Szent István University

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An n-dimensional model for predicting success and failure in Canadian Industry

The Ph.D. dissertation

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ABSTRACT

The concept of failure and success in companies in industry is a complex one. The criteria of success is multi-faceted and can be represented by a number of factors ranging from abject and complete bankruptcy, through "fattening" up a company for takeover, to growth, return on investment, and the degree of shareholder and employee satisfaction.

The problem is that no one has yet developed a quick and accurate *qualitative* methodology to look at a company, place it in its life-cycle, place it in the context of its market, and then provide a prediction as to failure or success. This is a critical concept from a number of aspects: Investors, Shareholders, Merchant Banks, Competitors, et cetera.

But in a Canadian public policy perspective **success** is one of the most important aspects of decision making. In North America as well as around the world, governments need to make decisions on whether or not to provide assistance and whether to support an organisation through tax relief, grants of funds, or contributions of some sort to an organisation. There is little enough money to go around, and government must make strategic, long-term, and accurate decisions.

The focus of this research is to articulate a two-dimensional landscape on which we can place a company in terms of its maturity, and in terms of the marketplace's maturity, so as to set up well-understood conditions against which we can make observations on **orthogonal dimensions** of the company's infrastructure: a series of factors which research will show are critical to the ongoing growth and maturation of the company, and through which we can, with relative accuracy, predict the ultimate success or failure of the company.

We will use a standardised Likert scale and weighted averages to make these third dimensional observations, and then develop a single numerical score out of 10: 1 implying rapid failure; 5 implying a 50/50 chance of success; and, 10 implying a company well on track to succeeding in the high-tech marketplace.

This research was primarily **qualitative** in nature, but is built around quantitative factors so as to combine the two types of factors into a holistic approach to decision-making.

There is a large amount of literature around the numerical analysis of a company, and the company's health – where there is a significant gap is the qualitative aspects of a company: those subtle elements of leadership, innovation, incentives, et cetera that influence success or failure.

The Pair-Bond landscape.

If we consider that a marketplace in Canada can exist in three broad states: emerging; evolving; and, mature, and that a company can also exist in one of three states: newly formed; evolving; and mature; we can then plot a company on a 3x3 landscape defining 9 potential states:

(n,e)	newly formed company in an emerging market
(n,ev)	newly formed company in an evolving market
(n, m)	newly formed company in a mature market
(ev,e)	evolving company in a emerging marketplace
(ev,ev)	evolving company in an evolving marketplace
(ev,m)	evolving company in a mature marketplace
(m,e)	mature company in an emerging marketplace
(m,ev)	mature company in an evolving marketplace
(m.m)	mature company in a mature marketplace

Figure 1 - The Market-Company "Pair-Bond" (Author's Construction)

We can graphically represent this as seen in figure 2.
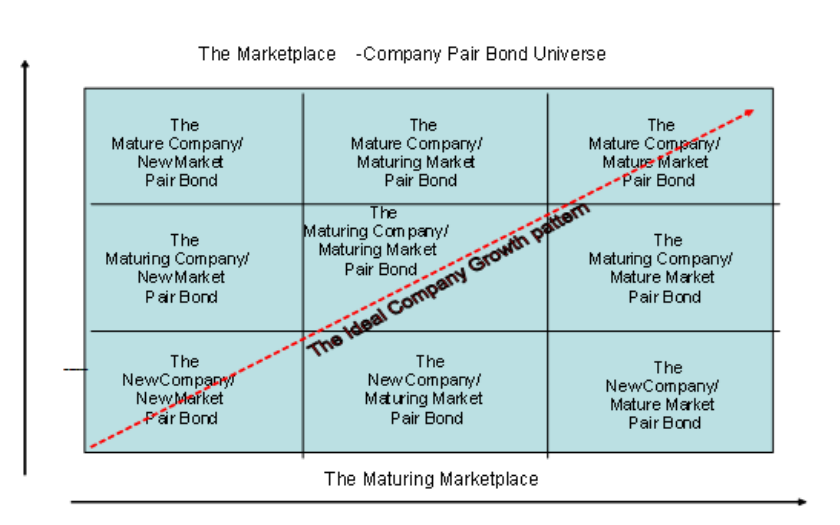
Figure 2 - The Pair-Bond Landscape (Author's Construction)

We can also see that the fastest way for a company to start and then progress to market domination is through a diagonal line. The highlighted quadrant – the Mature-Mature pair bond is the quadrant a company aspires to – a mature company in a market dominance position in a mature marketplace.

If the market is already in place but the firm is new, a more vertical line is the fastest way to get to market dominance. If the market is new but the firm is established, the fastest path to dominance is a horizontal line. We can comment that in actual fact, companies do not grow in a line, and neither do markets, in fact, and in reality, companies grow in a staircase pattern through the maturing market, and depending on where they start, they may grow in a curving line. Although, observationally, new companies in new markets may show unsteady growth until they hit upon a strategy which works in their particular pair-bond.

For instance, a company entering an already mature marketplace with a new and innovative product or service will quickly pass other organisations on the staircase to maturity, in an exponential curve to the mature market-mature company pair-bond, and will eliminate or purchase competitors as it consolidates its position as one of the few dominating the marketplace.

Although this is a new model on which to place companies, it does not provide any mechanisms for prediction of failure to guide investors and public sector interests. In order to advance the body of knowledge, we need to add a number of new dimensions: that of factors essential to moving the company to that successful and market-dominant position – i.e., success; or alternatively an indication of where the enterprise is failing to properly and appropriately prepare for success.

The n-dimension factors considered in this dissertation are:

1. Human Resource structures
2. Creativity and innovation
3. Corporate culture and leadership
4. Supply chain management

5. Quality management

6. Stakeholder management

7. Financial and incentive management

8. Marketing management

9. Decision-making structures

10. Strategic importance of the sector/enterprise

Strategic alignment with national goals

As the research also can be used as a predictive model to estimate whether or not a company will fail, it is vital to **decide whether or not a public sector should provide assistance** to the organisation.

In a marketplace increasingly competitive, and where national governments are defining strategic sectors, nationalising companies, and selecting "winners" to which to put increasingly-rare assistance; it is essential to be able to predict success and failure. This dissertation adds to the body of knowledge in public management in that it gives a new tool to those public servants making choices in providing government aid to companies.

This dissertation also adds to the body of knowledge for micro-economic market assistance and sector selection from a **public sector** perspective. It will allow national governments to develop strategic advantages and ensure that from a macro-economic perspective, nations can invest in strategic sectors and develop a national advantage in highly focussed areas.

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1. INTRODUCTION

Public policy makers all over the world need to make strategic decisions on which sectors and enterprises they will invest in, and to whom they will provide strategic advantages. The selection of sectors is a relatively well-understood process in a public sector and can range from specialisation through prior market dominance, or even a need to establish a socio-economy in a particular sector. (Rondinelli, 2002), but the selection of individual enterprises is usually something which falls from the selection of a sector and tends to follow a more "shotgun" approach (Her Majesty's press, 2000). The body of knowledge in public sector microeconomics does not contain a particular set of tools to predict success or failure in an enterprise, and as a consequence public sectors tend to invest and incent enterprises without full knowledge of how the investments will pay off in the longer term.

In Canada, there is a large set of rules and policies in place to provide incentives to the enterprises in a sector, seeking to secure public funds. They fall into two main areas:

a) enterprise-initiated; and,
b) Government-initiated.

In the former, the enterprises seeking incentives (tax credits, grants, etc.) must initiate the seeking of incentives through a web of rules with Industry Canada, Revenue Canada, various provincial and municipal grants and payments, etc.

In Industry Canada alone there are the following options offered to Canadian enterprises:

a) Grants, contributions and financial assistance
b) Loans and cash advances
c) Loan guarantees
d) Tax refunds and credits
e) Wage subsidies
f) Equity investments

In the latter case of government-initiated incentives, the governments of the day establishes incentive programmes, and sometimes advertises their availability through outreach programmes, or through specific programmes at universities, etc. There is a secondary industry which grows-up around the enterprise-initiated programmes wherein companies specialising in preparing grant and loan application forms will complete and submit applications on behalf of the company on a contingency basis.

In both cases those companies wishing to access funding and grants will have to submit some sort of application, or acknowledgement. When a company receives a government-initiated incentive, even though they may not have specifically requested it, there is often paperwork to fill out.

An example of a "simple" application form can be found in Annex C

In both events, it is apparent that public sectors, as shepherds of taxpayer's remittances, need to be better at selecting enterprises to incent.

This dissertation covers that gap in the body of knowledge by introducing a tool to be used which *itself* can vary based on the sector being incented.

1.1 Research Scope

This is a broad proposition – to limit scope to a narrower and more focused dissertation, and to ensure the usefulness to the body of knowledge, the scope is limited to the high-tech sector in Canada, and from a public sector management & governance perspective only.

In the section on future research opportunities, and areas of concern for future researchers, I note the potential to expand the scope of the developed tool to include other sectors, and to develop additional dimensions to evaluate, which may indeed, vary by sector.

This dissertation will also be restricted to only 10 dimensions in evaluating success. The author leaves it to future researchers to add new dimensions to the tool to be applied in failure-analysis; and to analyse other sectors.

1.2 Proposition

The practice and knowledge base of public sector selection of enterprises for incentives will be advanced by the design and application of an n-dimensional model; which seeks to align the potential success and failure of the enterprise with the public policy decisions to incent that enterprise or not. In our case (the Canadian high-technology sector) we have selected 10 dimensions to include in the model – other sectors may have more or less.

Given the limited and declining availability of funds to enterprises, the micro-economic decision-making processes need to have advanced information available to bureaucrats in order to focus a country's resources to maintain and develop advantages over other countries.

1.3 Questions

This dissertation poses the following thematic questions:

1. Can a tool be developed to improve the prediction of failure (and success) of a firm in the Canadian high-tech sector?

   A tool needs to be able to assign simple numeric values to the defined dimensions to be examined – these numeric values need to be based on significant qualitative analysis. The analysis needs to be comprehensive enough so as to allow the operator of the tool to conduct research on the company being analysed, and then be able to input quantitative representations of the research in the dimensions.

2. Can this tool be flexible enough to encompass further dimensions as they are postulated, researched and added?

   If the tool is to be applied to other dimensions, and other market segments, can the methodological approach of analysis, input, refinement, and output be extended to other cases.

3. In a Case Study, can the tool accurately predict the failure of a company?

The methodology and tool needs to be tested against a well understood case to determine if the results of the test reflect reality.

4. Could the Canadian federal government apply such a tool and how?

Through a research of existing funding mechanisms in the Canadian federal public service and interviews with senior executives, determine the likelihood of adoption by the government, and the requirements to adopt it.

1.4 Objectives

The objectives of the research are to specifically advance the body of knowledge through the following focused outputs:

1. Identifying the existing base of knowledge (both theoretical and practical) in the area of enterprise failure-prediction through a literature review.

2. Identifying what constitutes failure in the context of public sector incentives to enterprises in a particular strategic sector in Canada (the High-tech sector)

3. Develop a tool to place the enterprise in a specific context (its own maturity and the marketplace's maturity), and then to add in a number of additional dimensions to refine the accuracy of predictions.

4. Apply the tool to a particular enterprise to test the capacity to predict failure.

5. Determine the potential to insert the tool into the Public sector framework in Canada.

1.5 Design of research

The dissertation project followed five phases:

Phase I: the Literature review

In the literature review phase, the researcher reviews and collates the existing state of the theoretical and practical body of knowledge to determine the use or existence of tools for incentive-based decisions, to determine the extent of the gaps in knowledge and tools, and to determine if there is presently research in these areas in the academic community.

Phase II: the Development of the Tool and Dimensions

In the development phase, the tool will be codified, developed, and the ten (10) selected dimensions will be articulated and weighted on a Likert scale. Along with this an excel-based spreadsheet will be created to capture and output a single reference page for use in determination decisions. Each dimension will each have sub-components for analysis and rating.

Phase III: the application to a company

In the application phase, a Canadian high-tech company will be selected and the tool will be applied. Where possible, interviews with ex-members of the company will be conducted to validate observations and conclusions. The application phase requires that the researcher select a high-tech company with a very well-known and understood set of problems, and a well-researched body of knowledge available to test the tool. The selected company must have benefitted from government programmes, and ideally must be publicly traded so financial and other communications documents can be easily sourced.

Phase IV: observations on the use in the Canadian Public Sector

In the observation phase, interviews will be conducted with senior civil servants in the Canadian public sector to discuss the potential use of such a tool within the public service, and an appetite to conduct further experiments. They will also be asked to comment on the decision making processes and legislative requirements which could prove to be a barrier to adoption. The results of these interviews and observations may be found after the tool exercising.

Phase V – Documentation and Presentation

In the documentation phase the results of the previous phases will be gathered, collated and presented in a dissertation format.

1.6 Research Methodology

During the development and application phases, the research will follow a standard academic methodology:

Literature review – an overview of existing literature in key areas of research, and a search for on-going work in the field of research around the world.

Gap analysis – a review of the literature found with an eye to determining where there are gaps in knowledge, and ensuring that the research advances the body of knowledge in the areas of missing knowledge.

Tool development – a development of a tool or set of tools to be used to map the dimensions of the enterprise to be analysed, and to provide a simple report of the results of the analysis.

Case analysis – the analysis of a specific case. Taking an existing enterprise through the tool to produce preliminary results.

Results analysis – analysing the results of the case study to determine if the tool and methodology works, and where improvements could be made.

Refinement and consultation – refining the tool and methodology to fill the gaps in knowledge and weaknesses of the tool and consulting with senior executives to determine their willingness to adopt such a tool and what difficulties they would anticipate with such a tool.

Presentation of results – the documentation of the tool, case analysis and results in a formal dissertation, and notes on how to apply the tool in other sectors.

1.7 Tools to develop

There are a relatively small number of tools to be developed – specifically:

1. Excel spreadsheet to capture the weighted observations of the extra dimensions for the enterprise being analysed; and,
2. Call letters to senior Civil Servants requesting an interview and permission to use the interview notes in the dissertation

1.8 Data Input/output formats

The data to be input to the excel tool will be gathered using input sheets (see Annex). Once the data is gathered through the input sheets it is input into the specific tabs in the excel tool, and a single standardised score based on the Likert scale is output on the summary tab.

Relatively extensive analysis is necessary prior to input to ensure that the data entered is as meaningful as possible. Potential sources of information are: interviews with enterprise executives, review of annual reports, marketplace analysis, investment analysis, stakeholder discussions and analysis.

The tool is a quantitative tool, and as such is only as good as the data provided.

2.   EXISTING LITERATURE REVIEWS

This chapter will review previous literature and research on enterprise success and its relationship to particular market segments.

2.1   The notion of success

As mentioned earlier, "success" is defined in many ways in the high tech industry. It can range from explosive growth, to merely making the firm attractive enough to be taken over by a larger competitor.

In Canada, the measure of success is often the development of intellectual property and patenting that property in a company, and then safeguarding those patents while a bidding war is undertaken by larger competitors.

One Canadian high tech services firm interviewed for this thesis had as a core strategic outcome: "increase the goodwill and intellectual property in the firm to a point where we can maximise the return when we sell it to a larger firm"

Given all these various descriptions of success, the tool we develop in this thesis defines success as continuing in business, i/e the standard accounting concept of a business being a "going concern"

This is important as the tool is designed to be used by public policy executives in deciding on whether or not to provide public funds to a company. It is not good optics to provide money to a firm which then merely declares bankruptcy or becomes insolvent, shortly after receiving taxpayers funds.

2.2 Synopsis of research and literature reviews on success and qualitative factors.

Many researchers recognise the importance of small business survivability, especially as an incubator to a successful sector; and many studies have identified attributes of successful start-up firms.

Allen and Hall in 2008 analysed and suggested innovation and managerial expertise were key attributes to start up performance; while J.R. Brown suggested in 2005 that the start-up investors were a key performance indicator. Still others studied finance and financial management expertise as a component of survivability and success, (Robb, (2002)).

These studies examine venture and entrepreneurial characteristics and have found that access to capital, the degree of novelty, location, and stability with key stakeholders have contributed to the success and initial survivability of small businesses.

However, as firms progress and transition through the business life cycle other factors beyond those that help a new venture become viable are needed to achieve continued success, growth, and survival. While many studies have looked at reasons for venture failures, few have examined the factors that are associated with long-term success; and fewer still have looked at a large scale of qualitative factors.

Successful venture managers consistently analyze various types of data including qualitative and quantitative information. Quantitative data are objective and consist of demographic and financial information related to the profitability of the firm and various types of ratio analysis such as return on assets, return on sales, leverage, profit margins, etc. As long as this information is timely and captured accurately, making decisions based on quantitative information is useful and routine. It is as regularly used by both private and public sector analysts.

Qualitative data, on the other hand, are subjective and more difficult to measure. They relate to things such as management expertise, business location, product innovation, product development, etc.

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Because qualitative data are difficult to assess, several models and templates have been developed to assist business leaders in knowing what information should be captured and how it should be evaluated. However, due to its subjective nature, it is often unclear how or what type of qualitative information is related to success.

Furthermore, there is limited empirical research evaluating whether qualitative measures are correlated with key success factors. Thus, an important and yet unanswered question is whether qualitative information, when properly measured and analyzed, can be used to measure a firm's success.

A host of informative studies have identified factors that lead to **venture success and failure**

Some of these and their factors include:

- Bull and Willard (1993) – Elements of entrepreneurship as a key success factor,
- Choi and Stack (2005) – provision of key advisory services by stakeholders such as angel investors, financial advisors, and internal advice,
- Colombatto and Melnik (2007) – the relationship between prior experience in start-ups and the likely success of the venture,
- Covin and Slevin (1990) – the relationships between structure of the company and its likely performance,
- Duchesneau and Gartner (1990) – an examination of the characteristics of the lead entrepreneur, startup processes undertaken during the founding of the firm, and firm behaviors after start-up, including management practices and strategic behaviors, associated with new venture success and failure,
- Gadenne (1998) – a review of basic management practices across industries to define success factors,
- Gartner, Starr, and Bhat (1998) – using case studies to define a set of critical success factors across industries,
- Lechler (2001) – how social interactions can lead to success in a venture,
- Lumpkin and Dess (2001) – looking at elements of entrepreneurial attitudes including autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness as factors in long term success,

- Roure and Keeley (1990) – an attempt to define a set of predictors for high-tech success,
- Shepherd, Douglas, and Shanley, (2000) – how a risk mitigation strategy can lead to longer term success,
- Timmons (1994) – examining basic success in new ventures, and;
- Vesper (1990) – who looked into strategies to ensure long term business viability.

These studies have taken several different approaches and focused on multiple measures of success with the goal of identifying key factors that lead to success. While these studies have been useful in identifying key factors among different dimensions, they have been narrow in their focus. For example, the majority of the work related to venture and entrepreneurial firms and their success factors can be classified into three main categories: Success factors associated with 1) start-ups, 2) early stage ventures, and 3) established ventures.

The work of Allen and Hall (2008), Lechler (2001), Shepherd et al. (2000) and McGee, Dowling, and Megginson (1995) identified success factors or attributes associated with start-ups and new ventures.

The factors discussed attribute success to provision of effort, utilization of pre-existing resources, social interactions, and mortality risk. Mortality risk seems to increase with the degree, as well as the number, of novel dimensions.

Other success factors mentioned are well-developed strategies and location of start-up firms. While these success factors are informative for new start-ups, these studies do not explore what other factors should be considered as a firm transitions from a new start-up to an established firm or whether qualitative measures are key to success.

The work of Lumpkin and Dess (2001) and Gartner et al. (1998) targets firms that are in the early stage of development and attempts to determine what success factors are associated with these types of firms.

Early stage firms are not new start-ups and are not considered to be established firms. They find success factors associated with early stage firms require businesses to devote more time dealing with vendors and analyzing potential entrants into markets and less time determining the identity

of the business. Gadenne (1998) focuses on the industry specific success factors of these early stage firms and concludes that success factors tend to vary depending on the industry.

For example, in the retail industry, success, as measured by profitability, is positively related to low-priced products and high sales and negatively related to debt and other financing sources. While the study of early stage ventures and their success is informative, the work done in this area examines only quantitative factors and is context specific. The success factors discussed may not affect a similar firm in the same stage of development with different qualitative factors.

A third area of research examines success factors associated with established firms. Duchesneau and Gartner (1990) use surveys and self-reported information and find that established ventures seek opportunities to reduce risk, spend more time on planning, and encourage collaborative decision making at the strategic and operational levels. However, the characteristics identified by Duchesneau and Gartner (1990) are more descriptive in nature and not related to any financial measures of success or other quantitative measures of performance.

A study conducted by Brown (2005) compares the long-term success of venture backed firms to non-venture backed firms following an IPO. The author observes that venture-backed firms survive longer, grow faster, and have superior operating performance than non-venture backed firms. However, this study does not highlight any qualitative factors that attribute to the venture-backed firm's long-term success and is in contrast to the findings of Brau, Brown, and Osteryoung (2004) who find no significant difference in success factors for venture-backed and non-venture backed firms.

2.3   Some thoughts on "failure"

The concept of success, can of course, be turned over to look at "failure" instead. Like success, there is copious literature on the concept of a failed company or enterprise, and indeed, much has been written on the subject of failed socio-economies.

Failure in socio-economies at a national scale can be seen as failure of what could be considered a 'strategic sector' and we will return to that concept as we start to develop lines of enquiry within our methodology.

Firstly, companies: Dr. Clayton Christianson posits that creativity, innovation and good customer services are all factors of success, and alternatively, can be, when performed poorly, factors of failure. (Clayton Christianson, Harvard Business Press, 1997)

Mark Crowne at an IEEE conference in 2002 explored how execution in sales, marketing and delivery are commonly recognized, but failures in product development are less obvious. His paper explores the Critical product development issues that can lead to company failure.

Interestingly, we see that predicting success tends to be a more quantitative exercise (the "numbers are good", the ratios are favourable, et cetera), but predicting failure tends to be a backward looking exercise once the company has failed, and it often cites both qualitative and quantitative factors. Seldom do we mention or analyse predictive qualitative factors *before* a failure.

Whole industries as well are subject to failure, and in the context of this dissertation, this is one of the dimensions we must examine from a policy perspective. Governments often make conscious decisions to support an industry, or regard it as a strategic investment by the citizens.

Why then, should a policy maker offer incentives, credits, monies or assistance to a failing industry.

Conversely, of course, we want a policy maker to make investments in a thriving strategic sector such as high technology, potash, mining, etc.

Fishing for example, has undergone a collapse in Canada and as an industry; the government has decided not to incent the industry as much as it does other ones.

In fact, Pearse and Walters in an article in 1992 looked a failure factors for the entire fishing industry. If we develop a set of dimensions for a failing industry we would want to examine quotas, incentives, and the alignment with the country`s strategic goals.

Let us now turn to an analysis of literature supporting *the factors.*

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2.4   Predicting success using quantitative methods

The use of quantitative methods in predicting the potential future course of an enterprise is a well understood field of research in microeconomics, as well as studying financial indicators and performance measurement.

Business schools spend a large amount of time teaching students how to measure the performance and finances of a company (ratios, market indicators, performance metrics, etc.).

The use of quantitative research methods has also been well published in an academic context. The analytical firms like Forrester, Gartner, McKinsey and others have expended a great deal of effort in defining success from a numerical perspective, (see, for instance: *Forrester's Content management playbook* – 2014, *Gartner's execution model* – 2013, and *McKinsey Quarterly* 2007 number 1)

The body of knowledge on success/failure prediction using quantitative methods is mature, and I could find no significant gaps in knowledge in prediction models using these methods.

The gap I found was in using **qualitative** methods – the use of **non-numerical methods** to analyse a company to predict success or failure.

A combination of both will likely provide a more complete picture, but this is left to future researchers.

From a public sector context in Canada, civil servants use standard "business school" methodologies and performance indicators to review the health of an enterprise seeking to acquire funds: Returns on Investments, business plans, investment plans, personal guarantees, banking and financial information, financial statements, etc. (See Annex for a sample application for grant form).

These are all numerical or quantitative based metrics. The evaluator does not probe the non-quantitative health of the organisation seeing government money.

In fact, the evaluator usually takes *no account* of the qualitative aspects of the enterprise: leadership, culture, marketing, supply chain management, quality regime, etc.

As a consequence, the government runs the risk of providing scarce public funds to an enterprise which may fail, leading to a loss of taxpayers' dollars and potential embarrassment to the government.

The literature in academic journals on the use of qualitative research methods and results from these methodological investigations in prediction of success and failure, understandably, are almost non-existent since this is a very young field of research.

It is in the quantitative analysis arena where success and failure metrics are well researched, documented and understood. I believe perhaps even over-researched. The body of knowledge in quantitative analysis of companies is mature, and incremental changes are all that are possible.

The literature does not indicate why, when a company's quantitative indicators are all positive, the company still fails or if it does not fail the company declines significantly.

Due to the nature of the academic publication process, there may also be a time lag between the time when the studies are written and the time when the studies are published

2.5   Public policy and marketplace success.

The topic of the research is the development of a model to more accurately predict the pending troubles of an organisation, and test it against a case where we accurately know the outcome and can see if the model and tool correspond with the known outcomes.

This is especially important in the public sector at a national level. A federal public sector almost always transfers funds from taxpayers to the private sector. Often it is transferred to private sector organisations through blanket transfers rather than targeted funding. As resources and funds are ever more limited, from a public policy perspective, it is critical to ensure that funds are transferred to those organisations which have a good chance of success and can make good use of public-sector incentives to capitalise on the opportunity.

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The review of existing literature presents an interesting problem – do we define success and failure, or do we look for scholarly research on predicting success and failure of enterprises in a particular market segment? This review actually covers both because they are both critical to the advancement of the body of knowledge in this dissertation.

When presented with the standard three styles of research:

1) The historical format, in which the review is organized chronologically;
2) The conceptual format, in which the review is built around research propositions or theories; and
3) The methodological format, which is often used for meta-analyses.

It rapidly became apparent that the methodological format combined with a conceptual format would be most appropriate. We will review importance of the research problem at the beginning of the study (can we develop a model to predict with some degree of assurance the potential failure of a company).

2.6   Defining Success

The high-tech sector is a mixture of common and uncommon factors defining failure and success. Profit is of course the primary indicator of success in the private enterprise. There are a number of other factors – enumerated here, but for the purpose of our model, we focus on those elements which lead to sustained growth and profitability:

2.6.1   Profit

From a quantitative standpoint, advanced statistical analysis such as modelling and regression analyses, is often used to predict market profitability (Lariviere & Van den Poel, 2005).

The concept of profitability in financial economics is also well-founded in mathematics (Fama and French, 2006). In fact, as far back as 1968, scholars like Edward Altman were defining

financial ratios and using discriminant theories to accurately predict financial bankruptcy in an enterprise (Altman, 1968)

What are not well researched are the qualitative aspects of profitability: What are the sociological and humanistic elements that lead to profitability?

