

**COGNITIVE THINKING IN AN ECONOMIC STRATEGY  
AT PROVIDENCE HEALTH CARE IN GENERAL  
RADIOLOGY**

by

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**Title of Project:** COGNITIVE THINKING IN AN ECONOMIC STRATEGY AT PROVIDENCE HEALTH CARE IN GENERAL RADIOLOGY

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## **ABSTRACT**

The project presents an analysis of the resources, management preferences and organizational functioning of Providence Health Care (PHC) general radiology to identify gaps which create barriers to supporting the imposed strategy. PHC Corporation has an established strategy that supports the Vancouver Coastal Health Authority strategy, which itself supports the performance agreement with the Ministry of Health. It is a continual challenge to balance between the imposed low cost strategy and PHC's values differentiated cognitive strategy. The Federal and Provincial Governments mandate health care regions to meet fiscal targets. General radiology is consistently 0.044 percent over its allocated budget. Two internal gaps were identified: inadequate angiography financial resources; and the need to discover and nurture the organizational capabilities of staff. Two recommendations are made: a reallocation of funds to general radiology from programs that request angiography services, and enhanced nurturing of the abilities of the staff.

## **DEDICATION**

I wish to dedicate this work to my invaluable family, Gord, Adam and Natasha, who have inspired, encouraged and believed in me.

## **ACKNOWLEDGEMENTS**

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## **GLOSSARY**

<b>Biopsies</b>	Tiny cells and tissues are removed with a needle or during surgery and examined under a microscope to determine if cancer or other abnormal cells are present.
<b>Bowel</b>	Is a tube shaped organ in the abdomen that completes the process of digestion. There is both the large and small bowel. It is also known as an intestine.
<b>CT</b>	Computerized Tomography is a non-invasive, x-ray technique that creates a series of cross-sectional x-rays of the body. CT is also known as computerized axial tomography or CAT Scan. CT provides computer generated images of the body's bones and organs.
<b>Endoscope</b>	A long, flexible, lighted tube
<b>Endoscopic Retrograde Cholangiopancreatography</b>	A procedure that allows the physician to diagnose and treat disease in the liver, gallbladder, bile ducts and pancreas. The procedure combines x-ray and the insertion of an endoscope. The scope is guided through the patient's mouth and throat, then through the esophagus, stomach and duodenum. The physician can examine the inside of the organs and detect any abnormalities. A tube is then passed through the scope, and a dye is injected which allows internal organs to be imaged on an x-ray.
<b>Extremities</b>	These include hands, arms, shoulders, legs and all bones below the knees.
<b>Fluoroscopy</b>	An x-ray technique that allows the Radiologist to observe how an organ or joint performs its normal function. An example is how the esophagus works during swallowing.
<b>Mammography</b>	X-ray examination of the breast for detection of tumours.
<b>MRI</b>	Magnetic Resonance Imaging is a non-invasive, non-x-ray technique based on the magnetic field of the hydrogen atoms in the body. MRI provides computer generated images of the body's internal tissues and organs.
<b>PACS</b>	In medical imaging, Picture Archiving and Communication Systems (PACS) are computers or networks dedicated to the storage, retrieval, distribution and presentation of images.

<b>SARS</b>	Severe acute respiratory syndrome; a clinical syndrome characterized by fever, lower respiratory symptoms, and radiographic evidence of pneumonia.
<b>Stent</b>	A stent is used to either inflate a narrowed artery or to be a tube to introduce instruments for arterial repair. An example is the coronary stent, which is a stainless tube with slots. It is mounted on a balloon catheter in a "crimped" or collapsed state. When the balloon of is inflated, the stent expands or opens up and pushes itself against the inner wall of the coronary artery. This holds the artery open when the balloon is deflated and removed. Coronary artery stents were designed to overcome some of the shortcomings of angioplasty. Angioplasty is a technique that is used to dilate an area of arterial blockage with the help of a catheter with an inflatable, small, sausage-shaped balloon at its tip.
<b>Thorax</b>	The rib cage, also refers to the space containing the heart and lungs. There are twelve vertebral segments and rib.
<b>US</b>	Ultrasound is an imaging method in which high frequency sound waves are used to outline organs, tissues, and arterial functions. The sound waves are picked up and displayed on a television screen. US is also known as ultrasonography.
<b>Vascular angiography</b>	An x-ray in which contrast media is injected into arteries so that blood circulation can be studied.
<b>Virtual Colonoscopy</b>	Is an imaging examination, which uses x-rays or a magnet and computers to multi-dimensional images of the colon. This procedure is used to diagnose colon and bowel disease, polyps, diverticulosis and cancer. It is less invasive than a barium enema. This procedure can be performed with a CT(x-ray) or an MRI (magnet) scanner.

# **1 INTRODUCTION**

The purpose of the project is to analyse how the resources, management and General Radiology organization are functioning and to identify gaps that are barriers to supporting Providence Health Care corporate strategy. Although the performance agreements have been in place for the past three years, general radiography has continually been over its allocated budget at fiscal year end. The budget has been over by .044 percent consistently each of the past three years. Secondly, there is a challenge between the economic health care strategy imposed by Provincial Funding authorities based on low cost economic principles, and the faith-based health care strategy of a Catholic health provider. Providence Health Care Corporation has an established strategy that supports the Vancouver Coastal Health Authority strategy, which in turns supports the performance agreement signed with the Ministry of Health. There is a continual challenge to reconcile Providence Health Care values and the low cost health care delivery strategy.

## **1.1 Providence Health Care Radiology**

The organization being analysed is the Providence Health Care General Radiology Department, a unit of Providence Health Care Radiology. The focus of the project is to identify any gaps in the internal capabilities within Providence Health Care General Radiology and to recommend ways to overcome these gaps, to ensure consistency between internal capabilities and strategic requirements to make the imposed strategy work.

Unlike many industries in British Columbia, health care is a 'not for profit' government funded industry. According to Globe and Mail (June 10, 2005) 30 percent of health care spending

in Canada is in the private sector. This would indicate it is not a perfect monopoly. The Canadian Institute for Health Information collects the statistics within Canada. A breakdown of this data was not available during the course of this project. Individuals within the health care industry recognized the majority of private sector spending is in orthopaedic and eye surgery. Providence Health Care Radiology is one of the two diagnostic clinical services within the larger Providence Health Care organization. It is divided into five subsections or departments representing the five modalities: general radiology, ultrasound, magnetic resonance imaging, nuclear medicine and computerized tomography (CT). Three of the modalities are located at two Providence Health Care acute care sites. General Radiology, Ultrasound and CT are located at both St. Paul's Hospital and Mount Saint Joseph's Hospital. St. Paul's Hospital is located in downtown Vancouver; British Columbia, while Mount Saint Joseph Hospital is located in East Vancouver.

These two sites serve very different population groups. Providence Health Care General Radiology provides greater than 125, 000 diagnostic imaging examinations and 7,000 breast screening examinations annually. The majority of patients live or work in Vancouver, British Columbia. Some patients come from remote areas of British Columbia (including Vancouver Island) to receive services at the many tertiary care programs within Providence Health Care. Since radiology is a diagnostic tool, which aids in disease diagnosis and post treatment care, many patients enter the acute care health care system to receive diagnostic testing of one type or another.

General Radiology provides a variety of diagnostic examinations including screening and diagnostic breast imaging, fluoroscopy of large and small bowel, endoscopic retrograde cholangiopancreatography, heart biopsies, extremity and thorax radiography, interventional fluoroscopy and vascular angiography. The examinations are performed in the operating rooms, foot and ankle clinic, emergency departments, general radiology departments, interventional suite and vascular angiography suite. A smaller number of portable radiography examinations are

performed annually in the Intensive Care Unit, Cardiac Care Intensive Unit and on the hospital wards.

Within the five modalities at Providence Health Care Radiology, the majority of examinations are performed in the General Radiology department. Staffing consists of a Technical Leader, an assistant Technical Leader, ten supervisors, a clinical education coordinator and seventy technologists. All seventy technologists report to their designated supervisor, while the supervisors, assistant Technical Leader and education coordinator report directly to the Technical Leader. The Technical Leader reports to the Radiology Director and the Chief Radiologist. Both the Radiology Director and Chief Radiologist report to the Chief Financial Officer, who is a member of the Senior Leadership Team. The annual budget for General Radiology is eight million dollars of an overall Providence Health Care Radiology budget of thirty two million.

## **1.2 Providence Health Care**

Providence Health Care is the largest Catholic health care organization in Canada delivering compassionate faith-based care to 350,000 acute care patients and 700 residents annually, training medical professionals and making innovative advances in research (PHC Annual Report, 2004, p. 2). “It is a growing organization: between 2003 and 2004, acute care visits increased by 12% and 64, 500 emergency room visits are up by 7 percent” (PHC Annual Report, 2004, p.4).

The organization is steeped in tradition and compassion for the sick and less fortunate in the community. The guiding principle is ‘How you want to be treated.’ As a century-old organization with the first site opened in the late 1800’s, it remains both a vital and continually evolving organization to meet the needs of British Columbia. The sisters of the five founding



congregations were change agents in their time; this remains a scarlet thread throughout the hundred year history. The mission statement is formed from the traditions of the founding sisters:

“Providence Health Care is a Catholic health care community that respects the sacredness of all aspects of life. Inspired by the healing ministry of Jesus Christ, our staff, physicians and volunteers are dedicated to service and to the support of one another. In this environment of service, support and respect, we meet the compassionate care, teaching and research.” (PHC Who We Are, 2004).

Providence Health Care vision statement provides foresight:

“We will continue to grow as a community, regional and academic health science enterprise that is a recognized leader, and major player, in the provision of health care within British Columbia. We will be respected for our care and services, known for our Mission and Values, acknowledged for the contributions of our teachers and researchers. We will actualize our Vision by being an organization of caring hearts, creative souls, and resourceful actions” (PHC Who We Are, 2004)

The Providence Health Care value statement demonstrates what they hold in high esteem and is their guiding beliefs for practice:

**Spirituality:**

We nurture the God-given creativity, love and compassion that dwell within us all.

**Integrity:**

We build our relationships on honesty, justice and fairness.

**Stewardship:**

We share accountability for the well being of our community.

**Trust:**

We behave in ways that will generate trust and build confidence.

**Excellence:**

We achieve excellence through learning and continuous improvement.

**Respect:**

We respect the diversity, dignity and inter-dependence of all persons.” (PHC Who We Are, 2004)

Providence Health Care operates six facilities in Vancouver, British Columbia. St. Paul’s, Mount Saint Joseph and Holy Family hospitals deliver acute care, residential and rehabilitation services. St. Vincent’s Langara, Brock Fahmi pavilion and Youville Residence deliver intermediate and long-term care for the elderly. Areas of excellence include heart, maternity,

gynaecology, ophthalmology, renal, pain management, gastro-intestinal, diabetes, eating disorders, emergency, radiology, HIV / AIDS, general and specialized surgery.

People affiliated with Providence Health Care consider themselves a community of caring hearts, creative souls and resourceful actions. The community is made up of 5,300 staff, 1,500 physicians and researchers, 2,000 volunteers, donors and patients, and 700 elderly residents and their families (PHC Annual Report, 2004, p. 4). This sense of community sets them apart from other publicly funded health care organizations and ensures that daily they make a significant difference in the lives of all the individuals they serve. Providence Health Care is a separate entity under the denominational agreement in regards to obligations and rights. Regionally Providence Health Care collaborates with and receives funding via the Vancouver Coastal Health Authority.

### **1.3 Vancouver Coastal Health Authority**

The British Columbia Ministry of Health attempts to improve the operations and outcomes of the health services provided in the province of British Columbia. In collaboration with the local health authorities, the Ministry of Health has developed performance agreements with each health authority. There are six local governing health authorities in the province of British Columbia including the Provincial Health Authority Services and five geographic health authorities (Ministry of Health Services, 2004). The performance agreements are revised annually to reflect the evolving relationship between the organizations and the progressive priorities of the government (PHC Annual Report, 2004, p. 2). Vancouver Coastal Health Authority holds an agreement with the Ministry that defines the performance deliverables and holds the local health authority accountable. The goals of the Ministry include: high quality patient-centred care, improved health and wellness for British Columbians, and a sustainable and affordable public health system. The Ministry plans to achieve these goals by setting direction, developing

legislation, policy and standards, allocating funding, monitoring the health care system, and acting to improve performance when necessary. The role of the Vancouver Coastal Health Authority is to identify the needs of the local population, plan and provide services to the public according to legislation and Ministry policy, and partner with the Provincial Health Services Authority in the management and delivery of provincially delivered services (Performance Agreement, 2004, p. 2). Vancouver Coastal Health Authority is the second largest health authority in the province of British Columbia. Table 1.1 provides a glimpse of the Vancouver Coastal Health Authority.

**Table 1.1: Vancouver Coastal Health at a Glance**

Annual funding	\$1.9 Billion
Population served	1,003,150 (25% of BC's population)
Number of Staff	27,020
Number of Volunteers	3,000+
Geographic area	54,165 km <sup>2</sup>
Municipalities and Regional Districts	17
First Nation Communities	15
Denominational Agreements	Providence Health Care, Bella Bella/Bella Coola communities
Facilities	476 buildings; 556 locations; 12 million ft <sup>2</sup>
Asset value	\$1.2 billion
Hospitals (Acute care facilities)	14
Diagnostic and treatment centres	2 (Whistler Healthcare Centre; Pemberton Healthcare Centre)
Number of contracts with other health agencies	300+

[http://www.vch.ca/about\\_us/about\\_us\\_glance.htm](http://www.vch.ca/about_us/about_us_glance.htm) May 30, 2005

The role of Vancouver Coastal Health Authority is to govern, manage and deliver quality health care services to people living in North Shore/Coast Garibaldi, Vancouver and Richmond areas plus to all British Columbians requiring highly specialized health services (VCH Strategic Vision, 2004). Providence Health Care facilities and data are included in the Vancouver Coastal Health statistical data. Therefore, the strategic plan developed by the Vancouver Coastal Health Authority does influence Providence Health Care's strategic plan in that the authority's goals

must be achieved. Under the denominational agreement Providence Health Care can develop its own strategic plan, but the agreed outcomes of the performance agreement between Vancouver Coastal Health Authority and Ministry must be met.

#### **1.4 Providence Health Care General Radiology Relationship to Providence Health Care**

Providence Health Care Radiology Department is one of fourteen clinical services within Providence Health Care organization. Radiology is considered an area of outcome excellence at Providence Health Care. The reasons for this is the ongoing high academic standards, innovative equipment utilization, cutting edge technology, superior radiologists and technologists and collaboration with research, programs and clinical services within Providence Health Care. The Radiology department has significant linkages with the following programs; acute services, eldercare, residential care, heart centre, HIV/AIDS, medicine, ambulatory, mental health, renal and surgery.

Although, Providence Health Care General Radiology is a small entity in the overall picture of Providence Health Care, if there are poorly organized internal capabilities it could negatively affect the success of strategic plan of Providence Health Care, which could ultimately affect the agreed upon outcomes signed in the performance agreement. The goal of Providence Health Care General Radiology is ensure it contributes to the success of Providence Health Care Strategic Plan, and supports the Vancouver Coastal Health Authority Strategic plan. The Vancouver Coastal Health Authority Strategic Plan ensures the success of the signed performance agreement with the Ministry of Health.

## **1.5 The Impact of Imposed Cost Based Strategy with Differentiated Service on General Radiology**

In this section, it will be shown that Providence Health Care operates within an imposed cost based strategy but as a faith-based organization providing a differentiated service. The management and staff are committed to providing a differentiated service in obedience to a higher calling. The low cost strategy and their values can create conflict.

A cost based strategy is characterized by low cost, no frills products such as a generic hospital room, product design, production and operations, scale economies and experience curve. This is very different from a differentiation strategy, which might include luxury medical accommodations for the wealthy, superior product offering, added service, broad product line, quality and brand name (Aaker, 2001, p. 189). The differentiated strategy in service is in providing the faith-based element to ensure the body and soul of the patient receives excellent care.

Competition from private imaging facilities and public imaging facilities do not pose a significant risk at this time. There are five main reasons. First, many Canadians still refuse to pay for private health care, although as the baby boomers continue to age they seem more willing to pay for services they feel are necessary. Second, there are enough general radiology examinations to sustain both the smaller private clinics and larger public system, and some basic examinations such as chest x-rays are paid for by the Ministry of Health at private clinics. Physicians with hospital privileges tend to support the hospital where they work and do not seek additional employment elsewhere. Third, some highly specialized general radiology examinations such as angiography cannot be performed at private clinics. angiography requires acute care support in the event of adverse reactions, and the high cost of performing angiography examinations makes it highly unprofitable for private industry to enter into these specialized general radiology examinations. Fourth, the aim of the Canada Health Act is to ensure that all eligible residents of

Canada have reasonable access to insured health services on a prepaid basis, without direct charges at the point of service for such services, and that these examinations are medically necessary (Canada Health Act, 2005). Therefore, this prevents individuals from seeking medically unnecessary examinations even if they are willing to pay for them. Finally, competition between health care regions is minimal because the Ministry performance agreement encourages regions to focus on their individual population base since the Ministry provides operational funding only for the designated local population base.

The “product” in general radiology is the performed examination. There should be no difference in a general radiology examination performed at different health care regions, as there is a national and international standard for each individual examination. The end product must be a diagnostic image in order to provide accurate diagnosis to ensure high quality patient care. A substandard examination is considered non-diagnostic and should be rejected by the radiologist interpreting the image. Therefore, the goal is to perform the examination at an acceptable level of quality at the lowest possible cost.

There are no research and development costs in general radiology. When general radiology performs examinations for external research projects based at Providence Health Care, the organization partners with the local universities or government agencies and receives funding directly through those sources. Since research does not draw upon the financial resources of the organization, it is outside of the discussion of a cost based strategy.

Providence Health Care is a centralized structure with six facilities in very close proximity. It operates within the region of the Vancouver Coastal Health Authority, which is also centralized in a close geographical area within British Columbia. Thus the Providence Health Care organization and Providence Health Care General Radiology are highly centralized, which supports a cost based organization.

Strategic decisions are made by the Senior Executive Team (SET) at Vancouver Coastal and by Senior Leadership Team (SLT) at Providence Health Care. Thus there is little autonomy for major decisions, although operational decisions within general radiology are a collaborative process between the Radiology Director, Chief Radiologist and Technical Leader with somewhat more autonomy. Decision making clearly supports a cost based strategy.

Purchasing is now a regional initiative for medical supplies, plus large and small capital equipment. This enables economies of scale for items used in patient care and has resulted in a reduction in medical supply and equipment costs because of the increased buying power. Once again this supports a cost based strategy.

Marketing is not permitted in the usual business sense, but patient information is provided within the specific communities, which Vancouver Coastal Health Authority services. Thus this includes Providence Health Care organization and Providence Health Care General Radiology. The College of Physicians and Surgeon interprets as one of its roles to protect the public from any unethical practices or undue influences on physicians. Therefore, it prohibits any direct marketing to physicians in British Columbia. Thus marketing is not a relative benchmark to determine a cost based or differentiated strategy in public health care.

Providence Health Care organization and general radiology is generally considered a low risk industry, as many procedures and policies are in place to ensure patient, staff and visitor safety. There are very few adverse reactions or unexpected injury or death due to negligence. There is a high fiscal risk for Providence Health Care and Vancouver Coastal Health Authority if they do not fulfil the performance agreement. The largest fiscal risk could be denied or reduced funding.

The capital structure is a lump sum payment to Providence Health Care organization from Vancouver Coastal Health Authority. This payment is based on the performance agreement

worked out with Vancouver Coastal Health Authority and the Ministry of Health. When Vancouver Coastal Health receives the payment from the Ministry it disperses funds based on the strategic plan of Providence Health Care in collaboration with Senior Executive Team at Vancouver Coastal Health Authority.

The government mandates that all facilities in Vancouver Coastal Health Authority including Providence Health Care meet fiscal targets and not overspend. The consequences of not fulfilling that obligation would be denied or reduced funding, as discussed earlier. The target of Providence Health Care is to provide excellent patient care and to reduce costs. Over the last three years the organization has continually reduced operating costs. A significant reduction in costs resulted from the closure of Providence Health Care's third acute care hospital (St. Vincent's Hospital) in March 2004.

A conservative capital structure is one in which the debt does not grow faster than the equity, but since there are no equity investments in public health care, a conservative cost structure does not apply. There are no additional funds for equity investment as in a private business, and the government prohibits leveraging assets to increase funding for operations. The historical reality was a bleak track record of uncontrolled spending and at the end of the fiscal year the government erased the debt. The new provincial government has taken fiscal accountability seriously and future funding is now based on meeting today's performance targets. Taken as a whole, Providence Health Care organization works under an imposed cost based strategy but provides a differentiated service to heal both the patient's body and soul. This can create a conflict between what management desires to provide and the operational funds available to provide the desired service.



