EXAMINING BUSINESS MODEL INNOVATION THROUGH A CASE STUDY OF A FIRM

by

Kevin Michael Pettersen
B.Sc. (Hon.), University of Victoria, 1993
M.Sc., University of Victoria, 1997
M.F.C., University of Toronto, 2001

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Abstract

A business model can provide a clear framework for how a company delivers value to its customers. The better the business model is understood, the greater the ability for the company to understand how to improve its business to continually deliver greater value to its customers. Through the process of business model innovation, companies can transform their success by delivering customer value in an entirely different way. As such, understanding business model innovation is considered critical for transformational and sustained growth of a company. Business model innovation, however, is a fairly new concept and understanding how it actually occurs in practice is rare. This project offers a unique first-hand insight (i.e. autoethnography) into the process of how business model innovation occurs in a firm (Tesera Systems Inc.) over a long period of time (~7 years) and continues to evolve.

This project shows that the actual experience of Tesera relates very well to the theories and concepts of business model innovation (i.e. framework, drivers/needs of business model innovation, typology, ontologies) and benefits (i.e. improvements in agility, resource velocity, cost structures). In addition, this project offers learning perspectives from this business model innovation experience (i.e. crisis as opportunity, value gained from understanding implicit business model innovation, the importance of a constructionist ontology, business model innovation to guide business processes externally and internally). As such, this project helps to provide value to both the theoretical and conceptual perspectives regarding business model innovation as well as those who in business are looking to better understand business model innovation from a practical experience to provide their firms the opportunity for transformational change and sustained success.
# Table of Contents

Abstract ............................................................................................................................... ii
Table of Contents ................................................................................................................ iii
List of Figures ....................................................................................................................... v
Acknowledgement/Dedication ............................................................................................ vi

1 Introduction ....................................................................................................................... 1

2 Literature Review .............................................................................................................. 1
   2.1 The Business Model and its Importance ................................................................. 1
      2.1.1 Business Model Definitions ............................................................................ 2
   2.2 Business Model Innovation ...................................................................................... 3
      2.2.1 Business Model Innovation Framework and Typology ................................. 4
      2.2.2 Business Model Innovation and a Constructionist/Post-Positivist View .......... 7
      2.2.3 Challenges of Business Model Innovation and a Need for Better Understanding 7

3 Data and Methodology ..................................................................................................... 8
   3.1 Methodology, Research Strategy and Research Design ........................................... 8
   3.2 Research Questions ................................................................................................. 9
   3.3 The Unit of Analysis – The Firm (Tesera Systems Inc.) ......................................... 9
      3.3.1 Period 1: Pre-incorporation - The Genesis of the Firm .................................. 10
      3.3.2 Period 2: Incorporation of the Firm (as a For-Profit Subsidiary) .......... ........... 11
      3.3.3 Period 3: An Independent Firm – Tesera Systems Inc ................................... 14
      3.3.4 Period 4: The Perfect Storm ............................................................................ 17
      3.3.5 Period 5: Survival Mode .................................................................................. 21
      3.3.6 Period 6: Establishing “Pillars” for Recovery .................................................. 24
      3.3.7 Period 7: The Development of the Collaborative Business Model ............... 27
      3.3.8 Period 8: The Implementation of the Collaborative Business Model (the breakthrough) .......................................................... 29
      3.3.9 Period 9: The Growth and Evolution of the Collaborative Business Model .... 32

4 Discussion/Results .......................................................................................................... 38
   4.1 Synopsis Business Model Innovation process with Tesera .................................... 38
      4.1.1 Triggers and Responses of Business Model Innovation ................................. 39
      4.1.2 The Resulting Description of Tesera’s Collaborative Business Model ............ 42
   4.2 Business Model Innovation Theories/Concepts that are Supported by this Case .... 43
      4.2.1 Needs for Business Model Innovation .............................................................. 43
      4.2.2 Emphasis on Cultural and Ontological changes to Enable Business Model Innovation .......................................................... 44
      4.2.3 Improving Resource Velocity and Cost Structures through Business Model Innovation .......................................................... 45
List of Figures

Figure 1. 4 box business model framework .......................................................... 5
Figure 2. Relationship between the MMFA and MRAG (i.e. Tesera Systems Inc.) .... 12
Acknowledgement/Dedication

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1 Introduction

Many entrepreneurs and companies run successful businesses without explicitly knowing or being able to define or describe their business model. Yet, all successful companies have a successful business model, whether or not they know what it is or can describe it (Magretta 2002, Johnson et al. 2008). Running a successful company, no matter how big or small, involves a complex mix and balance of many different elements (organizational behaviour, strategy, finance, marketing, governance, human resources, etc.) with a product/service that people are willing to pay for. This mix and balance is different for every business. Companies can operate very successfully to establish the right mix and balance based on experience, intuition, acquired skills, evolving business philosophies etc. This can all occur within a company without ever knowing what a business model is, so why is a business model necessary?