In fact an extensive review of the literature both electronic as well as in research institutions shows many articles on how to conduct qualitative research, and how to apply it in educational, sociological and organisational behaviours, but nothing on how to tie strictly qualitative methods to profitability.

Profitability is almost always the primary factor in defining an enterprises success – If the enterprise shows year-over-year and/or quarter-by-quarter positive growth, and continues to have sufficient reserves to pay off operating expenses, service debt, and re-invest into the company, than the enterprise is said to be profitable, and is judged a success.

2.6.2   A growing customer base

This is a particularly quantitative metric, many articles and research papers have been written outlining how a growth in customer base and type is a direct success factor in company success (Feindt, Jeffcote, Chappel, 2002), and it is seen as essential in moving a company from a small company profile to a more mature or growing one (Lewis & Churchill, 1983)

A growing customer base is also starting to be explored from a qualitative perspective: Wilson, Daniel and McDonald are using qualitative research methods and analytical induction techniques for five distinct business cases. (Wilson, Daniel and McDonald, 2002)

A growing customer base is a positive indicator that an enterprise is effectively reaching a particular target market or audience, often the positive growth of the number of customers. It is often a primary indicator of success. Without a vibrant customer base, your success will be limited, at best. The long-term growth of your company is tied directly to your ability to not only reach your customer base, but to expand it to accommodate your long-term goals. All of those long hours spent on the research and development of a marketing strategy prove themselves here.

2.6.3   Customer satisfaction

Customer satisfaction as a company success or failure factor is extremely well researched and documented. There are a number of scholarly articles examining customer satisfaction as a component of success or failure, although the majority of them focus on quantitative methods to define them.

One qualitative examination from Finland reviews the success factor from a case study perspective and outlines a chain from satisfaction to profitability and growth of the enterprise (Heikkila, 2002).

Another seminal work is the Warkentin et al. (2002) model with four dimensions of trust.

From a quantitative perspective, customer satisfaction is commonly measured by disaggregating it into two constituent parts: transactional satisfaction and overall satisfaction (Shanker et al., 2003).

Transactional satisfaction refers to customer satisfaction which flows from individual transactions; the quality of these may vary from one transaction to the other.

However, a series of previous uses that resulted in very positive transaction-specific satisfaction could lead to overall satisfaction, which could potentially induce further adoption (Bloemer and Kasper, 1995; Shanker et al., 2003).

So increased success demands consumers show higher levels of satisfaction with the product or service provided by the enterprise, thus the chain is built: a higher level of customer satisfaction will increase the rate of customer consumption, which will increase overall company health.

Customer satisfaction is an index showing that your enterprise can satisfy the requirements of the customers. Understanding your customers and being able to satisfy their needs is an indication of the strength of the enterprise. Customer satisfaction is a part of the standard definition of enterprise success.

2.6.4 Employee satisfaction

Employee satisfaction, like customer satisfaction is an inherently qualitative function of success. Because of this fact, there are many scholarly references to both qualitative and quantitative examinations of employee satisfaction, and its relation to continued growth of an enterprise.

Psychologists have examined the correlation as well between employee satisfaction and performance for decades (Judge, Thoresen, et al 2001), but latterly, research is starting to apply employee satisfaction and customer satisfaction as two indices affecting long-term financial performance and success of an enterprise (Swaminathan, et al 2014)

Like customer satisfaction, employee satisfaction is another key performance indicator (KPI) of an enterprise. Developing an environment and culture that rewards employees for their innovation, efforts, creativity, attention to detail, etc., is a key component of workforce attraction and retention. A well-understood and appreciated workforce, is usually a motivated workforce, and can be depended on to maintain operational and quality levels, and in times of difficulty.

2.6.5 Owner satisfaction

Owner and personal satisfaction are elements of a satisfaction index which are not well researched as they pertain to a company's success in either the short or long term.

The final of the three most important indices of satisfaction is the owner (and often shareholders) satisfaction. Satisfaction is difficult to measure except through regular meetings, surveys and checkpoints, et cetera.

2.6.6 Personal

For entrepreneurs, great satisfaction comes from the process of creation -- starting with just an idea and building something that lasts. There is pride of ownership from seeing your family name on the company. Successfully facing challenges, and as a result finding skills and strengths you didn't think you had, are definitely aspects of personal success in business.

2.6.7 Personal-Financial

This is intrinsically tied to company financial performance – the better the company performs, the better the owner performs financially as well. The financial motivation is the best understood factor in defining personal satisfaction in a market-driven economy.

This is a purely qualitative function of success, but it is closely tied with the quantitative elements of defining profitability in a company.

As in company profitability, defining certain financial ratios accurately predicts financial bankruptcy in an enterprise (Altman, 1968), but the opposite is also true. Financial ratios can predict company profitability, and hence, personal financial increases for the owner/entrepreneur.

Successful businesses earn a substantial return on investment for the shareholders who risked their capital in the venture. The founders of the company, who are generally also shareholders, are able to create wealth for their families and security for their future, as well as enjoy a more affluent lifestyle. They measure success by being able to provide a better life for their children than they had when they were young.

2.6.8 Social

In a less market driven economy, success can be measured by how much they accomplish in improving a society. This is a success factor in many not-for-profits and public sector enterprises.

This is a well-researched quantitative field of study, but is solidly founded on qualitative and empirical research. Social benefits, like satisfaction indices are difficult to quantify: people know when they are happy and satisfied, but defining a measurable statistic is difficult to do.

Attaching social benefits to a company's success is a very new concept, some researchers and authors are starting to investigate this as a component of success (Savitz, 2014) (Epstein & Buhovac, 2014).

Along with societal success, often the more "soft" factor of personal ethics becomes a success factor and these are not well understood in a qualitative or quantitative perspective.

Some companies have specific social goals, such as improving the environment or providing educational opportunities for children through the products and services they offer. Others have a very high commitment to charitable giving and being good corporate citizens. Film star Paul Newman's company, Newman's Own Inc., which manufactures and markets a variety of consumer products, distributes all of its after tax profits to charitable causes.

2.6.9 Longevity

With the number of businesses that fail or start out strong only to stumble in the competitive marketplace a few years later, another measure of business success is the ability to sustain success in the turbulent, ever changing business world. Book publisher John Wiley & Sons began in 1807 as a small New York City-based printing shop. Two hundred years later, in 2007, the company's revenues were more than $1 billion, according to the company's website. The company has been able to successfully adapt to changes in readers' taste but also to the technological changes in the publishing industry -- for more than two centuries.

2.6.10 "Fattening up for Takeover"

Being taken-over can be a sign of great success, and is sometimes a key strategy of an enterprise in the high tech sector in Canada. In fact, takeover is a measure of success in any market-driven economy: it means there is intrinsic value in your enterprise, others recognise it, and they want to acquire it (Jensen, 1984).

There is an interesting phenomenon in that quantitatively improving your company (strengthening the numbers) -s something which is to be desired to increase the likelihood of success- will also makes the enterprise a takeover target.

I am not speaking of the natural attack and acquisition of companies we see in the marketplace; I am speaking of a targeted decision to make the company an attractive target.

In speaking with a senior private sector executive during interviews for this dissertation, I was informed of just such a case – a company of mid-size in Canada deliberately set out to make itself a target for takeover by a larger player in the market.

This was done, and the company executives indicated to me that this was a definition of success for them, although perhaps not for their employees.

Many companies are formed specifically to capitalise on a take-over, or indeed change their long-term strategy to become a takeover target. This is a viable measure of success in many cases – a takeover can often drive share prices higher than market indices would suggest.

2.7   Defining Marketplaces

The Bureau of Labor Statistics (BLS) developed a list of high-technology industries based on Standard Industrial Classification (SIC) codes in 1999 (Heckler 1999). The list was based on measures of industry employment in both R&D and technology-oriented occupations, using Occupational Employment Statistics surveys from 1993 to 1995 in which employers were asked to explicitly report the number of workers engaged in R&D activity.

The way the bureau of labour statistics and statistics Canada define the high-tech marketplace is simple: If the company is R&D-intensive and is one in which the number of R&D workers and technology-oriented occupations account for a proportion of employment that was at least twice the average for all other industries surveyed – then the company is part of the high-technology marketplace. Put another way - any technology requiring sophisticated scientific equipment, innovation and creativity with tools and thinking, and advanced engineering techniques, can be said to be high-technology. Examples are microelectronics manufacturing and development, data processing services and goods, and telecommunications (networks, equipment, data transmission, etc.)

Often this is seen as opposite to 'low technology' where tools, equipment and thinking have not advanced significantly in the previous century.

High-technology, as a marketplace, has come to be generally regarded as being dominated by innovation, creative use of technology, rapid development of new goods, and companies which, by and large, are established, and then rapidly grow in size.

2.8   Market and company evolution.

The concepts behind an evolving company and/or evolving marketplaces is very well researched and defined from a qualitative perspective.

Besides the work completed by Professor Tamas Koplyay in North America, as well as the directed research conducted by myself in the development of this dissertation, there are many other examples of market evolution definitions.

As far back as 1989, Mary Lambkin and George Day defined pressures and responses to market evolution and the evolutionary processes to be found in them (Lambkin & Day, 1989).

In fact, economic scholars reviewed the automotive industry as a marketplace to define an econometric model by which non-monotonicity in the number of producers is explained using a competitive model in which innovation opportunities induce firms to enter the marketplace, but in which a firm's failure to implement new technology causes it to exit or leads to enterprise failure. (Jovanovic & MacDonald, 1993)

In fact there are numerous scholarly articles and journals dedicated to the analysis and mathematical modelling of a market`s life-cycle going back beyond Schumpeter`s seminal work on market life cycles in 1912 where he codified the business cycle and revisited the Swiss school of Economics. (Schumpeter, 1912/1934).

Therefore, I can make the assumption that market evolution is a well-understood field of research, and few gaps in knowledge exist from both a qualitative and quantitative perspective.

Enterprise or company life-cycles are relatively new constructs, but some research is being undertaken in an empirical or qualitative research mechanism (Koplyay, Lloyd, et al, 2012 & 2013).

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In fact research is being undertaken to specify differing company life cycles dependent on their marketplace such as the retail marketplace (Findlay and Sparks, 2002), small and medium enterprises as well as family-owned firms (Le Breton-Miller & Miller, 2013), or even independent of marketplace (Smith and Miner, 1983)

There is a slight gap in the body of knowledge in that no one has yet developed a solid model of how the marketplace life-cycle and the business life-cycle interact.

I have decided to make a start at this in this dissertation by postulating a simple 3x3 grid where the company can be seen to be evolving from start-up/inception through growth, to maturity; and the marketplace can also be seen to be evolving from new/initial market, through maturing to a final state: mature market.

There are therefore, no *significant* gaps in knowledge in the area of market definition and company evolution.

2.9   Defining the Third Dimension of the model

The problem with a pair-bond model is that it merely allows the researcher to place the organisation to be examined in a simple state of identification – one of nine choices, and based on well-known and well-documented research; some adequate predictions can be made.

This does not advance the body of knowledge, and does not allow the public policy maker to predict the failure or success of the enterprise – to do this we need to add in a third dimension of information mining – the elements of the enterprises specific structure or architecture.

Although extensive research was conducted on which elements we should examine; I have aggregated all the factors into a simple set of 10 ”dimensions” into which we will investigate the various aspects of the dimension.

The research selects these 10 easily researched and common elements of a company – for our purposes, we restrict ourselves to the high tech industry, but many of these elements are found in other industries, and in fact, there may be entirely new ones for differing industries:

1. Human Resource structures;
2. Creativity and innovation;
3. Corporate culture and leadership;
4. Supply chain management;
5. Quality management;
6. Stakeholder management;
7. Financial and incentive management;
8. Marketing management;
9. Decision making structures; and,
10. Strategic importance of the sector/enterprise.

Based on advanced research in Canada, these common structures can be seen within a lens of appropriate (or not appropriate) for an enterprise in that marketplace and at that stage in its evolution.

We would, of course, consider other dimensions for other industries, in the mining industry – for instance we would want to look at the extent to which a mining company engages in core sampling, or the extent of their mining territory and licenses, or soil qualities (VanDeventer, Bloem &Hattingh, 2008).

Or in the fisheries industry for instance, we would want to add in dimensions concerning annual quotas (Ludwigh, Hilborn & Walters, 1993).

In this dissertation I focus on the high tech industry; but as I stated above the model is not predicated on one single industry segment and can easily be extended to other segments.

3.   THE RESEARCH CONTEXT

3.1   Approach to research

The approach to the research and analysis is that of a combination of qualitative and then quantitative analysis. This is because although case analysis of a company usually includes a quantitative analysis of the "numbers" (return on investments, profitability, earnings before interest, taxes, depreciation and amortization, market capitalization, et cetera).

In the context of our new methodology and tool – these standard analytical tools do not provide sufficient information to a public policy maker, who may not even have the business acumen to interpret these types of data accurately.

A tool and methodology needs to be of sufficient rigour to provide accurate predictions, while at the same time not require the user to apply advanced techniques of analysis to the enterprise in the decision-making process.

To this end, a public policy decision maker will have to look at other factors in the company, and in fact, in our proposed new methodology, we leave the advanced numbers analysis to other decision-makers.

The methodological approach proposed is to gather sufficient qualitative data so as to be able to make qualitative evaluations of the company's "health".

We can create a table to examine these factors to emphasise why I have chosen a qualitative research method:

No	Factor	Qualitative	Quantitative
1	Philosophy	Phenomenon, social	Positivism, hard science
2	Goal	Understanding / meaning Event prediction	Numerical prediction / testing hypothesis
3	Focus	Quality	Quantity (numbers)
4	Method	Action research	Experiment & correlation
5	Data	Interview / observations Documents Artifacts	Questionnaire, scales, tests, inventories
6	Design	Flexible	Structured
7	Sample(s)	Purposeful	Large and random
8	Generalisation	Unique cases	Generalisation
9	Analysis	Inductive	Deductive
10	Researcher	Immersed in research	Detached from subject

Figure 3 - Qualitative Versus Quantitative selection table (Author's construction from multiple sources)

3.2   Qualitative Multi-Case Study: Type of Qualitative Research

Qualitative research focuses on experiences and is a research method often used in case analysis; as is the case in this new methodology.

Qualitative research is a method of inquiry employed in many different academic disciplines, but is often seen in the social sciences, public policy management, and in business-based microeconomics.

Qualitative researchers focus more on sociological and the "softer" science observations - human behaviors, organisational behaviours, interpersonal interactions, corporate cultures, etc. They also focus on the root causes of these factors, and how they are governed, and in the context of this research – can be used to make accurate predictions on the potential for failure of structures in the company being analysed, and potentially the entire enterprise itself.

Often qualitative analysis is combined with rudimentary qualitative analysis, and that is the case in this research. Based on qualitative reviews, literature reviews and the creation of a weighted

Likert scale, we can draw both qualitative and quantitative conclusions to allow for a more accurate prediction model.

It has been noted (Barahona & Levy, 2002) that findings and results are more likely to be accepted if they are quantified (i.e., numerically expressed). However, there is little scientific evidence that these types of data are in fact, more reliable than qualitative data based on strong observation and scientific methods.

In the period before qualitative research became more widely accepted these methods were in common use in the so-called "soft sciences". Quantitative researchers use these methods primarily in the conducting of interviews, and observations of cultures. Sociologists in the early 20th century stated "the intersection of social context and biography" that lies at "the root of contemporary descriptions of qualitative research as holistic" (Bogdan and Biklen, 2007, p.9).

However, the term "qualitative research" can be defined in a number of general ways: Here are some widely accepted definitions in use today in case study methodologies:

a) Denzin and Lincoln in 1994 defined qualitative research as a method which focuses on interpretation of phenomena in their natural settings to make sense in terms of the meanings people bring to these settings. Qualitative research involves collecting information about personal experiences, introspection, life story, interviews, observations, historical, interactions and visual text which are significant and meaningful.

b) Patton (2002) defined qualitative research as an attempt to understand the unique interactions in a particular *situation* (italics mine). The purpose is to understand in depth the characteristics of the situation and the meaning brought by participants and what is happening to them at the moment. The aim of qualitative research is to truthfully present findings to others who are interested in what you are doing.

c) According to Pope and Mays (1995), qualitative researchers study things in their natural settings in an effort to discover the meanings seen by those who are being researched (or subjects) rather than that of the researcher.

d) Qualitative research seeks to provide understanding of human experience, perceptions, motivations, intentions, and behaviours based on description and observation and utilizing a naturalistic interpretative approach to a subject and its contextual setting (Encyclopedia.com 2009).

e) Qualitative research is a process of naturalistic inquiry that seeks in-depth understanding of phenomena within their natural setting. It focuses on the "why" rather than the "what" of social phenomena and relies on the direct experiences of human beings as meaning-making agents in their everyday lives (University of Utah, College of Health, 2009).

In their seminal work *Discovery of Grounded Theory: Strategies for Qualitative Research* (1967), Glaser and Strauss defined a research method which outlined how to analyse social phenomena; and in 1978, Guba introduced the idea of naturalistic study.

The definitions above outline the complexity of the methods used.

I prefer the definition offered by Maanen:

> *An umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. (Maanen, 1979, p.520)*

One of the key components of using quantitative research methods in the high-tech industry is that we depend on the natural gregariousness of the high-tech entrepreneur, and the collaborative nature of the high-tech industry in Canada.

Having been a high-tech entrepreneur, and discussing the dissertation with other executives in the Canadian high-tech sector, I have learned to depend on the high-tech key employees sharing their experiences through this natural expansiveness found in the entrepreneur.

Jack and Anderson (1999), at Aberdeen University, found that "visiting entrepreneurs" enjoyed talking to students about their ventures; and government executives often interchange high-tech

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executives into the government in order to specifically capitalise on the executives' capacity to share experiences. I was myself; an executive brought into the government of Canada and was therefore tasked with bringing my experiences into government.

The wide variety of material (articles, public documents, financial filings, books, magazines, etc.) covering high-tech entrepreneurs in Canada and their easy accessibility makes this particular sectors a target-rich environment for qualitative research methods.

This material forms the bulk of my research materiel in testing my tool and methodology; and is based on qualitative research-based questionnaires and interviews with both high-tech executives and public sector executives.

Entrepreneurship, as it has been described in literature, is about creativity, innovation, leading-edge engineering, and market segment creation. (Aldrich and Martinez, 2001, McKenzie, 2007).

Due to the subjective nature of this research method, and the already well-understood and well-defined use of qualitative methods in prediction of enterprises in the private sector (Feint, Jeffcoate & Chappell, 2002) and (McKeown, 2010); in this dissertation I rely more on qualitative research, which focuses on understanding how people interpret company cultures, how they construct their worlds, how they interact in a positive, negative and destructive way with the enterprise and the marketplace.

I have created a tool which takes the heretofore unexamined qualitative aspects of high-tech enterprises, and puts them into a simple tool allowing the public decision-maker to quantify a score. I evaluate and review available documentation on the enterprise to be studied, and answer a number of qualitative questions on each of the 10 dimensions.

Using a neutral weighting factor, each of the answers to the questions are ranked from one to ten in terms of how fully the tool user/ researcher feels the enterprise has adhered to the qualitative aspects of that part of the dimension based on research.

For instance in the Leadership dimension, a question is asked about the degree to which the leadership of the enterprise is charismatic – this is important in the early stage enterprises, but is

far less important in a mature company in a mature marketplace where a more "professional administrator" is essential to continued success and growth (Koplyay, Lloyd, & Sanchez, 2011).

In an early market high-tech enterprise, a charismatic leader will score far higher than a professional administrator / CEO.

This numerical score will be entered into the tool for that particular question on that particular dimension.

These 91 questions spread across the ten dimensions provides a deep qualitative look into the mechanics of the company, and from these we can make a determination on probability of success given the fact that the ten dimensions are essential to the success of a high-tech enterprise in the Canadian marketplace.

Given the fact that these evaluations are based on publicly available, well-understood, and well-documented materials it will be extremely difficult to "game" the tool and enter false information to get a result the user wants.

If a company scores poorly (between 0-4) in the tool, it is a likely failure and the closer to 0 the more likely it will fail quickly. If the enterprise scores 5 or 6, it is in a troubled posture and could continue to grow, could fail, or could stagnate. If the enterprise scores higher than 6, it is a likely candidate for continued success and growth.

The next table (figure 4) shows the details around the 91 questions used to guide the analyst in conducting a qualitative analysis of the company being evaluated in the tool. These questions are based on three years of analysis of companies and their posture in the marketplace

The weighting factors are *all neutral* in this tool in this iteration.

As more public policy makers use the tool, they will inevitably want to weight certain elements of an industry higher or lower than another.

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For example, in the mining industry in Canada, the dimension on strategic importance (dimension 10) is relatively unimportant when compared to a dimension focusing on mining rights or core sampling.

Number	Dimension	Questions on Qualitative analysis
1	Human Resource structures	1. Are the pay systems and processes appropriate to the pair bond 2. Is the compensation function well defined understood and well managed 3. Is the succession planning process defined, documented and extant 4. Is the HR regime aligned with strategic outcomes 5. Is the benefits package managed, and appropriate to the pair-bond 6. Is the incentive plan appropriate to the pair-bond 7. Is the organisational design supportive of the pair-bond location 8. Are the recruiting strategies appropriate, clear, effective and well documented 9. Are the retention strategies appropriate, clear, effective and well documented
2	Creativity and innovation	10. Is innovation managed appropriate to the pair-bond 11. Are employees rewarded for creativity/innovation in an appropriate way 12. Is innovation aligned with strategic outcomes 13. Is a well understood and appropriate collaboration regime in place 14. Is the innovation function spread out in company 15. Is the innovation management regime appropriate to company position 16. Is the innovation management regime appropriate to the marketplace 17. Is the product or service seen as innovative by customers 18. Does the market see the product or service as leading

3	Corporate culture and leadership	19. Is the corporate culture/leadership focused 20. Is the corporate culture/leadership inspirational 21. Is the corporate culture/leadership directed 22. Is the corporate culture/leadership reflecting professional attitudes 23. Does the corporate culture/leadership initiate interaction with stakeholders 24. Is their undiluted interests in company / divided loyalties 25. Does the corporate culture/leadership display outward integrity 26. Does the corporate culture/leadership display clear communications 27. Is there an appropriate and managed conflict management regime in place
4	Supply chain management	28. Is the supply chain managed 29. Is the supply chain reflect preferential contracts and are they reciprocated 30. Is the supply chain tied to marketing 31. Are the channel partners identified and managed 32. Is the supply chain software and technology driven 33. Are their examples of past history of problems and how many 34. Is the supply chain growing appropriate to marketplace 35. Is the supply chain growing appropriate to company 36. Are the supply chain competitors competing for chain suppliers
5	Quality management	37. Is the focus on quality control 38. Are there quality programmes in place 39. Is there employees participation 40. Is there continuous improvement 41. Is there alignment with customers 42. Is there alignment with strategic outcomes 43. Is the products / services being delivered on time and on budget 44. Is there a management commitment 45. Are there education programmes in place 46. Is the quality measured and reported 47. Does the market sees product leading

6	Stakeholder management	48. Is the stakeholder definition both vertical and horizontal 49. Is there a stakeholder management regime 50. Is there employees participation 51. Is there continuous improvement 52. Is there a clear set of communications channels 53. Is there alignment with strategic outcomes 54. Is the customer as stakeholder philosophy implemented 55. Is there management commitment 56. Is the information in channels managed with marketing
7	Financial and incentive management	57. Is there a mismatch between employee payoff and company benefits; 58. Are there stock options with fixed exercise price 59. Is there economic value added (profit) based compensation 60. Is there meaningful compensation 61. Is the stock options plan managed in mature companies where options have no future 62. Is there alignment with strategic outcomes 63. Are there R&D based rejuvenation targets in the mature company 64. Are the Measures to enhance value chain partner performance 65. Are the stock options/purchase plans inclusive of lower levels 66. Is the long term pension plan viable and appropriate
8	Marketing	67. Is the marketing stakeholder definition vertical and horizontal 68. Is the marketing strategy clear, relevant and appropriate to the pair-bond 69. Is the client management regime relevant and appropriate to the pair-bond 70. Is the market intelligence function relevant and appropriate to the pair-bond 71. Is the competitor intelligence function relevant and appropriate to the pair-bond 72. Is the marketing management aligned with strategic outcomes 73. Is the marketing Information in channels managed with stakeholders strategies

9	Decision-making	74. Are there good product development decisions
		75. Are there good marketing decisions
		76. Are there good financial decisions
		77. Are there good logistics decisions
		78. Are there good HR decisions
		79. Are there good production decisions
		80. Are the decisions communicated to stakeholders
		81. Does the marketplace/investors have confidence in decisions
		82. Are the decisions clearly connected to strategy
10	Strategic importance of the sector/enterprise	83. Is the sector / company identifiable as Canadian
		84. Is the sector / company geography and human resource factors appropriate
		85. Is the geography and governance structures aligned to the sector
		86. Is the geography and infrastructure appropriate to support by the government
		87. Is the market supported through governmental mechanisms
		88. Is the geography and finance appropriate to the strategic sector
		89. Is the culture and perception accurate to the sector
		90. Is the potential negative messaging managed and appropriate

Figure 4 - Table of questions to be asked in analysis (Author's construction)

Case study is a significant qualitative strategy, along with critical narrative analysis, phenomenology, ethnography, and grounded theory (Merriam, 2009).

However, case study differs from other research strategies in that it conducts an in-depth analysis of a bounded system – in our case – an enterprise.

After Yin (2009), a case study is defined as the ideal strategy when how-or-why questions are being proposed, and then the researcher / decision-maker has no control over events and is separated from the enterprise.

In this dissertation, the tool and methodology meets Yin's criteria for case studies:

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a) The research question is of the how-and-why nature ("How do decision makers develop enough qualitative knowledge of an enterprise to make a decision", and "Why do enterprises fail, and why do we provide funding to failing companies").

b) The use of the tool and methodology has no control or influence over the enterprise.

c) The need for public policy-makers to make decisions to fund and offer grants to high-tech enterprises and sectors exist all over the world in the public sectors of many countries, and are highly relevant to present-day governance.

When data from several cases is collected and analyzed, it is referred to as collective-case, multi-case, or multi-site studies. This tool is an ideal candidate to be used in a multi-case study.

As more enterprises are put through the methodology and tool, the tool will improve. It can become a "self-correcting" system – in that as more information is developed and entered, the tool itself can have more questions added, and the weighting factors can be more refined and tailored to the particular market segment.

In such a self-referential study, a number of cases are studied to investigate a phenomenon, population, or general condition (Stake, 1995). Stake explains:

> *In multi-case study research, the single case is of interest because it belongs to a convincing particular collection of cases. The individual cases share a common characteristic or condition. The cases in the collection are somehow categorically bound together. They may be members of a group or examples of a phenomenon. (Stake, 2006, p.5)*

Although the particular details of a specific case may vary, my research, as a Qualitative, Tool-based, Consistent, Market-specific study, will allow for the Government of Canada to build abstractions across multiple enterprises and multiple markets (Merriam, 2009) and a general explanation that can then be brought to fit the individual cases. (Yin, 2009)

3.3   Case Selection and Data Collection

After proposing the research question, I selected the units of analysis (the bounded systems), which in this study are the 10 individual dimensions of the enterprise to be reviewed. And within those dimensions a further set of specific 1-10 answerable questions.