## **1.6 Decision Criteria**

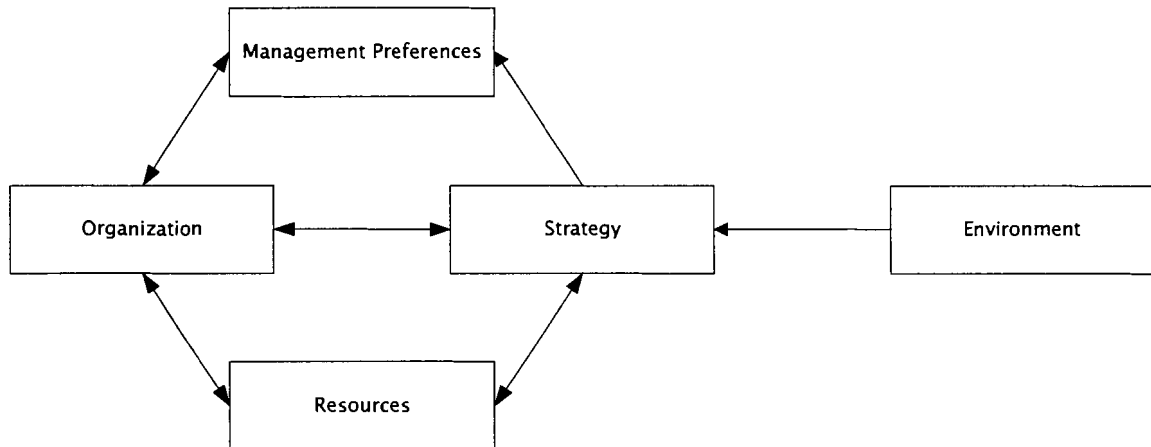
The ultimate decision makers are the provincial government and their mandate of budget conformity with penalties for non-compliance. At the senior and section management leadership level there is conflict between the need to meet the budget target and the need to implement the values of the organization. The decision makers within Providence Health Care General Radiology are the Radiology Director, Chief Radiologist and Technical Leader. The standard for decision making is to support the Providence Health Care corporate strategy, which in turn supports the Vancouver Coastal Health Authority strategy, which in turn fulfils the Vancouver Coastal Health Authority and Ministry performance agreement. Decisions in general radiology that do not support the strategy can negatively affect the overall ability of Providence Health Care to fulfil its strategic plan. Therefore, it is critical to carefully weigh each decision in light of the corporate strategy to ensure strategic success and to implement the values within the service provided. The frontline staff decision criterion is to provide service based on the values rather than budget constraints.

## **1.7 Organizational Internal Capabilities**

Crossan, Fry and Killing's Diamond-E (Crossan, Fry & Killing, 2005, p. 42) is the framework used for analysis within this project. When developing a new business strategy, the 'Diamond E' model is a method which analyses business strategy formulation to determine if the proposed strategy is feasible. The model uses a systematic approach that begins with an industry analysis and moves towards the impact of management preferences, organization capabilities and resources to determine if these factors support the strategy. In the Canadian public health care system, operational leaders have no control over the environment or the imposed strategy. The project analysis will focus on the left hand side of the diamond (see Figure 1.1). The analysis of Providence Health Care General Radiology involved resource analysis, management preference

analysis and identification of the organizational changes, management processes, and leadership behaviour to develop the capabilities needed to support the mandated strategy.

**Figure 1.1: Diamond-E Framework**



*Figure from Crossan, Fry & Killing, 2005, p.42.*

## **1.8 Chapter One Summary**

Chapter one introduced Providence Health Care and the challenges the imposed cost based strategy presents in an organization that desires to provide a differentiated service. The left hand side of the Diamond E model will be the framework used to determine if management preferences, organizational capability and resources will fulfil the imposed economic strategy given the current industry environment. In chapter two a detailed industry analysis will enable the reader to identify the factors that affect rivalry and to develop a greater understanding of the general radiology industry.

## 2 INDUSTRY ANALYSIS

### 2.1 Schools of Strategic Management Theory

The first schools of strategic management emerged in 1960. Almost forty years later, in 1998, Mintzberg, Ahlstrand and Lampel challenged the theorists of strategic management to reconcile, rather than to continue to isolate, the many schools of thought which had emerged (Mintzberg, Ahlstrand & Lampel, 1998, p. vii). We are the blind people and strategy formation is our elephant. Since no one has had the vision to see the entire beast, everyone has grabbed hold of some part or other and 'railed on in utter ignorance' about the rest. We certainly do not get an elephant by adding up its parts. An elephant is more than that. Yet to comprehend the whole we need to understand the parts (Mintzberg, Ahlstrand & Lampel, 1998, p. 3).

Mintzberg, Ahlstrand and Lampel in their work Strategy Safari describe ten schools of strategy formation (see Table 2.1). Although each approach was interesting and insightful, the authors felt that they were also narrow and overstated (Mintzberg, Ahlstrand & Lampel, 1998, p. 4). Strategy Safari is a review of the evolution and current state of strategic management. Within the ten schools of thought there continues to be growth and decline in popularity.

Mintzberg disagrees with the popular definition of strategy as top management's plan to attain outcomes consistent with the organization's mission and goals. He suggests strategy requires five distinct definitions. Strategy is a plan, a pattern, a position, a perspective and a ploy. (Mintzberg, Ahlstrand & Lampel, 1998, pp. 9-15). Mintzberg offers four warnings regarding strategy.

**Table 2.1: Schools of Thought on Strategy Formation**

<b>Nature of Process</b>	<b>School</b>	<b>Strategy formation as a...</b>
Prescriptive in Nature (how strategies should be formulated)	Design	<i>Conception process</i>
	Planning	<i>Formal process</i>
	Positioning	<i>Analytical process</i>
Descriptive in Nature (how strategies are formulated)	Entrepreneurial	<i>Visionary process</i>
	Cognitive	<i>Mental process</i>
	Learning	<i>Emergent process</i>
	Power	<i>Negotiation process</i>
	Cultural	<i>Collective process</i>
	Environmental	<i>Reactive process</i>
Collective in Nature	Configuration	<i>Transformation process</i>

*Chart is adapted from Mintzberg, Ahlstrand & Lampel, 1998, p. 5.*

First, strategic direction charts the course but can also serve as a set of blinders to hide potential dangers (Mintzberg, Ahlstrand & Lampel, 1998, p. 15). Second, strategy focuses effort but can also lead to groupthink (Mintzberg, Ahlstrand & Lampel, 1998, p. 15). Third, strategy defines the organization but also can lead to stereotyping (Mintzberg, Ahlstrand & Lampel, 1998, p. 17). Fourth, strategy provides consistency but can hinder creativity (Mintzberg, Ahlstrand & Lampel, 1998, p. 17). He concludes that strategies are to organizations what blinders are to horses: they keep them going in a straight line but do not encourage peripheral vision (Mintzberg, Ahlstrand & Lampel, 1998, p. 18).

This project incorporates two of the ten schools of strategic management: the more traditional view of the Positioning School and the less tradition view of the Cognitive School. One of the tools within the Positioning School is Porter's Five Force Analysis. It focuses on analysis and calculation and is used in the external environmental analysis in chapter two of this project. For the purposes of analysing the external general radiology environment the views of the Positioning School suffice because of it's analytical nature. Key to this strategy is an organization's position in the economic marketplace, which is desirable in any given industry, and which can be defended against existing and future competitors. Ease of defence means that firms which occupy these positions enjoy higher profits than other firms in the industry and that

in turn provides a reservoir of resources with which to expand, and can enlarge as well as consolidate their position (Mintzberg, Ahlstrand & Lampel, 1998, p. 83). Unmistakeably, the Positioning School strategy works for many industries, but I argue it is inadequate and does not fully represent the public not-for-profit health care sector. Therefore, I feel it is necessary to explore the Cognitive School of strategic management to examine the bias for management preferences in chapter three of this report. Although it was primarily the Positioning School that was explored in the EMBA program, I will show that the operation of a Catholic health care organization is more closely aligned with the Cognitive School of strategic management. F. Scott Fitzgerald once said that, “The test of first rate intelligence is the ability to hold two opposed ideas in the mind at the same time and still retain the ability to function.”

Michael Porter developed the ‘Five Force Model’ in 1980, in his well-known book *Competitive Strategy*. (Porter, 1980, p.4) It is this framework that will be used to analyse the competitive rivalry within the health care industry and will reveal the attractiveness for new entrance into the industry. Porter postulates that five forces influence an industry and analysis of those forces will reveal threats and opportunities in the environment. Analyzing the five forces provides an external environmental examination, which, in the case of health care, would enable management to have an edge over rival health care sites and regions. Porter’s framework is also considered an ‘outside-in’ view (Mintzberg, Ahlstrand & Lampel, 1998, p. 277). Porter works within the Positioning School of strategic management theory.

### **2.1.1 Porter’s Five Forces Analysis**

The five forces include: threat of new entrants, bargaining power of a firm’s suppliers, bargaining power of a firm’s customers, threat of substitute products and intensity of rivalry among competing firms. New entrants, supplier power, buyer power, availability of substitute products affect competitive rivalry, but also rivalry does have a dynamic of its own. This model

can give us insight into the general radiology industry in British Columbia, in which the Providence Health Care General Radiology operates. The analysis determines the degree to which each force influences the general radiology industry thus providing an overall external environmental analysis (see Figure 2.1).

In order to assess the impact of the forces on the industry it is necessary to develop a scale. The scale used to determine the forces' impact on general radiology industry was low, moderate or high. The overall score for low impact on the industry was defined as between one and two, moderate impact scored between three and four, whereas high impact scored five.

#### **2.1.1.1 THREATS TO NEW ENTRANTS – High**

Increasing the barriers to entry discourages new firms from entering the general radiology industry, which results in maintaining profit levels for those firms currently in the general radiology industry. Barriers can be created or exploited to enhance a firm's competitive advantage (Quick MBA Porter, 2004). A high barrier to entry results in fewer new firms entering the market and competing which usually leads to friendly competition among those already established. A low barrier to entry results in many new firms entering the market and competing for the same clients, which results in a highly competitive environment. Entry barriers are similar to exit barriers in that they affect competition. If it is difficult for a firm to exit the market, rivalry is significantly increased because the firm must continue to compete within the market.

**Figure 2.1: Providence Health Care General Radiology Five Force Analysis**

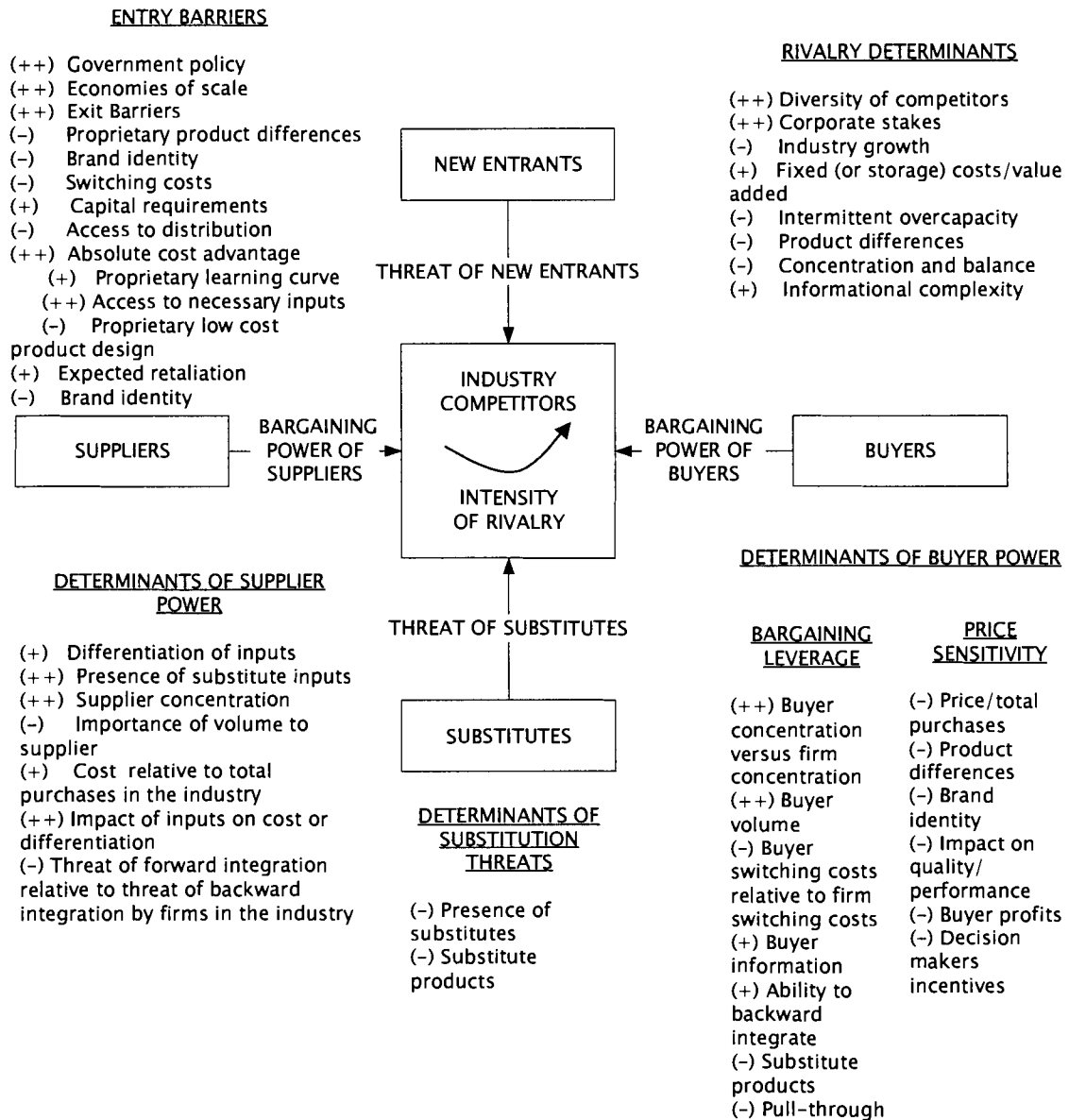


Chart is adapted from (Porter, 1980, p.4).

### 2.1.1.1.1 (++) Government Policy

Government policy is a high barrier to entry for new entrants. The Federal and Provincial government share the monopoly on health care in Canada. The federal government enacted the Canada Health Act in 1972. The Canada Health Act defines how Canadians receive health care.

The act is Canada's federal health insurance legislation, and is based on the following five premises: public administration, comprehensiveness, universality, portability and accessibility. The provinces are responsible for administration and delivery of health care services. The Canada Health Act establishes the criteria and conditions of insured health care services - the national standards - that the provinces and territories must meet in order to receive the full federal cash transfer contribution under the transfer mechanism, that is, the Canada Health and Social Transfer (CHST). The aim of Canada's health care system is to ensure that all residents of Canada have reasonable access to medically necessary insured services without direct charges (Canada Health Act, 2005). Initially the federal government provided all the funding for health care, but that contribution has steadily decreased and the provinces now assume budgetary shortfalls.

All acute care general radiology sites across British Columbia are funded and supported by a single health care source, the British Columbia Ministry of Health. The general radiology industry must be approved to operate and must remain within the funding guidelines. The government carefully regulates the number of general radiology sites operating in any given radius. There are a few private general radiology clinics who have been issued operating licenses by the Provincial Government, but they pose no serious competitive threat to the overall general radiology industry. Because a new entrant cannot enter the market without a licence from the government, this creates an extremely high barrier to entry.

The Canada Health Act provides the framework for the health care needs of Canadian's regardless of their individual circumstances. Since the Canadian Federal Government uses the Health Care Act to prevent additional billing above the Provincial procedure fee guidelines allowed for each procedure, the diagnostic image, which is the end product; cannot be sold at a premium price either to the patient or to the Provincial Government. Thus fewer new entrants choose to enter the market as the Provincial Government sets the fee schedules for the procedures



and minimum efficient scale is so high in proportion to total market demand, there is little room for new entrants.

The fee guidelines are made up of both the technical fee and the professional fee. The technical fee is an operational fee per procedure whereas the professional fee is the amount paid directly to the physician. General radiology procedures generate minimum revenue from technical fees paid by the Provincial Government, but still generate higher overall revenue than modalities such as CT and MRI because technical fees are not paid out for these exams. Radiologists receive a significantly higher professional fee for interpreting a CT or MRI examination compared to a general radiology examination. Ultrasound (US) generates even higher technical and professional fees than general radiology and can therefore be a source of high revenue generation. Many radiologists would prefer to earn the higher professional fees obtained under CT, MRI and US which do not fall under the category of general radiology.

In Canada, the patient does not directly purchase general radiology products; the government purchases the product on behalf of all taxpayers. Federal and Provincial taxes paid by Canadian taxpayers contribute to the revenues earned by the two levels of government. According to the World Health Organization (WHO) 2001 statistics, Canada's total expenditure on health as an expenditure of Gross Domestic Product (GDP) is 9.5 percent (Medhunters, 2005). In British Columbia, greater than 43 percent of the provincial budget is spent on health care (Canada Health Act, 2005).

Although the provincial regulations allow for a limited number of general radiology facilities in any particular catchment area, this may change due to a recent Supreme Court of Canada ruling that could significantly affect market demand. On June 9<sup>th</sup>, 2005 the Supreme Court of Canada ruled in the case of George Zeliotis. Mr. Zeliotis argued that his constitutional rights to life, liberty and security of the person were violated by a year-long wait for a hip

replacement in the province of Quebec. Four of the seven judges agreed that the wait violated the Quebec Charter of Rights, but the judges were divided on whether the Canadian Charter of Rights had been violated. One judge abstained from voting and the vote was split 3-3 (CTV Quebec Court Ruling, 2005). Ultimately, this ruling means Quebecois can begin paying for private health services. This could lead to similar legal challenges across the country, which in turn could increase the number of private general radiology clinics that patients with private insurance could pay for services. This argument would be valid concern in the case of CT or MRI procedures, but since these two modalities are not within general radiology, the court ruling will have little or no affect on the general radiology industry. The reason the ruling does not increase rivalry is there is no current waitlist except for barium enemas. In the case of barium enemas, if a patient is suspected of having a cancerous lesion they receive the procedure without delay. In summary, the Health Care Act is the framework for a socialized Medicare system, which prevents general radiology operating in a free market. In addition, the government monopoly health care industry requirement for approval for new entrants, lack of general radiology waitlists and limitations of the fee guidelines, all create high barriers to entry. Government policy, which limits entry, is a high barrier to entry and lowers the competitive dynamics of the industry.

#### ***2.1.1.1.2 (++) Economies of Scale***

Economies of Scale are a high barrier to entry within the general radiology industry. The following text defines the term ‘economies of scale’ and describes an application of economies of scale. An example is provided which describes how barriers to entry for new entrants into industry can be affected by lack of economies of scale.

The most cost efficient level of production is termed ‘Minimum Efficient Scale’ (MES). This is the point at which unit costs for production are at minimum – i.e., the most cost efficient level of production. If MES for firms in an industry is known, then we can determine the amount of market share necessary for low cost entry or cost parity with rivals. For example, in long distance communications roughly 10% of the market is necessary for MES. If sales for a long distance

operator fail to reach 10% of the market, the firm is not competitive. The existence of such an economy of scale creates a barrier to entry. The greater the difference between industry MES and entry unit costs, the greater the barrier to entry. So industries with high MES deter entry of small, start-up businesses. To operate at less than MES there must be a consideration that permits the firm to sell at a premium price – such as product differentiation or local monopoly (Quick MBA Porter, 2004).

There is no data to indicate whether general radiology firms in British Columbia operate on an average total cost curve. Neither are there data indicating the total provincial demand for general radiology examinations in British Columbia. In reality the general radiology industry in British Columbia is a monopoly. The presence of a monopoly market suggests that the average total cost curve is decreasing continuously along a large range of product output. Therefore, MES is so high in proportion to total market demand that there is room for only one business to exploit the economies of scale and serve the entire market, which is, of course, indicative of a natural monopoly. But public health care in Canada is a monopoly industry, not because it is a natural monopoly, but because it is considered a historical right of citizenship. In 1962, Tommy Douglas expanded his Saskatchewan campaign to have universal health care funded by the Federal Government for all Canadians.

Most procedures in general radiology are outpatient procedures. This means that the patients are not admitted into a hospital bed for an overnight stay. This is beneficial to the system in that these radiological procedures do not utilize the highly demanded hospital beds and also do not put a strain on the global budget for inpatient care. A second positive aspect of general radiology is the large potential to spread the fixed costs over a greater volume of product by increasing the number of examinations and hours of service. The result is a reduced average total cost. The limiting factors here are the availability of radiologist to interpret the examinations and the small waitlist for general radiology procedures (other than for barium enemas).

#### ***2.1.1.1.3 (++) Exit Barriers***

The cost to exit the general radiology industry is high due to asset specificity; therefore every effort should be made to ensure efficient and profitable operations. This factor leads to rivalry among competing general radiology firms. The form of rivalry can be seen within the general radiology industry through its latest generation equipment, efficient operations and friendly professionals in attempts to gain and retain as many patients as possible. The general public is aware of general radiology services that have the latest technology or appear to have outdated technology. Though the general public may not understand the technical nuances regarding radiology equipment, the perception is critical to retaining the patient for future general radiology procedures. High exit barriers are a significant factor in increasing rivalry within the general radiology industry.

#### ***2.1.1.1.4 (-) Proprietary Product Differences***

Proprietary product difference does not discourage new entrants from entering the general radiology industry and is therefore a very low barrier to entry. It refers to ideas and knowledge that provide competitive advantage and are treated as private property when patented, preventing others from using the knowledge. Proprietary product difference creates a barrier to entry (Quick MBA Porter, 2004, p. 7). In general radiology this factor does not apply. The reason is that there is a national standard for both the technical production of the general radiology image (the end product) and for interpretation of the general radiology image by the radiologist. The Canadian Association of Medical Radiation Technologists (CAMRT) and the Canadian Association of Radiologists (CAR), both professional organizations, maintain the national technical standard. Therefore, proprietary product differences do not exist, because of the high standards and regulations within the industry. The government and regulatory bodies such as CAMRT and CAR ensure the standards are adhered to in both the public and private general

radiology industry. Proprietary product differences are not a barrier to entry into the general radiology industry because of standards and regulations.

