Figure 13.1 Scenario Diagram

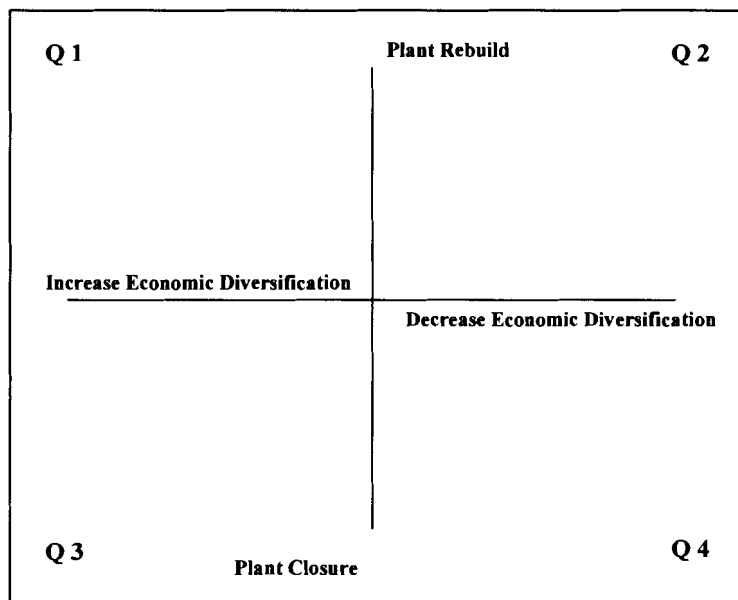


Figure created by author

13.1 Quadrant 1

The combinations of the options presented in the 1st quadrant are the most attractive for the client, community, investors and the supporting service industries alike. Should Alcan choose to rebuild, it would bring an end to the uncertainty of what has become one of the general topics of discussion in Kitimat since the cancellation of the Kemano K2 expansion project.²¹ As stated earlier in this paper, any rebuild or expansion project would be a significant investment and would require major planning before it could be undertaken. The community as a whole would feel the benefits, and the monetary aspects of the project alone, would help to reverse the tensions that exist within Kitimat. If this was coupled with an increase in economic diversification by investments in other projects and ventures within the region, it would see Kitimat and the surrounding area achieve the potential that was forecast during its conception. The combination would also be in line with Alcan's corporate statement of community development and sustainability, and this would not only increase their presence within the Pacific Northwest, but also bring global recognition to a company that implements its values where possible.

Although it is hard to forecast at this time, if Alcan were to increase the capacity of the smelter, it may bring an end to the lawsuit that has been lodged by the District of Kitimat; and therefore improve the relationship between the two parties. However, this is open to question, as any subsequent increase in the smelting capacity would also come with an increase in the power generation facility, which would still give Alcan the option

²¹ Kitimat works is supported by a power generating facility located in Kemano. An expansion project that would have doubled the capacity of the Kemano facility was cancelled in 1992.

of selling power on the open market. With all of the above factors taken into consideration, the options presented within the first quadrant appear to be very attractive and would bring a much-needed boost to the local and provincial economy.

13.2 Quadrant 2

With the fate of Methanex almost certainly decided, the combination of the options presented within the 2nd quadrant would force the residents and existing business community to become more dependent upon Alcan. This level of dependence would be intensified if the plant expansion were undertaken in conjunction with a decrease in the level of economic diversification and development. Any existing or potential supplier involved in the Alcan supply chain should benefit from this option, however it would give Alcan the stronger hand in any contractual arrangement and would probably allow the procurement department to negotiate substantial cost savings. This would generate revenue for a number of individuals but it would not bring benefit to all and would not see an even distribution of wealth or investment for the community as a whole. It cannot be guaranteed that any of the supporting industries involved in the expansion would remain in Kitimat following the duration of the project. However, if any did decide to remain and invest, it could be argued that this may start to generate economic development in itself, albeit slowly. It is hard to predict whether this option would bring about any substantial development for the Haisla and the residents of Kitimaat village in general, other than short-term employment and any 'spin off' from tourism related activities as a consequence of the expansion project. Therefore, this option would not be of benefit as this combination of events would significantly tip the balance of power in

Alcan's favour, compel the community to be reliant on Alcan and further emphasize the 'one-industry' town descriptor that is applied to Kitimat.

13.3 Quadrant 3

Quadrant three presents the combination of Alcan closing along with increased economic diversification. The community would have to adapt to the mindset that Alcan would not be providing employment for the majority of the population over a number of generations, and that Kitimat would not revolve around Alcan. At this moment in time, it is unlikely that this will take place but it may happen in the future. The interest in growing the industrial base in the region is evident by the projects that have been proposed or those that are already underway. With the pending closure of Methanex, it is also possible that Kitimat may witness a new industry establishing itself in town. The plant is relatively new and has been maintained to a high standard, and this will make it attractive to potential customers.