The case study research method does not follow specific data-collection methods in a qualitative-like fashion, but more appropriate to our case, focuses on description and explanation (Merriam, 2009).

When choosing the test case, it was critical to select an enterprise which was not only well-understood, but also had a large volume of easily available date, materiel, writings, and easily accessed executives. The opportunity to develop a solid starting place to start to develop a body of new knowledge is of critical importance (Stake, 1995).

It is a fact that researchers and academics need to start from a well-understood point to then continue on to develop an ever-increasing body of knowledge, to start to test the hypothesis and determine if conclusions or estimates can be extrapolated from the data.

As Yin stated, the process of replication is essential to allow the experiment to become a robust source of data for researchers. (Yin, 2009, p.54). In our case – we need to start from a point in time well enough understood to test the hypothesis, and to start the collection of empirical data.

For the purposes of this tool and methodology, multiple runs through the tool with multiple companies are treatable as experiments as defined by Yin (Yin, 2009).

My test case was carefully selected so that it could be used to predict a result; and that result could then be tested and examined against the known outcome.

To select the case (see below – section 3.6), I used the "purposeful sampling" method.

Patton (2002) states:

> *The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth," which are cases "from which one can learn a great deal about issues of central importance to the purpose of the inquiry" (p.230).*

3.4   Collecting Data and Statistics Canada

Statistics Canada is the authorised statistical gathering and dissemination arm of the Canadian government. Their mandate is "Serving Canada with high-quality statistical information that matters."

Statistics Canada provides a wealth of source data to the decision maker in the public sector, and to academic researchers. It allows the use of the tool to analyse and better understand the positioning of the company being examined within the context of the marketplace, and within the context of comparable enterprises.

This is of particular importance as it informs the scoring of the 91 answers to the questions in the dimensions of the tool.

Statistics Canada produces statistics that help Canadians better understand their country—its population, resources, economy, society and culture. They are principally known for conducting a national census every five years; but they also conduct about 350 active surveys on virtually all aspects of Canadian life; from market sectors, through labour-force utilisation, and even the state of the Canadian economy. They provide data to that can be used by Canada to:

- analyze economic performance;
- develop fiscal, monetary, and foreign exchange policies;
- shape international tariffs and trade negotiations;
- develop policies and programs to assist small businesses;
- support policy development and evaluate government programs on economic and social well-being;
- improve allocation of government program funding by determining their social and economic effects;
- support the regulatory and legislative requirements of government;
- draw electoral boundaries;
- determine equalization payments and other federal-provincial fiscal transfers;
- adjust inflation-indexed contracts and entitlements;
- develop programs to promote domestic and international competitiveness;

- support immigration policies and programs;

- support tourism strategies and programs;

- assess the cost-effectiveness of health care and education programs;

- monitor the justice system's effectiveness and efficiency;

- select sites for schools and public transportation; and,

- develop programs such as day care and subsidized housing.

In Canada, providing statistics on the country is a federal responsibility.

As Canada's central statistical office, Statistics Canada is legislated to serve this function for the whole of Canada and each of the provinces and territories as well – this is entrenched in the Canadian constitution.

Objective statistical information is seen by Canadians as a component of our open and democratic society. It provides a solid foundation of reports and data which is used by our elected representatives, businesses, unions and non-profit organizations, as well as individual Canadians to better understand the country. It also provides a foundation of our case methodology.

Emerging issues prompt demands for new kinds of data. Maintaining the relevance of the government's program by meeting these information needs is one of Statistics Canada's primary goals. This is why Statistics Canada relies on many advisory groups.

Statistics Canada provides valuable information to the public sector in the ***management and monitoring of the efficacy of the transfers of funds, grants***, etc. to Canadian companies.

3.5   Industry Canada

Industry Canada's mission is to foster a growing, competitive, knowledge-based Canadian economy.

Industry Canada provides microeconomic information to decision makers, and oversees many of the granting and transfers of funds to high-tech enterprises.

The department works with Canadians throughout the economy, and in all parts of the country, to improve conditions for investment, improve Canada's innovation performance, increase Canada's share of global trade, and build an efficient and competitive marketplace.

Mandate

Industry Canada's mandate is to help make Canadian industry more productive and competitive in the global economy, thus improving the economic and social well-being of Canadians.

The many and varied activities Industry Canada carries out to deliver on its mandate are organized around three interdependent and mutually reinforcing strategic outcomes, each linked to a separate key strategy.

> *Industry Canada fosters competitiveness by developing and administering economic framework policies that promote competition and innovation; support investment and entrepreneurial activity; and instill consumer, investor and business confidence. Science and technology, knowledge, and innovation are effective drivers of a strong Canadian economy*

> *Industry Canada invests in science and technology to generate knowledge and equip Canadians with the skills and training they need to compete and prosper in the global, knowledge-based economy. These investments help ensure that discoveries and breakthroughs take place here in Canada and that Canadians realize the social and economic benefits.*

> *Industry Canada encourages business innovation and productivity because businesses generate jobs and wealth creation. Promoting economic development in communities encourages the development of skills, ideas and opportunities across the country.*

Industry Canada is the Government of Canada's centre of microeconomic policy expertise. The Department's founding legislation, the Department of Industry Act, established the Ministry to foster a growing, competitive and knowledge-based Canadian economy.

Industry Canada is a department with many entities that have distinct mandates, with program activities that are widely diverse and highly dependent on partnerships. Industry Canada works on a broad range of matters related to industry and technology, trade and commerce, science, consumer affairs, corporations and corporate securities, competition and restraint of trade, weights and measures, bankruptcy and insolvency, intellectual property, investment, small business, and tourism.

3.6   Selecting companies for failure

The process of selecting a company which has failed to use as a case study for the research, development and refinement of the tool is a two-phased process requiring: firstly, a selection of the company; and secondly, a scan of the available information on the company through interviews, publicly-available documentation and other reference material.

Blackberry (Research in Motion (RIM)) was an obvious choice as the company has not yet failed, but its decline has been startling and obvious:
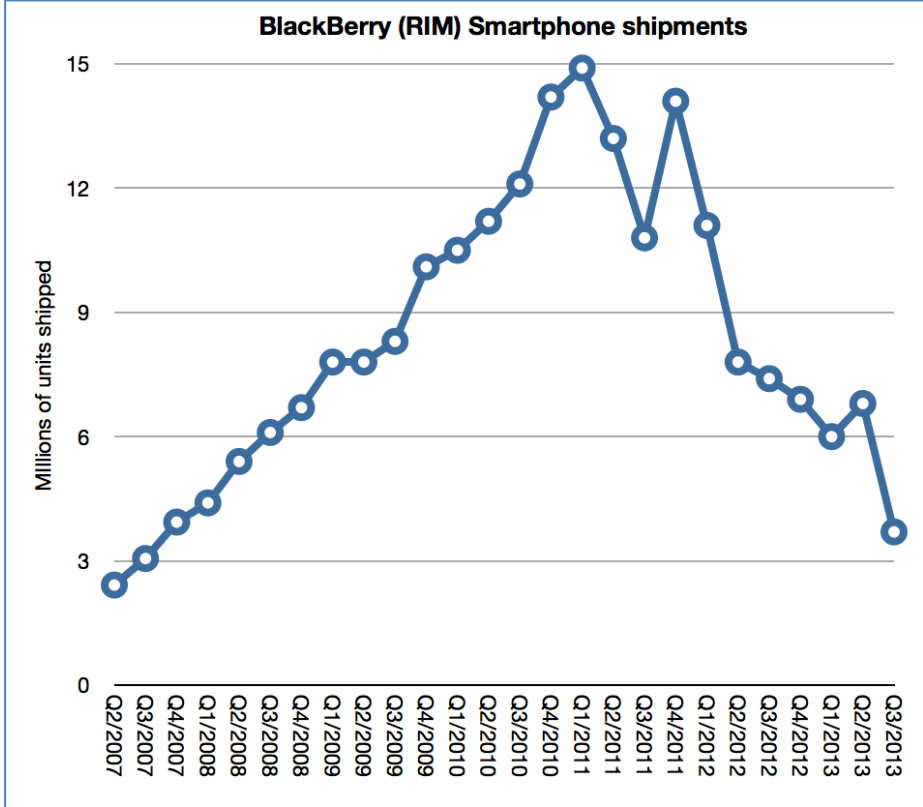
Figure 5 - Blackberry's Decline over time (Source: Toronto Stock Exchange)

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By the third quarter of 2013, Blackberry had lost so much market share that they shipped only slightly more than they had in the third quarter of 2007.

In 6 years they went from the dominant smartphone player to a 2nd tier player. How did this happen? Could it have been predicted? And most importantly was there a systematic and intelligent approach to the assistance the Canadian government and Canadian taxpayers provided to Research in Motion / Blackberry over the decade.

The other aspect of analysing BlackBerry is that there are many publicly available documents for the company, and much analysis of the company's internal structures is easily accessible. This information is vital in preparing analysis using the tool.

The tool asks questions of the 10 dimensions under review for the company, but the responses need to be well-informed and based on fact, as described above in the section on research methodology and context.

Blackberry is selected as a test case due to the fact that there is a preponderance of information available, they are well understood in the Canadian high tech sector, the Canadian government has given them tax and granting funds and the executives were easily available for interviews.

3.7 Scoring System Logic

The high tech industry in Canada (reference here) has a number of failures most of which are well documented quantitatively. There is less literature on why they fail qualitatively. Extensive interviewing with executives in government and high tech executives has shown two things:

1) Government executives are extremely reluctant to go "on the record" as the decision making process and the protection of the decisions is of high value to the government, and is not released to the public.

2) High tech executives, although gregarious (Martin, 2011), are reluctant to talk about their own qualitative failings, or about the failings of their colleagues in the industry. The Canadian high tech industry is very much a cross-pollinated one and executives often leaving organisations and go to new ones in the same area.

A well-publicised "genealogy" shows this cross-pollination in Ottawa alone (Doyletech, 2002) these firms all derive from Bell Northern, and many, if not all, of the executives worked together, switched companies, hired each other, or in some way know each other. They are understandably reluctant to discuss each other's foibles.

Remember, this first iteration of the model does not contain weighting factors. All qualitative analytical questions to be answered are answered on a simple scale of 1-10.

Let us look at a metric for an example:

For the HR dimension, there is a question as to whether or not the CEO/Senior manager is involved in the business. The answer to the question is registered as a single number between 1 and 10, where 1 indicates that the CEO is not involved in the business at all, and 10 indicates the CEO is dedicated to the running of the business with very little outside interests.

This metric can be derived through a number of ways:
1) Direct questioning of the executive
2) Questioning of the executive's peers
3) Public knowledge of the executive's actions
4) Investigation of the executive's other activities through electronic means such as LinkedIn, Facebook, professional associations, etc.

In fact, the more sources of information, the more reliable the individual metric.

As time passes, the executives and analysts using the tool may notice that a particular metric is more or less important, and weighting factors can start to be introduced. In this initial run of the tool, however, all weightings were removed to provide an isolated result.

Because we are working with a completely "flat" scale, where every element is equal in weight to every other one, and wherein all dimensions are treated equally, the result will always be a number from 1 to 10.

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In the absence of a standard quantitative analysis of the company being analysed (e.g. Quick Ratios, Turnaround Ratio, Return on Equity, Debt to Equity, etc.) the tool will return a single number.

Obviously a "10" would represent a company which would always succeed as it represents one with 100 percent of the required metrics for success, and a "0" the exact opposite - one which would always fail.

Given this simple scale, one would assume that at 5 (in the absence of external data), there is a 50/50 chance of success or failure.

In other words, a company with a ranking around 5 (± 1.5) has a chance of survival, but unless changes are made will likely linger at the same place. A company with 6.5 or greater will likely thrive, and a company below 3.5 will likely fail.

4. CONDUCT OF RESEARCH

4.1 Defining the methodology

The methodology to be defined to exercise the model and tool is a very straightforward one. It is designed to prepare literature and responses to our questions in the dimensional analysis and the model.

4.1.1 Selecting the company.

This step requires the researcher or policy analyst to determine which company within which industry is to be analysed. Often for the policy analyst, this is determined by the senior executives in the ministry or department; but sometimes this is left up to the discretion of the analyst.

In the Canadian context, sometimes an entire industry will be analysed.

4.1.2 Selecting the pair-bond

The first step in our methodology is to determine into which pair-bond the company to be examined is being

4.1.3 Gathering the research.

As in the case of RIM, in most cases there is a great deal of public literature available on the company. Such documents as:

1. Interviews with executives (past and present)
2. Interviews with public policy makers
3. Reviews of Annual reports and quarterly filings in both the TSX and the NYSE
4. Annual meeting minutes
5. Teleconferences with CEO and COO
6. The Annual financial analyst teleconference
7. Meetings with clients of the company in the public sector
8. Meetings with other industry workers

If the company being analysed is well known, then there may be written literature it as well.

Often strategic sector companies have books written about them, or case studies are available at business schools.

4.1.4 Answering the questions.

For each of the 91 questions, an answer must be prepared. It requires both research as well as knowledge of the company and the questions. During an interview with a junior level analyst, the questions were found to be quite intuitive.

The analyst will need to qualitatively judge the response both on the research and on his/her knowledge of the other companies in the industry being examined.

4.1.5 Entering the data

Into the tool, the analyst needs only to enter their qualitative judgement based on research in each of the 91 areas. Each dimension and sub-question is to be evaluated on a simple Likert scale of 1-10: one being an extremely negative answer, and 10 being a completely positive answer.

4.1.6 Changing the weightings

The tool is designed to allow the public policy analyst to change the weighting as the model matures, and more information about a particular sector is available. In our initial run of the methodology and model, we have specifically weighted at the neutral end of the scale.

4.1.7 Interpreting the results

The results of the analysis will appear on a summary slide at the beginning of the tool. The resulting score from 1-10 can be interpreted as follows:

1-4: Likelihood of failure

5-6: Likelihood of stagnation

7-10: Likelihood of Growth and Sustainability

4.2   Running the model with our selected case

In this dissertation, remember we have chosen to analyse RIM/Blackberry. It is an easily identified organisation, and it is well enough known internationally to remain relevant to the reader. It also has sufficient public documents outlining the company and the marketplace that detailed research is not needed beyond public documents and some reference literature (see Chapter 7 – References and end-notes)

In order to "run" the model, it is first necessary to identify the pair-bond into which we will place the enterprise.

In order to do that, some rudimentary analysis of the market place and the company is necessary. Easily found documentation on the marketplace can be used for that part of the pair-bond, and public documents, newspapers, interviews, etc., can provide the information for the second part of the pair-bond

4.2.1   Market placement

Market placement is the part of the pair-bond where we determine the maturity level of the market. (There is much literature available on market research and analysis – many of which are referenced in Chapter 7 – References and end-notes).

In the case of Blackberry – the market can be easily determined as a mature market. Although the marketplace is still dynamic, and much innovation and refinement of products in the "smartphone" market is still being made – the number of players is relatively small, the new innovations are generally added onto existing platforms and, with few exceptions, the innovations consist of:

- New interfaces;
- New processors and processing power;
- New interoperability; and,
- Addition of new third-party applications.

In fact, since Blackberry first arrived in the smartphones marketplace, new innovations have really been refinements and updates to these 4 criteria.

This is a hallmark of a mature marketplace. Companies need to provide the same base-levels of functionality as their competitors, and must drive to cost competitiveness to maintain market share. Supply chain management is predicated on knowing your upstream and downstream chain and ensuring preferential pricing and, in the case of smartphones, upstream deals with vendors and bundlers of your product.

4.2.2   Company Placement.

Blackberry is arguably the first real entrant into the smartphone marketplace, and certainly is one of the best known.

There are many articles and references to the history of Blackberry as a company (see Chapter 7 – References and end-notes); but the salient facts are well known:

Blackberry was known as Research in Motion (RIM) when they started to develop pagers, smart pagers and devices to the Mobitex wireless packet-switched data communications networks in 1988 in Waterloo, Ontario – a centre of High-tech spinoffs next to the University of Waterloo. The products were sought after by first-responders and by on-call support staff in medical and Information Technology communities, often used by military and police forces, firefighters and ambulance. In 1996, RIM released one of the first keyboard-based devices – the RIM 900, and the take-up by the customer base was startling – it provided users with two-way communications using a familiar interface – and since that time, RIM has continuously produced devices with a hard keyboard.

In the early 2000s RIM released pagers and new "Blackberry" devices with two-way texting, calling and other advanced interface options. RIM also continued building their own proprietary subscriber network allowing for secure point-to-point communications. This security feature, and the newer built-in security features allowed RIM to capture a large segment of the government and military industrial marketplace.

In 2005, RIM achieved over four million subscribers, and Jim Balsillie and Mike Lazaridis were named among Time magazine's 100 most influential people, and by 2006, BlackBerry released the a line of consumer-friendly Pearl devices, with the addition of a digital camera and multimedia capabilities – thus becoming the first real large-scale smartphone. And even though the iPhone was introduced and captured the attention of many consumers, the large organisation and government marketplaces remained largely RIM-based. However, Blackberry's touchscreen and application add-ons have never approached the hype and take-up of the Apple product, and by 2008, the Blackberry and the iPhone were in head-to-head competition with Nokia, Samsung, HTC, and others relegated to the sidelines.

The Blackberry playbook (a tethered tablet requiring a Blackberry to function well) did not take over the tablet market like the iPad did, and in 2010 RIM purchased a new UNIX-based company with an eye to rebuilding the operating system from scratch. By 2012, the co-CEOs, Balsillie and Lazaridis resigned in an attempt to bring on a professional administrator. Much criticism of Balsillie's pre-occupation with buying an NHL Hockey team, and Lazaridis's pre-occupation with the Perimeter Institute of Physics was made in public, and speculation exists that the co-CEOs were absent in spirit for the previous 4 years.

The company released a later-than-anticipated operating system, and set of devices, but market share, anticipation, and hype never seem to come to fruition, and the Blackberry is relegated to a second-tier entry in the marketplace.

Given its early position as a market maker, and the longevity of the company itself, the company can easily be placed into "mature company" segment

4.2.3   Baseline case pair-bond

Given the foregoing analysis and rationale our case study of Blackberry can be firmly placed into the mature-mature pair-bond; and we can now proceed to the dimensional aspect of the model / case study.

4.3   Analysing the company

The ultimate goal of the research objectives was to answer the research questions. It is known that data collecting methods can affect the quality, quantity, adequacy and relevance of the research – therefore the overall quality of the research (Pawar, 2004).

Interestingly, data collection methods are used in both quantitative and qualitative approaches to research. The methods selected are based on the chosen research approach and may include in-depth interviews, group interviews, observations, survey research and case studies, which often use interviews or questionnaires combined with documentary research. Data collection can also incorporate secondary data such as organizational documentation. To be successful in any data collection undertaken, the researcher must clearly understand the objectives of the data collection.

Use of this tool requires both qualitative and quantitative approaches to research.

5. CASE STUDY OF THE MODEL

Case studies can focus narrowly on very specific aspects of individual or organizational behaviours, or alternatively have a very broad scope. The case study approach allows the integration of many formal and informal elements through the data collection and analysis process.

Case study is generally associated to a holistic approach to research, providing in- depth understanding of the phenomenon under study.

Case study is an approach used to examine simple or complex phenomena through in-depth study of units of analysis from individuals to large organizations using a variety of data-gathering approaches that can make use of or contribute to theory.

Although, not obligatory (e.g., may just be descriptive), case studies can be intrinsic where they are focused on the understanding of the particular case studied with no theoretical intention.

Instrumental case studies, on the other hand, are designed to provide insights into an issue or refine a theoretical hypothesis. The case study is not the purpose; rather the purpose is to provide an answer to a research question.

Cases are selected because they allow the advancement of a research interest. Collective case studies are characterized by multiple-cases that can be comparative and/or contrasting. Multiple instrumental case studies increase the validity and reliability of results.

5.1 Analysis and results

5.1.1 Dimensions

Once the enterprise to be analysed is placed on the pair-bond landscape, it is necessary to "complicate" the model through the addition of dimensional factors which impact the company's likelihood of success. For instance – if research shows that a company in a mature marketplace needs to have a particular approach to strategy-making and the company being analysed does not exhibit this behaviour, and then one can posit that the likelihood of success in this area is below 50% on a simple Likert scale.

Depending on the market type (high-tech in our case), the weight of this dimension may be higher or lower as seen in the spreadsheet tool.

5.1.2   Dimension 1 – Human Resources (HR)

Research shows that HR is one of the more important aspects of a company. In our case study (Blackberry in the high-tech marketplace) we can see that HR implies how human resources are managed effectively to the company bottom-line.

HR in a new company tends to be quite anarchic - it is not a professionally run part of the company, and usually takes a back seat to other aspects. For instance – hiring is done by word of mouth, incentives, and force of personality of the players. In the case of Blackberry, this was the case in the late 80s when the company was formed – the people hired were members of the professional and academic circle of the founders – they were not specifically sought out and recruited.

In the growing company, we see a shift from formless, rule-less and anarchic HR to a "professionalising" part of the company. HR started to be plugged into the strategic plans, recruiting plans are made, key resources are targeted, and key resources are starting to be identified.

In a mature company – HR is a profession, and is plugged into the strategic outcomes of the company. It follows rules, and succession plans and recruiting strategies are developed to address HR shortcomings in the company.

On a scale of 1-10 – the more aspects of professionalism a company displays in a mature company, the higher the score. If a new company displays these types of structures and rigidity, it will score lower as new companies cannot support rigidity

In our case study, Blackberry had fairly strong HR processes in place in the early 2000s, and with the exception of the two co-CEOs, the company exhibited a professional HR regime, one which would be expected at a mature company-mature market pair-bond

The company scores a solid 8/10 in this area

Company: BackBerry - Sheet: Human Resources		
Factors		
Pay		8
Compensation		8
Succession Planning		7
Alignment with Strategic Outcomes		7
Benefits		8
Incentive plans		8
Organisational Design		8
Recruiting strategies		7
Retention Strategies		7
	Average:	7.555555556
	Total Factors:	9
	Non Weighted score	0.839506173
Weighting Factor	10	
Final Score		8.395061728

Figure 6 - HR Tab from Tool (Author's Construction)

5.1.3 Dimension 2 – Leadership and culture

Research shows that new companies need inspirational, quick and nimble leadership. Resources need to be attracted; proselytising to stakeholders and early adopters takes precedence over rigidity. Culture needs to be quick, focused on innovation, and a shared sense of corporate culture. An "us against them" team atmosphere is exhibited in most new companies in the Canadian high-tech marketplace.

As the company evolves, this rapid response, inspirational style of leadership slowly moves to a more directed form of leadership, culminating in the mature company in a mature marketplace where leadership consists of a professional administrator leading the company through measured changes designed to maintain market share, maintain price, and quality leadership in the market.

On a scale of 1-10 – the more aspects of professional administration a company displays in a mature company, the higher the score. If a new company displays these types of structures and rigidity, it will score lower as new companies cannot support rigidity

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In our case study, Blackberry had a cowboy mentality (witness the senior executives drunk on a plane, and forced to leave), and a very administratively-weak leadership. Leadership was shared amongst two "co-CEOs" (itself a structure not well understood or successful), and these two leaders, who were not in fact strong leaders, were not focused on business and were seen as indulging their personal interests – Hockey and Physics.

The company scores 4/10 in this area

Company: BackBerry - Sheet: Leadership and Culture		
Factors		
	Focused	5
	Inspirational	6
	Directed	6
	Professional Attitudes	6
	Regular Interaction with Stakeholders	6
	Undiluted interests in company / Divided Loyalties	2
	Outward Integrity	8
	Clear Communcations	6
	Conflict Management	6
	Average:	5.666666667
	Total Factors:	9
	Non Weighted score	0.62962963
Weight	7	
	Final Score	4.407407407

Figure 7 - Leadership Tab from Tool (Author's Construction)

5.1.4   Dimension 3 – Quality Control

Quality Control is a dimension which varies with both the market and the company. Its variance is as one would expect – new companies and new markets in the high-tech sector are NOT driven by quality. In fact, stakeholders in the markets and companies reward innovation and the rush to adopt. The so-called "early-adopters" are not interested in quality at all, and are often satisfied to have the latest technology, and to learn how to adapt their own companies to respond to new technology innovations.

For instance, in our case, Blackberry's innovative use of the Mobitext marketplace, was often accompanied by dropped messages, lack of coverage, difficulty in sourcing quality parts, etc. however the Blackberry 900 was still widely and rapidly adopted.

As companies mature, the buyers, stakeholders and shareholders demand much higher quality, as upset customers, returned merchandise, higher than anticipated inventories, etc., all have an impact directly on the company bottom line, profitability and success, no matter how these are defined.

Mature companies and marketplaces both have high levels of quality control (think of the movements to Six Sigma, Total Quality Management, ISO Certifications and other initiatives in Quality Management). When a mature company in a mature marketplace rushes to implement innovations and loses sight of quality – it is a sign that the company has lost focus on something – the marketplace expectations, the consumer expectations, a disconnection between their strategic goals and production, a shock to their supply chain (earthquakes, tsunamis, or nuclear events – maybe all three), et cetera. No matter the cause, it is always a sign of a company in distress.

Lack of quality is not a negative in a new company or market place, it is, however a large draw-back and sends strong negative signals in a mature company and marketplace.

In our case – Blackberry rushed to purchase QNX, rushed the new operating system into market, and rushed the Q10 and Z10 products. They ended up delaying the release of the product due to quality issues. Although they did not release an inferior product, their own internal quality and production cycles were out of alignment significantly.

The company scores a 5/10 in this area

Company: BackBerry - Sheet: Quality Control		
Factors		
	Focus on Quality Control	7
	Quality Programmes in place	7
	Employees partcipation	6
	Continuous Improvement	6
	Alignment with Customers	4
	Alignment with strategic outcomes	5
	Products on time	4
	Management Commitment	6
	Education programmes in place	6
	Quality measured and reported	7
	Market sees product leading	5
	Average:	5.727272727
	Total Factors:	11
	Non Weighted score	0.520661157
Weight	10	
Final Score		5.20661157

Figure 8 - Quality Control Tab from Tool (Author's Construction)

5.1.5 Dimension 4 - Creativity and Innovation

Creativity and innovation vary wildly as the marketplace and the enterprise changes. In a new marketplace – innovation can come from anywhere and any stakeholder, but as a market matures, there is far less exchange of innovation and ideas between companies and stakeholders until at market maturity creativity in a company is zealously-guarded and protected.