#### ***2.1.1.1.5 (-) Brand Identity***

Brand identity does not increase rivalry within the general radiology industry, as in a monopoly industry there is one brand – the government brand. The government brand is known as public healthcare; therefore brand is a very low entry barrier. Kotler defines brand identity:

Branding is a major issue in product strategy. A brand is a complex symbol that can convey many levels of meaning. Branding is expensive and time consuming, and it can make or break a product. The most value brands have brand equity that is considered an important company asset and must be carefully managed. In thinking about branding strategy, companies must decide whether or not to brand; which brand names to use; and whether to use line extensions, brand extensions, multibrands, or co-brands. The best brand name suggests something about the product's benefits; suggest product qualities; are easy to pronounce, recognize, and remember; are distinctive; and do not carry negative meanings or connotations in other countries or languages (Kotler, 2003, p. 439).

Product brand identity is a strategy to lure the customer to purchase one product over another product. General radiology produces homogenous products according to national standards. Patients across Canada acquire similar products when receiving general radiology procedures. Therefore, the concept of branding has had little relevance, but now with the Supreme Court (June 2005) ruling in Quebec, patients could be lured to private clinics by attractive branding such as “We care - *You get immediate care.*” Tom Koch suggests that the provincial government 2004 spending of nine hundred million on advertising and promoting the restructuring of health care in British Columbia can be seen as equivalent to repositioning the brand (Koch, 2004, p.44). But given that the product of health care is homogeneous, it appears the government political agenda had little to do with the product of health care and therefore concept of brand identity has limited application. Therefore, brand identity is not a barrier to enter the general radiology industry, in fact many Canadians consider the government brand of health

care in a negative light and thus a rival with a new brand could be a welcomed entrant, if it were a free market.

#### ***2.1.1.1.6 (-) Switching Costs***

Switching costs are minimal and thus are an insignificant barrier to entry within general radiology. Switching costs discourage consumers from switching to competing suppliers. In general radiology if the acute care sites were unable to meet the needs of the patient, the patient is able to currently seek out a private general radiology clinic at no additional cost to the patient. Therefore, there is no additional switching cost. Once again this would not be true for speciality modalities such as CT or MRI. Although this is outside the scope of this project, it is necessary to understand the modality differences and their impact on switching costs. If the patient sought out private CT or MRI clinics for procedures there would be a high switching cost. An entrant into an industry must compensate consumers for their costs of switching by offering them higher quality and/or lower price. Switching costs are the cost for supplies, equipment, staffing, contract payouts and advertising incurred when a manufacturer switches from producing one product to producing a different product. Switching costs can also refer to the costs incurred by a client when switching from one product to another. A current example is switching from public to private CT clinics. The switching costs that would be incurred by the patient could be several hundred dollars for an immediate CT procedure. Since the product is homogenous within general radiology switching costs do not exist. The cost for a patient to switch to another site to obtain general radiology services is only the cost of transportation. Therefore, patients incur negligible switching costs.

There are insignificant switching costs for patients when deciding to choose a new location to have a diagnostic procedure performed. The actual cost is the minimal cost of transportation between two general radiology sites, such as the cost of transportation between Richmond Hospital and Mount Saint Joseph Hospital. This factor could have the potential for

increasing rivalry among general radiology firms. A keen manager will seek and continue to monitor that the operations are friendly, highly organized and efficient in an attempt to draw patients and to retain those new patients for future procedures. Although, there is potential for increased rivalry due to low switching costs, in reality this does not result in rivalry within the general radiology industry because patient choice is a fundamental to the philosophy of Canadian health care. These factors indicate that switching costs are a minimal barrier to entry for new entrant's ability to enter the industry.

#### ***2.1.1.1.7 (+) Capital Requirements***

General radiology equipment is asset specific, which indicates capital requirements, can be a barrier to entry. This means that general radiology equipment can only be used in diagnostic imaging of patients plus research projects on animals and humans. It cannot be used to produce a different product other than a diagnostic image. This asset specificity causes potential entrants to be reluctant to commit to purchasing these specialized assets. The initial cost of purchasing these capital items is very high. Basic equipment is considered a large capital item greater than one hundred thousand dollars with a minimum ten thousand dollars annual maintenance contract. Asset specificity creates barriers to entry for new entrants for two reasons. First, other firms holding specialized assets strongly resists efforts of potential new entrants, as this is competition for a limited market. This can result in hostile rivalry. Second, potential new entrants into the general radiology market are hesitant to invest in highly specialized equipment that can only produce one product, at low profits margins. Therefore, due to asset specificity, capital requirements are a barrier to entry for new entrants into the general radiology industry.

#### ***2.1.1.1.8 (-) Access to Distribution***

Access to distribution is a low entry barrier in general radiology. When considering entering a new industry it is critical to explore the ease with which the product can be distributed.

Unlike many manufacturing firms that distribute the product out to the clients, in general radiology patients arrive at individual general radiology sites to receive the product, which is a diagnostic general procedure. The diagnostic image is stored at the individual sites digitally and only the diagnostic report interpreting the diagnostic image is faxed to the patients referring physician.

The Provincial government plan to provide services within the patient's regional catchments distributes funding according to regional population demographics. Patients can and do travel to other regions for what may be perceived as superior service or for convenience relative to their place of work. Patients living in Surrey, British Columbia may work in downtown Vancouver and thus visit the general radiology department at St. Paul's Hospital to receive an outpatient diagnostic procedure. There is no regulation or plan to prevent patients from crossing over into other regions. If there were regulations in place it would be challenging to monitor and the Canada Health Act ensures no patient is refused health care services. The Provincial Government funding to the regions is based on regional demographics and needs, and no allocation is made for patients seeking services in another region that are funded and provided in their specific region. Provincially funded tertiary care programs do provide funding for patients outside of the regional demographics based on specific programs. An example is the cardiac program at St. Paul's Hospital, which receives separate funding as a provincial tertiary care program and provides services to all British Columbians.

Since there is no waitlist for general examinations except barium enemas, the demand for general radiology services is constant. The majority of examinations can be performed on the same or the next day on an outpatient bases. To conclude, funds and services are distributed according to regional demographics and generally there is ease in accessing radiology services with minimal wait. Therefore, this does not discourage new entrants from entering the market. In addition, the ability to distribute the radiology product within a given region would not



discourage new entrants considering entering the general radiology industry because of the demand for general radiology services is sufficient to sustain services.

#### ***2.1.1.1.9 (++) Absolute Cost Advantage***

Absolute cost advantage is an analysis tool, which combines proprietary learning curve, access to necessary inputs and proprietary low cost product design and significantly creates a high barrier to entry. Overall in general radiology there is very little cost advantage because of the high proprietary learning curves, difficulty in access to staffing and minimal propriety product design. This results in a high barrier to entry for new entrants in the general radiology industry.

##### **2.1.1.1.9.1 (+) Proprietary Learning Curve**

There is a significant learning curve for staff working in general radiology to produce the end product. A diagnostic image and the learning curve does create a moderate barrier to entry within general radiology. Technologists require a minimum of three years training to competently produce the diagnostic images. Radiologists receive eleven years of training in order to interpret images. Therefore, the market supply of educated staff may lag significantly behind the demand, and negatively affect the general radiology industry's ability to produce sufficient end products to meet the constant demand. This factor is an ever-increasing challenge. The proprietary learning curve thus produces a barrier to entry for new entrants, as specialized knowledge is required to produce the product of a diagnostic image.

##### **2.1.1.1.9.2 (++) Access to Necessary Inputs**

The major inputs required in a general radiology department are a building complex, physical plant and radiological equipment, computers, medical/office supplies and staff, all of which form a high barrier to entry. Currently, there is a worldwide shortage of technologists and the increasing patient load will probably exacerbate the future of the shortage. This makes it difficult for new entrants to staff a new general radiology department. A worldwide nursing

shortage makes it difficult to hire qualified interventional nursing staff. Once recruited, staff are difficult to retain in the long-term due to the union environment in which they can bid into other nursing positions in other departments. Staff are not obligated to remain in the department that hired them. The radiologist shortage is also worldwide and is equal to, if not greater than, the technologist shortage. Therefore radiologists can choose not to support general radiology, but work only in the more lucrative modalities of US, MRI and CT. General technologists can be recruited post graduation from radiology schools, whereas speciality technologists require work experience and further training. The desire by radiologists to perform CT, MRI and US further increases the demand for speciality technologists and new technologist graduates are now being trained for the speciality modalities immediately. Generally, the CT, MRI and US procedures provide more diagnostic information than general radiology procedures and thus the demand for these procedures is increasing while the demand for general radiology remains constant. This limited access to technologists, nurses and radiologists creates a significant barrier to entry for new entrants into the radiology industry.

#### **2.1.1.1.9.3 (-) Proprietary Low Cost Product Design**

The product of general radiology is not proprietary in nature and thus does not create a barrier to entry. Private clinics have removed fluoroscopy equipment because fluoroscopy procedures are time-consuming and do not produce enough revenue, thus public hospitals have had to take on the burden. The private clinics are replacing their fluoroscopy rooms with ultrasound suites and, as a result, receive several times the revenue per examination and perform twice the number of examinations per hour. The homogenous product, which is the diagnostic image, is not proprietary and therefore does not present a barrier to entry.

#### **2.1.1.1.10 (+) *Expected Retaliation***

A potential new entrant into the general radiology industry can expect retaliation in the form of behind-the-scene politicking. Even though this is not blatant politicking it does result in a low barrier to entry. This may take the form of difficulty in obtaining information, manipulating physician's hospital privileges, altering services or sabotage. Sabotage could include attacking the reputation of the new entrant or offering additional perks to physicians to encourage them to remain fully committed to the existing general radiology operations. Since, public health serves the public at large, overt retaliation would be considered completely unacceptable and so retaliation would remain hidden from the public eye but still very real in its impact. Potential new entrants into general radiology industry will experience significant political barriers to entry.

#### **2.1.1.1.11 *Barriers to Entry – Key Success Factors***

Key success factors in overcoming the barrier to entry include understanding and applying government policy, attempting to achieve economies of scale in a cost based industry and the high cost of exiting the industry. If a new entrant were to consider entering into the industry they must overcome these high barriers to entry otherwise they would not present a serious rival to the current industry.

To conclude, the following conditions exist in general radiology: the health care industry is a monopoly, many procedures generate low revenue, radiologists prefer higher revenue generating procedures, and the public health care sector must complete lengthy fluoroscopic procedures which generate low revenue. All of these factors result in a significant barrier to any new entrants.

### **2.1.1.2 SUPPLIER POWER – Very High**

Suppliers and vendors of radiology equipment have huge amounts of power. Suppliers to general radiology are powerful because they sell supplies used to obtain the end product (diagnostic image) at high prices. There are a limited number of suppliers to general radiology. Since the general radiology industry operates in a not-for-profit industry, the supplier power and resulting high prices diminish potential profit and often result in a negative bottom line fiscal position. In manufacturing firms the raw materials are transformed into a finished product. If the raw materials are sold to the industry at high prices, the raw material firm is able to capture some of the profits earned by the manufacturing firm, though often the manufacturing firm is still able to demonstrate a profit.

General physicians refer patients for general radiology procedures. The patient is a necessary input required in the production of a diagnostic image, without the patient to be imaged and the image interpreted there would be no end product produced. This critical input requires that the relationship with the referring physician and the general radiology department is professional and courteous. Physicians tend to refer patients to the general radiology department where they have hospital privileges, but they have many choices of general radiology department. The general physicians have high supplier power. In addition radiologists who are also direct inputs (suppliers) and are in high demand and therefore have high supplier power.

#### ***2.1.1.2.1 (+) Differentiation of Inputs***

In the general radiology industry there is very little differentiation of inputs used to produce the diagnostic image. The diagnostic image produced is a homogenous product: The diagnostic image produced at Vancouver Hospital is the same as the diagnostic image produced at Mount Saint Joseph Hospital. In the last ten years the majority of general radiology operations across the province have begun to store diagnostic images on digital media, rather than on film

while a few smaller hospitals in northern British Columbia are still storing images on film. Many of the private clinics continue to store diagnostic images on film. Once the image is stored on the film; the films then need to be stored in a warehouse facility and this is costly. A recent government regulation regarding medical records ensures that both primary and secondary medical records will be stored for an undetermined length of time. This regulation should move all general radiology units from film storage to digital storage, which will take up less room and will be less costly to maintain.

There are a few suppliers of general radiology equipment: Toshiba, Philips, General Electric, Siemens and Toshrad. General radiology equipment generates x-rays, which are captured either on a digital plate or on x-ray film. Within the general radiology industry individual sites choose radiographic equipment from one of these five vendors according to the specific procedures.

A major input is the Picture Archival Communication System (PACS). There are three major suppliers of this system across North America. They are General Electric, Agfa and Kodak. The PACS transforms the x-ray image into digital images to be stored and interpreted by the radiologist. Within British Columbia the majority of the general radiology operations have Agfa PACS systems, but surprisingly the Fraser Health Region recently installed the General Electric system. The fact that the majority of images in the provinces are digitized using the Agfa PACS system gives significant supplier power to Agfa as a vendor. Overall there is minimal differentiation in inputs required to produce the diagnostic image but enough differentiation that it does increase the power afforded to suppliers within general radiology industry.

#### ***2.1.1.2.2 (++) Switching Costs of Suppliers and Firms in Industry***

There are significant costs to switch suppliers despite supplier inability to meet the operational needs in product performance or after sales service. The cost to purchase a PACS

system is in the millions of dollars. The cost of general radiology equipment is in the hundreds of thousands of dollars. Once installed, switching costs for either PACS or equipment is extremely high. The cost prohibits any switching from one vendor to another vendor. The extremely high switching costs provide significant power to the supplier within the general radiology industry.

#### ***2.1.1.2.3 (++) Supplier Concentration***

Suppliers are concentrated with only a few major suppliers in North America; therefore prices are very similar among the various vendors of both PACS and radiology equipment. These prices offer very little room for negotiation.

Currently, there are discussions underway considering a single supplier that would supply all radiology equipment for the region. This could result in reduced capital purchase costs, but individual choice would be removed from the purchase process. Would the major regional vendor offer the best equipment technically and ergonomically and create the best image quality? Since natural competition is removed it would be critical that the regional purchaser and radiology administrator ensured that the vendor met all their needs, but there is no incentive for the vendor to do so. A single buyer would remove market competition in an already small market, which could result in a monopoly and thus drive out other suppliers. The long-term cost of few suppliers is detrimental to the continued development of technical equipment. Therefore, from an economic perspective, one needs to carefully consider this move to a single buyer, as the long-term effects could have a serious affect on staff recruitment and patient care in the Vancouver Coastal Health Region. The already high supplier concentration currently produces significant supplier power, which would only increase if a single supplier model was implemented.

#### ***2.1.1.2.4 (-) Importance of Volume to Supplier***

The government controls all large capital purchases. There is a limited volume of PACS and radiology equipment purchased and therefore volume would not increase supplier's power within the general radiology industry.

#### ***2.1.1.2.5 (+) Cost Relative to Total Purchases in the Industry***

The cost of PACS and general radiology equipment are the major part of total industry purchases. These large capital item purchases occur about every ten years for PACS and every fifteen years for radiology equipment. Averaged out over the lifecycle of the both PACS and radiology equipment, these two items still are the major cost of all supply purchases annually within the radiology industry. Therefore this affords power to the supplier.

#### ***2.1.1.2.6 (++) Impact of Inputs on Cost or Differentiation***

The impact of an input such as PACS in general radiology is essential in the production of a diagnostic image and in the cost of producing the image. The three major costs of producing an image are staffing, PACS and general radiology equipment. Because all three are essential the supplier of each of these inputs has power in regards to the cost charged to the general radiology industry. The Health Science Association Union, which is the bargaining union for paramedicals has strong bargaining power because of the speciality skill set of technologists.

#### ***2.1.1.2.7 (-) Threat of Forward Integration***

Suppliers are unlikely to forward integrate within the operations aspect of general radiology industry. The recent Supreme Court access to Medicare ruling could fuel forward integration. If the government begins allowing patients to purchase private health insurance to avoid waitlists, the private clinic market could expand and perhaps attract investors. These investors could easily be the major suppliers of general radiology equipment. Currently, some

suppliers forward integrate to the distributor level, but do not integrate in operating hospital or radiology departments. The reason for lack of full forward integration is that there is a minimal profit margin, therefore no fiscal benefit to the supplier to forward integrate. The general radiology industry is in the business of producing a diagnostic image to provide patient care and does not backward integrate into producing the supplies. To conclude, integration empowers neither the supplier nor the general radiology industry.

#### ***2.1.1.2.8 Supplier Power – Key Success Factors***

Key success factors in overcoming the very high power of suppliers to the general radiology industry are overcoming the lack of substitute inputs, supplier concentration and impact of inputs on cost. To be a strong rival within the general radiology industry a potential rival would have to overcome the reality of lack of substitute inputs, power of supplier concentration and the high cost impact of the essential inputs in producing a diagnostic image. These three factors result in very high supplier power, which increases rivalry for potential new competitors to the general radiology industry.

#### **2.1.1.3 BUYER POWER – Very Low**

Collectively the dimensions of buying power render the buyer power low. The buyer (customer) is the actual purchaser of the finished product produced in the general radiology industry. The finished product produced is the diagnostic image and the interpretation of the image. The buyer in a not-for-profit industry is the government, who funds the general radiology operations. Here the government is the middleman who buys on behalf of the taxpayer. The Provincial Government purchases the end product – the diagnostic image and its interpretation. The actual buyer is the taxpayer and the government behaves, as a middleman to ensure the services the buyer requires is available upon demand. The general physicians are indirect buyers in that they control the access to buyers (patients). This situation is not dissimilar to a stockbroker



except there are many stockbrokers available for the buyer to utilize, and therefore no monopoly; whereas in public health care there is only one broker - the government. The general public pays taxes to the government, which could be considered an insurance plan for health services and thus the government could be viewed as a monopoly insurance broker for health care. Patients do not experience buyer fear in regards to general radiology because there is no waitlist and supply meets demand, therefore buyer fear does not increase buyer power.

As a result, the patient can exert some influence on government policies, by forming a coalition and lobbying the government. An example is the recent threat by the government to reduce the number of breast screening examinations provided to women in British Columbia. Women's' groups marched on Parliament in Victoria. The government quickly rescinded its decision and reinstated the previous standard of breast care. Good health care in Canada is considered a right of citizenship and therefore patients perceive they have high bargaining leverage with their local politicians. It is questionable how powerful this bargaining power really is in truth. Price sensitivity is not a factor in buyer power within the general radiology industry. The buyer (government) sets the fee schedule for the purchase of the product with little or no input from the producer of the product. This is very different from the free market in which the majority of industries operate.

#### ***2.1.1.3.1 (++) Buyer Concentration versus Firm Concentration***

The actual buyer is a single buyer. This buyer purchases the services on behalf of their constituents. Therefore, considering the government as representing the people of British Columbia, the buyers are highly concentrated in comparison with general radiology firm concentration. The buyer therefore has very high power due to the concentration of all citizens of British Columbia and a few general radiology departments across the province.

#### ***2.1.1.3.2 (++) Buyer Volume***

The buyer purchases all the volume of the product produced by various general radiology firms across the province. The product is produced on an as-needed basis for the purpose of disease diagnosis and ongoing disease monitoring. Whether a product is being produced or not, the facility must be fully operational at all times in the event a patient requires a diagnostic image. The buyer has significant power, as there is only one buyer of the product.

#### ***2.1.1.3.3 (-) Buyer Switching Costs Relative to Firm Switching Costs***

The buyer and service provider have a social obligation to cooperate on behalf of British Columbia. Therefore the concept of switching costs is not relevant to a discussion regarding buyers and service provider in this industry.

#### ***2.1.1.3.4 (+) Buyer Information***

The buyer is the government and expects that their team, (which is made up of economists, radiologists, radiology administrators and staff) will be highly informed in regards to the product produced by the general radiology industry. The fact that the buyer (government) has full knowledge of the product provides the buyer with power. The government does have full knowledge, but the constituents they represent have less overall knowledge of the general radiology industry.

#### ***2.1.1.3.5 (+) Ability to Backward Integrate***

The buyer of the product produced in general radiology is the Federal and Provincial Government on behalf of their constituents. Since, public not-for-profit health care is also owned and operated by the government, they are also the producer of general radiology products within the public health care system. Therefore the backward integration ensures the products are produced at as low a cost as possible and there is no price gouging. Producing the product at the

lowest possible price is not to provide a profit margin for reinvestment, but to provide a social benefit to citizens of Canada. There is no profit margin in public health care at the end of the fiscal year. The global budget provides only the necessary operating revenue without any excess funds. Within the Catholic health care system superior fiscal stewardship is considered an honour to be taken very seriously. Key success factors of buyer power are buyer concentration, the government is a monopoly buyer on behalf of the taxpayers; this keeps the 'fee for services' low as there are no rival buyers willing to pay higher prices. This could change with the recent Supreme Court ruling as private health insurance companies could rival the government to purchase services. This would also affect the current situations in which the government currently purchases the vast majority of all the volume produced in the general radiology industry.

#### ***2.1.1.3.6 (-) Pull-through***

Pull-through is the revenue that is created when a new product or service impacts the sales of other, existing products or services. This has insignificant influence in a not-for-profit industry.