The Haisla nation is also moving ahead and establishing relationships with local businesses. The Haisla appear to be taking greater interest in business transactions and setting a course of action for the future. This has been demonstrated by the negotiations that have taken place with the Haisla and prospective businesses moving into town and by the recent transfer of land from Alcan to the Haisla.

The legacy of Alcan would remain for a number of years, if not indefinitely, as the company has been the major provider for more than half a century. Also whether the smelter were to be closed or acquired by another investor, the site would need to be cleaned up and that would have to be undertaken over an extended period. It could be

assumed that the power generating facility at Kemano would need to be utilised by any new business that moved into town. Therefore, unless control of Kemano was relinquished, it is fair to assume that Alcan would still remain involved, even if from afar. The options presented in quadrant three have to be considered, as the smelter is aging and a decision on its future has to be made at some stage. If Alcan closed the facility and continued to invest in the community over a number of years to support the transition this may be a course of action that not only satisfies shareholders but also ethical investors and the general public.

13.4 Quadrant 4

The combination of events presented in the 4th quadrant paints the darkest picture for Kitimat and the surrounding areas. This is one where the decision is taken to close the smelter and the level of economic investment is decreased. Some may say that this would not happen; however, it has already taken place on a lesser scale with the closure of the community of Kemano and the subsequent relocation of the residents. It would be hoped that if the decision to pullout from Kitimat was taken, along with no other form of economic investment, that the provincial government would step in to provide financial assistance to families and help them assimilate in other communities. This scenario would impact the province as a whole due the percentage of gross domestic product and business that Alcan generates on an annual basis. However, it would not be the first time where a decision has been taken to close operations in an industrial town in British Columbia, and should this happen then Kitimat would be added to the list along with Cassiar and Tumbler Ridge.

14 DISCUSSION AND CLOSING REMARKS

The following discussion is based upon the scenarios presented above and the options that are open to Earth Tech. Any decision that is taken today will have an impact on future operations. On the other hand, if the possible futures could be predicted with a degree of confidence, the outcome of the decision making process is likely to deliver a different set of results. This section will discuss the options open to Earth Tech, and suggest the various approaches that Earth Tech should take into consideration when formulating a strategy for the Kitimat office.

14.1 Withdrawal

It is possible that Earth Tech could withdraw and continue to support the local industries from a different location. This can only happen if the relationship is strong and if the employees have a particular skill set that is not available locally in Kitimat. If the skill set exists locally, then the client will choose the local vendor as long as they are reputable and cost competitive. This argument is supported by the fact that it is very hard to attract engineers in Kitimat. A lot of competent workers relocate due to inclement weather conditions, better opportunities, or the apparent pressure that living in Kitimat appears to have on the domestic setting. This is not to say that the workforce that exists in town is incompetent, but opens up the debate of whether the three major industries would be concerned if any of the consultants left town. Earth Tech needs to determine

how secure the local consultants in town are and whether the client would pay for the existing services provided if it meant importing them from Vancouver as opposed to resident in Kitimat. The possibility exists that the existing client base could get their resident engineering staff to undertake more work. However, this would increase the burden and the workload that appears to exist at present.

Therefore, if the consultant has developed a strong relationship and is familiar with the industrial operations, it should be possible to pull out from Kitimat, reside elsewhere and still be invited back for business. With any one of the scenarios presented above, Earth Tech has the option of withdrawing from Kitimat. However, only one of the scenarios presents a strong case to base this decision on, with the other three scenarios all suggesting potential opportunities. Therefore, the decision to close the office should not be taken without a full review of future investments and long term opportunities.

14.2 Status Quo

To remain static and wait for business to development would be an option; however, as stated earlier, the present corporate culture is to grow and therefore this would not be the course of action chosen by Earth Tech at present. If the Kitimat office continues under the existing status quo, this would increase the pressure to close the office. However, the office has maintained a profit margin greater than 42% and appears to be cost competitive. The costs of closing the office are minimal; the costs of re-establishing are not. The only scenario that predicted a bad future for Kitimat was plant closure combined with decreased economic development. Therefore the costs of

remaining in town and forging ahead to secure more work and increased revenues, outweighs the cost savings that would be achieved by executing a closure plan.