Innovation assumes different characteristics and serves different purposes depending where it occurs in the lifecycle (Koplyay et al, 2010). This is certainly true of high-tech companies. In the early market, the aim of an enterprise is to capture the attention and loyalty of the young market clientele, consisting of the innovators and early adopters; (who themselves are not necessarily driven by quality).

The innovators in the early market and company seek technical sophistication and become the de-facto beta test group of the market place and themselves provide innovation.

The first market and enterprise is always focused on the product. There is usually a professional affinity and often a professional association between vendor and client, both are equally adept at understanding and handling technology and are motivated by it.

As the marketplaces and companies mature, the customers now seek quality and lower price as the main selling points. Often, the service representatives and marketing team act as the innovation generators. The innovation focus becomes one of receding product complexity and increasing product functionality.

In a mature market – innovation demands change again – high demands in terms of ISO-style quality and reliability is demanded and the manufacture of the product becomes more important than its design or marketing. At this point, production assumes the lead role and innovation changes both substance and magnitude. Innovation becomes a small, yet highly focused element of the company – innovation focusses on working within the envelope of the product or service which established the marketplace reputation. Research shows that successful firms create micro-engines in their companies who innovate with freedom – they are run as small enterprises within enterprises: Innovative leadership, tailored incentives, free-wheeling project management styles, etc.

Research also shows that if a company in an established marketplace spreads innovation and creativity throughout the company instead of concentrating it, the dilution of a "critical mass" of creativity leads to less creativity overall – the enterprise can actually have more people innovating, but produce less creative ideas than a smaller more focused group. Whereas both product development and marketing were exploring bold moves in terms of taking risks with either the product or choosing and developing the channels of distribution, production becomes quite risk averse as big risks can cause major disruptions to the expensive installed base and the manufacturing plant, whether it's in-house or outsourced.

The next two figures summarize both the principal axes of innovation and its evolution along the life-cycle along with the dominant profile of innovation at each stage. We should note that each type of innovation is always present at every phase but that one is dominant and dictates terms to

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the others. Also, some of the functions may be present without an organizational functional unit as such.
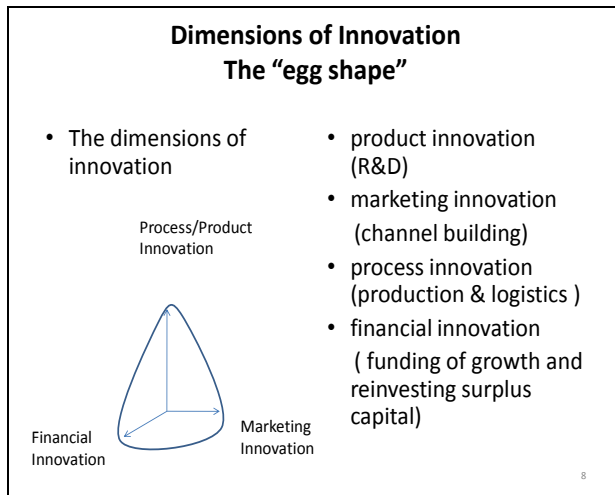
Figure 9 - The Innovation "egg"
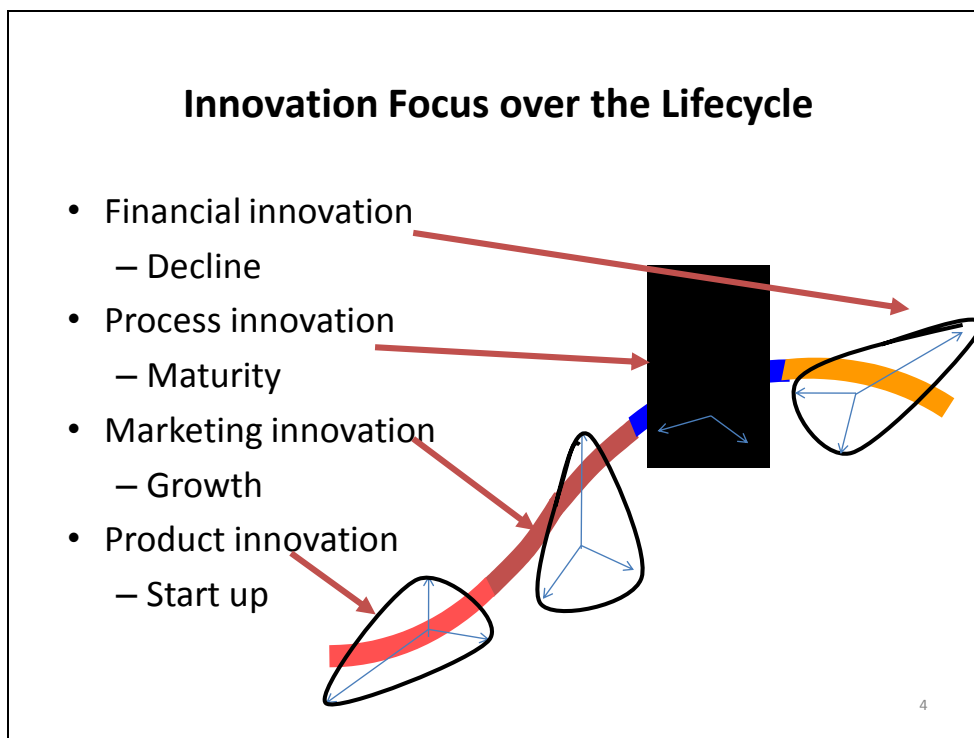
Figure 10 - Changing Innovation over market changes

In the case of Blackberry – they were an extremely innovative organisation in the early market and as the company grew – in fact their use of the Mobitext paging system to send and receive

text messages was innovative, but adding in the Blackberry keyboard to allow for simple two ways messaging in the 1980s and early 1990s was extremely innovative.

By the year 2006 when iPhones were introduced, the company was reduced to innovating within production processes, and adding in refinements to the existing product base. They had a bit of a "me too" innovation focus – e.g., touch screens, app stores, etc.

Although the organisation had lost market and competitor intelligence, it can be acknowledged that the innovation part of the company was still present – when presented with an idea or concept that the customers wanted, the innovation team did figure out new creative ways to deliver it.

The innovation function was diluted throughout the enterprise though, which reduced their innovative "index" somewhat.

None the less – Blackberry scored reasonably well in this area – scoring close to a solid 8

Company: BackBerry - Sheet: Creativity / Innovation			
Factors			
	Managed		7
	Employees rewarded		6
	Alignment with strategic outcomes		6
	Collaboration regime in place		7
	Innovation Spread out in company		6
	Appropriate to company position		7
	Appropriate to marketplace		8
	Seen as innovative by customers		8
	Market sees product as leading		8
	Average:		7
	Total Factors:		9
	Non Weighted score		0.777777778
Weight		10	
	Final Score		7.777777778

Figure 11 - Creation and Innovation Tab from Tool (Author's Construction)

5.1.6   Dimension 5 - Supply chain management

Supply Chains, like other dimensions, vary widely across the development of marketplaces and companies.

In an early marketplace, supply chains are often very dynamic creations – the supply chain is flexible and allows for rapid changes in component sources as quality rises and falls. Often the supply chain is seen as a competitor, and supplies other entrants into the marketplace.

As markets mature, the market forces drive suppliers into set chains – for example in a mid-mature market, there is generally a smaller set of suppliers and value chain partners, and they resist supplying to only one firm.

Sometimes secondary markets are set up for the suppliers (an example would be the secondary market in Swiss watch movements – which is comprised of ETA Inc.-manufactured movements, in-house movements, in-house movements which are salable, Japanese automatic movements, etc.)

In a mature marketplace, supply chains are smaller and usually partnered with single or small numbers of companies.

Enterprises likewise start out with dynamic supply chains, managed loosely, and with little regard to formalised methodologies of management and prediction.

As companies mature their supply chains mature as well – higher quality is sought, stronger relationships are developed in the chain, and channel partnership concepts and other elements of rigidity creep in to the management and the landscape.

By the time a company is mature, the supply chain is very rigid with set expectations, quality metrics, managed channel partners, preferential contracting and supplying, etc., The chain is closely tied with production management and marketing management.

Blackberry is a solid supply chain manager – they have not had problems sourcing components – their problems lie in the fact that what they purchase, integrate and sell is not wanted by consumers.

Blackberry scores a solid 7 in this area

Company: BackBerry - Sheet: Supply Chain		
Factors		
	Managed	8
	preferntial contracts	7
	Tied to marketing	6
	channel partners identified and managed	6
	software and technology driven	7
	No past history of problems	6
	Growing appropriate to marketplace	7
	Growing appropriate to company	7
	Competitors competing for chain suppliers	7
	Average:	6.778
	Total Factors:	9
	Non Weighted score	0.753
Weight	10	
Final Score		7.531

Figure 12 - Supply Chain tab from Tool (Author's Construction)

5.1.7   Dimension 6 - Stakeholder management

Stakeholder management is a dimension which varies with the marketplace and company maturity. Research shows that the focus of primary and secondary stakeholders vary with the development and evolution of a company. What is critical at all stages is to manage the stakeholders effectively, to have a good idea as to who they are, and their expectations, and lastly, to ensure that reaching out to stakeholders is done in an effective and systematic way.
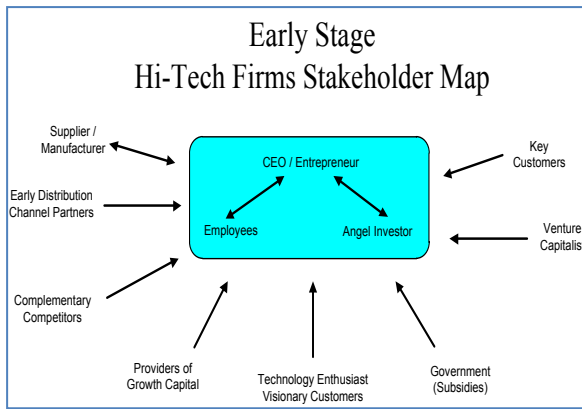
Figure 13 - Stakeholder landscape in early stages (Author's Construction)

As can be seen from figure 12 – the stakeholders in an early market stage or an early company stage are all inward facing, and the internal stakeholders in a company are inward facing as well – a triad of CEO/visionary, investor(s) and employees rules the landscape. Companies in this landscape need to ensure their stakeholder management regimes are congruent with this posture.

In an early marketplace and young company – the stakeholders often have low success-expectations – they are angel investors, the charismatic leadership of the company, the early-adopter consumers, the non-rigid supply chain producers, etc. Often angel investors and bootstrappers are not unhappy to see failure in a company – they have spread their risk to many opportunities and their return on investment is dependent on multiple companies and multiple chances to succeed.

Figure 13 shows a different picture – the company/market is now maturing and the dynamic of stakeholder management is more balanced between inward and outward.
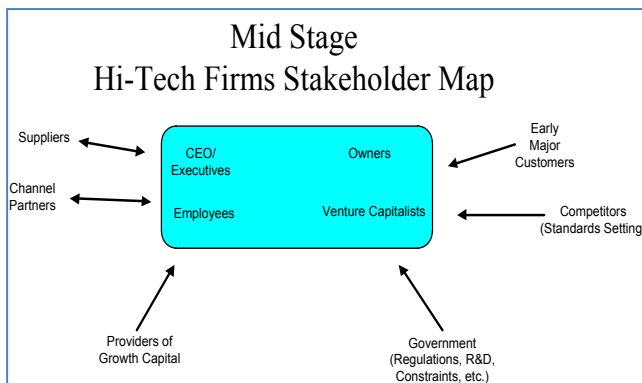
Figure 14 - Stakeholder landscape for a maturing company / market (Author's Construction)

We see that the stakeholders are starting to include secondary and channel partners, and the marketplace also starts to see other competitors who act in the marketplace.

As a company expands and grows, and as a marketplace grows two things happen: The Company's stakeholders change focus into more rigidly defined expectations; and, the marketplace also changes focus from quick innovation, to an expectation of more rigid structures as well. As marketplaces mature, the market stakeholders start to define their expectations and outputs much more rigidly, and an atmosphere of punishment starts to creep in – if a company does not perform, the stakeholders in the marketplace will move to another company.

Finally in a mature marketplace and/or a mature company, the landscape of stakeholders is extremely complicated.

The next figure illustrates this complication – in a mature environment stakeholder management needs to be institutionalised. A company needs to know what its competitors and channel partners are doing at all times – often price discrimination the only tool is left beyond customer loyalty and infrastructure investment to keep an enterprise viable.

By the time the company and market is mature – this situation is reversed again – the stakeholders no longer punish enterprises as they have made longer-term investment in the companies, the supply chains are locked in, and the stakeholder management regimes have been tailored to the needs of the stakeholders. Interestingly, we often see that switching companies or moving to a competitor in a mature marketplace merely exchanges one regime for another and little else changes as market stakeholders tend to be quite homogenous. This is quite dangerous however when you are a market leader and one of the competitors has a product which differentiates greatly – through cost, innovation, etc.
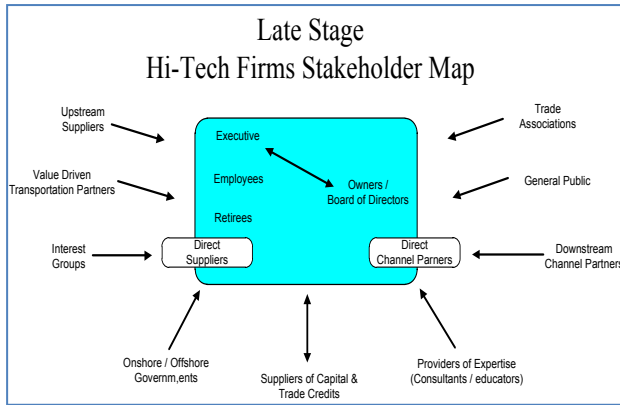
Figure 15 - Mature stakeholder landscape (Author's Construction)

In our case, Blackberry completely lost sight of one of their primary set of market stakeholders – competitors. Their stakeholder management team did not put into place a regime designed to manage this stakeholder, and they lost sight of competitor analysis – while they focussed only on iPhone and Apple, the second-wave smartphone developers (Samsung, HTC and LG, and Google itself with the Nexus phone) snuck in with a new operating system, new applications, and higher quality phones. The stakeholder regime also lost sight of the investor's needs, and did not manage the expectations of the investment and debt community.

BlackBerry was left flat-footed due to a lack of management of stakeholders.

The company scores a 4/10 in this area

Company: BackBerry - Sheet: Stakeholders		
Factors		
	Stakeholder definition Vertical and Horizontal	7
	Stakeholder management regime	6
	Employees partcipation	6
	Continuous Improvement	6
	Communications channels	4
	Alignment with strategic outcomes	5
	Customer as stakeholder philosophy implemented	4
	Management Commitment	5
	Information In Channels managed with marketing	5
	Average:	5.333333333
	Total Factors:	9
	Non Weighted score	0.592592593
Weight		7
	Final Score	4.148148148

Figure 16 - Stakeholder Tab from Tool (Author's Construction)

5.1.8   Dimension 7 - Financial and incentive management

Financial and incentive management changes as company and market changes as well. In fact – very often, employees will defer their incentive payments or re-invest them into the company only so they can see the company in which they have invested emotionally grow faster.

In an immature company – financial management is loosely managed – often by the visionary who set the company up, and often with family or saved money and co-investors. Sometimes an angel investor or bootstrapper will get involved at this stage of growth as well. From a market perspective – financing is often very difficult to find in a new and emerging market. Incentives in a new marketplace are often deferred, and may be only paper-based – i.e. they will only pay-off if the company succeeds.

In the mature marketplace, studies show that the effects of incentives are mixed and complicated (Camerer, Hogarth, 1999). The design and implementation of total compensation is a difficult art under the best of circumstances because many of the negative consequences of both base-compensation (pay) and variable-compensation (bonus) are poorly documented or understood.

Yet both types of compensation play a key role in defining the all-important fixed costs/variable costs ratio which determines the strategic flexibility of the firm.

In some organizations, such as government, the compensation component may represent more than 80% of the operating budget. And amazingly 80% of the planning time is devoted to the variable costs when in fact a much better return could be achieved from re-examining the fixed cost management through proper design of compensation.

Of course compensation is a people-sport (Martin, 2011) and it can be seriously gamed by both the employees and the employer, but in the long run it remains the cornerstone of internal peace and cooperation between management and labor.

In our case of Blackberry – their pay and incentive schemes were poorly designed. They continued to reward the early investors, and key employees were in a sense, shut out of the money. Blackberry forgot to map the general characteristics of the requirements for the different incentive schemes depending upon where the firm was in its market evolution. They did not relate the strategic design factors of their incentive schemes to the type of employee, and the specific incentives were not tailored to improve the company's strategic position.

For an innovation-based company, they also made a cardinal mistake – they forgot the team components of compensation and forgot to adequately compensate innovation.

They scored a 5/10 in this category:

Company: BackBerry - Sheet: Incentives	
Factors	
Mismatch between employee payoff and company benefits;	7
Stock options with fixed exercise price	5
Economic value added [profit] based compensation	5
Meaningful compensation	5
Stock options in mature companies where options have no futu	5
Alignment with strategic outcomes	5
R&D based rejuvenation targets in the mature company	5
Measures to enhance value chain partner performance	5
stock options/purchase plans where the lower level	5
Long term pension plan	6
Average:	5.1111111
Total Factors:	10
Non Weighted score	0.5111111
Weight 10	
Final Score	5.1111111

Figure 17 – Incentives Tab from Tool (Author's Construction)

5.1.9   Dimension 8 - Marketing Management

Marketing management is closely tied to stakeholder management, as the external stakeholders are often contacted primarily through the marketing and market intelligence team.

Marketing's role and spheres of influence vary with market maturity and company maturity. Marketing is also closely coupled with strategy-making in the organisation, as can be seen from the figure below:

Product Life Cycle and Marketing/Strategy

Effectiveness (external focus) **Market position**			**Efficiency** (internal focus) **Operations**
Product Differentiation	**Market Development**	**Market Maintenance and defence**	

Market Pull   Market Push   Market Checkmate   Market Expansion

Product development (customers)   Focus (customers, competitors)   Cost Leadership (customers, competitors, suppliers)

Portfolios efficiency

Strategies/Marketing

Flexible   Locked in

Product emphasis   Product/service emphasis   Production/service emphasis

Product based   Product/ Production based   Production based

Distribution Channel Based

Source: Goldsmith, D., and Koplyay, T., 1988

Figure 18 - Evolving Marketing strategies

Marketing in a new company is extremely simple – often it is word of mouth, internet advertising – and once the "buzz" is created, a flock of early-adopter consumers rush the company. In the new marketplace, often there are no rules of marketing as strategies need to evolve as the company and products evolve (See Figure 17 above).

As the company starts to mature, a marketing strategy becomes important, not only as an arm to sell the products, but also as a part of the market intelligence function of the company (i.e., a maturing marketplace and company need to know what consumers want, and what the competition is doing).

Often in the high-tech industry, once a company and marketplace are mature, the marketing effort is primarily dedicated to intelligence. The consumers are set, and price is the only real discriminator in the marketplace. The marketplace is solidified. It is at this point that the marketing function of the mature organisation becomes heavily interconnected with the other elements of the organisation – strategy, quality, finance, etc.

As the company matures, the focus shifts from product innovation, through marketing innovation to financial innovation as seen below:

Innovation Focus over the Lifecycle

- Financial innovation
  - Decline
- Process innovation
  - Maturity
- Marketing innovation
  - Growth
- Product innovation
  - Start up

Figure 19 - Evolution of Innovation and marketing

In the early phases of a firm's growth, we see that marketing and strategy have a mutual and interdependent relationship where each provides key input to the other's function. The relationship changes as markets and companies mature until the functions are distinct, and loosely coupled at maturity.

In our case of Blackberry – they were definitely in a mature marketplace and were a mature company – they had a product that consumers wanted and prior to 2006 they were, in essence the market-makers.

As noted above, however, at maturity, the marketing function is primarily that of market intelligence, market management, and competitor intelligence. Innovations in marketing techniques are not necessary – the consumers wanted the Blackberry product.

Blackberry should have known that Samsung, HTC and Apple were innovating, and they should have known what was being introduced to the marketplace. Consumers were clearly demanding a higher level of interaction with the smartphone, and this was not brought back to the company headquarters and product development.

There was a clear failure of marketing management and intelligence, and as a consequence, Blackberry was caught flat footed.

They scored a 5 on this dimension:

Company: BackBerry - Sheet: Marketing	
Factors	
Stakeholder definition Vertical and Horizontal	7
Marketing Strategy Clear	6
Client management regime	6
market intelligence function	6
Competitor intelligence function	4
Alignment with strategic outcomes	5
Information In Channels managed with marketing	5
Average:	5.571
Total Factors:	7
Non Weighted score	0.796
Weight 7	
Final Score	5.571

Figure 20 - Marketing Tab from tool (Author's Construction)

5.1.10   Dimension 9 - Decision Making Structures

The market lifecycle plays an important role in defining the type and frequency of decisions that must be made. An immature firm accepts that only some of its decisions will create significant payoffs, hence it follows a constant focusing and refocusing of information search modes within the market to find the big payoff. The failure risks with any given decision are relatively small. It is the portfolio of decision-making that has a high expected value. Once the firm graduates to corporate status, time is needed to make the right decision. Only a few strategic options may be available and any given option has high implementation costs. The risk of failure leads to significant write-offs of corporate assets.

Decision-making changed in the type of decision as well as the timing required for decisions over the evolution of the market and enterprise.

As we see in the following figure, the nature of decisions shifts at certain pre-determinable points:

Early Market Stakeholders	Late Market
-Most decisions makers inside company	-Most stakeholders outside company
-Few decision makers	-Many decision makers
-Higher frequency of decisions	-Slow decision process
-High risk tolerance	-Low frequency of decisions
-Low information intensity and content	-Low risk tolerance
-Immediate payoffs	-High information intensity and content
-Low information reliability	-Delayed payoffs
-No standard decision making procedures	-Higher information reliability
-Customer / product focus	-Well established standards of analysis
-Parallel / overlapping decisions	-Production / competitor focus
	-Sequential decisions

Figure 21 - Evolving types of Decisions (Koplyay, et al)

In summary, decision-making changes from the frequent and quick but approximate decisions in early cycle firms, to a deliberate, exact decision in the later stages of maturity. Confidence levels in decision-making reliability grow as the firm matures and uses more sophisticated and tested frameworks and more comprehensive databases. As information silos develop along with the emergence of functional groups, much of the internal decision-making becomes an overhead of reconciling various points of view and the often-conflicting needs of these groups.

In general, risks associated with wrong decisions grow during market development and the focus of critical decisions shifts from the environment to the internal workings of the firm.

The more vertically integrated a firm is through its acquisitions or tight value chain relationships, the longer it takes to make corporate decisions. A value chain based conglomerate is ill-suited to cope with the dynamics of a rejuvenating market, although it is perfectly adapted to mature market conditions.

In the case of Blackberry they generally made good decisions until the trend of bad decision-making in the late 2000s. In fact, they really only fell down in the area of production decisions and marketing decisions.

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As a consequence, Blackberry scored a 6.2 in this area.

	Company: BackBerry - Sheet: Decision Making		
Factors			
	Good Product Development Decisions		6
	Good Marketing Decisions		4
	Good Financial Decisions		6
	Good Logistics Decisions		7
	Good HR Decisions		6
	Good Production Decisions		4
	Decisions are communicated to stakeholders		6
	Marketplace has confidence in decisions		6
	Decisions are clearly connected to strategy		6
	Average:		5.667
	Total Factors:		9
	Non Weighted score		0.63
Weight		10	
	Final Score		6.296

Figure 22 - Decision making tab from Tool (Author's Construction)

5.1.11   Dimension 10 - Strategic Importance of the sector/enterprise

The strategic importance of a sector or an enterprise is a component of the "nationality" of a company, how much the public sector supports it and the degree to which the country sees it as a sector or company of strategic importance.

An example of this is MacDonald-Dettweiler – a Canadian high-tech company and designer and operator of the Radarsat constellation. The Canadian government had provided tax breaks to the company over the years as well as contracts and other preferential treatment. When the company was offered up for sale to an American firm, the Canadian government stepped in and blocked the sale; stating that the company was of strategic importance to Canada. Another example is the Canadian government blocking the sale of Potash Corporation to an Australian firm. This time the government saw the **sector** as a sector of strategic importance.

Public sectors have vested interests in companies and in sectors. Often they form part of a government's stated goals – to create or reinforce a particular part of an economy.

Enterprises in the early stage usually do not draw a government's direct interest. Usually they all receive largess in the form of tax advantages, research and development credits, and other programmes offering grants to companies in a particular sector.

To measure this dimension, it is important to understand stated goals and strategies of the government or public sector. These can usually be found in the central web sites of the governments being examined. For instance in Canada, the stated strategic goals of the government can all be found in the Prime Minister's website (http://www.pm.gc.ca).

This however, only lays out the broad strategic goals of the government, to provide the level of detail necessary to analyse this dimension, it is important to look further. Researchers must examine the tax credit, granting and funding establishment of the public sector being analysed to see if there are broader strategic directions in place – for instance in Canada, an examination of the tax credit system will reveal a strategic goal of the government of the day: to provide funding through the vehicle of tax credits to companies engaging in scientific research and development. Hence – the research and development sector can been seen to be a strategic sector of the country (http://www.cra-arc.gc.ca/txcrdt/sred-rsde/menu-eng.html).

Mature companies engage in strategic partnerships with government – in fact, research shows that the more mature the company, the higher the level of interaction - through contracts, co-funding arrangements, exchanges of personnel, foreign investment tours, etc.

In the case of Blackberry – they are a very mature company in a strategic sector in Canada – the high-tech sector. As a consequence they have been heavily invested in by Canadian taxpayers, and are seen as a "Canadian" brand by virtue of a number of identifiable factors:

- Geography and Human Resource Factors (e.g., where the workforce is, where the key personnel live, etc.)
- Geography and Governance (e.g., where the headquarters are, company independence, etc.)
- Geography and Infrastructure (e.g., where the suppliers and research and development players are, etc.)
- Market (e.g., where market growth is, where dominance exists, etc.)

- Geography and Finance (e.g., nationality of creditors, government-funding, incorporation location, etc.)
- Culture and Perception (e.g., nationality of board members, identifiable culture, etc.)

By all of these factors, Blackberry can be seen as a member of a strategic sector in Canada, and is recognised as a "Canadian" success story. It can be anticipated that the government of the day will take an interest in the success or failure of the company, and in the messaging that a failure will send to the world.

The company scores a solid 7 in this area.

Company: BackBerry - Sheet: Strategic Sector	
Factors	
Identifiable as canadian	8
Geography and Human Resource Factors	6
Geography and Governance	7
Geography and Infrastructure	7
Market	5
Geography and Finance	5
Culture and Perception	7
Potential negative messaging	7
Average:	6.5
Total Factors:	8
Non Weighted score	0.8125
Weight 9	
Final Score	7.3125

Figure 23 - Strategic Sector Tab from Tool (Author's Construction)

5.2 Testing our tool and methodology with a second case

In order to confirm the results of the test case, I decided to run another company through the process. Again, it needed to be in the correct industry, it needed to have a great deal of public information available, I needed to have access to executives and former executives of the company, and I needed to be able to connect the results of the tool with the results observed either today or at a particular point in time.