A discussion on price sensitivity is not relevant in not-for-profit general radiology industry. The buyer sets the prices and the buyer is also the producer. Therefore, buyer power is not affected by the following price sensitivity issues; price/total purchases, product differences, brand identify, impact on quality/performance, buyer profits and decision makers incentives. It is imperative in a cost based industry to keep the cost as low as possible even though society considers health care a highly differentiated product. The end product is really very homogenous and has low costs; the only differentiation is in how the service is provided.

#### ***2.1.1.3.7 Buyer Power – Key Success Factors***

A potential new competitor to the general radiology industry would discover that the actual buyer (patient or taxpayer) has very little power within the industry. Although the buyers

are concentrated and have volume only the government as the buyer (broker) on behalf of the taxpayer has the information and the ability to backward integrate. In theory the government's role is to act on behalf of the people, but in reality this is often not the case as many factors affect health care decisions.

#### **2.1.1.4 THREAT OF SUBSTITUES – Low**

There is no substitute for the product of a diagnostic image or its interpretation. Therefore a discussion is not relevant regarding relative price performance of substitutes, switching costs or buyer propensity to substitutes. A high or low cost substitute does not currently exist in general radiology.

##### ***2.1.1.4.1 (-) Presence of Substitute Inputs***

A substitute input must be able to satisfy the need of the customer. An example of a substitute input is a croissant for bread. Both would satisfy the need of the customer. The difference is in cost. If an individual has just lost his/her job the inferior product would be less costly and would satisfy the need for food. There are a variety of manufacturers who produce x-ray emitting equipment to produce x-ray images. These are not considered substitutes as all manufacturers produce very similar equipment with insignificant price differences. There is no manufacturer of x-ray emitting equipment that produces products that are substitutes as dissimilar as bread and croissants.

Individually patients are generally ill informed regarding nuances of medical supplies and equipment and therefore would be unlikely to boycott a particular general radiology site if the site choose a supplier or product of which the customer may not approve. Most importantly, there are no substitute inputs to produce x-ray images. As mentioned earlier there are a variety of vendors

that produce the PACS and radiology equipment. The absence of substitutes within general radiology eliminates competition.

#### ***2.1.1.4.2 (-) Substitute Products***

There is no substitute product and therefore this reduces the buyer power over the industry except that the industry is owned, operated and accounted for by the buyer – the government. The buyer does not have a choice between a superior diagnostic image and an inferior diagnostic imaging procedure because of the professional standards and Health Act and associated regulations.

#### ***2.1.1.4.3 Threat of Substitutes – Key Success Factors***

There are no key success factors in substitutes because there are no substitutes. Proponents of alternative medicine could argue this point but from a ‘western’ medical viewpoint there are no substitutes for a diagnostic image or its interpretation. Therefore a potential competitor to the industry would not consider threat of substitutes as a deciding factor in determining whether to enter the industry.

#### **2.1.1.5 RIVALRY – Low**

Competitive rivalry is an ongoing set of competitive actions and responses occurring between competitors. Three criteria must be present for competitive rivalry; the service providers must operate in the same market, the service providers must offer the same product, and target similar patients. Competitive behaviour are the actions and responses service providers take to defend their competitive advantage and improve their market position. Competitive rivalry influences an individual firm’s ability to gain and sustain competitive advantage over other competing firms. As long as a monopoly exists competitive rivalry is a low threat, but with the recent Supreme Court ruling this could change.

The intensity of rivalry among public not-for-profit competing general radiology service providers can be described as ‘diplomatic’. The performance agreements between the regions and the Ministry of Health, however, could result in rivalry to meet performance indicators and may influence the government when choosing future locations for growth. Even though the premise of the performance agreement is service for a specific population base, there may still be occurrences of informal rivalry.

Private general radiology operations across the province are downsizing as operational costs continue to increase significantly, and government technical and professional fees for reimbursement increase very minimally. The trend in private clinics is to remove fluoroscopic equipment and replace it with more lucrative ultrasound equipment. This has resulted in barium enema waitlists at all acute care general radiology sites across the province. To date the provincial government has not addressed the issue of lack of barium enema service to the general public in place of lucrative ultrasound profits.

Since health care is a monopoly industry funded by the government with services regulated by the government, the traditional model of competition among rival firms that drives profits to zero does not apply. British Columbia Medical Imaging Administrators (BCMIA), a group of the radiology administrators across the province from all acute care sites, meet quarterly to collaborate on operations, equipment purchase, policy formation and professional practice concerns. Overall rivalry has a low impact within the general radiology industry.

#### ***2.1.1.5.1 (++) Other Factors Affect on Rivalry***

Overall the rivalry within the general radiology industry is low. The key success factors discussed in threat of new entrants, supplier power, buyer power and substitutes provided insight into specific factors, which enhances competition within the industry. Specifically supplier power and threat of new entrants intensifies rivalry, but overall rivalry still scores low within the

industry. Within supplier power the lack of substitute inputs, supplier concentration and impact of inputs on cost results in very high supplier power, which increases rivalry for potential new competitors to the general radiology industry. The barriers to entry prevent a newcomer from competing in the market. The barriers include understanding and applying government policy, attempting to achieve economies of scale in a cost based industry and the high cost of exiting the industry. Potential competitors to the general radiology industry must be able to operate with both high supplier power and barrier to entry along with smaller rivalry determinants.

The federal government health care policy creates the monopoly, which effectively eliminates much of the competition that is present in a competitive market structure. This is especially true within general radiology. The government is committed to providing universal health care services to Canadians. The difficulty is that there are scarce financial resources available and an increasing demand for services with an aging population. In 1991, the percentage of Canadians over 65 years of age was 11.6 percent. Current projections are that by 2011 it will be 15.2 percent and by 2036 it will 28.8 percent (Canada's Health Care System, 1994) Therefore the government in order to continue to provide universal health a service is forced to provide the service within a cost based strategy.

Within this cost based strategy framework the suppliers have significant power but the buyers (taxpayers) have low power. Since the taxpayers have very little power to affect the system their cost containment is higher than what could be imposed on the high power group (suppliers). The lack of substitutes or extent of competitive rivalry also results in lower power for the buyer. The buyer has very little choice of general radiology services. There is a fixed cost based strategy imposed and it does provide a universal service to all Canadians to meet the basic health care needs.

#### ***2.1.1.5.2 (++) Diversity of Competitors***

Diversity of competitors creates rivalry among competing general radiology firms as demonstrated in the following three examples. First, Mount Saint Joseph Hospital is a community hospital within Providence Health Care, which historically has served the Asian-Canadian population. Despite the government's mandate to now serve the local or regional population, Asian patients from all over the lower mainland travel to Mount Saint Joseph Hospital where their unique culture is not only accepted, but also honoured. Second, the mission and values of Providence Health Care attract Catholic patients from all over the lower mainland. Catholic patients can be assured of a faith-based service with similar values to their own. Third, Providence Health Care lives its mission statement regarding respecting the 'sacredness of life' by refusing to perform abortions. This includes refusing to perform ultrasound examinations as a pre-screening therapeutic abortion procedure, thus leading to rivalry within the general radiology industry to attract those physicians ordering the pre-screening therapeutic abortion ultrasound. Although, ultrasound is not considered to be within general radiology, physicians tend to refer all their outpatient work to the same general radiology department and thus adherence to the mission statement at Providence Health Care, results in loss of general radiology examinations overall. Unlike the free market, Providence Health Care seeks to serve patients by serving God, and thus this loss of revenue is easily justified. Diversity within the general radiology industry creates significant rivalry.

#### ***2.1.1.5.3 (++) Corporate Stakes***

Corporate stakes are high in any industry when a firm is at risk for losing market position or has the potential for a significant market gain. This leads to rivalry among competing firms. This was clearly the case when St. Vincent's general radiology closed. The surrounding general radiology firms moved rapidly to communicate to the referring physicians (suppliers) their



individual hours of operations and ability to service the referring physicians patients on an outpatient bases. This rivalry could have prematurely closed the general radiology department as requests for outpatient procedures rapidly declined. Corporate stakes clearly increase rivalry among competing firms within general radiology.

#### ***2.1.1.5.4 (-) Industry Growth***

The acute care general radiology industry is not growing. In 2004, Providence Health Care willingly chose to cease operations of its third acute care site – St. Vincent’s Hospital. This resulted in closure of a newly reinvigorated general radiology department. The trend of closures has occurred all over the province of British Columbia as regions attempt to become more operationally efficient and fiscally accountable. Within the province the government has closed acute care sites and in so doing, have closed general radiology departments. A small number of private CT and MRI clinics have opened in the province and they focus on third party clients such as corporate employers and insurance companies. Private clinics are not seen as rivals because of the large demand for these speciality examinations, which all continue to have in excess of three-month waitlists. The decline in general radiology departments across the province does not intensify rivalry within the general radiology industry.

#### ***2.1.1.5.5 (+) Fixed Costs***

General radiology operations contain high fixed costs, due to equipment, staffing, maintenance and service contracts. This means that each general radiology department must produce near capacity to attain the lowest unit costs to achieve economies of scale. This does produce some rivalry as sites attempt to gently encourage physicians with busy practices to support their services. The high fixed costs in general radiology does increase rivalry within the general radiology industry.

### ***2.1.1.5.6 (-) Intermittent Overcapacity***

Intermittent overcapacity of any product leads to either storing or dumping the product on the market. If the product is dumped on the market, it is at low prices perhaps even below unit cost price. This results in rivalry among firms, as competing firms must also sell at below cost to maintain market share. A price war within the market can ensue, such as has been seen in the airline industry for several years. This form of rivalry is seen in manufacturing, but not in health care.

General radiology services are not a ‘just in time’ production or a ‘stockpile manufacturing’ production. It is a service response to patient emergency and diagnostic needs resulting in a finished product, the diagnostic image and interpretation of that image. Within general radiology the operations must be fully operational over extended hours to meet not only the booked diagnostic procedures, but also the unpredictable emergencies, both within the emergency department and on the wards. Over time a trend analysis can predict the expected number of ‘walk-in’ outpatient procedures to be expected on any given day. In summary, intermittent overcapacity is not a relevant factor and does not increase rivalry among competing firms within general radiology.

### ***2.1.1.5.7 (-) Product Differences***

The product produced in general radiology is the diagnostic image and the interpretation of that image. The radiology technologist produces the diagnostic image, while the radiologist produces the formal report interpreting the diagnostic image. As mentioned earlier, due to national standards, this results in a homogenous product regardless of the general radiology firm. Our national health care standard makes it essential to ensure the patient will receive a diagnostic procedure to enable an accurate diagnosis. Therefore, there are no product differences, which

could result in increased rivalry (faster service or response time) within the general radiology industry.

#### ***2.1.1.5.8 (-) Concentration and Balance***

The government determines the general radiology industry concentration and balance, which is different from the free market within other industries. New operations have the freedom to choose their location taking into account existing concentration, potential for making a profit and the impact on rivalry. The government regulates this and therefore under barriers the new entrants in general radiology according to a predetermined formula, which considers the radius of pre-existing general radiology facilities and the actual demand for services. Therefore industry concentration and balance does not increase rivalry within general radiology in this highly regulated industry.

#### ***2.1.1.5.9 (+) Informational Complexity***

Readily available radiologists to interpret diagnostic images ensures accurate and timely diagnosis benefits for the patients but creates rivalry between firms that do not have staff radiologists to interpret images on a 'just on time' basis. Information within radiology is complex. A misdiagnosis can lead to poor patient outcomes. Therefore, the general radiology site that has staff radiologists has a competitive advantage over a competing general radiology site that does not have an on site staff radiologist.

**Table 2.2: Summary of Porter's Five Force Model: General Radiology Industry Analyses**

<u>Entry Barrier</u> (6+) <b>High</b>	<u>Supplier Power</u> (6+) <b>Very High</b>	<u>Buyer Power</u> (3-) <b>Very Low</b>	<u>Substitutes</u> (2-) <b>Very Low</b>	<u>Rivalry</u> (2+) <b>Low</b>
++ Government Policy	+ Differentiation of inputs	++ Buyer concentration versus firm concentration	- Presence of Substitutes	++ Diversity of competitors
++ Economies of Scale	++ Presence of substitute inputs	++ Buyer volume	- Substitute Products	++ Corporate stakes
++ Exit Barriers	++ Supplier concentration	- Buyer switching costs relative to firm switching costs		- Industry growth
- Proprietary product differences	- Importance of volume to supplier	+ Buyer information		+ Fixed (or storage) costs/value added
- Brand identity	+ Cost relative to total purchases in the industry	+ Ability to backward integrate		- Intermittent overcapacity
- Switching costs	++ Impact of inputs on cost or differentiation	- Substitute products		- Product differences
+ Capital requirements	- Threat of forward integration relative to threat of backward integration by firms in the industry	- Pull-through		- Concentration and balance
- Access to distribution		- Price/total purchases		+ Informational complexity
++ Absolute cost advantage		- Product differences		
++ Expected retaliation		- Impact on quality/performance		
		- Buyer profits		
		- Decision makers incentives		

*SCALE: 1-2 Low Impact; 3-4 Moderate Impact; 5 or greater High Impact*

## **2.2 Industry Analysis Summary**

Chapter two provided a general radiology industry analysis as summarized in Table 2.2. The five factors, which are obvious key driving forces in the general radiology industry, have identified that there are very high barriers to entry and very high supplier power. High barrier to entry makes it difficult for new entrants to enter the industry. The high supplier power indicates that the purchaser has very little negotiation leverage with the supplier. It also indicates that the relationship between the supplier and the buyer is critical to obtaining the best product and prices. Chapter three will outline the imposed strategy of the Vancouver Coastal Health Region and Providence Health Care in order to further develop the context of the project.

### **3 IMPOSED STRATEGY**

#### **3.1 Vancouver Coastal Health Region Strategy**

The British Columbia Ministry of Health strategy is to provide high quality patient-centred care, improved health and wellness for British Columbians, and a sustainable, affordable public health system. Strategic success in a traditional business sense is the firm's initial competitive action, the firm's ability to anticipate competitor's responses to them and the firm's ability to anticipate and respond to its competitor's initial actions. Strategic success in the secular public health care is the more socialistic in nature, as stated by the Vancouver Coastal Health strategic vision statement:

We are committed to supporting healthy lives in healthy communities with our partners through care, education and research (VCH Strategic Direction, 2004).

Vancouver Coastal Health strategic direction must meet the requirements of the performance agreements signed with the Ministry of Health to ensure funding. Vancouver Coastal Health strategic direction is stated as the following:

Vancouver Coastal Health has identified and developed three, interlocking networks of health care service. These three networks – Primary Health Care, Acute Care and Community Care – represent different areas or aspects of our health care services. Our goal in developing this system is to ensure that the links between these networks are seamless. We want to ensure that our health care system is easy to access and use. Vancouver Coastal Health supports the achievement of this new strategic direction to improve people's health; provide local responsiveness to local needs; seek out opportunity for regional efficiency; improve quality and standardization; minimize bureaucracy; and bring decision-making at the closest level to our patients, clients and residents.

The Primary Health Care Network will feature point of entry (checkups with your doctor is one example of point of entry) and information on how to access the range of care available; ambulatory (meaning outpatient) secondary care; prevention and population health (population health refers to population groups like women and youth, aboriginals etc.); primary care, including mental health and addictions; community living supportive services and chronic disease management. Services will be provided closer to where people live – to avoid unnecessary stays in our acute care hospitals and residential facilities.

In the Acute Care Network, hospitals will work more closely together, share knowledge, provide centres of excellence and outreach teams, and perform according to regional clinical standards. The Acute Care Network will provide space where it is available and get people back home as soon as possible to the full service care of the Primary Health Care Network or to the Community Care Network.

In the Community Care Network all the residential, home care and home support services will work together to provide a continuous service, from independent living through supportive housing, assisted living and complex care (residential care). The Community Care Network will always be working to provide care at appropriate levels of service for the greatest possible comfort and support of our customers and with the least pressure on the Acute Care Network (VCH Strategic Direction, 2004).

The strategic direction is communicated to Vancouver Coastal Health employees through biannual information forums. The purpose for the forum is to communicate new and emerging strategic directions, share ideas, build relationships, and communicate the work of leadership to the staff. Vancouver Coastal Health states, ‘Ultimately, the goal of the forums is to enable progress toward our vision, strategies and performance outcomes’ (VCH Strategy Implementation Forums, 2004). Providence Health Care is a major partner in delivering acute and residential services in Vancouver under a denominational affiliation agreement (VCH Redesign Plan, 2004). Therefore, Providence Health Care strategy must support the Vancouver Coastal Health strategy, which supports the performance agreement signed with the Ministry of Health.

This strategy is the stated goal of the organization. The reality of providing health care services with scarce resources provides challenges for management to achieve the imposed

strategy, and often management does not successfully fulfil the strategic direction of the organization. An example is the need to save several million dollars in the Providence Health Care budget in the 2004-2005 fiscal year. This was partially achieved by closing St. Vincent's Hospital in March of 2004. This caused increased waitlists for eye surgeries and inconvenienced patients needing to relocate to the St. Paul's outpatient Foot and Ankle Clinic. Patients are now faced with parking several blocks away and walking on a recently operated foot to see their surgeon for follow-up examinations. The goal of management is to fulfil the strategy within the scarce allocation of resources, but this is often unachievable. Thus health care management often experience frustration and burnout resulting in poor retention due to low job satisfaction. Recently, the Richmond Ethics Committee developed a 'scarce allocation of resources' framework and has presented it to the Senior Executive Team at Vancouver Coastal Health Authority. The Richmond Ethics Committee felt that resource allocation presented an ethical dilemma for leadership and that an ethical framework would enable just allocation of resources (Richmond Ethics Committee, 2002).

### **3.2 Providence Health Care Strategy**

In chapter one, Providence Health Care's imposed cost based strategy was analysed, and the emphasis was on determining if the actual strategy is cost based or differentiated. It was determined to be a cost based strategy with a differential faith-based service. Vancouver Coastal Health has, however, imposed a structure cost based strategy in order to meet performance agreement signed with the Ministry of Health. Therefore the challenge of Providence Health Care management is to ensure the imposed cost based strategy is fulfilled while fulfilling the higher calling of the Catholic values which require a differentiated strategy based on service care..

Providence Health Care strategic directions adhere to the goal of 'a patient focused organization of excellence and leadership'. The strategic direction has five key components;



provide excellent care and service, live our mission everyday, create an environment that attracts and retains the best people, support research and new knowledge integration and achieve strategic growth. The strategic direction is guided by the principle, 'How you want to be treated.' Each of the five strategic directions has key goals to be achieved.

The first strategic direction of providing excellent care and service has three associated goals to enable Providence Health Care to achieve this strategic direction. The first goal is improve patient/resident care and safety. The second goal is improve health services. The third goal is to improve business operations.

The second strategic direction of living our mission everyday has two key goals to enable us to achieve this strategic direction. The first key goal is to increase the understanding of PHC's mission. The second key goal is to champion faith-based health care.

The third strategic direction of creating an environment that attracts and retains the best people has three key strategic goals. The first key goal is to attract and retain talent. The second key goal is to develop people. The third key goal is to create a superior workplace.

The fourth strategic direction of supporting research and new knowledge integration has two key goals. The first key goal is to nurture research. The second key goal is to build teaching and training capacity.

The fifth strategic direction of achieving strategic growth has four key strategic goals. The first key strategic goal is implement the Legacy project. The second key strategic goal is pursue strategic alliances. The third key strategic goal is to renew health delivery with regional partners. The fourth key strategic goal is to advance care to Providence Health Care's population of emphasis (PHC Who We Are, 2004).

The external environmental analysis utilized the tools of the Positioning School of strategic management: Porter's Five Force Analysis. Porter's Analysis is an analytical process that "entails discovery, or finding things that are already somewhere waiting to be found... (and then) to delineate a strategy that will meet (them)" (Mintzberg, Ahlstrand & Lampel, 1998, p. 169). In public health the economic strategy is imposed and therefore the process of external environmental analysis was for identification of the external environment and the significance of the rivalries.

The Providence Health Care strategic plan intent is to support the Vancouver Coastal strategic plan, which supports the signed performance agreement with the Ministry of Health, but to remain faithful to the historical values of the organization. There is much commonality between the public sector strategy and the faith-based strategy in an operational sense, but the difference is highlighted by management preferences to adhere to the values of Providence Health Care and implement those values in daily actions. The general radiology department within Providence Health Care recognizes the imposed economic strategy from Vancouver Coastal Health and works with the cognitive based Providence Health Care corporate strategic plan to ensure management preferences, resources, and operations are fully supportive of the Providence Health Care strategic directions. The scarce allocation of resources does not allow for anything other than basic health care service. Since the value statement is to care for the well being of the community this presents a challenge when there are not enough funds to provide adequate services.

### **3.3 Imposed Strategy Summary**

This chapter explained the imposed strategy of the Vancouver Coastal Health Region and the corresponding strategy that Providence Health Care corporation developed and implemented to fulfil the imposed strategy. Chapter four will describe the difficulties faced by managers who

are required to fulfil the imposed economic strategy but feel a greater need to live according to their faith-based values. In chapter four the Cognitive School of Strategic Thinking will be identified as the dominant strategic model of Providence Health Care. Within this context, management preferences are modelled, financial and human resources are guarded, and organizational capabilities are developed and maintained. In contrast to the Positional School of Strategic Thinking, as used in the economic model, people are valued greater than ‘numbers’ within the Cognitive School of Strategic Thinking. Chapters five and six will identify gaps in resources and organizational capabilities which make it difficult to fulfil the imposed economic strategy while seeking to meet the Providence Health Care Catholic strategy.