This project will highlight the importance of the business model and most importantly the process of business model innovation by using the practical experience of a firm that has implemented the process of business model innovation over the past 7 years. The intent is to provide a greater understanding of how business model innovation works in a real world context, and to relate this experience to the existing theories, frameworks conceptualization frameworks for business model innovation as well as potentially offering any new perspectives that may arise.

2 Literature Review

2.1 The Business Model and its Importance

Given all the complexities and inner workings that can occur within a business, it can be challenging to explicitly understand what makes a business work. Businesses can have a certain “Je ne sais quoi” that contributes to the success of the business, but if no one can really
understand from a very basic point of view what makes the business successful, it is difficult to ensure everyone is "pulling in the same direction" and to improve or enhance the successful elements or look for new ways to contribute to success that build upon the existing business.

One of the tools that can be used to distill a business down to its salient elements is the business model. The concept of the business model gained popularity in the "dot com" era of the late 1990s and, despite falling out of favour (primarily through misuse/abuse in raising capital), the value of the business model is again being recognized as an essential tool to successful organizations (Magretta 2002, Teece 2010). Chesbrough (2010, 355) suggests "...a mediocre technology within a great business model may be more valuable than a great technology exploited via a mediocre business model".

2.1.1 Business Model Definitions

A model is an abstract of reality and can range from being very simple (i.e. to capture the primary characteristics of reality), to being very complex (i.e. to try to explain as much of the detail of the reality as possible). There are several ways that business models are conceptualized ranging from narratives/stories to aligning with quantitative aspects of the firm (Magretta 2002; Daganova and Eyquem-Renault 2009). Similarly, Teece (2010, 173) emphasizes that "...a business model is a conceptual model (rather than a financial model) of a business", though it can become embedded in such things as business plans, financial statements and cash flow projections.

Johnson (2010) discusses the broad range of business model definitions and this is further illustrated by Baden-Fuller and Morgan (2010,158) with examples of business model definitions from various writers (see Appendix A). Despite the different definitions, there appears to be a common understanding of the principles of the business model and what role it
represents to the firm. Svejenova et al. (2010, 409) succinctly summarizes the business model as "...an organizational device that reveals a company's logic for creating and capturing value and also its approach to constant renewal". Similarly Johnson (2010, 22) summarizes the essence of the business model as "a representation for how a business creates and delivers value, both for the customer and the company" and Baden-Fuller and Morgan (2010, 157) suggests the "...role of business models is to provide a set of generic level descriptors of how a firm organizes itself to create and distribute value in a profitable manner." Comparably, Zott and Amit (2010, 217) describe the objective of the business model is "...to exploit a business opportunity by providing value for the parties involved i.e., to fulfill customers' needs and create customer surplus while generating a profit for the focal firm and its partners".

There isn't necessarily a right or wrong business model definition, however, the definition should suit the purpose of how the business model is to be used. For example, if the purpose of the business model is to get all employees in an organization on the same page so that everyone can understand the "big picture" of how the business operates, generates profits and is sustainable, then a descriptive/narrative business model may be perfect. In this case, having everyone understanding the general principles of the company so that everyone knows what makes the difference is more important than the intricate quantitative details.

2.2 Business Model Innovation

A business model is also an important tool when it comes to responding to change as well as taking advantage of specific opportunities (i.e. business model innovation). Peter Drucker's article "The Theory of the Business" (Drucker 1994) helped to characterize the importance of understanding the principles of how the business works (a similar concept as the business model) and recognized that key assumptions to the theory must remain valid (i.e. organizational environment, the mission of the organization, and the organization's core
competencies). If the assumptions are, or become, incorrect, the theory of the business is invalid. Drucker's conceptualization of the Theory of the Business could certainly be considered a prelude to the concept of business models, and also to the concept of business model innovation, as he was very proactive in his recommendations to ensure the Theory of the Business remained valid (assumptions must fit reality and one another, the theory must be known and understood throughout the organizations, and the theory has to be tested constantly).

Johnson (2010) builds upon Drucker's concept by explicitly defining the process of business model innovation as occurring when a company innovates the very theory of the business itself. This occurs when a company fundamentally changes the way it derives profit, accesses resources, processes and expertise, and coordinates/controls activities. In doing so, a company delivers new value to the market by "reconsidering the fundamental building blocks that make the business work" in what Johnson (2010) refers to as a company's "white space" of opportunities (e.g. transform/create markets, redefine entire industries). Similar characterizations of redefining the fundamental elements of the business (i.e. business model innovation) have been presented by others (e.g. Markrides 1997, 2006; Kim and Mauborgne 1997, 2004; Hamel 1998).

2.2.1 Business Model Innovation Framework and Typology

Johnson (2010) has developed a conceptual framework to understand the drivers of business models and to understand when business model innovation is needed. He refers to this as the "4 box business model framework" (see Figure 1).
Figure 1. 4 box business model framework
(Reproduced from Johnson 2012 (website) http://seizingthewhitespace.com/tools-resources/interactive-models)

The 4 boxes include the following:

1) The customer value proposition (CVP) – the “job to be done”.