For comparison purposes as well, I needed to be able to ensure that the company received or was receiving public funds in some way, and that, ideally, the company was in a **more successful posture** to ensure that the tool would be predicting a clear success.

To this end, I selected CGI – a large Canadian high tech services company – known around the world as an outsourcing and mergers and acquisitions expert in the high tech industry.

Unlike our test case in the previous chapter, I will not delve in to the rationale behind the assignment of the numbers in each sheet of the tool, I will merely point out that they are based on research conducted:

1. Through interviews with executives (past and present)
2. Through interviews with public policy makers
3. Reviews of Annual reports and quarterly filings in both the TSX and the NYSE
4. Annual meeting minutes
5. Teleconferences with CEO and COO
6. The Annual financial analyst teleconference
7. Meetings with clients of the company in the public sector
8. Meetings with other industry workers

5.2.1 Dimension 1 – Human Resources (HR)

Company: CGI Inc. - Sheet: Human Resources		
Factors		
Pay		8
Compensation		8
Succession Planning		7
Alignment with Strategic Outcomes		7
Benefits		8
Incentive plans		8
Organisational Design		8
Recruiting strategies		7
Retention Strategies		7
	Average:	7.555555556
	Total Factors:	9
	Non Weighted score	0.839506173
Weighting Factor	10	
Final Score		8.395061728

Figure 24 - HR - CGI (Author's Construction)

As can be seen, the Human resources structures for CGI are entirely appropriate for a mature-mature pair bond – they are aligned with their strategic outcomes , their multi-national design is appropriate to the firm.

An interesting item derived from the annual teleconference by the CEO was information on the incentive plans, and on the succession planning in the organisation. It became very quickly apparent that the incentive plan was exactly what was needed to engage and retain key employees – a combination of shares, options and a retirement plan with defined contributions is state of the art in Canada.

In terms of succession plans the CEO discussed the need for identification of key resources in terms of retention, but also in terms of education and training. He talked about ensuring the organisation was designed in such a way as to provide the services required of the clients in a particular location, but as part of a global whole. This capitalisation of globalisation is a sign of a mature organisation as well. Consequently, the CGI scores very high in terms of their HR

capacity. Interestingly, they are seen as one of the top organisations in their industry in which to hold a position, and are regularly ranked in Canada's top firms to work for.

The company has a multi-pronged recruitment strategy covering targeted resources, newly graduated resources, acquisition of resources, etc.

5.2.2 Dimension 2 – Leadership and Culture

CGI is also acknowledged around the world as an outstandingly led company, with a CEO, COO and senior executive team dedicated to furthering the aims of the corporation.

Perhaps the two most telling metrics in this dimension for the company is the dedication and professional attitudes of the board of directors and CEO, and the very clear and outward facing commitments to integrity, and to communicating with all stakeholders.

The CEOs teleconference with the financial industry was very open, and he seemed to be 100 percent focused on his company and their growth.

The culture in the executives I interviewed was positive, and they were all very loyal to the company.

Company:CGI Inc. - Sheet: Leadership and Culture	
Factors	
Focused	9
Inspirational	8
Directed	9
Professional Attitudes	8
Regular Interaction with Stakeholders	9
Undiluted interests in company / Divided Loyalties	8
Outward Integrity	9
Clear Communcations	9
Conflict Management	8
Average:	8.555555556
Total Factors:	9
Non Weighted score	0.950617284
Weight 8	
Final Score	7.604938272

Figure 25 - Leadership and Culture – CGI (Author's Construction)

5.2.3 Dimension 3 – Quality Control

Interestingly, as a service and out-sourcing company, CGI is uneven in their quality control mechanisms and in their quality measuring and performance management and reporting.

As a service company, they seem to have uneven structures in place to provide quality services, and to ensure that when contractors and other members of the company do not provide the services required that those actions are remediated.

An example of this is when CGI rolled out the "Obama-care" applications in the United States, and they proved to be of inferior quality, the company struggled to provide quality remediation.

It proved easy to discuss, but hard to remediate:

Our view is that the brand isn't damaged," said Chief Executive Officer Michael Roach, 61. "We may see one-offs here and there, but I don't see anything that will last. We're prepared to talk to our clients about what we're learning here. We've not been banned from anything. We're not barred."

The organisation gets very poor marks in alignment – if the quality control regime were better aligned with the strategic outcomes of the company, the Obama-care website would have had the attention it needed during the development and volume testing phases of the application/product before roll-out.

The next page illustrates this result:

Company: CGI Inc. - Sheet: Quality Control		
Factors		
Focus on Quality Control		7
Quality Programmes in place		7
Employees partcipation		6
Continuous Improvement		6
Alignment with Customers		7
Alignment with strategic outcomes		5
Products on time		7
Management Commitment		6
Education programmes in place		6
Quality measured and reported		7
Market sees product leading		7
Average:		6.454545455
Total Factors:		11
Non Weighted score		0.58677686
Weight	10	
Final Score		5.867768595

Figure 26 - Quality Control - CGI (Author's Construction)

5.2.4 Dimension 4 – Creativity and Innovation

The Creativity and Innovation dimension is particularly well suited to CGI. As a service outsourcer and a producer of quality products (websites, applications, etc.) CGI uses innovation as a product and service differentiator.

As stated in an annual teleconference in 2013, employees are encouraged to "float" ideas with their management, and there is a reward and recognition programme in place to ensure innovation is both a top-down and a bottom up concept.

As one would expect in a firm of such size and global dimension in a mature-mature pair bond, innovation is spread out through the company; but in areas of new market development, innovation is concentrated as if the company were in an emerging-emerging pair bond.

Although the company does not have a "chief innovation officer" position (something which should exist in a company of this size and complexity), the management team does acknowledge the need for creativity in the company, as evidenced in their annual report notations; and in an interview with one of the senior executives in Canada, the idea of innovation is encouraged at the annual CGI "boot camps" held in Montreal for all newly promoted executives. These special one week sessions are held a number of times per year, and are dedicated to inculcating the culture of CGI and the culture of innovation. This is a very mature approach to innovation.

The next page shows the rankings based on interviews and research:

Company: CGI Inc. - Sheet: Creativity / Innovation		
Factors		
	Managed	7
	Employees rewarded	6
	Alignment with strategic outcomes	6
	Collaboration regime in place	7
	Innovation Spread out in company	6
	Appropriate to company position	7
	Appropriate to marketplace	8
	Seen as innovative by customers	8
	Market sees product as leading	8
	Average:	7
	Total Factors:	9
	Non Weighted score	0.777777778
	Weight	10	
	Final Score	7.777777778

Figure 27 - Creativity and Innovation - CGI (Author's Construction)

5.2.5 Dimension 5 – Supply Chain Management

CGIs supply chain management is quite well managed, in interviews with executives (past and present), the organisation obviously focusses on their partnerships, and indeed, in Canada, the US and Britain, the company spends a great deal of effort in managing their channel partners and in developing joint ventures to ensure success.

They offer preferential pricing and partnerships to channel and supply partners, and joint venture team members.

As mentioned by the COO in a previous annual teleconference, CGI uses advanced software to manage the supply chain – and the fact that competitors are all vying for the channel partners is an indication that CGI is doing this correctly within their pair-bond.

Company: CGI Inc. - Sheet: Supply Chain		
Factors		
Managed		8
preferntial contracts		7
Tied to marketing		6
channel partners identified and managed		6
software and technology driven		7
No past history of problems		6
Growing appropriate to marketplace		7
Growing appropriate to company		7
Competitors competing for chain suppliers		7
	Average:	6.778
	Total Factors:	9
	Non Weighted score	0.753
Weight	10	
Final Score		7.531

Figure 28 - Supply Chain Management - CGI (Author's Construction)

5.2.6 Dimension 6 – Stakeholder Management

		Company:CGI Inc. - Sheet: Stakeholders		
Factors				
		Stakeholder definition Vertical and Horizontal		8
		Stakeholder management regime		8
		Employees partcipation		8
		Continuous Improvement		7
		Communications channels		7
		Alignment with strategic outcomes		8
		Customer as stakeholder philosophy implemented		7
		Management Commitment		8
		Information In Channels managed with marketing		8
		Average:		7.666666667
		Total Factors:		9
		Non Weighted score		0.851851852
	Weight		9	
	Final Score			7.666666667

Figure 29 - Stakeholder Management – CGI (Author's Construction)

Chairman Serge Godin told shareholders Jan. 29 in Montreal that CGI wants to double annual revenue over five to seven years, and will use acquisitions as a means to get there. This implies that the stakeholder management regime will need to be revamps and realigned with the strategic outcomes to allow this to happen.

Luckily, CGIs stakeholder management regime and methodology is already world class.

CGI does not do quite so well in the areas of continuous improvement and in communicating with some of their stakeholders. The financial industry is very well consulted with annual teleconferences by the COO and CEO, and the fact that management is committed to the stakeholders is referenced often in company literature. Unfortunately the "customer as stakeholder" philosophy is not well implemented in the company as evidenced by discussions with executive clients on how they feel managed by the company in Canada.

5.2.7 Dimension 7 – Financial and Incentive Management

CGI has changed their incentive programmes as the company has continued to grow.

They are now incenting in a way that is appropriate to their pair-bond, but also in a way that is consistent with their competitors.

There appears to be no mismatch between employee payoff and company benefits; and key employees are offered stock options with fixed exercise prices. This is seen in a mature-mature pair bond company.

Economic value added (profit) based compensation is reserved for the most senior executives as is seen in a mature company, and the compensation is meaningful.

Finally there is a long term pension plan for employees, in which the employee and the company both make defined contributions. In Canada, the defined benefit pension plan is almost completely eradicated from the marketplace, and is reserved for public pensions for the most part.

Company: CGI Inc. - Sheet: Incentives		
Factors		
	Mismatch between employee payoff and company benefits;	8
	Stock options with fixed exercise price	7
	Economic value added [profit] based compensation	7
	Meaningful compensation	7
	Stock options in mature companies where options have no futu	8
	Alignment with strategic outcomes	7
	R&D based rejuvenation targets in the mature company	7
	Measures to enhance value chain partner performance	7
	stock options/purchase plans where the lower level	8
	Long term pension plan	8
	Average:	7.3333333
	Total Factors:	10
	Non Weighted score	0.7333333
Weight	10	
	Final Score	7.3333333

Figure 30 - Financial and Incentive Management – CGI (Author's Construction)

5.2.8 Dimension 8 – Marketing Management

CGI's marketing management is a miracle of just in time communications. In order to confirm this we can look at an excellent case in point: the Obamacare application. CGIs federal government service arm in the United States was contracted to design develop and implement the website for Obamacare.

The website failed under loads during the first weeks of the programme, and the US government replaced CGI. One would think that this would represent a core failure and that the stock prices would suffer as would their contracting in the US and their stakeholder would express this in stock value.

The stock within 6 months had moved onto an all-time high.

The marketing team took a potential problem and managed to communicate through it. They have a great command of the marketplace and their competitors as evidenced by the fact that they are seen as a takeover and mergers and acquisitions expert in a very dynamic marketplace.

Market intelligence is a solid performer in this dimension as well, as they are always aware of what their competitors are up to, and in at least once case swooped in and made an acquisition ahead of a competitor.

The next page shows the results of the tool in analysing CGI's marketing management:

Company:CGI Inc. - Sheet: Marketing		
Factors		
	Stakeholder definition Vertical and Horizontal	7
	Marketing Strategy Clear	7
	Client management regime	7
	market intelligence function	8
	Competitor intelligence function	8
	Alignment with strategic outcomes	7
	Information In Channels managed with marketing	7
	Average:	7.286
	Total Factors:	7
	Non Weighted score	1.041
Weight	7	
Final Score		7.286

Figure 31 - Marketing Management - CGI (Author's Construction)

5.2.9 Dimension 9 – Decision Making Structures

CGI shows strongly in this dimension. They make good product development decisions in that their services are strongly seen as appropriate to the market, but also in that their service decisions show them getting into niche, yet productive, market segments ahead of, or at the same time as their major competitors.

Again, given their successful track record as merger specialists, their logistics and financial decisions are seen as industry leading, and the market has strong confidence in their capacity to decide quickly on courses of action.

In the annual call, the CEO spent some time talking through the methods by which CGI makes investment and financial decisions, and it displayed the fact that they have a strong methodological approach to this aspect of the business.

Company: CGI Inc. - Sheet: Decision Making		
Factors		
	Good Product Development Decisions	8
	Good Marketing Decisions	7
	Good Financial Decisions	8
	Good Logistics Decisions	7
	Good HR Decisions	7
	Good Production Decisions	7
	Decisions are communicated to stakeholders	7
	Marketplace has confidence in decisions	8
	Decisions are clearly connected to strategy	8
	Average:	7.444444444
	Total Factors:	9
	Non Weighted score	0.827160494
Weight	10	
Final Score		8.271604938

Figure 32 - Decision Making - CGI (Author's Construction)

5.1.10 Dimension 10 Strategic Importance of the Sector/Enterprise

CGI is well defined as a strategic sector in Canada, and is identified as a "Canadian" company and in some cases as a "Quebec" company.

Serge Godin founded CGI in Québec City, Canada, in June 1976. A few months later, André Imbeau joined him and together they committed themselves to build a company based upon certain philosophies.

The name "CGI" is the French acronym for "Conseillers en gestion et informatique," which means information systems and management consultants. In English, the acronym stands for "Consultants to Government and Industry."

CGI embarked on a "build and buy" strategy – they would build on existing client bases and expertise, and buy / merge with companies who could align with existing services or provide entirely new vertical segments to the company.

The following are the major acquisitions that significantly changed CGI's size and presence in key geographies:

a. 1998, CGI's merger with Bell Sygma led to the signing of the largest Canadian outsourcing contract of that time, nearly doubling the size of the company.

b. 2001, CGI acquired IMRGlobal to add Indian operations, providing clients with expanded global delivery options.

c. 2004, CGI acquired American Management System (AMS). This doubled the size of CGI in the United States and tripled their size in Europe.

d. 2010, CGI acquired Stanley Inc., including Stanley's subsidiary operations Oberon and Techrizon. The acquisition nearly doubled the size of CGI's U.S. operations.

e. 2012 CGI made its largest acquisition to date, merging with the Anglo-Dutch business and technology services company Logica. The acquisition increased the size of staff from 31,000 to 68,000 professionals and offered greater presence, service capabilities and expertise for our clients across the Americas, Europe and Asia.

With this acquisition, CGI became the world's fifth largest independent IT and business process services company.

CGI has received funding assistance, tax credits, and contracts from Quebec and Canadian governments.

The high-tech products and services sector in Canada is by default defined as a Canadian strategic sector, and governments make reference to this regularly.

CGI scores very high in this regard and the vast majority of the board of directors are French-Canadian. The company was first listed on the Toronto Stock Exchange and the Montreal Stock Exchanges before New York listings; and still maintains a strong presence in Toronto.

Company: CGI Inc. - Sheet: Strategic Sector		
Factors		
	Identifiable as canadian	8
	Geography and Human Resource Factors	6
	Geography and Governance	8
	Geography and Infrastructure	7
	Market	6
	Geography and Finance	7
	Culture and Perception	8
	Potential negative messaging	7
	Average:	7.125
	Total Factors:	8
	Non Weighted score	0.890625
Weight	9	
Final Score		8.015625

Figure 33 - Strategic Sector – CGI (Author's Construction)

6. CONCLUSION

6.1 Results in Summary for RIM

Here is the summary sheet from the tool:

Company Name	BlackBerry Inc.
Pair-Bond	Mature-Mature
HR Score	8.395061728
Leadership Score	4.407407407
Quality Score	5.20661157
Creativity	7.777777778
Supply Chain	7.530864198
Stakeholder Management	4.148148148
Incentives	5.111111111
Marketing	5.571428571
Decision making	6.296296296
Strategic Sector	7.3125
Final Score	**6.175720681**

0-4 Strong likihood of failure
5-6 Likelihood of failure
7-10 Increasing likelihood of success

Figure 34 - Summary Page Blackberry / RIM (Author's Construction)

As indicated previously, the tool itself guides the analyst in the completion of a series of questions designed to probe 91 aspects of the company from a qualitative perspective, and based on the research conducted by the analyst on the company.

The data are entered into the tool in individual sheets which provide a weighted score out of 10 and are then transferred to a summary sheet where the scores are shown as a total value out of ten for the company.

The results are quite accurate in an historical context.

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The tool is predicting a lukewarm success with a potential to fail. It is showing that the company is strong in their Human Resource management, creativity and supply chain management, but is poor at leadership and stakeholder management.

The tool is predicting limited success – and this is where Blackberry is today. They have lost market share, their leadership was vilified in the press, and although their product is seen as creative and of good quality – it is also seen as not producing what the consumer wants. They have lost their stranglehold on the marketplace, and other competitors are seen as more innovative.

Blackberry is today entrenching their product in the business marketplace segment, and is placing more and more emphasis on software and services.

If the tool were being used by government analysts to determine if Blackberry was a good candidate for additional funding and attention, the analyst would have to conclude that Blackberry is no longer a strong player, and government funds could be better placed elsewhere.

The tool appears to be best utilised **in both** a quantitative and qualitative context. By this, I mean that the tool provides a quantitative output, but that in the opinion of executives interviewed, this must be combined with a qualitative exercise.

The ultimate decision to transfer assistance to an enterprise remains the purview of elected representatives, and as such, it remains the responsibility of these representatives to select and identify strategic sectors and enterprises.

In other words, although the tool is a great method to equalise and place all enterprises in the high-tech sector onto a level playing field, the decision may not be made on hard data factors alone.

Senior public servants also point out the difficulty in having sufficient staff to apply the tool and do the analysis for data input, and suggest that a blended implementation may be preferable – use the tool for large focused assistance programmes, and do not use the tool for broadly focused programmes such as strategic sector programmes, or broad tax credit programmes.

At any rate, they all point out that the use of the tool will result in better decision making, and allow for more tightly controlled disbursement of funds from taxpayers.

6.2 Results in Summary for CGI

Company Name	CGI Inc.
Pair-Bond	Mature-Mature
HR Score	8.395061728
Leadership Score	7.604938272
Quality Score	5.867768595
Creativity	7.777777778
Supply Chain	7.530864198
Stakeholder Management	7.666666667
Incentives	7.333333333
Marketing	7.285714286
Decision making	8.271604938
Strategic Sector	8.015625
Final Score	**7.574935479**

0-4 Strong likihood of failure
5-6 Likelihood of failure
7-10 Increasing likelihood of success

Figure 35 - Summary Page - CGI (Author's Construction)

As indicated previously, the tool itself guides the analyst in the completion of a series of questions designed to probe 91 aspects of the company from a qualitative perspective, and based on the research conducted by the analyst on the company.

The data are entered into the tool in individual sheets which provide a weighted score out of 10 and are then transferred to a summary sheet where the scores are shown as a total value out of ten for the company.

The results are quite accurate in an historical context and in today's market view of CGI.

The tool is predicting a success with little potential to fail. It is showing that the company is strong in almost all qualitative aspects we measured.

This is where CGI is today. They are widely regarded as a mergers and acquisitions specialist with a growing confidence in the financial analysts view. Not only have they not lost market share, but their leadership is widely acknowledged in the press as being highly focused and motivated to success in the industry.

If the tool were being used by government analysts to determine if CGI is a good candidate for additional funding and attention, the analyst would have to conclude that CGI is a strong player, and government funds could be certainly passed on to CGI.

The numerical analysis bears this out as well, as CGI is almost without exception regarded as a "Strong Buy" in the marketplace.

Again, note that the tool appears to be best utilised **in both** a quantitative and qualitative context.

The ultimate decision to transfer assistance to an enterprise remains the purview of elected representatives, and as such, it remains the responsibility of these representatives to select and identify strategic sectors and enterprises.

6.3   A return to the original research questions

So, we return to the original questions asked in the proposition:

> Q: Can a tool be developed to improve the prediction of failure (and success) of a firm in the Canadian high-tech sector?

A: Yes, a tool can be developed to improve the capability of predicting failure in a firm, or if, by extension, a public sector should make an investment in the firm; or perhaps the degree to which it should make the investment.

Q: Can this tool be flexible enough to encompass further dimensions as they are postulated, researched and added?

A: The tool can have additional dimensions added as further research is made, and if different marketplaces are introduced, more dimensions can be added. For example, in the mining sector – whether or not exploration initiatives are being made and the efficacy of the exploration would be new dimensions to be added to the tool – along with subordinate questions for this particular dimension.

Q: In a Case Study, can the tool accurately predict the failure of a company?

A: The detailed information researched on the company selected for analysis was input to the tool, and the resulting output showed that the company would probably succeed, but would only *marginally* succeed. This is proven out in reality.

Q: Could the Canadian federal government apply such a tool and how?

A: The Canadian federal government could apply such a tool – however, their methodology of transferring funds would have to change from a broad tax-credit / sectorial focus to a more narrow enterprise-targeted focus. Some of the programmes (see next section) *are* targeted at individual companies, and those would be programmes which could use the tool. Interviews with civil servants indicate that this tool would be a valuable addition to their analysis, decision making and recommendation processes.

6.4   Observations of the use of the tool in the public sector space.

The tool, with its analysis of orthogonal dimensions connected to a simple Likert scale provides an opportunity to determine how it could be used in a public sector context.

In interviews with policy analysts and economic analysts in the public service, the primary responses were positive – many felt that this would be a tool mostly used in briefing and providing analysis on strategic sectors and companies to senior bureaucrats.

As a senior bureaucrat, myself, and after consulting with other senior public servants at the high executive levels, we note that presentation of the results of this tool would have the following positive effects on the decision making process.

Inevitably, better information will result in better decision making. It is in this respect, that executives are eager to have new tools available when making decisions on how best to fund and assist sectors in the national economy, and bring additional intrinsic value to the international perception of a country's place in the world.

Determining which sectors are of strategic importance to a country is a long process involving many factors. However executives note that selection includes analysis of the number of companies in the sector which have a reasonable chance of success, or a number of companies in the middle ground needing assistance to improve.

Industry Canada and Finance Canada – two of the departments at the federal level most populated with economists are always looking to determine the efficacy of their policies on strategic sectors. Too often, they turn to econometric models based on well-established quantitative figures. They remark that a need exists to extend their models to the usage of qualitative metrics, but that often qualitative and quantitative metrics cannot coexist easily in their models.

After review of the tool, they feel that this may provide that connection, but that they will need to determine the weighting factors in each of the orthogonal dimensions. They agree with the author that some dimensions are common to many sectors, but that there are additional dimensions which may only be applicable to certain sectors.

For instance, in discussions with executives in the Department of Natural Resources, their mining and forestry experts felt that there is a need to create dimensions for exploration or resources, exploitation of resources, test-drilling methodologies, etc.

This tool provides an extra set of "eyes" on companies and their potential to succeed.

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In a Canadian context, though, it is only specialised times when governments make a decision to directly interact in a single company, although it does happen – e.g. Radarsat in British Columbia, Royal Bank of Canada merger denial, et cetera.

One of the primary observations on the use of the tool in the Canadian public sector is that legislation may need to be changed to allow governments (federal and provincial) to directly target companies.

At the present time, most governments target a sector – for instance, the federal government targets the High tech sector, the provincial government targets the auto industry, municipalities target the tourism sector, etc. In this scenario the tool provides some value added to the decision making process in that economists and executives can get a "feel" for how many companies in the sector will be positively impacted.

Many senior executives caution that making legislative changes to how a government targets a sector is a lengthy process, and is often a tool elected officials use to ensure that all regions of the country (sometimes their own elected region) receives public funds to improve industry in that area.

A key observation on using the tool in a sector tax credit-based funding mechanism is that the tool will likely only be useful in making predictions on the broader base of companies active in that sector. This is useful, but not necessarily a focussed decision making tool.

Where the tool is of most use, and where there is a clear gap in the public sector landscape is in the targeted programmes. For instance an executive in the National Research Council of Canada and an executive in the Natural Sciences and Engineering Research Council of Canada have both indicated that they need this tool to allow them to better evaluate granting decisions.

In one unnamed case public monies were granted to a firm in the high tech sector which had very positive quantitative figures. The executive noted that if the tool had been available to the determining analysts, information may have been made available to decline the grant, and when the company became insolvent the public funds would not have disappeared.

Another observation on using the tool in the public context is that it will need to be injected into the decision making process. This could have the unfortunate effect of lengthening the decision making time. It does, however, provide more information to the decision makers, so as a trade-off most bureaucrats would prefer information over timeliness. Especially when dealing with taxpayers funds.

The information gathering parts of the tool are another area of interest for the public sector. In fact, many of the organisations requesting targeted funds from are publicly traded firms looking for additional investments to research innovation. There is much information available on publicly traded firms, and their annual reports in Canada provide many of the orthogonal dimensions root information. However, in the cases where the applying enterprises are not publicly traded, some of the foundational information may not be available

To this end, we observe that information required to process an application may need to be amended to also include elements of the orthogonal dimensions in the tool.

This will not be onerous on the company, and in fact, as pointed out by one executive, proper stewardship of public funds should include asking any appropriate question the decision maker determines is necessary.

There is no reason why a company applying for public monies should not have to provide detailed information on their organisation structures, their HR regimes, their incentive schemes, their supply chain management, their corporate culture, their innovation structures, et cetera.

All this having been said, there *are* other methods used to find information of a qualitative basis on a company. These are as follows:

Conference Calls
The Chief Executive Officer (CEO) and Chief Financial Officer (CFO) host quarterly conference calls. (Sometimes you'll get other executives as well.) The first portion of the call is management basically reading off the financial results. What is really interesting is the question-and-answer portion of the call. This is when the line is open for analysts to call in and ask management direct

questions. Answers here can be revealing about the company, but more importantly, listen for candor. Do they avoid questions, like politicians, or do they provide forthright answers?

Management Discussion and Analysis (MD&A)

The Management Discussion and Analysis is found at the beginning of the annual report (discussed in more detail later in this tutorial). In theory, the MD&A is supposed to be frank commentary on the management's outlook. Sometimes the content is worthwhile, other times it is simply boilerplate. One tip is to compare what management said in past years with what they are saying now. Is it the same material rehashed? Have strategies actually been implemented? If possible, sit down and read the last five years of MD&as; it can be illuminating.

Ownership and Insider Sales

Just about any large company will compensate executives with a combination of cash, restricted stock and options. While there are problems with stock options (See Putting Management under the Microscope), it is a positive sign that members of management are also shareholders. The ideal situation is when the founder of the company is still in charge. Examples include Bill Gates (in the '80s and '90s), Michael Dell and Warren Buffett. When you know that a majority of management's wealth is in the stock, you can have confidence that they will do the right thing. As well, it's worth checking out if management has been selling its stock. This has to be filed with the Securities and Exchange Commission (SEC), so it's publicly available information. Talk is cheap - think twice if you see management unloading all of its shares while saying something else in the media.