## **4 MANAGEMENT PREFERENCES**

When an economic strategy is imposed upon an organization with faith-based values, there is a tension, which arises. Vancouver Coastal Health imposes an economic strategy upon Providence Health Care. Within the context of scarce resources and organizational capabilities, Providence Health Care must simultaneously fulfil their agreement with Vancouver Coastal Health, and honour their own management preferences. This chapter will describe the manager's preferences in general radiology of Providence Health Care, a department, which works under an imposed economic strategy by a secular government monopoly. It will be shown that the economic model of business could be transcended by a general radiology manager who seeks to answer to a *higher calling* than economic theory. The difficulties experienced by the manager in living up to both strategies will be demonstrated by specific examples.

### **4.1 Cognitive Strategy Versus Economic Strategy**

The economic strategy imposed by Vancouver Coastal Health is consistent with the ideas from the Positional School of Strategic Management Theory. The economic model from the Positional School of Strategic Management theory reflects the values of an accountant, and not, by comparison, the values of the Catholic health care system which values the human person, community and faithfulness to God. Accountants value concrete numbers, which are then interpreted as reflecting the value of the industry and services delivered. Success is when fiscal targets are met or exceeded. Using fiscal targets as markers of success is in conflict with the cognitive strategy practiced at Providence Health Care. Ministering healing is valued higher than numerical targets. Providence Health Care is a health care community of people of faith who are

concerned with the physical, spiritual, mental, emotional and social well-being of those entrusted to their care.

The management preferences in a faith-based organization such as Providence Health Care are consistent with the ideas from the Cognitive School of Strategic Management theory. A faith-based cognitive map provides direction to a manager in the difficult terrain of public health care. The inflowing external information is filtered through management's cognitive map and is then decoded. The newly decoded information interacts with management reasoning and this information is then shaped by knowing. In the Cognitive School of Strategic theory, management preferences impose their interpretation on the environment, rather than accepting the environment presented to them and merely reacting to it. This is in contrast to the imposed economic strategy that interprets the environment (government health care policy) and accepts the environment presented to them: clearly economic strategy is a reactionary model.

My management preferences such as affirmation and listening do not cost the organization a great deal of money. It can be argued that they improve recruitment and retention of employees and result in monetary savings to the organization. Therefore these preferences are not a threat to the outcome of the imposed strategy. The economic worldview may see these value-based preferences as softer skills and nice to practice, but not necessary for optimum outcomes. My management preferences of stewardship and accountability, although faith-based, also apply fiscal accountability and stewardship of all resources. It is for this reason that despite over the hundred years operation of Providence Health Care, it has always been known as a fiscally accountable and responsible operation. There was never a time of run away budgets such as in many other health care organizations because management within Providence Health Care considered the resources as gifts from God to be used wisely and not squandered.

The shift to focus on performance targets and indicators is not necessarily new to Providence Health Care, but having numbers as the major strategic emphasis could be viewed as a threat to the healing ministry. The history of Catholic health care is filled with tales of scarce resources, yet the courage of the sisters and their commitment to the healing ministry of Jesus Christ never wavered, even in the face of the harsh conditions in early Canada. It is this history that encourages me as I continue to struggle with my need to fulfil the mission of caring for the sick in a faith-based organization while meeting fiscal targets.

In the economic strategy, the bottom line is the master. By contrast, in the Catholic health care system, the master is God. In the economic strategy imposed on Providence Health Care, the numbers are the drivers of the environment and the imposed strategy must be adhered to despite the obvious conflict in values.

## **4.2 Management Preferences in Action**

Management preferences are a complex amalgamation of a manager's basic needs, beliefs and the job context. Through examples in this section, I will discuss my individual personal attributes, which result in my personal management preference. For the sake of clarity I will begin each example with the challenge posed by the need to fulfil the economic strategy while *living the values* of Providence Health Care. In each example I will demonstrate the gap between the economic strategy and the cognitive strategy, and I will identify how using my personal management preferences I was able to bridge the gap. Each example will conclude with the effect on the imposed economic strategic plan.

### **4.2.1 Basic Need**

My basic need as a manager is for achievement. The secular worldview of achievement is understood to mean personal gratification, glorification, promotion or reward. I seek achievement

by providing an environment in which both patients and staff have a positive experience. A positive experience is created through a safe and caring environment. It is challenging to enable a positive experience in the context of an imposed economic strategy where scarce resources have resulted in wage cuts, layoffs and outsourcing of whole departments. The gap is the reality of scarce resources and the reality of each individual's need for a positive experience either as an employee or as a patient.

I personally feel I have achieved success when there is a safe and caring environment within my departments. It is unreasonable to expect that every patient and employee will always feel both safe and cared for, but when it occurs the majority of time, then I feel I have achieved personal success. It is risky to base achievement on others' perceptions because it is dependent on other individuals' input who may not succeed. If I viewed achievement as developing larger, more high profile programs, the success of those programs would be on my personal ability to sell the need for the program to senior management, to gain their support and then to develop and operate the program. The success or failure of the venture would rest on my personal ability and not be dependent on others.

When a patient is experiencing an acute illness, their personal experience of being cared for results in their perception of the 'care event' as an overall positive or negative experience. There is, therefore, a conflict between my basic need for a caring environment in which the emotional needs of the patient are met, and the imposed economic strategy with its impersonal quality indicators for performance targets. The systems approach that is the framework of the economic strategy of Vancouver Coastal Health ensures a physically safe environment for patients and staff, but does not address compassion, or emotional safety. The economic strategy of fiscal accountability is necessary for responsible handling of public funds, but if it dominates our focus we will create an environment in which we do not value whether the emotional needs of the patients are cared for by staff.

In a purely economic strategy, we also risk have a staff who do not feel cared for by management. The staff will always sense a continual threat of outsourcing or layoffs because of managements overriding need to meet efficiency targets.

When the threat of job loss is constant, the emotional well being of the staff is negatively affected. Staff find it difficult to move to a higher level on Maslow's hierarchy of needs which is necessary if they are to care for patients' emotional needs. The staff becomes stuck in their basic need for survival for themselves and their families. For me as a manager, because the imposed economic strategy is outside of my personal control, this situation causes internal conflict. Two approaches I employ to temper my internal conflict are operational efficiency and reiteration of our mission. I strive to run an operationally efficient department that 'may' save the jobs of employees and thus lead to a feeling of greater job security for staff. Ultimately both staff and patients will have their emotional needs attended to. The second approach is to reiterate our mission. I strive to be a visionary leader and I see myself behaving like an artist, continually painting the picture for the staff of ideal patient care and caring for one another (the Golden Rule). My basic need for achievement results in my having a significantly more difficult management role than the roles of my colleagues within the secular system in which achievement is viewed as meeting the fiscal performance targets. Fortunately, as long as my department operates efficiently within the economic strategy, senior management does not interfere with the softer skill development.

My basic achievement need is guided by my desire to 'do unto others as you would have others do unto you'. This Golden Rule approach begins with me. I may have not slept well during the night, battled rush hour traffic and arrived at work to find a staff shortage due to illness, but rather than take these individual stresses or collective stresses out on the staff, I consciously seek to promote a safe and caring environment. I achieve this by visualizing all situations through a



Mylar film that has imprinted ‘do unto others as you would have others do unto you.’ This visual allows me to be continually reminded of the Golden Rule and assists me in my actions.

The Golden Rule guided me during one very stressful morning and resulted in me fulfilling my basic achievement need. I had had an exceptionally stressful drive into work and arrived to find the parking lot was already full. I then had to find another public parking lot, which resulted in my being late for my first meeting. Since I was running behind in my schedule and I had not had breakfast, I was anxious and hungry. I arrived at my meeting five minutes late and the tray of muffins was emptied by the early arrivals. When the meeting ended I thought I would get a coffee and muffin, but when I arrived in the department one of my staff was very emotionally distressed by cafeteria gossip regarding further outsourcing. It would have been easy for me to choose my own personal need to satisfy my hunger above this individual’s emotional need, but instead I consciously viewed the situation through the Mylar Golden Rule. I offered to listen if she wished to discuss her concerns. The employee willingly came into my office and openly discussed her concerns. This was a small sacrifice of my personal need for food that resulted in creating a ‘trust’ bridge and having an employee feeling emotional safe and cared for by management. Though I did not know what other challenges I would be faced with during the remainder of the day, I was pleased to successfully meet my basic need for achievement to provide a safe and caring environment in which both patients and staff can have a positive experience. Since this employee’s needs had been met she was then able to move beyond her basic security need, ascend Maslow’s ladder, and be able to attend to the needs of the patients.

#### **4.2.2 Beliefs**

Management beliefs are influenced by a person’s experience, faith and understanding of economics. My personal beliefs directly affect my strategic choices, decision making and actions. My beliefs are influenced by my personal faith in a *higher power*, I feel the *higher power* has

called me to minister to sick people. I achieve this calling through my administrative management role in which I strive to create a positive environment so that my staff can care for sick people. In my previous clinical role as a technologist I had limited ability to care for sick people, as the number of patients I could actually care for on any given day was limited by my physical ability and the hours I worked. Now as an administrator with seventy staff providing twenty-four hour patient care, my ability to influence positive patient care has significantly increased. My calling is the same, but my role, rather than clinical, is now administrative, and I attempt to create an environment which enables the staff to care for the patients successfully. I influence patient care directly and indirectly: I am obedient to my calling to minister to the sick.

#### **4.2.2.1 Accountability**

I believe that accountability is key to caring for others, for the self, for the environment, and that caring is an act of thankfulness to God. The opposite of accountability is individualism. Accountability, for a person of faith, understands interconnectedness and complementary relationships as a higher calling; it is a forward looking philosophy which establishes behaviours. In the secular world, accountability is thought of as measurements, rules and procedures for collecting information; it is a backward looking philosophy which evaluates past deeds and attitudes. For a person of faith, accountability is used to build relationships and to self-audit. Accountability is demonstrated through stewardship, writing of annual reports, developing budgets, maintaining facilities, reviewing staff performance. In short, accountability is composed of actions that are magnetic, enriching and clarifying.

In the Jewish book The Ethics of the Talmud, Rabbi Tarfon is quoted as saying “The day is short, the work is great [...] The work is not yours to complete, [but] you are not free to desist from it.” My need to be accountable causes me to feel internally burdened because I must simultaneously fulfil the economic strategic plan and care for my staff. There are scarce resources

and the need for both physical and emotional health care is so great, not only within the hospital walls, but also in the community. It strengthens me to reflect on the history of Catholic health care and the healing ministry of Jesus Christ. My ability to provide for the physical, spiritual, mental, emotional, and social health of patients and staff is often in conflict with the economic strategy. The fiscal resources are inadequate to meet all needs.

An example of the conflict between resources and desires can be seen in the diagnosis of colon cancer. A barium enema is a general radiology procedure and can take up to an hour. It is invasive, uncomfortable and very unpleasant psychologically for a patient, but it is the examination used at Providence Health Care because it is less costly to produce than other procedures. By contrast, a virtual colonoscopy, a procedure performed on the CT scanner, can within fifteen minutes rule out colon cancer and the results have been shown to be more accurate than the results of a barium enema. It is less invasive for the patient, but it is significantly more costly to produce. Despite my deeply held belief that I should provide the best possible care for each patient, there are times when I must put aside my desire and support programs that are less costly to operate, more invasive to the patient, and provide inferior diagnostic outcomes. Ultimately I must balance between the needs of the individual patient and the common good of all. In order to fulfil economic strategy while simultaneously performing my job efficiently and effectively, I must practice looking at the good that has been achieved and not merely focus on what I have not been able to achieve. To continue my work in a Godly spirit, I must acknowledge that I have engaged in the work, even if I have not completed it to my highest ideal.

There is a need to use resources most effectively, but the core of the Catholic health care system is to serve and promote the dignity of the human person. The human person is a body and spiritual being who is in a relationship with himself, with others, with the environment and with God. There are, of course, many medical procedures that are not discussed in the Bible, but the choice to conduct them must still follow biblical principles. In these situations it is imperative to

use the Catholic moral teachings as a guideline. When making decisions I consider the common good which I define as the balance between the good of the individual and the good of the society. In some decisions we have to invoke the hierarchy of rights. If there are two competing rights we have to ask: which is more fundamental?

An example of competing rights is when a physician orders an ultrasound on a patient to determine pregnancy gestation as a preabortion diagnostic procedure. There are two competing rights. There is the right to universal health care, which is good in the eyes of the Catholic church, and the ultrasound examination is not viewed as amoral. But because of its intent to facilitate a therapeutic abortion, it violates the more fundamental right, the right to life of the unborn child. Therefore in the Catholic health care system this examination would be denied. Our first obligation is to our moral obligation to serve the dignity of every human person from conception to natural death. Our second obligation is to the full utilization of resources provided by the economic strategic model. Thus, we are accountable for our morals and our application of those morals, while also being accountable for the resources entrusted to us.

The secular view of accountability measures cost effectiveness as opposed to valuing the holistic approach, which includes the physical, spiritual, mental, emotional and social domains. The bottom line in the secular worldview is financial, whereas in Catholic health care the bottom line is a culmination of the physical, emotional and spiritual well being of the human person and fiscal responsibility. Both the secular system and the Catholic system obey their bottom lines.

#### **4.2.2.2 Affirmation**

My management preference is to genuinely affirm each staff member individually, rather than to simply compare him or her with colleagues. My preference is in direct conflict with human resource management secular teaching that compares staff and their performance to other individuals or groups. The economic strategy is built on performance indicators that do not value

individual contributions. I prefer to affirm the strengths of individuals whose actions will collectively result in achieving group success.

Living out the principle of affirmation means that I endorse individuals who need encouragement and strength in challenging situations. People of faith demonstrate their love through affirmation. In the secular community, it is thought that staff will be better managed by criticism, and not by affirmation. If a staff member has not achieved the outlined performance indicator, even if the individual has contributed in other meaningful ways to the organization, it is certain that he will be criticised for his lack of performance and will not experience affirmation for his other contributions. It takes discipline and understanding to see the good within individuals and to genuinely affirm that good. In the economic model it is standard practice to evaluate behaviour and outcomes with an impersonal performance indicator which does not account for personal attributes that can be affirmed. Affirmation is a spiritual discipline. It is very easy and uncreative to find a person's weakness, whereas it takes discipline and desire on the part of the affirmer to 'catch' someone doing good. In the secular society an affirmation is often combined with a 'yes but...', which is a hidden criticism behind a half-hearted compliment. I grow through affirming others. When I affirm an employee I challenge how I regard myself, and I confront discrepancies in my own behaviour. Affirmation provides emotional warmth to both the giver and the receiver. If genuine, it is a positive building block in the relationship.

Genuine affirmation leads to positive growth and self-reflection, which can lead to a personal desire to strengthen a recognized weakness. The process of affirmation and the resulting growth is illustrated by my experience with the SARS clinic. Since I practise the principle of affirmation, I knew that not only did I need affirmation during the SARS Clinic, but also the staff working the clinic needed individual affirmation. Prior to the opening of the SARS Clinic I consulted a sister and asked her to pray for my staff and myself, as we were the first team to be quarantined for four days. My deepest concern was for the safety of my staff: I was dreading the

possibility that one of them might contract SARS and not survive. I was not certain how I could cope with this responsibility, knowing I had placed them in a dangerous situation. The prayers of the sister strengthened me. She affirmed me and validated that I was doing the right thing despite the obvious risk. This experience enabled me to make confident decisions during the SARS Clinic. I then met with each staff working the SARS Clinic and affirmed their actions and bravery in volunteering to participate in this high risk situation. As a result the clinic opened with confident staff who felt a deep sense of connection to one another. I perceived the staff to be like soldiers on the battlefield fighting side by side, affirming each other. The secular worldview would have perhaps affirmed the staff, but would have included a 'yes but...'. The message would be that it was great they volunteered, but that they must keep their fears silent so as to not disturb the group. In the secular world, answering to a *higher calling* by building relationships for the sake of building up one another is not a practiced principle. Staff working in secular health care can be left feeling patronized and isolated: they are told what to do despite their individual feelings. As individuals they do not feel as if they can contribute to a positive outcome. Staff affirmation demonstrates to each person that their individual behaviour has resulted in the greater good for all.

We have two options. We can look for the *good news* or the *bad news* in one another. When we look for the good news in others it helps them to transcend the difficulties they may be facing. The Catholic moral teaching sees the human person as being essentially good, because when God created the universe and its inhabitants, God looked around and said that His creation was good. It follows therefore that every person is good. To act in accordance with God, we must commit to creating goodness around us. When we help build the good in others, we are acting Godly. Therefore, as a believer I am acting in accordance with God's purpose for his creation, and through these actions, I seek communion with God. Affirmation builds the goodness inherent

in the person's being and helps them become who they were designed to be in God's eyes. By affirming my staff I am a co-worker in God's plan of love.

The conflict with the economic strategy rests in how I utilize my time; it takes more time and effort to look for the good news in others. It would be more time-efficient to see the bad news, criticise the individual, and insist on changes in performance indicators. It takes patience to wait for the personal growth in the individual. It is a progressive realization, not an instant fix. In the economic strategy, my practice of affirmation would be viewed as a waste of time because it would not be seen as contributing to the bottom line.

#### **4.2.2.3 Listening**

The principle of listening that I practice requires tremendous personal discipline, and it reaps magnificent rewards. I feel that listening is one of the most important gifts that I can give to another person, yet it requires me to practise phenomenal self-control. Listening actively is a key principle that is the very basis of my faith. My practice is supported by my early teachings such as "be still and know I am God ... everyone should be quick to listen and slow to speak ... the ear tests words as the tongue tests food."

I am a 'doer' type personality, which means my mind is on the move constantly planning, developing, and evaluating. For me to learn to 'be still' and to listen intently requires incredible personal discipline. It is easy for my mind to wander and it is hard to keep myself from interjecting with a solution. I recognize that listening is key to discovering the inner treasures buried within the soul of speaker. As I practise not finishing the other's sentence, I can listen to the other's soul expressed through words. I firmly believe by listening intently I am renouncing control over to the one who is speaking and I believe this communicates worth. By listening intently I convey my desire to understand, and to take seriously the viewpoint of another.

On the surface my management preference of active listening does not appear to present a challenge to the imposed economic strategy of Vancouver Coastal Health. But to listen actively to the soulful request of an employee may require an action that could present a challenge to my ability to fulfil the economic strategy. This causes me to feel conflicted, as I desire to fulfil the need of the employee and the economic strategic plan. Even with my deeply held beliefs, when I practise the principle of listening, I will not overrule policy, procedures and politics.

The challenge of listening and identifying the needs of a diverse group of staff in a faith-based organization can sometimes involve all levels of the organization. This situation occurred recently at Mount Saint Joseph Hospital. The event that precipitated the challenge was the 'blessing' of a newly installed CT scanner and general radiography room. Mount Saint Joseph staff is known for cooperation, caring and fairness. The blessing of a piece of equipment is a Catholic tradition to thank God for His provision and to ask for wisdom in operations and guidance regarding patient care. All the general radiology staff wanted the two pieces of equipment blessed, but many of the staff felt that the spiritual diversity of the staff and patients warranted a multi-faith ceremony by inviting representatives of various faiths. The staff made a formal request to a senior leader, which was refused. As a result the staff did not feel they were heard. They made several other requests to the senior leader, but felt their voices fell on deaf ears. They felt ignored.

Upon arrival in Mount Saint Joseph general radiology department several days after the last request I was bombarded with angry staff demanding to be heard. After attentively listening I asked if the staff felt comfortable with me consulting a sister for advice. The staff readily agreed and I contacted a sister. She immediately requested a meeting with the dissatisfied staff and she too listened attentively to their concerns. She thanked the staff for expressing their concern and said she would follow up their request. Within an hour a second meeting was called. This time it involved Sister Marie Vie Chua from the board of directors. She also listened attentively and then



after a few moments of quiet reflection quietly asked the staff to once again clarify their concern regarding the blessing. The staff explained that since they serve a diverse population of patients, and they themselves are diverse in spiritual faiths, they wanted the blessing to be equally meaningful for all staff and patients. She sat silently for a few moments and then leaned forward in her chair and asked me how I thought a multi-faith ceremony could be possible. I turned to the staff and asked specifically who they wanted to attend the blessing. The staff were precise in their list, a Muslim Iman, a Jewish Rabbi, a Sikh Priest and the resident Catholic Priest. I was filled with awe at my staff's boldness, but at the same time I was fearful about the political risk I was taking by supporting the idea of a multi-faith ceremony to a board member of a Catholic hospital. I felt I was putting myself at risk for losing my job, yet I had listened attentively to the staff and I was moved by their request. I gathered my strength and I suggested to Sister Marie Vie Chua that the priest could welcome his brothers of other faiths to join him in the celebration.

The multi-faith celebration went forth smoothly and was deeply meaningful for all who attended. It was such a success, that Mount Saint Joseph was heralded as "Caring Hearts" at a Catholic conference in Montreal two weeks later. The front page of the BC Catholic the official newspaper of the archdiocese of Vancouver, wrote:

Sister Marie-vie Chua stated, "I thank you all for making our dream of interfaith and interreligious dialogue possible. It was the dream of our foundress that one day we would see all people of different nations and faiths coming together to work for humanity."

Jewish Rabbi David Mivasair, Sikh priest Joginder Singh, and Imam Fode Drome, representing the Muslim faith, joined Father Valeza in asking for God's protection "on the scanner, those who will operate it, and the patients who will benefit from the healing technology." The equipment was then sprinkled with holy water.