14.3 Growth

As Earth Tech has huge financial strength, the option of choice would be to take a proactive approach and grow the Kitimat operation. It makes economic sense to take advantage of the relationships that Earth Tech has with the existing clients and leverage these relationships so that Earth Tech is aware of any new developments or investment that are on the horizon. There is also the opportunity to capture new business with potential clients, i.e. The Haisla, Cascadia, Kitimat LNG, etc. The initial approach that is suggested to increase revenue is one where Earth Tech leverages the existing relationship with Alcan. This should be undertaken in the form of a strategy session between both companies, whereby information is shared. At present Earth Tech has existing ‘Master Service Agreements’ with over 100 companies in North America, as well as additional government contracts (See Table 14.1 below).

Table 14.1 Master Service Agreement

Industry Type	Master Service Agreements
Automotive	10
Energy	2
General Manufacturing	32
High Technology	11
Other	30
Pharmaceutical	4
Processing	23
Railroad	6
Wood Products	4

Table created by author; data source: Internal Earth Tech information

These contracts have improved Earth Tech's ability to service the client base, reducing paperwork and administrative costs and allowing Earth Tech to 'right-size' the service teams to the needs of the client. In addition, the client would begin to view Earth Tech as an extension to their operations.

Following on from this initiative Earth Tech could incorporate a similar policy in other North American locations where Alcan operate. The table presented in Appendix B lists the areas where both companies have operations within close proximity. The third and final recommendation is to leverage the relationship, to provide a global level of service and forming an alliance, i.e. if Alcan enters a country where Earth Tech has existing operations, Earth Tech could offer service and assist in minimizing the teething problems that are experienced when establishing operations in a new location. As both companies are global enterprises, the value of providing comprehensive services in multiple locations should be an option that is seriously considered. The social value and 'returns' from partnering with Alcan in economic diversification and sustainability issues, would have far more significance in the long term than the short term financial returns that are gained at present

14.4 Closing Remarks

The future outlook of Kitimat is still uncertain. The need for new investment has been brought to the surface again following the announcement of the pending closure of Methanex. Whilst this has signalled a downturn in the local economy, it has also received a boost with the potential new investments of LNG and aggregate material projects. The ongoing legal wrangle between Alcan and the District of Kitimat maybe hindering future investment in the local region,

as there has been a significant decline in the degree of cooperation afforded between both parties. The Haisla are actively pursuing their own economic interests by forming relationships with new partners and strengthening their existing relationship with Alcan. At this point in time the office is returning a profit, therefore, the recommendation for Earth Tech is to invest in the Kitimat and take advantage of the upcoming prospects both in Kitimat and within the surrounding region.

APPENDICES

Appendix A Earth Tech Financial Data

Table A.2 Kitimat Summary Financial

In millions of US\$	FY2002	FY2003	FY2004	FY2005 YTD
Professional Fees	732,533	387,997	613,939	360,822
ODC Revenue	76,388	31,669	29,079	1,558
Gross Sales*	808,921	419,666	643,018	362,380
ODC Cost	75,863	41,682	30,193	2,223
Net Sales	733,058	377,984	612,825	360,157
Direct Labour	311,608	163,950	240,936	158,916
Direct Fringe**	84,134	44,267	65,053	42,907
Gross Profit**	337,316	169,768	306,836	158,334
Gross Profit % of Gross Sales	41.7%	40.5%	47.7%	43.7%
Gross Profit % of Net Sales	46.0%	44.9%	50.1%	44.0%
ODC Multiplier	1.01	0.76	0.96	0.70
Net Bookings	382,826	296,649	331,262	191,524

* Excludes impact of reserves

** Estimated Fringe - @ 27% of Direct Labour

Table created by author; data source: Internal Earth Tech financial data

Appendix B Alcan and Earth Tech North American Locations

Table B.3 Alcan and Earth Tech North American Locations

Canadian Locations			
Province	Location	Earth Tech Offices	Alcan Operations
Alberta	Edmonton	1	1
British Columbia	Kitimat	1	1
British Columbia	Burnaby	1	1
Ontario	Brampton	1	2
Ontario	Toronto	1	1
Quebec	Southern Quebec	1	5
United States Locations			
California	Northern California	4	3
California	Southern California	3	3
Georgia	Atlanta	1	2
Kentucky	Mid Kentucky	1	4
Illinois	Chicago	2	2
Iowa	Des Moines	1	1
Minnesota	Minneapolis	1	1
Missouri	Bay St Louis	1	1
New Jersey	Bloomfield	1	4
New York	New York	2	2
North Carolina	Raleigh	1	1
Ohio	Northern Ohio	1	2
Tennessee	Morristown	1	1
Virginia	Richmond	1	1
Wisconsin	Milwaukee	1	1

Table created by author; data source: Internal Earth Tech information

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