Past Performance

Another good way to get a feel for management capability is to check and see how executives have done at other companies in the past. You can normally find biographies of top executives on company web sites. Identify the companies they worked at in the past and do a search on those companies and their performance.

6.5 How have we advanced the body of knowledge

We have created a methodology and a tool to allow us to quickly, efficiently and accurately look at many qualitative aspects of a company in a singular way.

We can rank this information on a Likert scale and confidently use the number to make a prediction.

Public Policy makers have an entirely new tool and analysis method to focus public funds.

6.6 Future areas of research

The tool lends itself to many future areas of research. There is no cardinal number of dimensions one can consider, and there are certainly a number of areas of expansion for questions.

The tool is best used in a methodological manner:

a) Select the company to be evaluated
b) Determine the marketplace dynamics
c) Position the company into an appropriate pair-bond to set the framework for analysis
d) Gather available data on the dimensions
e) Conduct word-of-mouth interviews with company official if possible
f) Conduct interviews with competitors
g) Research the market idiosyncrasies
h) Enter the data into the tool
i) Analyse the results
j) Refine weighting factors if necessary
k) Add in additional parameters for the dimension worksheets
l) Recalculate the tool

6.6.1 Sector modifications of the tool

The subject of this research was restricted to the high-tech industry. The model, methodology and tools can certainly be applied to other sectors.

Future researchers will, however, need to analyse other sectors and marketplaces to ensure that the dimensions to be weighted and analysed are appropriate to those sectors.

For instance, the potash marketplace in Canada (a recognizably strategic marketplace, observed and protected by the Canadian federal government) may need to have different weightings for the dimensions.

Researchers will also need to analyse the market maturity pair-bonds to see if they vary from the high-tech ones.

In other words – if a mature **high-tech** firm in a mature marketplace needs to emphasise innovation, perhaps a mature **resource** firm in a mature marketplace does not, and innovation should analysed differently

It is this set of subtle changes and analysis which will allow the model and methodology to change and extend to other sectors, but will require a great deal of analysis up front.

6.6.2 Weighting Factors

One of the challenges of using a standardised Likert scale is that they are necessarily based on questionnaires and interviews (remember it is a well-used scale in the social sciences) – the scale lends itself well to empirical and qualitative research.

Future researchers may want to consider changing the scaling factors to a less empirical method, and introduce more rigorous statistical methods. The public sector and public policy world in Canada are based on scientific principles, but are also subject to less rigorous technique such as the need for elected officials to serve their constituencies

6.6.3   Public versus Private Sectors

The private sector has a different set of motivators than the public sector – in fact if the public sector is a "soft" sector based on opinion, public policy, and shifting strategic goals, the private sector is a "hard" sector based on solid facts and figures.

Often the motivator for the private sector is the profit motive, and in that case a standardised set of weighting factors for every sector to be analysed is appropriate and should be based on market research.

It would be anticipated that the private sector would use a tool and methodology developed by the research to make "Buy versus Sell" decisions for institutional and individual investors.

6.6.4   Combining qualitative and quantitative methods into an integrated tool

A more complex model involving both qualitative methods and quantitative methods should also be examined, and is a subject for future research and will likely be a source of post-doctoral research.

6.7   Areas of concern for future researchers

One area of concern for future researchers will be to define the appropriate statistical underpinnings of the weighting factors.

Another specific area is in the area of public sector usage – the public service in Canada, makes decisions based on both legislative frameworks as well as elected government direction. It can occur that there is no legislative framework for decisions directed by the elected portion of the public service. In this case, the dissonance between the two must be reconciled before the methodology and tools can be applied.

For instance, decision-making using a tool to specifically target particular enterprises may need new legislation and policy in order to apply it.

In interviews, senior public servants/executives have pointed out that there is a need to consolidate and reduce the programmes, but that legislatively, there are few options available for

implementation in Canada without changes, and that the political level of government will need to approve and support these changes.

Finally, as noted earlier in the dissertation – the quantitative research methodology used in the case of the high-tech industry in Canada, makes use of a sociological phenomenon – the natural gregariousness of the entrepreneur.

A willingness to discuss the intricacies of the enterprise, and discuss "warts and all" the elements of the organisation – this does not exist in other market segments.

7. NEW SCIENTIFIC FINDINGS

To summarise the new scientific results arising from my dissertation, we have derived new findings in 5 major areas: methodology, research, metric, model, tool for public policy

7.1 Methodology

The methodology is entirely new, we have proven that a methodological approach (never before codified) can analyse and recommend the likelihood of a company to succeed, stagnate or fail in the Canadian marketplace as a tool for public policy makers.

7.2 Research

We have proven that a collected body of work on qualitative analysis of a company in terms of its potential to fail or succeed does not exist in concert with a methodology and tool. This dissertation provides the start of a body of knowledge in qualitative analysts of likelihood of success and failure in the Canadian marketplace.

7.3 Metrics

I have proven that the proposition of 91 metrics being gathered into a single collated result for policy makers can enhance public policy economist's decision making processes.

7.4 Model

With the help of a Likert scale I have proven that a qualitative dimensional-based model to collect and integrate qualitative aspects of a company in the high tech sector can be used as an accurate predictor of probability of success and failure independent of quantitative models.

7.5 Tool for Public Policy

With the help of the above-referenced model and toolset, I have shown that public policy makers and financial executives can improve their capacity to decide on to which companies they should be granting funds, defining new strategic sectors, or declining to assist.

8 REFERENCES

1. Aldrich, Howard & Martinez, Martha, *Many Are Called But Few Are Chosen: An Evolutionary Perspective for the Study of Entrepreneurship.*, Entrepreneurship Theory & Practice, 25, 4 (Summer): 41, 2001

2. Allen, D.W. and T.W. Hall, *Innovation, Managerial Effort, and Start-Up Performance*,The Journal of Entrepreneurial Finance 12(2), 2008, pp. 87-119.

3. Altman, E. I., *Financial ratios, discriminant analysis and the prediction of corporate bankruptcy*, The Journal of Finance, 23, 1968, pp. 589–609

4. American Society of Engineering Management (ASEM), Texas, USA, 2011.

5. Barahona, C. and S. Levy., *How to generate statistics and influence policy using participatory methods in research*. Statistical Services Centre Working Paper, University of Reading, 2002.

6. Bloemer, J. M. M., and Kasper, H. D. P.,*The complex relationship between consumer satisfaction and brand loyalty*, Journal of Economic Psychology, 16, 1995, pp. 311-29.

7. Bogdan, R. C., & Biklen, S. K., *Qualitative research for education: An Introduction to theory and methods,* Allen and Bacon, pp. 1-53.

8. Brau, J.C., R.A. Brown, and J.S. Osteryoung, *Do Venture Capitalists add Value to Small Manufacturing Firms? An Empirical Analysis of Venture and Non-venture Capital-Backed Initial Public Offerings*, Journal of Small Business Management 42(1), 2004, pp. 78-92.

9. Brown, J.R., *Venture Capital and Firm Performance Over the Long Run: Evidence from High-Tech IPOs in the United States*, The Journal of Entrepreneurial Finance 10(3), 2005, pp. 1-34.

10. Bull, I., and G.E. Willard, *Towards a Theory of Entrepreneurship*, Journal of Business Venturing 8, 1993, pp. 183-195.

11. Camerer, Colin, F., Hogarth, Robin, M., *The effects of financial incentives in experiments: A review and capital-labor production framework*, *Journal of Risk and Uncertainty*, April 1999

12. Choi, D.Y. and M. Stack, *Who Adds Value to Ventures? Understanding the Roles and elative Contributions of Key Advisors in High-Technology Startups*, The Journal of Entrepreneurial Finance 10(3), 2005, pp. 75-88.

13. Christianson, Clayton, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Harvard Business Press, 1997.

14. Colombatto, E. and A. Melnik, , *Early Work Experience and the Transition into Entrepreneurship*, The Journal of Entrepreneurial Finance 12(1), 2007, pp. 9-26.

15. *Comparison*, International Small Business Journal 17(1), 1998, pp. 36-57.

16. Covin, J.G. and D.P. Slevin,, *New Venture Strategic Posture, Structure, and Performance: An Industry Life Cycle Analysis*, Journal of Business Venturing 5(2), 1990, pp. 123-135.

17. Crown, Mark, *Why Software Product Startups Fail, and What To Do About It*, Engineering Management Conference, 2002. IEMC '02. 2002 IEEE International (Volume: 1), 2002, pp. 338 – 343.

18. Doyletech Corporation, *Family tree of Ottawa-Gatineau high technology companies*, Poster, 2002

19. Duchesneau, D.A. and W.B. Gartner, *A Profile of New Venture Success and Failure in an Emerging Industry*, Journal of Business Venturing 5(5), 1990, pp. 297-312.

20. Epstein, Marc J. and Rejc Buhovac, Adriana, *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental and Economic Impacts*, Berrett-Koelher Publishers, 2014

21. Faama, Eugene & and French, Kenneth, *Profitability, investment and average returns, Journal of Financial Economics*, Volume 82, Issue 3, December 2006, pp. 491–518.

22. Feindt, Sylvie, Jeffcoate, Judith, Chappell, Caroline, *Identifying Success Factors for Rapid Growth in SME E-commerce*, Small Business Economics, August 2002, Volume 19, Issue 1, pp. 51-62

23. Findlay, A. M. and Sparks, Leigh, *Retailing: The evolution and development of retailing*, Routledge, 2002

24. Forrester, *The Content Management Playbook For 2014*, Forrester Press, 2014

25. Gadenne, D, *Critical Success Factors for Small Business: An Inter-industry*

26. Gartner, *the Gartner Execution Model and IT Strategic Planning*, Gartner Press, 2013

27. Gartner, W.B., J.A. Starr, and S. Bhat, *Predicting New Venture Survival: An Analysis of 'Anatomy of a Start-up.' Cases from INC. Magazine*, Journal of Business Venturing 14, 1998, pp. 215-232.

28. Glaser, Barney & Strauss Anselm *, Discovery of Grounded Theory: Strategies for Qualitative Research* (1967), Rutgers Press, 1978

29. Guba, E. G. *Toward a methodology of naturalistic inquiry in educational evaluation.* Monograph 8. Los Angeles: UCLA Center for the Study of Evaluation, 1978.

30. Hecker, D. , *High-technology employment: A broader view.* Monthly Labor Review 122(6):18, 1999.

31. Heikkilä, Jussi, *From supply to demand chain management: efficiency and customer satisfaction* , Journal of Operations Management, Volume 20, Issue 6, November 2002, pp. 747–767

32. Horne, M & Shirley, T, *Coproduction in public services: A new partnership with citizens*, Cabinet office, Her Majesty's press, 2000

33. Jack, Sarah & Anderson, Alistair, *Entrepreneurship education within the enterprise culture: Producing reflective practitioners* , International Journal of Entrepreneurial Behavior & Research, Vol. 5 Iss: 3, 1999, pp.110 – 125.

34. Jensen, Michael C., *Takeovers: Folklore and Science.* Harvard Business Review, November-December, 1984.

35. Jovanovic, Boyan, MacDonald, Glenn M, *The Life Cycle of a Competitive Industry*, National Bureau of Economic Research (NBER), 1993

36. Judge, Timothy A.; Thoresen, Carl J.; Bono, Joyce E.; Patton, Gregory K. ,*The job satisfaction–job performance relationship: A qualitative and quantitative review.* Psychological Bulletin, Vol 127(3), May 2001, pp. 376-407

37. Koplyay, Chillingworth, Lloyd, Mako, *HR Issues Evolution Along The Market Life-cycle and the Value Chain: Case of the High-Tech Industry*, Psychosociological Issues in Human Resource Management, Volume 2(1), 2014, pp. –, ISSN 2332-399X

38. Koplyay, T., Lloyd, D., Powers, J., Sanchez, L., *Decision Making Along the Market Lifecycle*,

39. Koplyay, T., Lloyd, D., Sanchez, L, Levy-Mangin JP, *Evolution of the Marketing Function under Market and Organizational Constraints*, Instituto Português de Administração de Marketing (IPAM), Lisbon, 2012.

40. Koplyay, T., Lloyd, D., Sanchez, L., *Human Resource Issues Evolution: A Case of the Hi Tech Industry*, Global Management Conference, Szent István University, Budapest, Hungary, 2011.

41. Koplyay, T., Lloyd, D., Sanchez, L., Paquin, JP., *Strategy Making in Hi Tech Markets – the "clock-speed" paradigm*, Industrial and Systems Engineering Research Conference (ISERC), Florida, USA, 2012

42. Koplyay, T., Lloyd, D., Sanchez, L., *Stakeholder Issues Along the Lifecycle in Hi Tech Markets*, Industrial and Systems Engineering Research Conference (ISERC), Florida, USA, 2012

43. Koplyay, T., Lloyd, D., Sanchez, L., *Value Chains Under Shock Loading: An Analysis of the Hi Tech Sector*, American Society of Engineering Management (ASEM), Texas, USA, 2011.

44. Lambkin, Mary and Day, George S., *Evolutionary Processes in Competitive Markets: Beyond the Product Life Cycle*, Journal of Marketing, Vol. 53, No. 3 (Jul., 1989), pp. 4-20

45. Larivière, Bart and Van den Poel, Dirk, *Expert Systems with Applications*, Volume 29, Issue 2, August 2005, pp. 472–484

46. Le Breton-Miller, Isabelle & Miller Danny, *Socioemotional Wealth Across the Family Firm Life Cycle: A Commentary on Family Business Survival and the Role of Boards.*, Entrepreneurship Theory and Practice, Family Business Special Issue, Volume 37, Issue 6, pp. 1391–1397, November 2013

47. Lechler, T. *„Social Interaction: A Determinant of Entrepreneurial Team Venture*

48. Lewis, Virginia L. and Churchill, Neil C., *The Five Stages of Small Business Growth*, Harvard Business Review, Vol. 61, Issue 3, pp. 30-50 1983.

49. Lloyd, D, *An Analysis Of The Application Of Keynesian Economics In Canada – Monetary And Fiscal Policy And The Economic Recovery Of The Late 2000s*, (Polish Journal of Economics , Europe, 2013 (in press).

50. Lloyd, D, *An Analysis Of The Application Of Keynesian Economics In Canada – Monetary And Fiscal Policy And The Economic Recovery Of The Late 2000s*, (Polish Journal of Economics , Europe, 2013 (in press).

51. Lloyd, D, *The Economics of Shared Services in Public Sectors – A Canadian Perspective*, (Journal of Economics, Europe, 2013 (in press).

52. Lloyd, D, *The Economics of Shared Services in Public Sectors – A Canadian Perspective*, (Journal of Economics, Europe, 2013 (in press).

53. Lloyd, D., Koplyay, T., Sanchez, L., *The Influence of Leadership, Incentives and Culture on Innovation in the hi-tech firm,* American Society of Engineering Management (ASEM), Virginia Beach, USA, 2012.

54. Lloyd, D., Koplyay, T., Sanchez, L., *The Influence of Leadership, Incentives and Culture on Innovation in the hi-tech firm,* American Society of Engineering Management (ASEM), Virginia Beach, USA, 2012.

55. Lloyd, D., Koplyay, T., Sanchez, L., *The Nationality of a Company*, American Society of Engineering Management (ASEM), Virginia Beach, USA, 2012

56. Lloyd, D., Koplyay, T., Sanchez, L., *The Nationality of a Company*, American Society of Engineering Management (ASEM), Virginia Beach, USA, 2012

57. Lloyd, Douglas, *An overview of the central agencies in Canada's government,* Treasury Board of Canada, 2014, (HTML or Word Format on request)

58. Ludwig Donald, Hilborn, Ray, Waters, Ray, *Uncertainty, Resource Exploitation, and Conservation: Lessons from History*, American Association for the Advancement of Science, New Series, Vol. 260, No. 5104 (Apr. 2, 1993), pp. 17-36

59. Lumpkin, G.T. and G.G. Dess, "*Linking Two Dimensions of Entrepreneurial Orientation to Firm Performance*", Journal of Business Venturing 16(5), 2001, pp. 429-451.

60. Maanen, J. V. , *Reclaiming Qualitative Methods for Organizational Research: A Preface*, Administrative Science Quarterly, Vol. 24 No. 4, 1979, pp. 520-526.

61. Martin, Roger L. ,*Fixing the Game,* Harvard Business Review Press, 2011.

62. McGee, J.E., Dowling, M.J., and W.L. Megginson, 1995, *Cooperative Strategy and New Venture Performance: The Role of Business Strategy and Management Experience*, Strategic Management Journal 16, pp. 565-580.

63. McHugh, G, Vesper KH, Gartner, WB, *Accounting Education 7 (3)*, 1998, pp. 259-268

64. McKenzie, Donald, *Do Economists Make Markets? On the Performativity of Economics*, Princeton University Press, 2007).

65. McKeown, L, *Predictable Success: Getting Your Organization on the Growth Track*, Greenleaf book press, 2010

66. McKinsey, *The McKinsey Quarterly*, McKinsey Press, 2007 number 1

67. Patton, Michael Quinn, *Qualitative Research & Evaluation Methods Hardcover,* Pope and Mays 2002

68. Peter H. Pearse & Carl J. Walters, *Harvesting regulation under quota management systems for ocean fisheries: Decision making in the face of natural variability, weak information, risks and conflicting incentives*, Elsevier press, 19922

69. pp. 393-410.

70. Robb, A.M., "*Small Business Financing: Differences Between Young and Old Firms*",

71. Rondinelli, Dennis A, *Public-Private Partnerships,* Handbook on Development Policy and Management, Cheltenham, England: Edward Elgar Publishing Ltd. (2002) pp. 381-388.

72. Roure, J.B. and R.H. Keeley, *Predictors of Success in New Technology Based Ventures*, Journal of Business Venturing 5(4), 1990, pp. 201-220.

73. Sanchez, L., Koplyay, T., Lloyd, D., *Management of Financial and Economic Issues Along the Market Lifecycle*, IEFS Economy and Sociology Theoretical and Scientific Journal, Nr. 3, 2011.

74. Sanchez, L., Koplyay, T., Lloyd, D., *Stakeholder Issues Along the Market Lifecycle* Institute of Economy, Finance and Statistics, Chisinau, Moldova, 2011.

75. Sanchez, Lisa, Tamás Michel Koplyay, Lloyd Douglas , *Generic Flaws In Incentive Design: Classic Mistakes Along the Market Lifecycle*, Global management conference , Rio de Janeiro, Brazil. (2012)

76. Savitz, Andrew, *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving*, John Wiley & Sons, 2014

77. Schumpeter, J.A. , *The Theory of Economic Development*. Cambridge, MA: Harvard University Press (first German edition 1912).

78. Shankar, Venkatesh, Smith, Amy K., Smith, Rangaswamy, Arvind, *Customer satisfaction and loyalty in online and offline environments*, International Journal of Research in Marketing (2003), pp. 153–175

79. Shepherd, D.A., E.J. Douglas, and M. Shanley, *New Venture Survival: Ignorance, External Shocks, and Risk Reduction Strategies*, Journal of Business Venturing 15, 2000

80. Smith, Norman R., and B. Miner, Leigh, *Type of entrepreneur, type of firm, and managerial motivation: Implications for organizational life cycle theory*, Strategic Management Journal, Volume 4, Issue 4, pp. 325–340, October/December 1983

81. Stake, R. E. , *The art of case study research*. Thousand Oaks: Sage Publications, 1995 *Success*, Small Business Economics 16, 2001, pp. 263-278.

82. Swaminathan, Vanitha, Groening, Christopher, Mittal Vikas, Thomaz, Felipe, *How Achieving the Dual Goal of Customer Satisfaction and Efficiency in Mergers Affects a Firm's Long-Term Financial Performance*, Journal of Service Research May 2014 vol. 17 no. 2, pp. 182-194

83. The Journal of Entrepreneurial Finance 7(2), 2002, pp. 45-64.

84. Timmons, J.A., *New Venture Creation: Entrepreneurship for the 21st Century*, Homewood, Ill., Irwin, 1994.

85. Van Deventer, P. & Bloem, A.A. & Hattingh J.M. , *Soil quality as a key success factors in sustainable rehabilitation of kimberlite mine waste*. Journal of the South African Institute of mining and metallurgy, 2008, pg 131

86. Vesper, K.H, *New Venture Strategies*, Englewood Cliffs, NJ, Prentice-Hall, 1990.

87. Warkentin, M., Gefen, D., Pavlou, P. A., and Rose, Gregory M., *Encouraging Citizen Adoption of e-Government by Building Trust*, Electronic Markets, 2002, 12(3), pp. 157-162.

88. Wilson, Hugh, Daniel, Elizabeth, McDonald , Malcolm, *Factors for Success in Customer Relationship Management (CRM)*, Systems Journal of Marketing Management, Volume 18, Issue 1-2, 2002, pp. 193-219

89. Yin, R. K., *Case study research: Design and methods* (4th Ed.). Thousand Oaks, CA: Sage, 2009

Annexes

Directed References from research into Dimensions and Questions

In order to define the 10 basic dimensions we utilised in my methodology and model, as well as to define the 91 basic questions to be asked to enable the public policy analysts to make better decisions on incenting companies and sectors, I conducted a combination of literature search as well as reviewing the scientific literature available on these dimensions and questions.

Although not specifically listed in my synopsis of the literature search, these references were valuable in defining dimensions and questions.

When the subject of examining other industries arises, a similar set of research will be needed to define the basic questions and dimensions for this new industry.

Abramson, P. R., *A case for case studies*, Sage Publishing, Thousand Oaks, CA, 1992.

Abuhilal, Laith, Rabadi, Ghaith, & Sousa-Poza, Andres, *Supply Chain Inventory Control: A Comparison among JIT, MRP, and MRP with Information Sharing Using Simulation*, Engineering Management Journal , Jun 2006, pp. 51-57

Acs, Z. J., *Small business economics: A global perspective*, Challenge, Vol. 35 No. 6, 1992, p. 38.

Ács, Z. J. & Szerb, L*., The global entrepreneurship and development index 2014*, DRUID Conference at Imperial College Business School, London, UK, 2014.

Altman, Edward, *Financial Ratios, Discriminant Analysis And The Prediction Of Corporate Bankruptcy*, The Journal of Finance, Volume 23, Issue 4, Sept, 1968, pp. 589–609.

Amit, R., Glosten, L. and Muller, E., *Entrepreneurial Ability, Venture Investments and Risk Sharing*, Management Science, Vol. 36 No. 10, 1990, pp. 1232-1245.

Babbie, E., *The Practice of Social Research*, 13th edition, Cengage Learning Inc., 2013.

Baker, George, P., Jensen, Michael, C., Murphy, Kevin, J. *Compensation and Incentives: Practice vs. Theory*, The Journal of Finance, Vol. 43, No. 3, Jul.,1988, pp. 593-616.

Baldwin, John R. & Gellatly, Guy, *Global Links: Multinationals in Canada: An Overview of Research at Statistics Canada*, published by authority of the Minister responsible for Statistics Canada, 2007.

Baldwin, John, & Hanel, Petr, *Multinationals and the Canadian Innovation Process*, Département d'Économique Université de Sherbrooke, June 2000.

Barnett, John H., & Karson, Marvin J., *Personal values and business decisions: An exploratory investigation,* Journal of Business Ethics, July 1987, Volume 6, Issue 5, pp. 371-382.

Baumol, W. J., *Formal entrepreneurship theory in economics: Existence and bounds*, Journal of Business Venturing, Vol. 8 No. 3, 1993, pp. 197-210.

Baumol, W. J., Litan, R. E., Schramm, C. J., *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*, New Haven, Yale University Press,2007.

Bebchuk, Lucian A., & Fried, Jesse M., *Paying for Long-Term Performance*, University of Pennsylvania Law Review, Vol. 158, pp. 1915-1959, December 1, 2009.

Bebchuk, Lucian and Fried, Jesse, *Pay Without Performance: The Unfulfilled Promise of Executive Compensation*, Harvard University Press, 2004.

Bernasconi, M, Harris, S, Moensted, M, *High-Tech Entrepreneurship: Managing Innovation, Variety and Uncertainty*, New York, NY: Routledge, 2006.

Bevilacqua, C.M., & Singh, P., *Pay for Performance – Panacea or Pandora's Box?* SAGE Publishing, 2001.

Blaikie, N., *Designing Social Research*, Cambridge Press, Cambridge, 2000.

Blanche, M., Durrheim, K., Painter, D., *Research in Practice: Applied Methods for the Social Sciences*, Juta and Company Ltd., 2006.
126

Branch, B. & Yang, T, *Predicting successful takeovers and risk arbitrage*, Quarterly Journal of Business and Economics, Aug 1, 2005.

Breitzman, A. & Hicks, D., *An analysis of Small Business Patents by Industry and Firm Size*, Office of Advocacy, Funded Research, United States Small Business Administration, No.335, Washington, D.C., 2008.

Bris, Arturo & Cabolis, Christos , *Does Corporate Identity Still Matter? The implications of cross-border M&As on corporate governance*, Harvard Business Review, December, 2006.

Bolman, Lee, G., & Deal, Terrence E., *Reframing organizations: artistry, choice and leadership*, John Wiley & Sons Inc., 2008.

Butler, Renee J., Ammons, Jane C., Sokol, Joel, *Planning the Supply Chain Network for New Products: A Case Study*, Engineering Management Journal, Jun 2006, pp. 35-43.

Burgess, R., *In the Field: An Introduction to Field Research*, Routledge, 2002.

Casson, M., *The Entrepreneur: An Economic Theory*, Martin Robertson Publishing Co. Ltd., Oxford, 1982.

Chapman, Merril, R, *In Search of Stupidity: Over Twenty Years of High-Tech Marketing Disasters,* Apress, Paperback, 2006

CGI, A*nnual report 2012*, https://www.cgi.com/en/investors/annual-reports, 2012.

CGI, *Annual report 2013*, https://www.cgi.com/en/investors/annual-reports, 2013.

CGI, *Annual report 2014*, https://www.cgi.com/en/investors/annual-reports, 2014.

Chow, Krystle, *Nordion's Q1 shows shifting profile amid isotope supply concerns*, Ottawa Business Journal, March 21, 2011.

Christensen, Clayton, *The Innovator's Dilemma*, Harvard Business School Press, 1997.

Conference Board of Canada, *Centre for Business Innovation*, The Conference Board of Canada, Canada, 2013.

Conger, Jay, A., *The charismatic leader: Behind the mystique of exceptional leadership*, Jossey-Bass, 1989.

Corcoran, Terence, *Flaherty's banking power grab defies common sense*, Taken from the Ottawa Citizen, November 25, 2011.

Dentch, Milton P, *Fall of an Icon: Polaroid after Edwin H. Land: An Insider's View of the Once Great Company*, Riverhaven Books, Paperback, 2012.