Rabbi Mivasair later sent a letter to the hospital expressing his thanks for being invited to the ceremony.

“I have no doubt,” the rabbi wrote, “that our prayers, in diverse languages and cadences, derive from the same Source and all evoke that very same Source to guide and strengthen all those who will use these machines, both those who practise the healing arts and those who come to them for healing. I thank the pastoral staff at MSJ for inviting a Jewish voice into the blessing ceremony.” (The BC Catholic, 2004, November 15)

It is evident that the ideas from the Cognitive School of Strategic Management influence people at all levels of a faith-based organization, not just management. For example, the staff took the inflowing information (rejection of their request) and decoded the information with their faith-based cognitive map (the rejection undermined their values of fairness and equity). The decoded information interacted with cognition (the rejection was not fair) and they imposed their interpretation on the environment (find a new way to bless the equipment) rather than to accept the environment presented to them (that a multi-faith blessing could not be held).

The principles of the Catholic Health Association of Canada present a moral vision reflecting Roman Catholic teaching on health ethics as it applies to contemporary Canadian society. The teachings clearly value diversity and the need to care for those within diverse cultures and faiths. A multi-faith ceremony would be consistent with the principles of the Catholic Health Association. Such a ceremony had never been attempted in the one hundred year history of Providence Health Care, furthermore Sister Marie Vie Chua had never heard of such a request or attempt at any other Catholic health care organization in Canada. Providence Health Care demonstrated leadership though hosting a multi-faith ceremony.

14. Health and social service organizations must respect the different cultures and religious traditions of those they serve and those who work within their organizations. They should value the differences, seeking ways to incorporate them into working environment and in the care they offer. These various cultural needs should be addressed in ways that respect the dignity of the care provider, the mission of the organization and standards for quality care (Catholic Health Association of Canada, 2002 p. 23).

17. All persons have equal value and dignity and are to be treated with respect, especially when they are weak, vulnerable or sick. All persons, therefore, are to be provided with the services they need in the context of the mission and resources of the organization and the common good (Catholic Health Association of Canada, 2002 p. 24).

Active listening is a reflection of our fundamental nature as a Godly vessel. In secular society we believe that we communicate with each other as autonomous beings, but the teachings of the Catholic church view communication as the Holy Spirit working through others to deliver God's messages to us. In a secular framework we think that requests come from others, but in the Catholic faith we understand that we are responding to God's requests. In the context of the health care system, when I listen to others it reflects my willingness to be responsive to the Holy Spirit. When I advanced the idea of the multi-faith ceremony, I took a political risk. I recognized that advancing the request could be perceived as an attempt to undermine the priest's stewardship of Catholic health care. But such an outcome would be inconsistent with the request. I did not hear the request as coming merely from individuals who might want to show up the priest, I heard it as the Holy Spirit speaking through my staff. The message was clear to me: a multi-faith ceremony would enhance the care at Mount Saint Joseph Hospital because the staff would feel heard and valued, and they would in turn be able to hear and value their patients. I felt I had to convince the sisters and the pastoral care team that was no desire on my part or the part of the staff to undermine the Catholic ownership in this situation. Once the team realized that the priest would still be the host of the blessing they were able to see the merits in a multi-faith ceremony.

Listening is highly valuable yet with minimal fiscal cost attached. The outcome of listening may have fiscal cost attached as was seen in the multi-faith ceremony. The staff time and associated costs for the ceremony would be difficult to justify within the economic strategic framework. The secular worldview would consider the need for a ceremony of any type as a waste of time and money. As a manager in a Catholic organization allocating time and resources

for the ceremony did not cause me conflict. I answer first to moral principles and second to the economic strategy. We are first accountable to Providence Health Care mission and second to the economic strategy.

I recognize that shutting down the general radiology department for three hours, and providing refreshments for the one hundred attendees to the ceremony was costly. Hosting the ceremony resulted in loss of outpatient revenue, zero staff productivity, loss of physician fees, and additional celebratory expenses. This type of multi-faith ceremony does not fit into an economic strategic plan and within secular health care could be viewed as a flagrant misuse of funds. Whereas within our faith-based department the ceremony served as a reminder that all things come from God and He alone needs to be praised for His provision. The real cost of not living our faith actively is far greater than the two thousand dollars spent to celebrate our gratitude. The benefit is easily realized by an increase in staff morale and a deeper sense of caring within the community. An additional benefit was the recognition that Mount Saint Joseph received as they were heralded as the change leaders within Catholic organizations across Canada. Ultimately, active listening had little negative affect on the economic strategy, but a phenomenal benefit on the staff morale. This example demonstrates how attentive listening resulted in my being challenged to press not only the political boundaries but also the economic strategy.

#### **4.2.2.4 Stewardship**

For me the principle of stewardship is all encompassing, it applies to my time, my talents, the state of my soul, how I care for the environment and how I allocate of resources. The fundamental purpose of stewardship is to bring benefits to humankind. When I am a good steward I am being obedient to a *higher calling*. As a manager I have been entrusted with the lives of patients, the well-being of my staff and the resources of my community. I believe that God wants

a return on His investment in me, and by being a good steward of His creation, I am obedient to Him. In the secular economic health care model one answers to man, not to God. The ultimate goal is to meet fiscal targets while providing adequate health care outcomes. If the economic strategic plan is adhered to, then management is considered successful. To be successful in a faith-based organization, a manager needs to meet the health care needs of the patient, to provide for the well-being of the staff and to be responsible for community resources. Together the faith-based manager guarantees not only the physical health of the patients but also the psychological health of the organization. As a manager in a faith-based organization I care for more than just numbers. This presents an obvious gap between my broad goals as a manager and the narrow fiscal bottom line philosophy of the economic strategy. For me, being a good steward is an overriding *higher calling* and forces me to do more than just adhere to the imposed strategic plan. This does not mean that I ignore the economic strategic plan; I continue to follow processes and procedures but I also include the care of others in my work.

While interviewing a potential new hire I became aware that there were many foreign trained radiology technologists within Vancouver who were working in low paying non-professional jobs. They were not working in radiology because they were not accredited. It is necessary for a technologist to have a Canadian licence to practice in Canada. To become accredited a technologist must pass the national exams. Most of these foreign-trained technologists have the technical knowledge to pass but they lack cultural nuances. Unfortunately for these technologists, the exam is very culturally-based. I believe that the pass-rate for these technologists would substantially improve if they attended a 12-week radiology refresher course. Within the context of a worldwide shortage of radiology technologists, it felt unjust, and to be a waste of resources, that there was such a large number of non-working technologists in Vancouver. Knowledge of this situation caused conflict for me because I wished to help these technologists but I did not have the resources to do so. My need to be an obedient

steward of my talents and time led me to find a program which enabled the foreign trained technologists to live up to their career potential.

As a manager, one of my talents is in networking with educational institutes across Canada. I proposed a collaborative effort between Providence Health Care general radiology and the University of Toronto's Michener Institute. The Michener Institute had a locally developed didactic and clinical program to train foreign technologists which has a good success rate. Though Michener Institute had collaborative partnerships internationally; it did not have any national partners and was reluctant to proceed due to the political implications from the local technical institute. After several discussions and indepth explanations of how the Providence Health Care mission supported such a venture, the Michener Institute agreed to a pilot program.

The clinical education coordinator informally advertised for a small pilot project group. Within a week twenty students had agreed to attend an information evening. The clinical education coordinator led the information evening with support from the corporate leadership development coordinator. As the general radiology manager I concluded the evening with an offer to help pay the two-thousand dollar tuition for those in need, the sum to be repaid on individual schedules. I shared with the group the values of Providence Health Care and why my management preference was to be a good steward of my time and talent and that by reaching out to these foreign trained technologists, I was obeying a *higher calling*. One woman with a tear stained face asked, "Why are you all so kind and caring and so willing to help us? We are poor and new to your country." The answer was simple. I responded, "I, and the employees at Providence Health Care, choose to live the mission everyday."

The cognitive thinking that is behind such a solution can be found in the Cognitive School of Strategic Management, particularly the constructionist view. The Positioning School of Strategic Management, which is the framework for the economic strategic plan would have

assessed the overall value and marginalized the outcomes to support abandoning such a plan. In contrast, I filtered the information flowing in (many non-working foreign trained technologist in Vancouver) and decoded the information with my cognitive map (allowing them to continue to work for low-wages in non-professional jobs was unjust). The information interacted with cognition (we need to find an equitable solution) and the plan was shaped by the process (using my contacts to pilot a project). My interpretation was imposed on the environment (I brought about the program), rather than the environment dictating the outcome (foreign trained workers must fend for themselves).

The Catholic doctrine supports the premise of the care for people in the community and thus the pilot project is in the nature of caring for one another.

‘While each person is unique, no one could exist for long or fulfil their potential apart from the human community. The community gives people opportunities to provide and obtain resources such as food, clothing, shelter and culture that are required to live a truly human life. Through sharing and communicating with others in community persons grow in knowledge and love. They achieve human fulfilment by serving others, since each one receives from and contributes in some way to the individual development of others. Indeed, every society in a certain sense is “personal,” so that the person is the beginning, the subject and the aim of every social institution (Catholic Health Association of Canada, 2002 p. 17).

The individual and social needs of people always must be kept in balance within a social order “founded on truth, built on justice, and animated by love ... Every social group must take account of the needs and legitimate aspirations of other groups, and even of the general welfare of the entire human family.” This is achieved through cooperative activity and through social structures that seek to guarantee equity and to overcome domination of one group by another. Through such an approach, individuals and groups contribute to the well-being of others and receive from others what is needed to meet their own particular needs (Catholic Health Association of Canada, 2002 p. 17-18).

Christian tradition uses the images of the human body and the family to emphasize that human beings function often as organs of the greater civil society,

united by common ends and using common means. Every person shares responsibility for our society and society has a responsibility for its members. As Christians, we also live in society as members of a community of faith. The faith life of the Christian community is shaped by baptismal call to share God's life and to work for the common good of all peoples. The fundamental law of this community is such that love of self, love of neighbour and love of God should not be separated (Catholic Health Association of Canada, 2002 p. 18).

The short term financial costs for supporting nine foreign trained technologists resulted in a long-term gain of nine new Canadian licensed technologists who entered the industry in just twelve weeks. The effect was an immediate reduction in overtime, which had been caused by a technologist shortage.

In Catholic bioethics we view ourselves as having limited autonomy as opposed to unfettered autonomy, because we are not the owners of our lives. In fact we are all *brothers and sisters in God*. So by being a faithful steward of the gifts bestowed on me, I was able to help foreign trained technologists, and in so doing my need for staffing was provided for. Stewardship is of reciprocal benefit.

We believe God is not a divine bachelor but part of the Holy Trinity, whose essence is expressed in the mystery of communion demonstrated by a relationship of giving and receiving. So because we are made in the image of God, we reflect our true nature by giving to those in need and receiving from them their gifts to help us in our needs. We were in need and God, the Father provided to us his Son, Jesus Christ. Therefore we provide to those in need. Through the Holy Spirit, Jesus receives from the Father and gives back to the Father. It is a relationship of mutual giving and receiving. Thus we must engage in relationships of giving and receiving. Stewardship reflects this giving and receiving relationship and it demonstrates our obedience to God.

The secular economic worldview would see the establishment and the financial support of pilot program as fiscal irresponsibility. In the secular view, we consider ourselves to be masters of our own fate, and thus we have no need to help others unless our gain is immediately



evident. In the case of the pilot project, it was not completely clear that the graduates would pass their exams, nor was it clear they would work for Providence Health Care. It was an act of faith to engage in this project.

#### **4.2.3 Job Context**

As a manager I am responsible for the operations of general radiology at Providence Health Care including screening mammography and angiography. Providence Health Care operates radiology departments at two acute care hospitals: the larger acute care site (St. Paul's Hospital) is a twenty-four hour, seven day a week operation and the smaller site is a twelve and a half hour operation. Both departments serve the external community and internal hospital community. I have a staff of seventy technologists, three radiology assistants, nine supervisors and a clinical education coordinator (see Figure 6.1). The radiology clerks support the operations of general radiology and they report to the clerical supervisor who reports directly to the radiology director, and thus the radiology clerks are not my responsibility. The scope of my job involves developing budgets, tabling budget proposals and maintaining the budgets. I am responsible to ensure that the necessary equipment has been purchased, and that it is serviced and operational at all times. I am also involved with the hiring process, performance management, and termination of employees, when necessary. My job requires me to join various interdisciplinary teams and take part in projects throughout the organization. The nature of my job is to be the radiology leader to the organization, to ensure radiology professional practice is adhered to at all times, and to make certain the general radiology department is operated efficiently and effectively. It is my responsibility to ensure that the department is welcoming and professional while serving the patients and stakeholders. I am constantly developing and growing my interpersonal skills so that I can maintain good relationships with staff, patients, management, physicians and external stakeholders.

My performance is measured and assessed annually, and is based both on meeting budget targets and supporting the strategic plan, and on my character in relationship to the Catholic teachings and my interpersonal interactions with various stakeholders. Public health care does not financially reward management for good performance. Good performance can lead to job promotion, or invitations to take part in high profile projects within the organization. Since it is a not for profit organization there are no fiscal incentives such as bonus or share programs.

I have formal and informal relationships with people internal and external to Providence Health Care. The formal relationships that I maintain within Providence Health Care are with the radiology management team, radiologists, technologists and various program colleagues both at the departmental level and senior level throughout the organization. I must liaise with all levels of the organization in the functioning of two busy departments. My external formal relationships are with vendors, radiology administrators across British Columbia, government licensing departments and third party clients such as the Workers Compensation Board of British Columbia, Mariners Clinic and Medisys. The informal relationships that I maintain are with the cleaning staff, porters, shuttle bus drivers, couriers, and cafeteria staff. If a change in how they perform their duties were needed I would relate formally to their manager as one of my colleagues.

The radiology director expects that I will be responsible and accountable for the daily operations of general radiology. It is expected that I will monitor the budget to meet fiscal targets, maintain strong working relationships with the three unions, my colleagues, senior management, physicians and external stakeholders. In addition, my peers expect that I will collaborate with them individually and on teams to ensure a safe and efficient health care operation throughout Providence Health Care. My staff expects that I will listen to their concerns, encourage them in their work, protect them from job loss and represent their needs to senior management.

The need to develop cooperative relationships both with internal and external stakeholders is critical to the successful operation of my department. The internal stakeholders which provide the support services to general radiology are finance, human resources, labour relations, housekeeping, stores, transportation, mission team, maintenance and security. If general radiology is operating inefficiently it would adversely affect the acute care, subacute care, long-term care, and laboratory programs at the hospitals, and they are therefore considered internal stakeholders as well. The external stakeholders that I liaise with include equipment and supply vendors, other acute care general radiology departments, and third party payers. I need the support and cooperation of my colleagues within the other modalities in radiology and other programs at Providence Health Care in order to successfully operate my department. Because we share services and support personal, without their support and cooperation my operations would become more costly. Sadly, the insidious sabotage from uncooperative colleagues damages operations by stalling deliveries, refusing support or raising political havoc. Ultimately everyone at Providence Health Care relies on each other.

In a time of severe fiscal constraint I compete with my colleagues for resources. If, for example, there needs to be a staff reduction it is more likely to be in general radiology than in CT. Because radiologists receive a higher fee for service for CT examinations than for general radiology, radiologists will support a staff reduction in general radiology before reducing their CT staff. Resentment between the modalities within radiology can grow and if it is not addressed it can damage interpersonal relationships. The imposed economic strategy that I must work within to operate my department has the potential to cause tension in relationships between my peers and myself. We are all desperately trying to make a solid business case to finance our particular operations. My relationship with the department financial analysts could be tense if I did not maintain the global understanding that many of funding issues were also outside of both of our control.

My staff have expectations that I will always find ways and means of providing them with job security despite the external pressures from the government. The frontline staff does not connect government policies with their impact on the daily operations of the general radiology department. Furthermore, the staff perceive the management as aligned with the government. In 2002, when Gordon Campbell, the Premier of British Columbia, tore up the collective agreements, which meant he refused to honour the already signed agreements, the frontline staff felt that I and other managers had actively participated with him on this initiative. Gordon Campbell's actions resulted in extremely bad relations between management and unions within health care which, after almost three years, are just now beginning to ease. Despite health care being in a 'no growth mode', the frontline staff expect not only job security but also career opportunities to continue to grow. Even with the tensions in management union relations, I make every effort to support the staff so that they will feel secure so and in turn create a safe and caring environment for the patients. This requires that as a manager, I pay a lot of individual attention to my staff both collectively and individually. I listen to their concerns, affirm them, and continually communicate the internal and external pressures that may affect our operations so they feel well informed and are able to cope.

### **4.3 Management Preferences Summary**

In chapter four I discussed my management preferences using examples in accountability, affirmation, listening and stewardship. Each of these examples demonstrated the impact to the imposed economic strategy. Chapter five will identify how the current financial, human and operational resources either support or do not support the imposed economic strategy.

## **5 RESOURCES**

Financial resources are necessary in order to operate a general radiology department. During these times of fiscal constraint every effort must be made to identify efficiencies and to fully utilize all current resources. The department of finance now requires justification for all requests for increased funding for any extraordinary programs or services that were previously not funded. This requires presentation of a detailed business case, whereas in the past a verbal explanation was sufficient. The Chief Financial Officers now watch the bottom line very closely, as fiscal accountability is closely linked with the performance agreement and the assurance of future funding. I find this major emphasis on the financial bottom line to be discouraging and somewhat distracting when in a Catholic health care system where we are attempting to put people rather than numbers first. I find that I need to constantly remind myself that we put people first at Providence Health Care, as the demand to be fiscally accountable can weigh heavily on me. In this section I will demonstrate the resources available to me in my operations are insufficient to fulfil the imposed economic strategy and Providence Health Care strategy. Even without Providence Health Care strategy there are still not enough resources to support my operations.

### **5.1 Competitive Advantage**

Competitive advantage is a company's ability to perform in one or more ways that competitors cannot or will not match (Kotler, 2003, p. 82). Porter's theory encourages companies to identify and sustain competitive advantage over their competitors. For a competitive advantage to be successful it must be considered by the customers as representing a customer advantage.

A pure monopoly is only one firm providing a certain product or service to a country or local area (Kotler, 2003, p. 246). Therefore public health care, which is a regulated monopoly, is required to charge a low price and provide more service as a matter of public interest.

A guiding principle in the Catholic Health Association of Canada is careful stewardship of resources. A key action within the first strategic direction of providing excellent care and service is improving business operations with the objective of ensuring financial stewardship of resources. Resources can and should offer a competitive advantage in a for-profit business, but this same thinking is not applicable in the public not-for-profit health care industry. I cannot rely on competitive advantage as a resource.

## **5.2 Required Resources Identified**

At Providence Health Care the sisters believed that God led them to locations where people needed their services. These locations did not have to compete with other health care industries for market share. Catholic operations have never been threatened because the early history of Canada honoured this religious heritage. In the last few decades, families have moved further from a church-centred life and become increasingly secular in nature. In 1995, all faith-based health care in Canada entered into denominational agreements with the government to ensure a continuity of service during this shift away from the church.

In addition to the denominational agreement, faith-based health care has entered affiliation agreements with their local secular health regions. The purpose for the affiliation agreement is to ensure that funding from the Provincial Government is distributed fairly to the denominational health care system within the local region. In 2002, in a surprising move, the Fraser Health Authority cancelled the affiliation agreement with St. Mary's Hospital in New Westminister, British Columbia, which resulted in closure of the hospital (Report and Advice by

the Review Panel, 2002, p. 91). Providence Health Care in practicing stewardship of resources decided on its own to close St. Vincents Hospital, and thus closed an acute care hospital. The plan is to redevelop the land to provide for the needs of our aging population into a ‘campus of care’ (PHC Annual Report, 2004, p. 3). The Providence Health Care strategic direction supports ethical conduct and decision making. This ethical conduct and decision making ensures that the fiscal resources allocated to Providence Health Care is fully utilized in every aspect of the organization.

Meeting budget targets supports the first strategic direction which calls for providing excellent care and service while focusing on improving patient/resident care and safety, improving health services and improving business operations. Despite focusing on efficiencies and effectiveness, general radiology does not meet budget targets. The general radiology budget variances are shown in Table 5.1. It will be shown that the budget shortfall is a result of inadequate resources to support operations.

**Table 5.1: Variance Report General Radiology 2004 – 2005 Report**

<b>Variance Report 2004-2005</b>				
<b>Site</b>	<b>St. Paul's Hospital</b>	<b>Mount Saint Joseph Hospital</b>	<b>Angiography</b>	<b>Total</b>
Total Budget	4,953,836	2,125,939	769,054	7,848,829
Net Surplus <Deficit>	(78,889)	6,756	(285,949)	(358,082)
<b>Percent of Actual Budget</b>	0.0159	0.0032	0.3718	0.0456

### **5.2.1 Financial Resources**

The Vancouver Coastal Health imposed economic strategy expects an improvement performance, an increase productivity and efficiency without contributing additional resources above the current fiscal budget. Improving efficiency and productivity are both process and technology driven. Systems process improvements can be achieved with realized efficiencies within the current fiscal resources. The conflict is that though newer technology can increase productivity which would reduce waitlists, these technologies require large amounts of capital.

Capital spending requires regional and provincial approval, which is not forthcoming. Current technology is aging and breakdowns result in decreased productivity.