Devetak, I., Glažar, S., Vogrinc, J., *The Role of Qualitative Research in Science Education*, Eurasia Journal of Mathematics, Science & Technology Education, pp. 77-84, 2010.

Dickel, Karl, E., Mason, Richard, Rowe, Alan, J., *Strategic Management and Business Policy: A Methodical Approach*, Addison-Wesley Publishing Company, 1982.

Amazon.com, *Annual Report*, Edward Elgar Publishing, Cheltenham, UK ; Northampton, MA., 2013.

Eloranta, E., Huttunan, K., *McKinsey & Company*, *Managing the Demand Chain: value innovations for supplier excellence*, Wiley & Sons, 2001.

Ennals, Richard, Executive Guide to Preventing Information Technology Disasters (Executive Guides), 1995

Fama, Eugene F. & French, Kenneth R., *Profitability, investment and average returns*, Journal of Financial Economics, Volume 82, Issue 3, December 2006, pp. 491–518.

Ferrary, Michael, *Managing the disruptive technologies life cycle by externalising the research: social network and corporate venturing in the Silicon Valley*, International Journal of Technology Management, Issue: Volume 25, Numbers 1-2, (2003) pp. 165 – 180.

Fisher, E. & Reuber, R. A., *The State of Entrepreneurship in Canada, February, 2010*, Industry Canada, 2010.

Foss, N. J., *Theories of the firm: contractual and competence perspectives*, Journal of Evolutionary Economics, 1993, Vol. 3 No. 2, p. 127.

Foss, N. J., *Knowledge-based Approaches to the Theory of the Firm: Some Critical Comments*, Organization Science, 1996, Vol. 7 No. 5, pp. 470-476.

Freeman, E., *Strategic management: A stakeholder approach*. Pitman, 1984,Vol. 1, pp. 31-60), Retrieved from http://www.mendeley.com/research/strategic-management-a-stakeholder-approach-2/.

Fried, V., Bruton, G., Hisrich, R., *Strategy and the board of directors in venture capital-backed firms,* Journal of Business Venturing, Volume 13, Issue 6, November 1998, Pages 493-503. Retrieved from http://www.sciencedirect.com/science/article/pii/S0883902697000621.

Galbraith, Jay & Kazanjian, R., *Strategy Implementation*, West Publishing 1986.

Gibbons, Robert*, Incentives in Organizations*, The Journal of Economic Perspectives, Vol. 12, No. 4, Autumn, 1998, pp. 115-132.

Grix, Jonathan, *Introducing Students to the Generic Terminology of Social Research*, Political Studies Association, 2002.

Goldsmith, David, & Koplyay, T., *Strategic Management*, published on Canadian Advanced Technology Alliance website, http://www.cata.ca/Business_Services/High_Tech/elearning/., 1998.

Harper, Judith, *Measuring Business Performance: A Manager's Guide,* Hardcover – Gower Pub Co, December 1984.

Harvard Business Review, *Measuring Corporate Performance*, Paperback, Harvard Business School Press, Sep 1, 1998.

Hendricks, Kevin, B., & Singhal, Vinod, R., *Does implementing an effective TQM program actually improve operating performance?*, Management Science; September 1997, pp. 3-9.

Holt, John & Purcell, William R., Sidney J. Gray, Sidney, J., Pedersen, Torben , *Decision Factors Influencing MNEs Regional Headquarters Location*, Center for Strategic Management and Globalization, Copenhagen Business School, 2006.

Holtz-Eakin, D. & Rosen, H. S., *Public policy and the economics of entrepreneurship*, MIT Press, Cambridge, Mass, 2004.

Hopper, Tristan, *Imported(ish) from Detroit, Consumer group files complaint over Chrysler ads for new 300 model — which is assembled in Ontario.* Taken from the *Ottawa Citizen* , October 13, 2011.

House, R., Mansour, J., Hanges, P., Dorfman, P., *Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE*, Journal of World Business, Volume 37, Issue 1, Spring 2002.

Issah, Mohammed, *Predicting Corporate Failure of UK's Listed Companies: Comparing Multiple Discriminant Analysis and Logistic Regression*, LAP Lambert Academic Publishing, Apr 27, 2012.

Industry Canada, *State of the Entrepreneurship in Canada, 2010*, Minister of Industry, Canada, 2010.

130

Industry Canada , *Key Small Business Statistics - August 2013*, Minister of Industry, Canada, 2010.

Institute for Competitiveness & Prosperity and Certified General Accountants of Ontario, *Small Business, entrepreneurship, and innovation*, Working paper 15, Toronto, Ontario, 2012.

Jensen, Michael, C., & Murphy, Kevin J., *Performance Pay and Top-Management Incentives*, Journal of Political Economy, April 1990.

Jones, Marc, T., & Fleming, Peter, *Unpacking Complexity Through Critical Stakeholder Analysis The Case of Globalisation*, Business Society**,** December 2003, **vol. 42 no. 4** 430-454. Retrieved from Sage Journals online: http://bas.sagepub.com/content/42/4/430.

Jones, Geoffrey. *Nationality and Multinationals in Historical Perspective*, Harvard Business Review*,* Harvard Business School, 2005.

Jones, Geoffrey, *The Rise of Corporate Nationality*, Harvard Business Review, Harvard Business School, 2006.

Jovanovic, Boyan, & MacDonald, Glenn, *The Life-Cycle of a Competitive Industry*, NBER Working Paper No. 4441 (Also Reprint No. r1894), August 1993.

Kandel, Eugene, *In Search of Reasonable Executive Compensation*, Oxford University Press, 2009.

Kettinger, William J., V. Grover, S. Guha, A.H. Segars, *Strategic Information Systems Revisited: A Study in Sustainability and Performance*, MIS Quarterly, Vol. 18, No. 1, March, 1994, pp. 31-58.

Kim, W. Chan & Mauborgne, R., *Blue Ocean Strategy: How To Create Uncontested Market Space And Make The Competition Irrelevant*, Harvard Business Review Press, 2005.

Konsynski, B.R., *Strategic control in the extended enterprise*. IBM System Journal, 32, 1 January 1993, pp.111-142.

Koplyay, T, Levy-Mangin J-P, Li Li, *Quo Vadis entrepreneurs, Lessons from the Lifecycle*, The Entrepreneurial Effect, Commoners publishing, 2010.

Koplyay, T., Koh, J., Rojas-Esquivel, A., *Executive Compensation in Canada*, Administrative Sciences Annual Congress, Quebec City, 1992.

Koplyay, T., Li Li, Rochefort, P., *Hi-Tech Innovation Strategies and the Market Lifecycle*, Proceedings of the 31st Annual Congress of the American Society for Engineering Management, Arkansas, October 13-15, 2010.

Koplyay, T., Li Li, Levy-Mangin, J-P. *The Entrepreneurial Effect, Lessons from the lifecycle*, James Bowen editor, Inverine Books, (2009).

Koplyay, T., Paquin, J., Bulger, B., *Mergers and Acquisitions and Project management: defeating gravity and the strategic distance*, Proceedings of the 27th American Society for Engineering Management , Huntsville, Alabama, October 25-28, 2006.

Ladurantaye, Steve, *Crosskeys' quarter influenced by Newbridge*, published on March 22, 2000, Ottawa Business Journal. Retrieved from **http://www.obj.ca/Other/Archives/2000-03-22/article-2230026/Crosskeys-quarter-influenced-by-Newbridge/1**.

Laffont, Jean-Jacques & Martimort, David, *The Theory of Incentives I: The Principal-Agent Model*, Princeton University Press, 2001.

Lorange, Peter, Morton M., Ghoshal S., *Strategic Control*, West Publishing, 1986.

McGrath, Michael, *Product Strategy for High Technology Companies*, McGraw-Hill Education, 2000.

Meyer, J.P., *Intellectual Capital, Exploration, and the Retained technical Value of Innovation*, Boston College Dissertations and Theses, 2004.

Milgate, Michael, *Transforming Corporate Performance: Measuring and Managing the Drivers of Business Success*, Kindle Edition, Praeger, March 30 2004.

Mintzberg, H., *Structure in 5's: A Synthesis of the Research on Organization Design*, Management Science, Vol. 28, No. 3 (March 1980), pp. 322-341.

Moore, Geoffrey, A., *Inside the Tornado: Marketing Strategies from Silicon Valley's Cutting Edge*, HarperCollins, 1995.

Moore, Geoffrey A., *Crossing the Chasm: Marketing and Selling High-tech Products to Mainstream Customers*, Harper Collins Publishers, 1999.

McQueen, R. , *Blackberry: the inside story of Research In Motion*, Key Porter Books Ltd., Toronto, 2010.

Mytelka, L. K. & Smith, K., *Policy learning and innovation theory: an interactive and co-evolving process*, Research Policy, Vol. 2002 No. 31, pp. 1467-1479.

Nalebuff, Barry J. & Stiglitz, Joseph E., *Prizes and Incentives: Towards a General Theory of Compensation and Competition,* The Bell Journal of Economics*,* Vol. 14, No. 1, Spring, 1983 pp. 21-43.

Neely, Andy, Adams, Chris, Kennerley, Mike, *The Performance Prism: The Scorecard for Measuring and Managing Business Success: The Scorecard for Measuring and Managing Stakeholder Relationships,* Financial Times Series, 27 May 2002.

Nuri Mehmet Gokhan, LaScola Needy, Kim, Norman Bryan A, *Development of a Simultaneous Design for Supply Chain Process for the Optimization of the Product Design and Supply Chain Configuration Problem*, Engineering Management Journal, Dec 10, 20-30

OECD/Statistical Office of the European Communities, *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition, The Measurement of Scientific and Technological Activities*, OECD Publishing, 200.

Oluwanisola, Seun,. *Multinational Companies (MNCs) Defined*, 2007, http://EzineArticles.com/5171192

Owen, Dave, *The Betamax vs. VHS Format War*, originally published: 2005-05-01, updated: 2008-01-08, http://www.mediacollege.com/video/format/compare/betamax-vhs.html.

Palgrave, V, *Making Essential Choices with Scant Information*, MacMillan, 2009.

Paquin, J. & Koplyay, T., *Force Field Dynamics In The High Tech PC Sector; The Case Of The Mature Sector*, Proceedings of the 10th World Multi-Conference on Systemic, Cybernetics and Informatics, Orlando, Florida, July 16-19, 2006, pp. 178-186.

Paquin, J. & Koplyay, T., *Force Field Analysis and Strategic Management: A Dynamic Approach*, Engineering Management Journal, 19:1 (2007 Spring), pp. 28-37.

Passikoff, Robert, *Predicting Market Success: New Ways to Measure Customer Loyalty and Engagement*, John Wiley and Sons, 2006.

Perlmutter, Howard, *The Tortuous Evolution of the Multinational Corporation*, Columbia Journal of World Business, 1969, pp. 9-18.

Phillips Jack, J & Patricia Pulliam Phillips , *Measuring for Success*, ASTD, 2009.

Phillips, P, Phillips, J, Zuniga, L, *Measuring the Success of Organization Development: A Step-by-Step Guide for Measuring Impact and Calculating ROI*, Paperback, ASTD, 2013.

Picot, G. & Dupuy, R., *Job Creation by Company Size Class: Concentration and Persistence of Job Gains and Losses in Canadian Companies*, Statistics Canada Business and Labour Market Analysis Division, Research paper No. 93, 1996.

134

Pitcher, Patricia, *L'artiste, l'artisan et le technocrate* - l'*élite qu'on mérite ?,* Village Mondial, May, 1993.

Prahalad, CK & Hamel, Gary, *The core competence of the corporation*, Harvard Business Review, July-August, 1994.

Prendergast, Canice, *The Provision of Incentives in Firms, Journal of Economic Literature*, Vol. XXXVII, March 1999, pp. 7–63.

RIM, *2010 Annual Report*, http://us.blackberry.com/content/dam/bbCompany/Desktop/Global/PDF/Investors/Documents/2010/2010rim_ar.pdf, 2010

RIM, *2011 Annual Report*, http://www.annualreportowl.com/Blackberry/Annual%20Reports, 2011.

RIM, *2012 Annual Report*, http://www.annualreportowl.com/Blackberry/Annual%20Reports, 2012.

RIM, *2013 Annual Report*, http://www.annualreportowl.com/Blackberry/Annual%20Reports, 2013.

RIM, *2014 Annual Report,* http://www.annualreportowl.com/Blackberry/Annual%20Reports, 2014.

RIM, *Annual Teleconference call with CEO transcript*, http://www.nasdaq.com/symbol/bbry/call-transcripts, 2012-present.

Reich, Robert, *The Work of Nations, Preparing Ourselves for 21st Century Capitalism,* Alfred A. Knopf, 1992.

Roberts E. B., *High stakes for high tech entrepreneurs, Understanding venture capital decision making*, Sloan management review, vol32, number 2, 1991.

Romer, P., *Innovation: The New Pump of Growth*, Blueprint Magazine: Ideas for a New Century, Democratic Leadership Council, 1998.

Alan J. Rowe, Alan. J., Mason. Richard O., Dickel, Karl E., *Strategic Management and Business Policy: A Methodological Approach*, Addison-Wesley Publishing Company, Jan 1, 1999,

Rosca, Daniela, Feblowitz, Mark, Wild, Chris, *Decision Making Methodology in Support of the Business Rules Lifecycle*, Third IEEE International Symposium on Requirements Engineering *(RE'97)*, 1997, pp.236-248.

Sarantakos, S., *Social Research*, MacMillan, 1998.

Sargut, McGraw & McGrath, Rita, *Learning to live with complexity*, Harvard Business Review, September, 2011.

Saunders, M., Lewis, P., Thornhill, A., Research Methods for Business Students. (5th ed.) Harlow: FT/Prentice Hall, 2009.

Schumpeter, Joseph A., *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle,* University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership, Historical Research Reference in Entrepreneurship, 1912 / 1934.

Scully, Gerald W & Caragata, Patrick J, *Taxation and the Limits of Government*, Paperback, Springer, 2012.

Sexty, R. W. & Sexty, S. (1992), *Recension des livres - Book Reviews*, Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration, 1992, Vol. 9 No. 4, pp. 343-355.

Simons, R., How new top managers use control systems as levers of strategic renewal., Strategic Management Journal, 15: 1994, pp.169–189.

Smith, A., *An inquiry into the nature and causes of the wealth of nations,* W. Strahan and T. Cadell, London, 1776.

Smith, N., Ansett, S., Erez, L., *How Gap Inc. Engaged with its Stakeholders*, MIT Sloan Management Review, Summer, 2011.

Solow, R. M. , *A contribution to theory of economic growth*, Quarterly Journal of Economics, 1956, Vol. 70, pp. 65-94.

Stake, R. E., *Multiple case study analysis*, The Guilford Press, New York, 2006.

Stalk, George, *Time-the next source of competitive advantage*, Harvard Business Review, July-August 1988.

Stalk, George, Evans, Philip, Shulman, Lawrence, *Competing on capabilities; the new rules of corporate strategy*, Harvard Business Review, March-April, 1992.

Stanford, Jim, *A deliberate, strategic approach to foreign investment,* Special to *Globe and Mail* Update, November 12, 2010.

Supple, J., Prado, C., Koplyay, T., Paquin, J., *Lifecycle Innovation and Patent Strategies*, Proceedings of 26th McMaster World Congress, Management of Intellectual Capital, Hamilton, Ontario, January 19-21, 2005.

Sureshchander, G. S., Chandrasekharan, R.,Anantharaman, R. N., *The relationship between service quality and customer satisfaction - a factor specific approach*, Journal of Services Marketing, 16(4), 2002, 363-379.

Sweeny, Alastair, *BlackBerry Planet: The Story of Research in Motion and the Little Device that Took the World by Storm* (Kindle Edition), Wiley 2009.

Szerb, L., Terjesen, S. and Rappai, G., *Seeding new ventures - green thumbs and fertile fields: Individual and environmental drivers of informal investment*, Venture Capital, 2009, Vol. 9 No. 4, pp. 257-284.

Venture Capital & Private Equity Association , *Think Canada (Again), A Presentation by CVCA, Canada's Venture Capital & Private Equity Association*, October 2010. Retrieved from http://www.cvca.ca/files/Downloads/Think_Canada_Again_Web_Version_FINAL.pdf

Thorleuchtera, Dirk, & Van den Poelb, Dirk. *The Technology Leaders : How America's Most Profitable High-Tech Companies Innovate Their Way to Success*, Jossey-Bass Business & Management series, 1997.

Tillman, Anne-Marie, *Significance of decision-making for LCA methodology*, Environmental Impact Assessment Review, Volume 20, Issue 1, February 2000, pp. 113-123.

Her Majesty's Stationery Office United Kingdom, *Public Private Partnerships: The Government's Approach*, London: Her Majesty's Stationery Office Press, 2000.

Wallace, Cynthia Day, *Host State Sovereignty in an Era of Economic Globalization*, Kluwer Law International, (2002).

Werther Jr., W. & Chandler, D., *Strategic Corporate Social Responsibility: Stakeholders in a Global Environment*, Sage Publications, 2011.

Yin, R*., Case Study Research: Designs and Methods*, 3rd edition, Sage, 2003

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Decision processes in public sector in Canada

Decisions by the government of Canada in setting up granting and assistance to enterprises in strategic sectors is a relatively haphazard process. In fact the federal government has no central department or ministry where they make data-based decision on assistance to enterprises. They instead rely on a series of programmes (approved by and supported by both the elected government and the non-elected bureaucrats)

At the federal level the elected governments decide on programmes of assistance to their consitutencies, and then rely on the non-elected bureaucrats to implement their programmes.

Canada, at a federal level has many programmes:

Research grants to the National Research Council

National Sciences and Engineering Research Council,

The Social Sciences Humanities Research Council,

Medical Research Council,

National Institutes on Health Research

Government of Canada grants to Students at the Graduate Level,

Scientific Research and Development Tax Credits,

Investment Tax Credits,

Contributory programmes,

Business Development Bank of Canada,

Industry Canada's Small Business start-up assistance,

Entrepreneur Canada start ups,

Grants to Artists,

… and many more

Many of these programmes are repeated and overlap with provincial-based programmes, and with municipal-based programmes.

While the executive functions of Canada's parliamentary system of responsible government are vested in the Crown by the Canadian Constitution, in practice these functions are carried out by the Prime Minister and the Cabinet, as long as they enjoy the confidence of Parliament.

These two fundamental institutions of parliamentary government are not defined in either the formal Constitution or in law.

This means that the elected government of the day can choose at any time to emphasise what they consider to be a strategic sector or decide to change the granting, funding and tax credit regimes that companies depend on.

The decision making process in canada is as follows:

The formation of the Ministry and the structure of Cabinet decision-making are among the Prime Minister's most important prerogatives. However, not all members of the Ministry are members of the Cabinet: there are currently 28 Cabinet Ministers (including the Prime Minister) and nine Secretaries of State. The position of Secretary of State was created in November 1993, to provide additional support to Cabinet Ministers and the government in meeting the objectives set out by the Prime Minister.

As First Minister, it is the Prime Minister's prerogative to organize Cabinet and Cabinet committee decision-making, establish the agenda for Cabinet business, and designate committee chairpersons to act on his behalf. There are currently four Cabinet committees:

- the Cabinet Committee for the Economic Union (17);*

- the Cabinet Committee for the Social Union (12);

- the Special Committee of Council (9); and

- the Treasury Board (6).

The Prime Minister may also choose to constitute ad hoc Cabinet committees whenever it is necessary.

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Cabinet decision-making is led by certain key statements on government policy and priorities: the Speech from the Throne provides Cabinet with a policy framework, and the Budget exercise, culminating in the tabling of the Estimates, establishes the fiscal framework. These frameworks provide for the overall direction of the government and shape the work of Cabinet committees. It is within these documents that decisions around grants and credits for companies are make. It is also within this process that decisions on providing funds to departments to then decide on specific amounts to transfer to individual companies is made as well.

Generally, Cabinet business consists of proposed actions aimed at implementing the government's agenda, items of special urgency, parliamentary business, political issues, the review of senior appointments, and any other matter of general concern to Canadians or the government.

Issues are normally brought forth by a Minister in the form of a memorandum to Cabinet which is tendered to the appropriate Cabinet committee after it has been circulated to all Ministers. The Prime Minister expects issues to be dealt with at the committee stage: Cabinet is not used to air introductory or preliminary factors to the issue at hand. It is the Deputy Ministers' responsibility to ensure that affected departments are adequately informed in advance of the issues before Cabinet. In other words, the bulk of collective ministerial deliberations take place in committee; the Cabinet committee reports are subject to confirmation by Cabinet. This allows Cabinet to concentrate on priority issues and broad policy and political concerns. Ministers are not asked to vote on the various items; once discussions have taken place and Ministers have expressed their views, the Prime Minister calls for consensus. Once a decision has been reached, it is recorded and communicated throughout the government.

The Prime Minister's Office

The Prime Minister is supported directly by two organizations within his portfolio. The Prime Minister's Office, is comprised of the Prime Minister's personal and political staff. The Privy Council Office, serves as the Prime Minister's public service department and as secretariat to the Cabinet and its committees. While these two organizations differ greatly in their respective roles

and mandates, they are sensitive to the need for consultation and coordination in their efforts to best serve the Prime Minister and the Cabinet.

The precise role of the Prime Minister's Office varies according to the personal style and preferences of the Prime Minister in office, and its organization is left entirely to his discretion. The present Prime Minister's Office, under the direction of the Chief of Staff, is composed of politically-oriented staff members; they are not public servants.

The Prime Minister's Office provides advice and support to the Prime Minister, as leader of the political party forming the government, on priorities, political strategy and tactics, and political dimensions of policy initiatives. It is organized to ensure national political liaison with Ministers, caucus and the party in general. The Prime Minister's Office supports the Prime Minister in his role as a Member of Parliament and handles all constituency matters. A team of advisers is also responsible for briefing the Prime Minister on the main affairs concerning the development of Canadian society and the international community.

The support functions of the Prime Minister's Office include budgeting the Prime Minister's time, coordinating the Prime Minister's agenda and travel, and preparing correspondence.

III Central Agencies

In the exercise of their authority, the Prime Minister and the Cabinet are supported both by line departments and by central agencies. These central agencies play a key role in the successful formulation and implementation of government policies and programs by overseeing interdepartmental mechanisms of information-sharing, consultation and coordination. They are expected to provide integrated advice and support to the Prime Minister and the Cabinet on government-wide issues and concerns.

1. Privy Council Office

The Privy Council Office directly supports the Prime Minister across the full range of his responsibilities as head of government. Under the leadership of the Clerk of the Privy Council and Secretary to the Cabinet, the Privy Council Office serves as the Prime Minister's public service department and secretariat to the Cabinet and its committees.

In support of the Prime Minister's responsibility to ensure the proper and effective functioning of government, the Privy Council Office provides advice on such matters as the broad organization of government, the appointment of individuals to key positions and the mandates of these senior office holders.

As Cabinet secretariat, a role formalized by Order in Council in 1940, the Privy Council Office is responsible for the smooth operation of the Cabinet. This responsibility entails not only providing secretariat support to the Cabinet and the Cabinet committees, but also providing advice to the Prime Minister on the general structure of the decision-making process. The Privy Council Office provides Cabinet and its committees with the support required to prepare for and conduct meetings: it arranges meetings, circulates agendas, distributes documents, provides advice to the chairperson of each committee on agenda items, and records Cabinet minutes and decisions. The Privy Council Office manages the flow of business to ensure that the decision-making process functions according to the standards set by the Prime Minister.

The Privy Council Office plays a key role in the elaboration of government policy, supporting the Prime Minister in providing leadership and direction to the Government. This role also involves coordination. The Privy Council Office must work closely with line departments, as well as with the Prime Minister's Office, the Treasury Board Secretariat and the Department of Finance to ensure that new proposals are consistent with the Government's overall objectives and policies, and that all affected interests have been consulted. Once a decision is reached by Cabinet, the Privy Council Office ensures that it is communicated to the affected departments and oversees its effective implementation.

The Privy Council Office also provides leadership and coordination in the federal government's relations with the provincial and territorial governments. These responsibilities include undertaking liaison with provincial and territorial governments, providing advice on constitutional issues and policy initiatives in light of federal-provincial relations.

The amendments to the Public Service Employment Act passed in December, 1992, confirmed in law the responsibility of the Clerk of the Privy Council as "head of the public service". In that capacity, the Clerk is responsible for the quality of expert, professional and non-partisan advice and service provided by the public service to the Prime Minister and the Cabinet. As the most

senior Deputy Minister, the Clerk of the Privy Council communicates a vision and a strategic direction for the public service through leadership in the Deputy Minister community. Deputy Minister weekly meetings, Deputy Minister Task Forces, the Coordinating Committee of Deputy Ministers (CCDM) and the Committee of Senior Officials (COSO) are used by the Clerk as means to lead the planning process and to reflect the values of a renewed public service.

The Clerk of the Privy Council is also responsible for conducting performance evaluations of the Deputy Ministers. The Clerk first meets with the Deputy Ministers to discuss their objectives for the upcoming period, at the end of which, Deputy Ministers must prepare a self-assessment of their performance. They are asked to comment on specific areas such as the results they have achieved against the objectives and priorities they had previously identified, the key elements contributing to their success (e.g., their leadership style), and their contribution to the corporate agenda. The Clerk meets with the Minister to seek feedback on the performance of the Deputy, the department and the management team overall. The Committee of Senior Officials (COSO) then meets to discuss and assess the performance of the Deputies based on all the collected input. COSO is composed of the Deputy Ministers of all central agencies, as well as certain Deputy Ministers of line departments who serve on a rotational basis. The final performance ratings are approved by the Prime Minister.

Officers of the Privy Council Office are frequently recruited from line departments and serve within the Privy Council Office for a time, following which they undertake new responsibilities elsewhere in the public service. This type of recruitment allows for the professional development of the public service. Recruited officers bring their unique experience and expertise to the work they perform within the Privy Council Office. When these officers leave the Privy Council Office, it is with a better appreciation of the workings of the central decision-making process and the vital inter-relations that must be considered when developing programs or administering operations.

As described in 1971 by Gordon Robertson, then Clerk of the Privy Council and Secretary to the Cabinet: "The Prime Minister's Office is partisan, politically oriented, yet operationally sensitive. The Privy Council Office is non-partisan, operationally oriented, yet politically sensitive. What is known in each office is provided freely and openly to the other if it is relevant or needed for its work, but each acts from a perspective and in a role quite different from the

other." Mr. Robertson's appraisal of the relations between these two organizations remains an accurate assessment of their daily interactions. Despite the important differences in their mandates, the Prime Minister's Office and the Privy Council Office work in close collaboration to provide the Prime Minister and the Cabinet with high quality advice that takes into account both political and operational considerations.