Providence Health Care must abide by archaic accounting and administrative policies, which results in financial chaos for general radiology. In previous years, the vendors of contrast media have rebated a portion of the overall expenditure at the end of the fiscal year directly to the general radiology cost centre. This alleviated budget overrides. However due to regional policies, any additional dollars being returned must go to global funding and not to general radiology. Another example is that in-patient examinations are not billed to the Medical Services Plan, but are considered to be part of the global funding of each acute site provider. The global funding is based on the previous year's funding, which presents a problem if the inpatient demand increases compared to the previous year. In contrast, outpatients are billed to the Medical Services Plan and provide significant operational revenue for Providence Health Care.

Management seeks to diminish waitlists. I have chosen not to cap the number of examinations because I desire to fulfil the Providence Health Care mission by supporting ill patients in our community. My decision, however, prevents me from remaining on budget. In the secular health care system, managers do not feel the same moral obligation to patients and are comfortable imposing 'caps' on the number of examinations. In the community, physicians have started redirecting their patients to Providence Health Care so that they may receive faster service. This results in a larger than anticipated demand and, given that my budget is based on the numbers from the previous year, I do not have resource support for the increased demand.

In Vancouver Coastal Health region, some interventional operating room procedures are now conducted in the angiography suite. The change in process has resulted in an increased demand on more expensive supplies and sterile trays, but additional funding did not follow. Costly angiography suite supplies and sterile trays must be handled carefully and monitored on an



on-going basis to prevent stale-dating and contamination. Some very costly renal procedures are now done in the angiography suite and not in the operating room. This frees up an operating room and reduces overall costs, but the cost to general radiology has increased. This new process is an action of the imposed strategic plan that has created an overall efficiency in the organization but inefficiency in general radiology. It is reasonable to identify overall efficiencies, but shifting programs to new cost centres should include shifting the fiscal resources to ensure creating efficiency in one program does not create inefficiency in another program. The costs associated with the renal procedure have led to a four percent cost overrun in the general radiology budget which is considered significant. General radiology cannot continue to provide services for a new costly process, if it is not allocated additional funds; it is simply not sustainable.

Radiologists are paid fee for service and they have no incentive to ensure that operations are maintained within budget. Furthermore radiologists have no need to fulfil the economic strategy or focus on cost containment. Because the radiologists are 'drivers' in the delivery process and there is no financial incentive for cost containment, there are spiralling costs in general radiology.

The costs associated with the annual maintenance agreements for the general radiology equipment and PACS system continues to escalate at a dramatic rate due to the aging equipment and constant failures of obsolete machines. In order to attempt to fulfil the imposed economic strategy I have decided not to renew any of the service maintenance contracts to reduce operating costs. This results in a potential exposure for large capital costs to be incurred if repairs cannot be achieved at an economical cost.

The performance of general radiology is good on an overall basis due to intense monitoring and vigilance by management. I focus on increasing equipment utilization and providing sufficient staff to provide service for peak times and volumes. Not only does my

attention of resource utilization enhance the efficiency of the department, it also keeps union grievances to a minimum. This translates into better management and significant cost savings, which in turn keeps the staff happy so that they can treat the patients with better care.

The scale of service is not growing and may even begin to diminish as a result of lack of resources for operations. The scale of operations may decrease because of the imposed economic strategy and its accompanying fiscal constraint. This may result in the need to reduce the number of overall procedures performed annually. For example, fluoroscopy operations may have to decrease at Mount Saint Joseph Hospital because there is not enough money for staffing. Diminishing service will result in longer waitlists and this is in direct conflict to the imposed economic strategy. It is unreasonable to impose an economic strategy with insufficient funding to carry out that strategy. To improve service, efficiency and utilization I am increasingly using support staff to perform non-technical duties. I save money within the general radiology budget, but I am concerned about the possibility of extreme inefficiencies if there is unprofessional handling of patients. I am risking loss of future revenue and possible litigation in the event of medical malpractice.

There is a financial crisis in the health care system. I am staffing the department with a bare minimum of technologists. I have no access to additional capital for new technology. I do not have money in my budget to enter into service agreements with vendors. Operating on minimal staffing, without access to new technology, and not being able to maintain my older equipment, there can be no efficiencies achieved.

There is no cash flow in the general radiology unit as global funding occurs on a monthly basis from the provincial treasury.

There is no capacity to raise any capital funds. However Providence Health Care has a very limited ability to enter in to a 'user pay' system or alternative revenue generation. There is a

hospital foundation that accepts donations and fundraises. Overall there are inadequate financial resources to fulfil the mandate of the imposed economic strategy.

### **5.2.2 Human Resources**

The human resources required to fulfil the imposed economic strategy are scarce due to insufficient technical training programs to train the technologists and radiologists. This can and does result in temporary and sometimes permanent general radiology room closures due to the inability to hire sufficient staff. Additionally, there are several technologists' positions that have not been funded, but are required in order to prevent overtime and injury. The professionals in general radiology are highly skilled and experienced individuals who are able to perform at a high capacity and provide superior quality examination the majority of the time. The acquired skill set of these individuals is world class. They receive formal academic training, clinical training and hold licenses to practise. Their credentialing is maintained with on-going training, professional development and in service programs. Within a union environment it is very difficult to be flexible while remaining fair and consistent. Staff can experience family demands which can interfere with staff scheduling and result in inappropriate overtime. As a manager, even though I could refuse time-off requests, I make every effort to provide time-owing days off to my staff because I recognize the high stress nature of their work. I must be constantly attentive and monitor this process to ensure there is no misappropriation of human resources. Where possible, I give as much flexibility as I can to each staff member.

General Radiology staff at Providence Health Care is committed and loyal which results in many staff remaining long term. New recruits tend to stay for a long period of time as they quickly become a member of the caring atmosphere and sense of community. This 'family' atmosphere achieves a unique commitment and loyalty to Providence Health Care. The staff feel proud to belong to an organization that has existed for over one hundred years and has made

unique contributions to the BC community. Individuals want to come to work at Providence Health Care so that they too can share in the future and provide excellent health care delivery. There is no other health region that can make the same claim.

As the General Radiology Manager much of my time is spent in developing positive relationships to ensure retention of valuable staff. Staff is encouraged to affirm their each other which enhances team development. It is critical for me to maintain positive relations with the unions in order to maintain harmony. I thus save myself significant time and expense which could be otherwise taken up by labour relations problems, grievances or arbitrations. St. Paul's Hospital is known as a militant union hotbed and I cannot change this cultural phenomenon.

The staffing of the general radiology department will not grow because the imposed economic strategy does not provide sufficient human resources funding. The pool of trained technologists is inadequate to meet the demand. Even if trained technologists could be hired, there would be inadequate funding to meet the demand for general radiology services.

### **5.2.3 Operational**

The health care industry is highly specialized. Medical suppliers can charge premium dollars and unions can demand high wages. Therefore the inputs such as labour, supplies, and equipment are not low cost. Supplier power is very high and therefore access to low cost inputs is not applicable in the health care industry. In order to find regional efficiencies to meet the imposed economic strategy a region wide supply ordering system has recently been implemented. Supplies now come from a central location, which may eventually result in a cost savings due to volume buying. This new system is currently causing havoc as supplies do not arrive in a timely fashion and, the majority of time, are the incorrect type. The imposed economic strategy requires increased regional efficiency and the central support is an attempt to meet that goal.

Positive supplier relationships can result in cost savings. There is room for some bargaining power and thus maintaining positive professional relationships with the suppliers is critical to meeting the overriding goal of budget targets while improving efficiencies. I have maintained positive supplier relationships and these have resulted in cost savings. For example, we purchase expensive interventional stents from Cook Medical Supplies. Because of my relationship with them, they were willing to consign the stents to general radiology, which resulted in a “pay as you use” system. I did not need to stock these expensive stents which resulted in cost savings. With the stents now readily available, procedures are not delayed and efficiency has increased.

The cost of the physical plant required for general radiology is high due to the large square footage required and the specific building codes associated with radiology. For example, radiology rooms must be lead-lined to prevent escape of x-rays, and they must be large to accommodate the very large equipment. The imposed economic strategy is an efficiency improvement strategy and not a growth strategy. Therefore, the current physical plant is sufficient to carry out the strategy.

Currently, general radiology provides only emergency and inpatient services after 8 p.m. Since we do not operate at full capacity twenty-four a day at full capacity, there is room to increase our patient load. Radiologists do not support twenty-four hour full operational service and their preference becomes a barrier to increasing capacity. A second barrier comes from the inability to staff a full twenty-four hour operational service. It is also questionable whether patients would come in for radiological exams during the early morning hours prior to the normal business day. It is imperative to ensure the hours of operation provide the greatest efficiency attainable to ensure the resources are utilized to their maximum.

The general radiology department needs to improve productivity to meet the goals of the imposed economic strategy. Productivity could significantly increase with digital equipment. Digital x-ray equipment has been on the market several years, but is extremely costly to purchase and to maintain. There is no capital funding for the purchase or maintenance of digital x-ray equipment within the imposed economic strategy. Currently Providence Health Care has one digital unit and the remaining twenty units are not digital.

To date there is no central booking services for general radiology appointments within Vancouver Coastal Health. The reason is that operations are driven informally by radiologists and the radiologists are unwilling to behave as a single regional group to ensure full operational capacity is met at all sites. At a larger tertiary care centre, there are more specialized exams which pay a higher fee for service than general radiology exams, and this results in significantly higher wages for that site's radiologists. If there was a central booking system, it would evenly distribute the lower-paying exams across the system. The majority of radiologists reject a central booking service despite its potential for operational efficiency. The current system provides no incentives for radiologists to cooperate to ensure all potential operational efficiencies are implemented. A central booking service could ensure that no department has a vacant appointment slot and would improve utilization and increase productivity. The Vancouver Coastal Health imposed economic strategy mandates management to actively pursue opportunities for regional efficiencies, but managers efforts are often stymied due to political reasons beyond their control.

In order to build and maintain our professional reputation, it is critical that the external stakeholders such as referring physicians and specialists see Providence Health Care general radiology as providing timely and quality service. One way of building good relationships is by providing timely reports to ensure patients can receive a diagnosis in a timely manner. Radiologists may not make reporting a high priority, even though the completion of a diagnostic

report is linked directly to their ability to bill. Billing is an incentive for some radiologists, but not for all radiologists.

The Vancouver Coastal Health imposed strategy seeks to provide local responsiveness to local needs. As long as the hospital radiologists do not buy into the need for operational efficiency this dilemma will be not be resolved. Radiologists are the informal drivers in the operations of a general radiology department and can be a major barrier to operational efficiency.

### **5.3 Resources Summary**

Chapter five identified the challenges posed to fulfilling the imposed economic strategy through the lack of funding for supplies in the angiography suite. The budget shortfall is a result of inadequate resources to support operations. Coupled with this, the ability to alleviate budget overrides has been removed because revenue from contrast media rebates are no longer deposited into the general radiology cost centre. Chapter six will discuss organizational capabilities including organizational structure, management, operational and performance processes. One of the most important organizational capabilities is leadership behaviour. Chapter six will demonstrate the impact of leadership on the imposed strategy within general radiology.

## **6 ORGANIZATIONAL CAPABILITIES**

The analysis of organizational capabilities in general radiology seeks to identify the potential changes in structure, management processes and leadership behaviour that may be necessary to support the imposed strategy. I feel these three aspects of operations may not be easily changed because of the longstanding uncooperative culture and deeply entrenched behaviour in Providence Health Care general radiology. Therefore, to achieve even a minuscule measure of overall success, it is necessary to implement small changes slowly. The changes must follow a specific plan and be consistent with each other, otherwise the process will be harshly criticized and not achieve success. The imposed economic strategic plan does not require new organizational capabilities, but asks for improvement on the capabilities that already exist.

Improvement in organizational capabilities is not possible with regard to the radiologists. Radiologists have significant positional power as there is a tremendous shortage of trained radiologists. Senior management is not willing to run the risk of the radiologists leaving their units. Furthermore government will not risk imposing rules on the radiologists for fear that they will leave the Province of British Columbia to seek employment elsewhere. As discouraging as this may seem, I recognize that it is out of my control as a manager, and thus I choose to focus on areas within organizational capabilities that I can change effectively.

Since no new operational capabilities are required to support the imposed strategy, I see my task as finding efficiencies within the existing operations. This includes developing my own management skills, streamlining the organizational structure and encouraging staff to develop decision making skills.



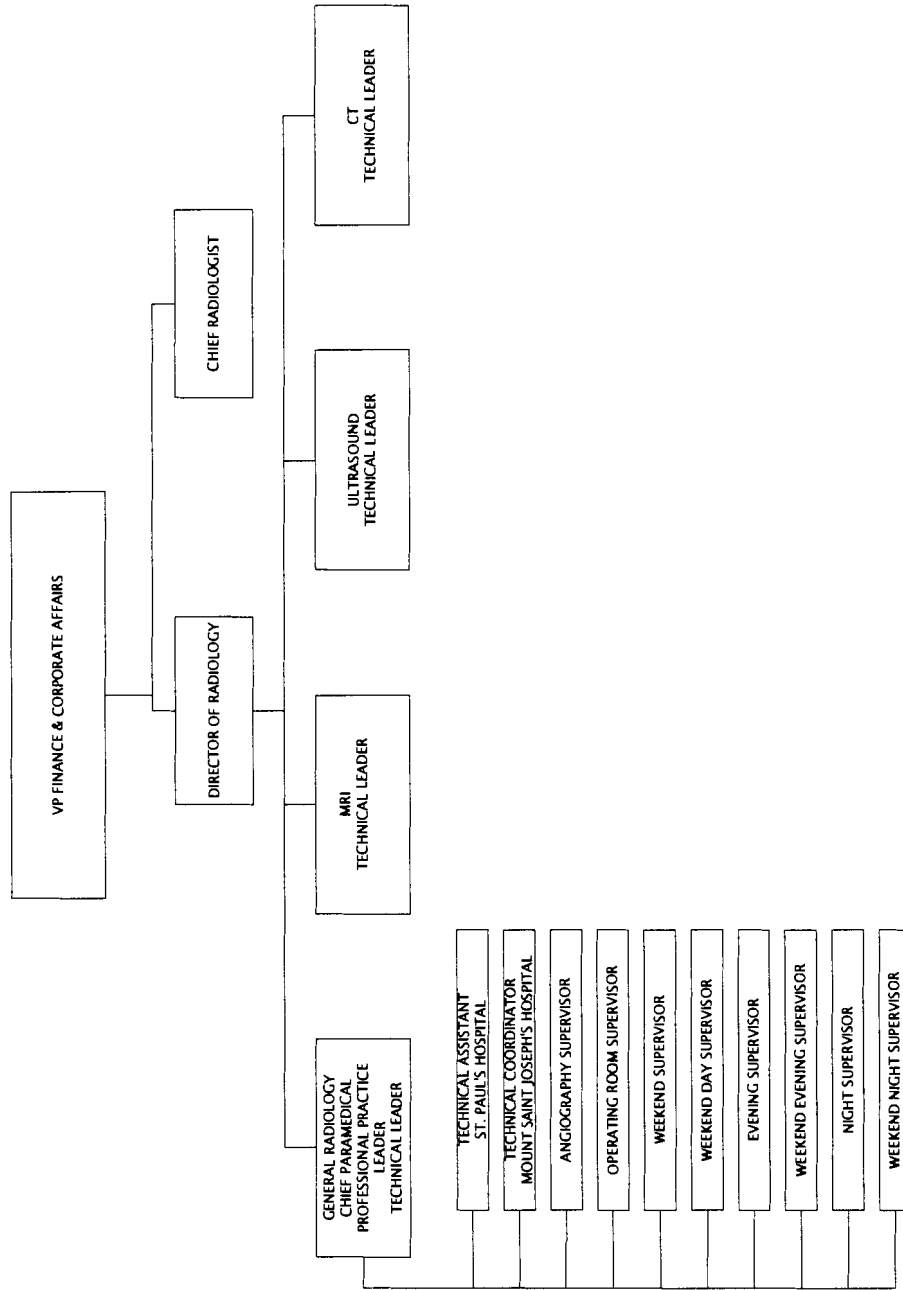
## **6.1 Organization Structure**

The Vancouver Coastal Health and Providence Health Care organizational structures follows a functional structure. This style of structure is “good for coordinating activities and allocating resources within each cost function” (Crossan, Fry & Killing, 2005, p. 159). The Providence Health Care radiology department follows a product (modalities) structure (see Figure 6.1). This project has focused on the general radiology modality within the radiology department. The advantage of a product structure organization is the focus that it gives to the product line in the company. The performance of each product area is visible and resources can be allocated to each product (Crossan, Fry & Killing, 2005, p. 159). The advantage of the product structure within all of radiology is that the patients have a single point of entry, but the disadvantage is that the internal and external stakeholders (such as referring physicians and vendors) have multiple points of contact. In Providence Health Care radiology we have attempted to address this disadvantage by establishing the role of the Chief Paramedical who becomes the point person for internal and external clients. I am the Chief Paramedical (General Radiology Manager).

## **6.2 Management Processes**

Highly developed management processes are critical during implementation of new organizational capabilities. An example is acquiring and reviewing statistical indicators like workload units, which reflect the productivity of technologists within general radiology. In the age of information technology, raw data becomes information and information can lead to knowledge. Knowledge as a tool, such as statistical indicators, can enable management to feel confident as they implement changes or improvements in current systems. The three management processes that will be discussed are decision making, operational process, and performance process.

**Figure 6.1: Organizational Chart for Providence Health Care Radiology**



### **6.2.1 Decision Making Process**

The decision making process in general radiology involves the general radiology manager and/or the supporting supervisors. As the general radiology manager, I have the final word regarding decisions. But, taking staffing issues as an example, I attempt to allow supervisors to make decisions that affect their particular shifts. Sometimes, however, decisions are made in my absence which result in a more costly outcome. When I learn of the decisions, I do not reprimand the supervisors, but instead use the situation as a learning opportunity. I inquire how the decision was made and allow the supervisors to evaluate the actual outcome. Since no new operational capabilities are required to support the imposed strategy, there are no decisions associated with organizational capabilities. Within this framework, the decisions that needs to be made are ones which supports efficiencies within existing operations.

I model a six-step process to be followed in general radiology problem solving. First, the problem, rather than the symptom, is identified. Second, relevant information is gathered to address the problem. Third, the information is evaluated to determine which is most vital. Vital information includes personal priorities and choices, or alternatives that may be available. Fourth, I combine relevant information to come to a decision. Fifth, I take action in a transparent way so that those observing can see that the action is consistent with the decision. Sixth, I review the process to determine if the decision and resulting action solved the problem.

Many decisions are relatively easy to make, but some decisions requires significant time as they may have a negative affect on an individual's lifestyle or job security. When a decision involves patient care, I seek to resolve the problem in favour of the patient in spite of the potential negative impact on my ability to meet the imposed economic strategic plan.

## **6.2.2 Operational Process**

The Providence Health Care general radiology department is located at two different sites. The imposed economic strategic plan does not require any new organizational capabilities in regards to operational processes. It is more efficient to have general radiology technologists work at both sites so that I can meet my staffing requirements. Therefore, I have insisted that all existing staff and new hires be cross-trained. Previously there was an emergency call-back technologist at both sites. Now a cross-site trained technologist covers the emergency callback which results in a cost savings of thirty thousand dollars annually. Implementation of this change required significant coordination for communication. Many of the staff had worked at only one site for several years and felt that they were being disloyal to their parent site. I responded to their concerns by stating the Providence Health Care is one organization with two sites, and that they would remain loyal to Providence Health Care by working at both sites. I have made the implementation a success by scheduling regular inter-site meetings and holding individual departmental meetings.

Cross-site teams have been developed for the education committee and the new employee orientation committee. This has had an immediate affect on enabling staff to view the two sites as one large department. Previously the staff perceived the larger site as having greater advantages such as higher funding for educational programs. It was not just a perception, it was a reality. The education committee, whose members include myself and frontline technologists, has evened out that disparity. The committee developed guidelines to ensure that every technologist, regardless of their parent site, has an equal opportunity for education funding.

Previously when one department was short staffed, technologists resented being sent to the other location. However, since the cross-site training, technologists volunteer to help the other site.

An additional benefit that is now beginning to be seen is the melding of the cultures to develop a new culture with attributes from both Mount Saint Joseph Hospital and St. Paul's Hospital. In a smaller community hospital such as Mount Saint Joseph the need to cooperate with other programs and units is critical because of their interdependence. Whereas in general radiology at St. Paul's Hospital the department and technologists have operated as though they were independent of other programs and units on day shift. The newly emerging culture is the result of a synergy of both groups. The willingness to cooperate with this cross-site process has resulted in a broader career focus and a more deeply cooperative behaviour. The shift in culture and behaviour has improved efficiency and productivity, which supports the imposed economic strategy.

### **6.2.3 Performance Process**

The culture within the general radiology department St. Paul's Hospital is one of poor morale among the technologists. Technologists complain of low staff morale. Low morale results in poor employee performance. There are three likely reasons for this poor morale. First, there has been constant change occurring over the past two years in leadership of the general radiology department. To address this, I have developed a strong supervisory team and collectively we continually communicate the message that management cares about the technologists. Previous supervisors were working technologists and did not feel responsible for operations, accountable for outcome, and furthermore they did not feel that they had the authority to make decisions. Second, the general radiology technologists perceive a lack of support from the radiologists for general radiology. This causes the technologists to feel less important in the overall operations of the Providence Health Care radiology department. I have no control over this situation, but I continue to communicate to the radiologists the need for them to show their gratitude to the

technologists. The third reason technologists experience feelings of low morale is something I can address directly: It is my lack of attention to my staff's needs.

It is critical that I listen actively to understand their concerns. Morale is a critical ingredient to staff productivity and the success of Providence Health Care general radiology. There is no quick fix, such as pizza lunches, for low morale. Pizza lunches do not improve staff morale because they neither address nor resolve any of the issues that cause poor morale. In addition, they do not build any capacity within staff to assume responsibility for positive morale individually or collectively as a group.

I hear from the staff that they regularly experience feelings of low morale, individually and collectively as a group. Interestingly, staff at the smaller community hospital do not complain of these feelings. At the smaller site I interact regularly with the staff, whereas at the larger site I am often away at meetings or busy in my office for several hours everyday. The technologists at a large trauma centre work with specialists who are demanding and sometimes unkind in their interactions with staff. A technologist may feel demoralized several times during her eight-hour shift. If this situation occurs everyday and I am not attentive to it, then the technologist's morale will continue to decline. Even though I cannot address the inappropriately harsh behaviour of the specialists, I can strive to be a good, attentive manager.

Generally all humans flourish when provided with sufficient attention. In general radiology, the technologist feel fulfilled when others appreciate their efforts to contribute to the well being of the team and the patients. In a faith-based not-for-profit health care organization where the mission and values are placed higher than economic indicators, the staff need to know that they are making a difference. As a manager, I can do this by providing attentive well thought out regular feedback. If I am careless or hurried in my feedback I will have the opposite effect and will further demoralize my staff. The frequency and quality of my feedback have an

immediate significant positive impact on morale, and also improve individual and group performance and productivity.

Providence Health Care is a caring organization. (PHC Strategic Plan, 2005) and desires to create an environment that attracts and retains the best people. It necessary for me, as the general radiology manager working within a cognitive framework, to take the inflowing information (low staff morale) and filter it through my faith-based cognitive map (the necessity of caring for the staff). Working within this framework will help me develop a strategy to assist the staff to safely cross the difficult terrain (low morale) and place them on smooth ground where they feel well cared for and emotionally nourished.

The principles of the faith-based cognitive maps supported by the Catholic Health Association of Canada indicate a clear guidance for how staff must be treated:

140. All members of the organization are to respect and act in accordance with the organization's mission. The primary responsibility of everyone in the organization is the person receiving care. To enhance the mission and the care, employees should exercise respect for one another.

141. The organization should treat personal respectfully and justly. The employer/employee relationship calls for fairness and mutual accountability from both the organization (represented by the board and the administration) and those who work in the organization.

9. ... all care providers are to foster an environment that is marked by dignity, justice and respect.

I am creating a new environment of regular positive feedback through four straightforward actions. First I show the staff respect by letting them choose a good time and place to receive feedback. Second, when we meet, I tell the employee in detail what the employee did right. Third, I describe to the employee the positive impact of their behaviour on Providence Health Care and how their behaviour helps fulfil the organization's mission. Fourth, I allow the

employee to take time to absorb the information and I answer any questions they may have. This process results in a positive learning experience for both the employee and myself.

Negative feedback is often all employees hear. This feedback is usually delivered poorly and often has a devastating effect, enhancing low morale. But even negative feedback, if delivered properly, can enhance personal growth. The first two steps are the same as when providing positive feedback. The third step is to tell the employee the impact of their behaviour and how that behaviour creates an obstacle in the organization's efforts to live the mission daily. The fourth step is to ask the employee why they are behaving in this manner? When I do this, I have an opportunity to understand the employee's behaviour and motivations. Actively listening with an open mind enables me to learn what my employees require to improve their skills. I may learn that it is a policy or procedure that is instigating a negative behaviour. The fifth and most important step is to work with the employee to develop a performance plan outlining how to correct the problem. It is critical to be specific in the actions required and to develop a time line for expected improvement. Both the employee and I can learn and grow through this process. Ultimately, the improved staff morale will improve productivity, which will support the imposed strategic plan.

Changing the culture of inattentive management can create a warm and caring culture. In this culture the staff will feel more confidence and self-assured and will experience low morale less frequently. When staff feel cared for they are more able to care for patients. The benefit is that it ultimately leads to a caring environment with higher productivity and improved patient care. Thus the change in my management behaviour can result in an improved work environment for my staff. The staff will then seek to further develop their individual capabilities of providing for the needs of the patient.



### **6.3 Leadership Behaviour**

Leadership behaviour seriously affects the departmental culture and productivity. Leaders that 'walk the talk' are believable. Leaders must gain respect and loyalty from their followers to truly have positional power. The behaviour of leaders is continuously scrutinized by their followers. In order to add credibility to the message communicated, leaders must demonstrate kindness, respect, productivity, fiscal accountability and care. When leaders are appointed because of seniority, and not necessarily because of their skill set, they need to be mentored so that they may develop positive leadership skills.

The imposed economic strategic plan seeks to improve process. Encouraging good leadership and providing new leaders with the tools they need will increase productivity and efficiencies.

### **6.4 Organizational Capabilities Summary**

Chapter six demonstrated that by increasing the attentiveness of management a warm and caring culture can be created. In this culture the staff will feel more confidence and self-assured, and experiences of low morale will be less frequent. Fixing the culture by increasing management attentiveness is a challenge that each manager must meet. Chapter seven will provide recommendations for actions that are needed to fulfil the imposed economic strategy given the gaps that have been identified in general radiology in chapters four, five and six.

## **7 RECOMMENDATIONS**

I have analysed the imposed Vancouver Coastal Health economic strategy and the Providence Health Care strategy from the perspective of a manager in general radiology at Providence Health Care. Vancouver Coastal Health is a secular organization that focuses on the financial bottom line. Providence Health Care, by contrast, is a Catholic faith-based organization which balances the needs of people with fiscal stewardship.

I have identified two major gaps between the two strategies which I can bridge as a manager in general radiology. The first gap is that the imposed economic strategy does not provide for the sufficient funding of medical surgical supplies in the angiography suite. The second gap is that the financial bottom-line approach of the imposed economic strategy does not value nurturing the staff within general radiology. The constant directive to meet fiscal targets can distract me from caring for the staff. Both gaps can be addressed without sacrificing the essential elements of the Catholic faith strategy.

In the Vancouver Coastal Health region, some interventional operating room procedures are now conducted in the angiography suite. The change in process has resulted in an increased demand on more expensive supplies and sterile trays, but additional funding did not follow. The lack of fiscal resources for medical surgical supplies in angiography has caused general radiology to have a four percent budget overrun, which equates to three hundred and fifty eight thousand dollars in the 2004-2005 budget. The cost of these supplies is rapidly increasing and therefore the budget overrun will be significantly higher in this fiscal year.

Programs that refer patients to angiography do not pay for the cost of the examination. Now that other, more costly, procedures are conducted in our angiography suite, we require additional funding to meet our budget targets. Prior to accepting additional referring program workload it is essential for general radiology to calculate the associated cost of performing the examinations. During these procedures there is a high variance of supply usage because each patient requires specific supplies.

There is a very short window of time to bargain with Finance within Providence Health Care to reallocate the funding from the referring programs to general radiology. The numbers of patients coming from various hospital programs must be determined so that a reasonable business case can be made to Finance. If additional resources are denied in this fiscal year, Finance will be forced to accept the cost overruns. We would expect that there would be no future penalty imposed on general radiology because we would have to deny necessary health care in order to meet fiscal targets. Denying care to very sick patients is contrary to the Providence Health Care mission.

The imposed Vancouver Coastal Health economic strategy contradicts the Providence Health Care strategy in its singular focus on the financial bottom line. Nurturing and encouraging the staff is a faith-based value written into the Providence Health Care strategy. Being attentive to the needs of the staff requires focus and time by the general radiology manager and supervisors. The imposed economic strategy can easily distract a faith-based manager from paying attention to staff, and thus management and supervisors need a clear plan to keep them focused simultaneously on staff and the financial bottom line.

Managers should schedule time daily to listen to staff and provide focused attention. From a business perspective this may appear to be a softer skill and less valuable than the financial bottom line, but in a demanding and emotionally draining environment where staff are

continually giving care, there has to be a support system that builds and enhances the individual. The act of affirming and active listening to the staff members must be built into the schedule of the general radiology manager so that the imposed economic strategy does not overshadow all decisions. Modelling affirmation encourages staff to listen attentively to each other. Planning time for the staff will lead to enhanced staff morale, improved efficiency and productivity which together meet both the organizational goals and the imposed economic strategy.

The first recommendation for increased funding for the angiography suite will be presented in a business case within the next quarter. The second recommendation is for immediate implementation.

The imposed Vancouver Coastal Health economic strategy could overshadow the Providence Health Care strategy. But because Providence Health Care is a faith-based organization it will not allow the care of patients to be compromised by the financial bottom-line. Similarly, as a person of faith, I will not allow the imposed economic strategy to distract me from caring for my staff. Providence Health Care strategy encompasses much more than the Vancouver Health Care economic strategy, yet both value good stewardship of resources. With vision and perseverance, Providence Health Care general radiology will be able to meet fiscal targets and will be responsive to the needs of the staff. The future is not certain, but our faith is strong and we can gain strength from the original vision of the sisters who travelled across an undeveloped country to bring health care to those in need in Vancouver over one hundred years ago.

## **APPENDICES**

### **Appendix A: Cognitive School of Strategic Management**

It is important to understand the idiosyncrasies of the Cognitive School of Strategic Management in order to understand the particular management preference that will be demonstrated within Providence Health Care general radiology. The Cognitive School is not the most popular or widely recognized strategic management theory by business leaders. It is neither quantifiable nor easily taught; it is learned by experience and intuitive ability in which inner beliefs play a major role.

Cognition is defined as awareness with perception, reasoning and judgement, intuition, and memory; the mental process by which knowledge is acquired (Mintzberg, Ahlstrand & Lampel, 1998, p. 151). 'There are two distinct wings of thought within the Cognitive School: one is objectivist – looking outward and responding at its own will, (this) view can be considered a distorted ... recreation of the world' (Mintzberg, Ahlstrand & Lampel, 1998, p. 151). 'The second school of thought is subjective – strategy is some kind of interpretation of the world. Here the mind's eye turns inward and ... believes that cognition creates the world' (Mintzberg, Ahlstrand & Lampel, 1998, p. 151).

Strategy formation is a cognitive process that takes place in the mind of the strategist.

Strategies thus emerge as perspectives – in the form of concepts, maps, schemas, and frames – that shape how people deal with inputs from the environments.

These inputs (according to the “objective” wing of the school) flow through all sorts of distorting filters before they are decoded by the cognitive maps, or else (according to the “subjective” wing) are merely interpretations of a world that exists only in terms of how it is perceived. The seen world, in other words, can be modeled, it can be framed, and it can be constructed (Mintzberg, Ahlstrand & Lampel, 1998, p. 170).

The Cognitive School of Strategic Management theorizes that ‘strategic formation is a mental process’ (Mintzberg, Ahlstrand & Lampel, 1998, p. 149). Prior to the Cognitive School, research into the workings of the minds of managers was mostly unknown. It appeared ‘investigators were more concerned with the requisites for thinking rather than with thinking itself – for example what a strategist needs to know’ (Mintzberg, Ahlstrand & Lampel, 1998, p. 150). Management in a faith-based public health care environment such as Providence Health Care do not measure, develop strategy or decisions based on events in the outside world. By inner beliefs that support the corporate mission they create the world around them. These managers could be considered constructionists.

The constructionists believe rather than having the world imposed onto them, and therefore leading to reactionary thinking, the events in the world are seen as information to be interpreted. This information can be included or excluded as they create the world around them. The management preference is clearly aligned with the second wing of the Cognitive School of thought in which the mind's eye is turned inward rather than focused outward.

Mintzberg stated, ‘for the interpretative or constructionist view, what is inside the human mind is not a reproduction of the external world. All that information flowing in through those filters, supposedly to be decoded by those cognitive maps, in fact interacts with cognition and is shaped by it. The mind, in other words, imposes some interpretation on the environment – it constructs its world. In a sense, the mind has a mind of its own – it marches to its own cognitive dynamics’ (Mintzberg, Ahlstrand & Lampel, 1998, p. 165).

Cognition begins with memory (Mintzberg, Ahlstrand & Lampel, 1998, p. 157) and memories form associations. In the case of organizations, the associations are also embodied in

forms, rules, procedures conventions, and technologies. Individual's memory and organization association (memory) is linked by socialization: 'the organization works on the individual to accept existing routines. Then the routines become part of the individual's memory, thus attuning cognition to organization' (Mintzberg, Ahlstrand & Lampel, 1998, p. 157). In spite of the diversity of views in the Cognitive School, on one point there is widespread agreement: an essential prerequisite for strategic cognition is the existence of mental structures to organize knowledge. 'These are frames ... or map is a currently popular level, perhaps because of its metaphoric value. It implies navigation through confusing terrain with some kind of representative model' (Mintzberg, Ahlstrand & Lampel, 1998, p. 159).

Karl Weick likes to recount a story about a Hungarian military unit on manoeuvres in the Alps that did not return after two days in a snowstorm. On the third day, the soldiers appeared, and explained:

Yes, they said, we considered ourselves lost and waited for the end. And one of us found a map in his pocket. That calmed us down. We pitched camp, lasted out the snowstorm, and through the map we discovered our bearings. And here we are. The lieutenant (who had dispatched the unit) borrowed this remarkable map and had a good look at it. He discovered to his astonishment that it was not a map of the Alps, but a map of the Pyrenees (Weick, K. E, 1995 p. 54).

Maps are referred to as schemas, a term borrowed from cognitive psychology. Everyone is bombarded with data. The problem is how to store it and make it available on a moment's notice. Schemas do this by representing knowledge at different levels. This enables people to create full pictures from rudimentary data (Mintzberg, Ahlstrand & Lampel, 1998, p. 160). All experienced managers carry around in their heads all kinds of such causal maps, or mental models as they are sometimes called. And their impact on behaviour can be profound (Mintzberg, Ahlstrand & Lampel, 1998, p. 161). Managers are, of course, map makers as well as map users (Mintzberg, Ahlstrand & Lampel, 1998, p. 162). In other words, much of our crucial knowledge

may be “tacit” (Polanyi, 1966): we may know far more than we can tell (Mintzberg, Ahlstrand & Lampel, 1998, p. 162).

Simon (1987) went on to argue that the essence of intuition lies in the organization of knowledge for quick identification (Mintzberg, Ahlstrand & Lampel, 1998, p. 162). Simon states, “Intuition and judgment – at least good judgement – are simply analyses frozen into habit and into the capacity for rapid response through recognition.” (Mintzberg, Ahlstrand & Lampel, 1998, p. 162). Social constructionists argue that since environments are constructed within the organizations, they are little more than the product of managerial beliefs (Mintzberg, Ahlstrand & Lampel, 1998, p. 168).

Strategists create imaginary lines between events, objects and situations so that (they) become meaningful for the members of an organizational world (Mintzberg, Ahlstrand & Lampel, 1998, p. 170). Under the constructionist perspective, strategy formation takes on a whole new colour. Metaphors become important, as do symbolic actions and communications (Chaffee, 1985:94), all based on the manager’s total life experience (Hellgren and Melin, 1993). Vision emerges as more than an instrument for guidance: it becomes the leader’s interpretation of the world made into a collective reality (Mintzberg, Ahlstrand & Lampel, 1998, p. 170). The Cognitive School tells us that we had better understand the human mind as well as the human brain if we are to understand strategy formation (Mintzberg, Ahlstrand & Lampel, 1998, p. 173). Understanding and recognizing cognitive styles is actualization of the vision. Providence Health Care actualizes its vision by being an organization of “caring hearts, creative souls and resourceful actions” (PHC Strategic Plan, 2005). Caring hearts refers to patient care and colleague care. Caring hearts seek to understand other organizational cognitive preferences to enhance communication.



The Positioning School of strategic management theory is the economic strategy followed in the Vancouver Coastal Health Region and within Providence Health Care the values are different and the cognitive thought process is different, this results in issues that the secular system doesn't consider in the same way as the faith-based system.

Good management in the health care sector is key to ensuring that the patient caregivers are cared for and supported at the bedside and that the patients have the best health care experience possible during an acute event.

## Appendix B: Good Management in Health Care

Good management in the health care sector is key to ensuring that the patient caregivers are cared for and supported at the bedside and that the patients have the best health care experience possible during an acute event. Within in any large organization strategists will differ in their cognitive style. Karl Jung's research work developed the Myers Briggs instrument, which provides insight into the various cognitive styles. Understanding and recognizing the various cognitive styles improves communication and appreciation of a colleague's uniqueness or, as Catholic theology suggests, giftedness, which ultimately results in enhanced team dynamics and new team membership formation. Understanding cognitive styles will enhance the *obedience to principles* within the Catholic Health Association of Canada and the actualization of the vision of Providence Health Care. The Catholic Health Association of Canada principles state

### Respect For Different Cultures and Traditions

14. Health and social service organizations must respect the different cultures and religious traditions of those they serve and those who work within their organizations. They should value the differences, seeking ways to incorporate them into the working environment and in the care they offer. These various cultural needs should be addressed in ways that respect the dignity of the care provider, the mission of the organization and standards for quality care (Catholic Health Association of Canada, 2002, p. 23)

### Respect for Every Person

17. All persons have equal value and dignity and are to be treated with respect...(Catholic Health Association of Canada, 2002 p. 24)

### Employer/Employee Relationships

144. Equal opportunity for employment and career development should be available to all irrespective of gender, race, age, national origin, sexual orientation, religion, disability, or other differences. All are entitled to fair compensation of their work (Catholic Health Association of Canada, 2002 p. 75).

The Myers Briggs is a respected analytical tool to access the various cognitive preferences.

## Appendix C: Myers Briggs Model

The Myers Briggs model of personality is a theory of preference, which is analogous to handedness (individuals) Myers Briggs preferences are relatively static throughout life (you are right or left handed all your life). However, your behaviour can change in different contexts (you sometimes use your right, or left, or both hands, depending on the situation.). (Teamtechnology, 1995 - 2005) The four dimensions can be combined to create sixteen possible cognitive styles, the four dimensions include:

Extroversion (E) energized by the outside world; introversion (I) energized by the world inside one's own head.

Sensing (S) information comes from relying on the senses; intuition (N) information comes from trying to grasp the essential patterns.

Thinking (T) relying on analysis for decision; feeling (F) relying on feelings for decision (Mintzberg, Ahlstrand & Lampel, 1998, p. 155).

Judgment (J) to live in a planned, orderly, controlled way; perception (P) to live in a flexible, spontaneous way.

Example:

ESTJ's are logical, analytical, objective and critical, and not likely to be convinced by anything but reasoning ... they like to organize facts ... but they run the risk of deciding too quickly before they have fully examined the situation. In contrast, the ESFP's are friendly, adaptable realists ... relying on what they can see, hear, and know first hand ... they solve problems by being adaptable.... (but) are not necessarily bound by a need to follow standard procedures or preferred methods ... (ESTJ's) is like the strategist of the positioning school and (ESFP's) like the strategists of the learning school (Mintzberg, Ahlstrand & Lampel, 1998, p. 155).

A leader whose cognitive preferences is an ESTJ, but also has a high internal locus of control and faith in a supreme being may reject the positioning school (external environment dictates the mind) and may adhere to the Cognitive School of strategy formation (a mind which marches to its own cognitive dynamics). An analysis of management preferences would be incomplete without a discussion of the question: What is management? To begin with management is not merely directing others in their work, it is creating the environment in which others will thrive.

Ralph Waldo Emerson stated, "The creation of a thousand forests is in one acorn."  
(Leadership Quotations, 2005)

For me, this is the essence of my personal desire as a leader (manager): to grow leaders and patient care providers for the sole purpose of ensuring patients receive superior care despite their individual circumstances. I wish to ensure that the new generation of leaders seek to be faithful custodians of diligent patient and staff care. My desire is to be the one acorn to create a thousand leaders of superior patient and staff care.

Management is a learned skill, an art, an obedience to intuition, an ability to walk a new path everyday, an ability to look forward, backward and remain in the moment, an ability to gently or forcefully place your foot on dangerous terrain. Management is courageous, not ego building, it is noticed in the dark moments and in the glory moments. Managers accept responsibility, they do not incessantly complain, they walking along side their staff when the staff need support. Managers make tough decisions, ensuring everyone is treated fairly, and managers believe in their staff even when their staff do not believe in themselves. A manager is visionary, patient centred, compassionate, encouraging, nurturing, sometimes thankless. A manager will challenge and, if appropriate will discouraging. The job of a manager is awesome, sometimes painful, exhilarating, energizing, exhausting. Managers transfer data into information and that

information becomes knowledge and will guide decisions. A manager is not infallible, but can be seen as a teacher, a coach, and a mentor, persevering even during the wildest storms when there seems no hope of survival. The manager will walk ahead of the staff when negotiating a treacherous path. The manager is a concentrated listener, caring, understanding. The manager is a leader. Some famous leadership quotations provide visuals to powerfully paint a picture of management:

‘Lucretius stated, “The drops of rain make a hole in the stone, not by violence, but by oft falling.’

Edward G. Bulwer-Lytton stated, “The best teacher is the one who suggests rather than dogmatizes, and inspires his listener with the wish to teach himself.”

Thucydides stated, “The bravest are surely those who have the clearest vision of what is before them, glory and danger alike, and yet notwithstanding, go out and meet it.”

Henri B. Stendhal stated, “The shepherd always tries to persuade the sheep that their interests and his own are the same.”

Ovid stated, “The spirited horse, which will try to win the race of its own accord, will run even faster if encouraged.” (Leadership Quotations, 2005)

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