Consultation mechanisms are in place to facilitate the coordination of advice that is provided to the Prime Minister by the Privy Council Office and the Prime Minister's Office. The Prime Minister has daily meetings with his Chief of Staff and the Clerk of the Privy Council. During these meetings, the Prime Minister is apprised of the issues of the day that must command his attention; he also raises issues and provides direction. These meetings provide the Chief of Staff and the Clerk with the opportunity to assess both the political and operational considerations that underpin these issues.

2. Treasury Board

The Treasury Board is a committee of Cabinet established by law and composed of six Ministers responsible for the management of government expenditure and human resources in the public service. The Treasury Board is supported in these responsibilities by the Treasury Board Secretariat. While the Department of Finance is responsible for establishing general policy on government revenues and expenditures, the Treasury Board oversees the management of the budget and credits. It also plays a coordinating role in the preparation of the expenditure budget. According to the Financial Administration Act, the Treasury Board can deal with any question concerning financial management, giving it authority over departmental budgets, expenditure, financial commitments, revenue, accounts, personnel management, and all the principles governing the administration of the public service. In sum, the Treasury Board is the employer and general manager of the public service.

3. Department of Finance

The Department of Finance is the second central agency with a coordinating role to play within the decision-making process. The Minister of Finance is responsible for the government's macroeconomic policy, including tax policy and tax expenditures. It is through the Budget exercise that the Minister of Finance establishes a fiscal framework within which the government's expenditure management system can operate effectively.

Through close collaboration and consultation, the Department of Finance and the Treasury Board Secretariat ensure the cohesion and effectiveness of the decision-making process. These two agencies, through the Privy Council Office, provide the Prime Minister and Cabinet committees with advice on policy, related funding issues, and the economic impact of proposals before Cabinet. The Department of Finance, in supporting its Minister, maintains a broad socioeconomic analytical capacity.

IV Expenditure Management System (EMS)

The Treasury Board Secretariat and the Department of Finance are the front runners in the implementation of the Government's Expenditure Management System (EMS). The EMS effects an ongoing review of spending patterns designed to identify opportunities for reallocation of resources to higher priority programs. It allows for better long-term strategic planning and the adjustment of programs and services to available resources through the implementation of departmental Business Plans. The EMS fosters more fiscal responsibility by departments and other government agencies.

In developing the Budget, the Department of Finance will draw upon the results of the Budget consultation process and the advice from policy committees of Cabinet on government priorities and new initiatives. The Minister of Finance will advise on fiscal and expenditure targets, and, working in close concert with the President of the Treasury Board, on expenditure reallocation and reduction options.

The departmental Business Plan is also an important feature of the EMS. In their respective Business Plans, departments are responsible for determining how existing programs must change in order to meet expenditure targets and new government priorities. The Business Plans are intended to extend beyond the traditional review and approval of expenditure authorities to an integrated, strategic view of department-wide resource management that encompasses the human, financial and technological implications of operating current and future programs.

V Staffing of the Federal Public Service

1. Public Service Commission

The Public Service Commission is responsible for the administration of the Public Service Employment Act. The Commission ensures that staffing in the public service is carried out in accordance with merit and fairness, and without discrimination. In carrying out its role in ensuring that qualified candidates are appointed, the Public Service Commission reports to Parliament. The Public Service Commission consists of a President and two other members appointed by the Governor in Council.

The Commission is responsible for the recruitment, selection and appointment of qualified persons to and within the public service. In order to meet the personnel needs of government departments and agencies, the Commission maintains active recruitment programs across Canada. The Commission conducts cyclical reviews of departments acting under delegated authority to ensure that staffing policies are implemented. The Commission provides impartial means of recourse for challenging appointments and for dealing with employee complaints. It is also responsible for delivering some staff training and development programs.

On June 4, 1998, the Prime Minister announced the creation of The Leadership Network, a new horizontal organization within the Prime Minister's portfolio. It will support the collective management of Assistant Deputy Ministers and assist leaders at all levels of the public service to meet the ongoing challenge of renewal.

2. Governor in Council Appointments

Governor in Council appointments are made to a wide range of positions, including the most senior level of the Public Service. Many of these are very demanding, requiring extensive work and difficult decisions.

Appointments by the Governor in Council are those made by the Governor General on the advice of the Queen's Privy Council of Canada represented by Cabinet and are handled through a distinct process which recognizes the Prime Minister's prerogative to coordinate or determine all appointments. The Prime Minister is supported by the Director of Appointments within the Prime Minister's Office who, in consultation with Ministers' offices, is responsible for identifying high calibre candidates who could be considered for such an appointment. For certain appointments, including Deputy Ministers and Associate Deputy Ministers, the Prime Minister is advised by the Clerk of the Privy Council.

The Privy Council Office plays a supporting role to both the Prime Minister's Office and the Clerk of the Privy Council on Governor in Council appointments, and works cooperatively with the Director of Appointments in identifying vacancies and interviewing potential candidates. The Privy Council Office ensures that statutory and procedural requirements are met, and advises on issues of feasibility, remuneration and conditions of appointment.

Government departments and agencies provide financing such as grants, contributions, subsidies, and loan guarantees. Find out what type of government financing might be available for your business. Use the search tool or browse by type of financing.

Browse government financing by type

Grants, contributions and financial assistance

Explore opportunities to receive public funds to help springboard your business venture.

Loans and cash advances

Examine these loans and other borrowing possibilities for your new or existing business.

Loan guarantees

Having trouble securing a loan for your business? A government-backed loan guarantee could help you attract creditors.

Tax refunds and credits

Looking for more return on your business expenditures? Browse potential tax benefits that can help reduce overhead.

Wage subsidies

Are high wage expectations making you reluctant to put up that Help Wanted sign? A wage subsidy program can put the perfect employee within your reach.

Equity investments

Searching for a long-term financial solution for your business? An equity investor may be willing to bank on your potential.

Predicting Success and Failure in the Canadian Marketplace

DOUGLAS MICHAEL LLOYD

Agenda

- What is success and failure?
- Do companies change over time?
- The lifecycle curve
- The marketplace
- The "Pairbond" landscape
- The path to success
- The realistic path to success
- Some predictions using the model

Success and Failure

- Success – Survival, ROI, Equity, market dominance, buy-out, happy employees, innovation, re-investment, retention of employees, stakeholder satisfaction, regulator satisfaction
- Failure – bankruptcy, take-over, buy-out, loss of share, diminishing ROI, key employees leaving, toxic culture, regulatory investigations, loss of innovation.

Many, all, or none of the above!

Do Companies change over time?

- Koplyay, Mitchell, Sanchez, Li, and Lloyd have all at one time or another defined the changes over a company's evolutionary life.
- In fact there is a cycle of birth, growth, steady-state and decline which are well documented and well understood (above authors, Porter, etc.)
- Many parameters change – HR structures, Investment processes, innovation, culture, compensation, stakeholder management, supply chain management, project management.

The Life-cycle Curve and what it means

- The life cycle curve is seen here. It is just like the Hertzprung-Russell diagram – it shows trends, can be interpolated and extrapolated, and has outliers.
- It is seen as independent of market place when one examines the company.
- To see the company in a second dimension, we need to place the company growth against a market maturity landscape.
- If a company can be nascent, maturing or mature, so to can a marketplace

The "Pairbond" Landscape

The Maturing Organisation			
	The Mature Company/ New Market Pair Bond	The Mature Company/ Maturing Market Pair Bond	The Mature Company/ Mature Market Pair Bond
	The Maturing Company/ New Market Pair Bond	The Maturing Company/ Maturing Market Pair Bond	The Maturing Company/ Mature Market Pair Bond
	The New Company/ New Market Pair Bond	The New Company/ Maturing Market Pair Bond	The New Company/ Mature Market Pair Bond

The Maturing Marketplace

The Path to Success

The Maturing Organisation

The Mature Company/ New Market Pair Bond	The Mature Company/ Maturing Market Pair Bond	The Mature Company/ Mature Market Pair Bond
The Maturing Company/ New Market Pair Bond	The Maturing Company/ Maturing Market Pair Bond	The Maturing Company/ Mature Market Pair Bond
The New Company/ New Market Pair Bond	The New Company/ Maturing Market Pair Bond	The New Company/ Mature Market Pair Bond

The Ideal Company Growth pattern

The Maturing Marketplace

The realistic path to Success

The Maturing Organisation

The Mature Company/ New Market Pair Bond	The Mature Company/ Maturing Market Pair Bond	The Mature Company/ Mature Market Pair Bond
The Maturing Company/ New Market Pair Bond	The Maturing Company/ Maturing Market Pair Bond	The Maturing Company/ Mature Market Pair Bond
The New Company/ New Market Pair Bond	The New Company/ Maturing Market Pair Bond	The New Company/ Mature Market Pair Bond

The Maturing Marketplace

The model as a predicting tool

Q: If we can make assumptions about ideal growth patterns, and assumptions about what structures need to be in place for success in a certain pair-bond; can we then use this model as a predictor?

A: Yes!

We can predict success, failure, troubles, areas to fix, areas to leave alone, and areas to build on.

Some Examples

- Research in Motion
- IBM PC
- NorTel
- GM Canada
- Potash Canada
- CGI
- IBM Canada
- Apple

Call Letter to Deputy Ministers & Executives

<date>

Douglas Michael Lloyd, MBA, CMA, CPA, CMC, PMP

943 Hare Avenue, Ottawa

Email: dlloyd@cambrian.ca Tel: 613-799-1170

Dear <Insert Name>

I am presently a PhD Candidate at the Szent István University in Gödöllő, Hungary. The topic of my dissertation is "*An n-dimensional model to predict success and failure in Canadian industry*".

I am presently completing the dissertation, and I have a specific focus on using the tool in a public sector context: if a company is predicted to fail, should public sectors still make investments, grants, transfers, or offer tax credits to the enterprise.

If I could ask you some questions around the following subjects (either on or off the record), I would be very appreciative:

1. Would such a tool be useful in a public sector context in your opinion, and if so, why?

2. Would it be worth looking at the public policy framework to insert a predictive tool to assist decision-makers in your opinion?

3. Would such a concept be useful when making granting decisions to strategic sectors in Canada?

I would be happy to meet with you at your convenience, or if you would prefer, you could simply let me know your opinions on the above-three questions.

When the dissertation is completed later this year, I would be happy to share the results with you, alternatively, I would also be happy to prepare an executive overview for you.

If you are interested in any of the ancillary public sector papers associated with my work in this area, specifically around shared services, notes on the Canadian economy, or setting up common financial services in a public sector, I would be happy to share them as well.

Thank you very much for your kind attention

Regards,

Douglas Lloyd

Sample Application form for Federal Grants

Federal Economic Development Agency for Southern Ontario   **Agence fédérale de développement économique pour le Sud de l'Ontario**

Save As   Print   Reset

Add Attachments

ADVANCED MANUFACTURING FUND (AMF)
APPLICATION

IMPORTANT:

- We strongly encourage you to contact FedDev Ontario at 1-866-593-5505 for help with your application and to discuss other government programs that may be applicable to your opportunity.
- Before beginning your application, review the guidelines for this program carefully to ensure your organization is eligible to apply for funding and your proposed activities meet the program's objectives and criteria.
- Click on the [?] buttons for helpful information and additional guidance. Questions with an asterisk * are mandatory.
- Please submit all required supporting documentation online by selecting the 'Add Attachments' and 'Submit' buttons directly on this form. [?]
- Incomplete applications cannot be assessed and may be deemed ineligible.

APPLICANT INFORMATION

1. Legal name of applicant * [?]

Is operating name same as legal name? *   ○ Yes   ○ No

Operating name (if different)

2. Type of Organization *

3. Business and HST Number [?]   R T

4. Applicant Sector *

5. Applicant's Existing Key Market(s) i.e., to which sectors do your current clients/customers belong (select all that apply) *

☐ Consumer Sector (firm's goods or services are sold to individual consumers)

Business Sector:

☐ Agriculture ☐ Resource Se Consumer Sector (firm's goods or services are sold to   erospace
☐ Defence ☐ Automotive ☐ individual consumers)

☐ Consumer Services Busine.. etc. Industries)

☐ Wholesale Trade ☐ Transportation and Warehousing ☐ Professional / Business Services

☐ Other Business Sector (specify)

Institutional:

☐ Education ☐ Health Care ☐ Public Administration

☐ Other Institutional (specify)

☐ Other (specify)

☐ Does Not Apply

6. Applicant Location: Street, Unit Number, etc. *

City *	Province	Country *	Postal Code
	Ontario	Canada	

7. Is Mailing Address the same as Applicant Location? *   ○ Yes   ○ No

Applicant Mailing Address: Street, Unit Number, etc. (if different from Applicant Location)

City	Province	Country	Postal Code
	Ontario	Canada	

8. Website

9. Official Language Preferred for Correspondence *   ○ English   ○ French

10. Name of the FedDev Ontario representative with whom you spoke regarding your project:

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Canada

AUTHORIZED PROJECT CONTACT

11. Salutation (Mr., Mrs., etc.)	First Name *	Last Name *
Title *	E-mail *	
Business Telephone Number *	Extension	Mobile Telephone Number

PROJECT INFORMATION

12. Short Project Description (maximum 200 characters) *

13. Is the target market for the proposed project the same as the Applicant's existing key market(s)? *   ○ Yes   ○ No

14. What activities are expected to be undertaken as part of the proposed project? (select all that apply) *

Capital Investment or Technology Adoption:

☐ Acquisition of Machinery and Equipment (excluding Information and Communication Technologies such as computers, instruments, sensors, telecom equipment, and software)

☐ Acquisition of Information and Communication Technologies (computers, instruments, sensors, telecom equipment and software acquisition)

☐ Building (including facility expansion) ☐ Engineering (i.e., infrastructure construction projects)

☐ Other Capital Investment or Technology Adoption (specify)

Investment in Research and Development (R&D), or Software Development:

☐ R&D for applicant's internal process improvement (including development of software for internal process improvement)

☐ R&D for new product development (including development of software for external sale or clients)

☐ Other R&D and Software Development (specify)

Investment in Market Development, Commercialization, and Business Strategy or Process Development:

☐ Marketing Studies (including studies of foreign markets) ☐ Outreach & Network Building ☐ Business Strategy

☐ Business Process Redesign/Improvement

☐ Other Market Development, Commercialization, and Business Strategy Development (specify)

Investment in People & Skills

☐ Skills Development & Training ☐ Internships

☐ Other People & Skills (specify)

☐ Other (specify)

15. Estimated Start Date of Project (YYYY-MM-DD) *	Estimated End Date of Project (YYYY-MM-DD) *
16. Total Project Cost *	17. Requested FedDev Ontario Contribution *

18. Provide the physical address where the largest portion of the project will occur: Street, Unit Number, etc. *

City *	Province *	Country *	Postal Code *
	Ontario	Canada	

19. Are any of the activities of the proposed project expected to occur on federal lands? *   ○ Yes   ○ No

MANDATORY INFORMATION REQUIREMENTS

The information requirements in this section are mandatory and must be attached as part of a complete application. Incomplete applications cannot be assessed and may be deemed ineligible.

Click on the appropriate link below to access the mandatory information requirements that are relevant to your organization:

If you are a for-profit organization, please click on this link.

If you are a not-for-profit organization or a post-secondary institution, please click on this link.

Add Attachments

Please confirm that the mandatory information required (as described in the link above) is attached to this application. *   ☐ Yes

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CERTIFICATION

On behalf of the Applicant, I hereby acknowledge and certify that:

(a) I have read and understand this Application and Program Guidelines, and will submit all the required information with this proposal. I understand incomplete applications cannot be assessed and will be deemed ineligible.

(b) I have authority to submit this application on behalf of the applicant.

(c) The information provided herein is complete, true and accurate and covenant that any other information given in the future in connection with the carrying out of the project will also be complete, true and accurate.

(d) Financial assistance from FedDev Ontario is a significant factor in the decision to proceed with this project, and I authorize FedDev Ontario to make credit checks or other inquiries it deems necessary to evaluate this application. I agree to provide any further information that may be required for FedDev Ontario to make a decision.

(e) Project costs incurred by the Applicant in the absence of a signed funding agreement with FedDev Ontario are incurred at the sole risk of the Applicant and any such costs may not be considered eligible for FedDev Ontario assistance.

(f) I authorize FedDev Ontario, its officials, employees, agents and contractors to make enquiries of such persons, firms, corporations, federal, provincial and municipal government departments/agencies, and not-for-profit, economic development or other organizations as may be appropriate, and to collect and share information with them, as FedDev Ontario deems necessary in order to assess this application, to administer and monitor the implementation of the project, and to evaluate the results of the project and this program.

(g) Information provided to FedDev Ontario will be treated in accordance with the *Access to Information Act* and the *Privacy Act*. These laws govern the use, protection and disclosure of personal, financial and technical information by federal government departments and agencies. Information provided to FedDev Ontario is secured from unauthorized access.

(h) The Applicant has not engaged any person to solicit financial assistance for a commission, contingency fee or other form of consideration dependent upon the approval of this application for financial assistance.

(i) Any person who has been lobbying on behalf of the Applicant to obtain a contribution as a result of this application is registered pursuant to the *Lobbying Act* and was registered pursuant to that Act at the time the lobbying occurred. Where the lobbying duties of the employees of the Applicant constitute a significant part of the employee's duties, the Applicant is in compliance with the *Lobbying Act*.

(j) Any former public office holder or public servant employed by the Applicant is in compliance with the provisions of the *Values and Ethics Code for the Public Sector*, the *Policy on Conflict of Interest and Post-Employment* and the *Conflict of Interest Act*.

(k) The Applicant agrees to comply with the *Official Languages Act* as may be required, and specifically where a project involves services to or activities with the public.

(l) As part of its project assessment process, FedDev Ontario requires that all projects conform with the *Canadian Environmental Assessment Act, 2012*.

(m) The Applicant is not in default under any funding agreement with the federal government.

◯ I Agree *   ◯ I Do Not Agree

Name *	Title *
Signature of Officer with Signing Authority for the Organization	Date (YYYY-MM-DD) *

A signature is not required if you are submitting your application electronically.

Submit

Data Input Sheets

Step 1: Pair-Bond Placement

Select the position of the enterprise to be analysed in the following matrix:

(n,e)	newly formed company in an emerging market
(n,ev)	newly formed company in an evolving market
(n, m)	newly formed company in a mature market
(ev,e)	evolving company in a emerging marketplace
(ev,ev)	evolving company in an evolving marketplace
(ev,m)	evolving company in a mature marketplace
(m,e)	mature company in an emerging marketplace
(m,ev)	mature company in an evolving marketplace
(m.m)	mature company in a mature marketplace

The "Pairbond" Landscape

The Maturing Organisation ↑			
	The Mature Company/ New Market Pair Bond	The Mature Company/ Maturing Market Pair Bond	The Mature Company/ Mature Market Pair Bond
	The Maturing Company/ New Market Pair Bond	The Maturing Company/ Maturing Market Pair Bond	The Maturing Company/ Mature Market Pair Bond
	The New Company/ New Market Pair Bond	The New Company/ Maturing Market Pair Bond	The New Company/ Mature Market Pair Bond

The Maturing Marketplace →

Enter the Pair-Bond -----> _____

Weighted Dimensions – Enter the degree of concordance with the following dimensions

1 Human Resource structures – Scale of 1-10

- Pay
- Compensation
- Succession Planning
- Alignment with Strategic Outcomes
- Benefits
- Incentive plans
- Organisational Design
- Recruiting strategies
- Retention Strategies

9 Creativity and innovation - Scale of 1-10

- Managed
- Employees rewarded
- Alignment with strategic outcomes
- Collaboration regime in place
- Innovation Spread out in company
- Appropriate to company position
- Appropriate to marketplace
- Seen as innovative by customers
- Market sees product as leading

10 Corporate culture and leadership - Scale of 1-10

- Focused
- Inspirational
- Directed
- Professional Attitudes
- Regular Interaction with Stakeholders
- Undiluted interests in company / Divided Loyalties
- Outward Integrity
- Clear Communications
- Conflict Management

11 Supply chain management - Scale of 1-10

- Managed
- preferential contracts

- Tied to marketing
- channel partners identified and managed
- software and technology driven
- No past history of problems
- Growing appropriate to marketplace
- Growing appropriate to company
- Competitors competing for chain suppliers

12 Quality management - Scale of 1-10

- Focus on Quality Control
- Quality Programmes in place
- Employees participation
- Continuous Improvement
- Alignment with Customers
- Alignment with strategic outcomes
- Products on time
- Management Commitment
- Education programmes in place
- Quality measured and reported
- Market sees product leading

13 Stakeholder management - Scale of 1-10

- Stakeholder definition Vertical and Horizontal
- Stakeholder management regime
- Employees participation
- Continuous Improvement
- Communications channels
- Alignment with strategic outcomes
- Customer as stakeholder philosophy implemented
- Management Commitment
- Information In Channels managed with marketing

14 Financial and incentive management - Scale of 1-10

- Mismatch between employee payoff and company benefits;
- Stock options with fixed exercise price
- Economic value added (profit) based compensation
- Meaningful compensation

- Stock options in mature companies where options have no future
- Alignment with strategic outcomes
- R&D based rejuvenation targets in the mature company
- Measures to enhance value chain partner performance
- stock options/purchase plans where the lower level
- Long term pension plan

15 Marketing management – Scale of 1-10

- Stakeholder definition Vertical and Horizontal
- Marketing Strategy Clear
- Client management regime
- market intelligence function
- Competitor intelligence function
- Alignment with strategic outcomes
- Information In Channels managed with marketing

16 Decision-making Structures – Scale of 1-10

- Good Product Development Decisions
- Good Marketing Decisions
- Good Financial Decisions
- Good Logistics Decisions
- Good HR Decisions
- Good Production Decisions
- Decisions are communicated to stakeholders
- Marketplace has confidence in decisions
- Decisions are clearly connected to strategy

17 Strategic importance of the sector/enterprise

- Identifiable as Canadian
- Geography and Human Resource Factors
- Geography and Governance
- Geography and Infrastructure
- Market
- Geography and Finance
- Culture and Perception
- Potential negative messaging

Completed Evaluation Tool

Company: BackBerry - Sheet: Strategic Sector		
Factors		
Identifiable as canadian		8
Geography and Human Resource Factors		6
Geography and Governance		7
Geography and Infrastructure		7
Market		5
Geography and Finance		5
Culture and Perception		7
Potential negative messaging		7
Average:		6.5
Total Factors:		8
Non Weighted score		0.8125
Weight	9	
Final Score		7.3125

Company: BackBerry - Sheet: Decision Making		
Factors		
Good Product Development Decisions		6
Good Marketing Decisions		4
Good Financial Decisions		6
Good Logistics Decisions		7
Good HR Decisions		6
Good Production Decisions		4
Decisions are communicated to stakeholders		6
Marketplace has confidence in decisions		6
Decisions are clearly connected to strategy		6
Average:		5.666666667
Total Factors:		9
Non Weighted score		0.62962963
Weight	10	
Final Score		6.296296296

Company: BackBerry - Sheet: Marketing

Factors

Factor	Score
Stakeholder definition Vertical and Horizontal	7
Marketing Strategy Clear	6
Client management regime	6
market intelligence function	6
Competitor intelligence function	4
Alignment with strategic outcomes	5
Information In Channels managed with marketing	5

Average:		5.571
Total Factors:		7
Non Weighted score		0.796
Weight	7	
Final Score		5.571

Company: BackBerry - Sheet: Incentives

Factors

Factor	Score
Mismatch between employee payoff and company benefits;	7
Stock options with fixed exercise price	5
Economic value added [profit] based compensation	5
Meaningful compensation	5
Stock options in mature companies where options have no futu	5
Alignment with strategic outcomes	5
R&D based rejuvenation targets in the mature company	5
Measures to enhance value chain partner performance	5
stock options/purchase plans where the lower level	5
Long term pension plan	6

Average:		5.1111111
Total Factors:		10
Non Weighted score		0.5111111
Weight	10	
Final Score		5.1111111

Company: BackBerry - Sheet: Stakeholders

Factors

Stakeholder definition Vertical and Horizontal		7
Stakeholder management regime		6
Employees partcipation		6
Continuous Improvement		6
Communications channels		4
Alignment with strategic outcomes		5
Customer as stakeholder philosophy implemented		4
Management Commitment		5
Information In Channels managed with marketing		5
Average:		5.333333333
Total Factors:		9
Non Weighted score		0.592592593
Weight	7	
Final Score		4.148148148

Company: BackBerry - Sheet: Supply Chain

Factors

Managed		8
preferntial contracts		7
Tied to marketing		6
channel partners identified and managed		6
software and technology driven		7
No past history of problems		6
Growing appropriate to marketplace		7
Growing appropriate to company		7
Competitors competing for chain suppliers		7
Average:		6.778
Total Factors:		9
Non Weighted score		0.753
Weight	10	
Final Score		7.531

Company: BackBerry - Sheet: Creativity / Innovation

Factors

Factor	Score
Managed	7
Employees rewarded	6
Alignment with strategic outcomes	6
Collaboration regime in place	7
Innovation Spread out in company	6
Appropriate to company position	7
Appropriate to marketplace	8
Seen as innovative by customers	8
Market sees product as leading	8

Average:		7
Total Factors:		9
Non Weighted score		0.777777778
Weight	10	

Final Score	7.777777778

Company: BackBerry - Sheet: Quality Control

Factors

Factor	Score
Focus on Quality Control	7
Quality Programmes in place	7
Employees partcipation	6
Continuous Improvement	6
Alignment with Customers	4
Alignment with strategic outcomes	5
Products on time	4
Management Commitment	6
Education programmes in place	6
Quality measured and reported	7
Market sees product leading	5

Average:		5.727272727
Total Factors:		11
Non Weighted score		0.520661157
Weight	10	

Final Score	5.20661157

Company: BackBerry - Sheet: Leadership and Culture

Factors

Focused		5
Inspirational		6
Directed		6
Professional Attitudes		6
Regular Interaction with Stakeholders		6
Undiluted interests in company / Divided Loyalties		2
Outward Integrity		8
Clear Communcations		6
Conflict Management		6
Average:		5.666666667
Total Factors:		9
Non Weighted score		0.62962963
Weight	7	
Final Score		4.407407407

Company: BackBerry - Sheet: Human Resources

Factors

Pay		8
Compensation		8
Succession Planning		7
Alignment with Strategic Outcomes		7
Benefits		8
Incentive plans		8
Organisational Design		8
Recruiting strategies		7
Retention Strategies		7
Average:		7.555555556
Total Factors:		9
Non Weighted score		0.839506173
Weighting Factor	10	
Final Score		8.395061728

Company Name	BlackBerry Inc.
Pair-Bond	Mature-Mature

HR Score	8.395061728
Leadership Score	4.407407407
Quality Score	5.20661157
Creativity	7.777777778
Supply Chain	7.530864198
Stakeholder Management	4.148148148
Incentives	5.111111111
Marketing	5.571428571
Decision making	6.296296296
Strategic Sector	7.3125

Final Score	**6.175720681**

0-4 Strong likihood of failure

5-6 Likelihood of Stagnation

7-10 Increasing likelihood of success

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