2) The profits formula, composed of the:
   a. revenue model – offering price x quantity sold
   b. cost structure – determining overhead by requirement of CVP (not taken as a given)
   c. target unit margin (operating profit/unit to achieve profit at a target volume)
   d. resource velocity (how quickly resources need to be used to support target volume)

3) Key Resources, and:

4) Key Processes

The latter two (key resources and key processes) are closely related and are what is needed in terms of people, technology, facilities, suppliers, distribution channels, etc. to support the CVP to meet the profit formula.

Johnson (2010) suggests that business rules, norms and success metrics bind these 4
boxes together and keeps the system in balance to repeatedly deliver the CVP and fulfill the profit formula. It is for these reasons that Johnson suggests that companies can operate very efficiently without being able to articulate their business model (i.e. elements of the business model can fade in memory, but the rules, norms and metrics persist in the organization and culture through the rules, norms and success metrics).

From the context above, Johnson indicates that new business models are needed (business model innovation) when,

- there is a need to change the current profit formula (particularly related to cost structure, resource velocity or both), or
- the firm must develop many new kinds of resources and processes, or
- the firm must fundamentally change its core metrics, rules and norms to run the business and deliver the CVP.

Once a firm decides business model innovation is necessary, Johnson (2010) proposes there are three different types of business model innovation

1) Within existing markets (“white space within”) – fulfilling important but unsatisfied “jobs to be done” (i.e. CVP) for existing customers within existing markets. This also relates well to the edge-centric strategy defined by Nunes and Breene (2011) in which the periphery of the market is continually scanned to seek untapped customer needs or unsolved problems.

2) Creating new markets (“white space beyond”) – democratizing products and services and making them accessible to customers who have been shut out of markets. This is where existing product and/or service offerings have been too expensive, inaccessible, or too complicated. This type of business model innovation is similar to “Blue Oceans” a described by Kim and Mauborgne 2004, 2005)

3) To address industry discontinuities (“white space between”) – new opportunities that
emerge due to transformational market shift, new technology, or change in government policy causing industry upheaval.

2.2.2 Business Model Innovation and a Constructionist/Post-Positivist View

Kim and Mauborgne (2004) highlight a very critical point relating to the creation of new markets ("Blue Oceans") and, similarly, business model innovation. The traditional belief regarding industry conditions and markets is based on a positivist (epistemology) and structuralist (ontology) view (i.e. environmental determinism) in which managers of firms believe they operate within the constraints of market and economic forces larger than themselves. Those firms that create new markets ("Blue Oceans") and undertake business model innovation have a post-positivist (epistemology) and constructionist (ontology) view in which the managers of these firms believe that market boundaries and industries can be redefined by their own actions and beliefs. As opposed to the firm being a more passive participant whose activities and future is dictated and constrained by the existing markets/industry (i.e. structuralist view), adopting this constructionist belief is a critical aspect that enables business model innovation and the firm to take an active role in defining new markets/market space and new opportunities.

2.2.3 Challenges of Business Model Innovation and a Need for Better Understanding

One of the challenges to business model innovation is that it represents uncertainty (i.e. venturing into the unknown) and requires businesses to challenge themselves outside the certainty of defined norms (Johnson 2010). The ability to better understand the context of why and how businesses undergo business model innovation is key to overcoming some of these perceptual barriers. Interestingly, Girotra and Netessine (2011) even describe that risk and uncertainty are key factors that can lead to significant opportunities through business model
innovation.

As described by Svejenova et al. (2010, 409) "Still, little is known about what drives business model transformation and the mechanisms through which change occurs". Similarly, Teece (2010, 192) has also commented about the "...paucity of literature (both theoretical and practical) on the topic [of business models] as being remarkable given the importance of business design, particularly in the context of innovation...business models are frequently mentioned but rarely analyzed: therefore, they are often poorly understood".

As such, this research project is meant to contribute to a better understanding of the processes involved in business model innovation through the examination of a firm that has underwent significant transformations in order to innovate its business model.

3 Data and Methodology

3.1 Methodology, Research Strategy and Research Design

This research project presents a unique opportunity to longitudinally and intensively examine and understand the process of business model innovation as it occurred (and is occurring) within a firm (Tesera Systems Inc.). In reviewing various research strategies and designs (in Bryman et al. 2011), the author's philosophy of the research topic of business model innovation (oriented towards the intensive longitudinal study of a firm) very much aligns with a post-positivist epistemology and a constructionist ontology. In essence, this is the belief that people are involved in shaping their social reality, and is very consistent with the author's belief that business and business model innovation exists in a socially defined context. As a result, this project is based on a qualitative research strategy based on an inductive approach. A case study research design best fits the context in which to explore and understand business model innovation for the firm. This case study will be an intensive longitudinal study by autoethnography (i.e. long-term first hand account of business model innovation).
autoethnography approach, the focus of the writing style is to create a profound emotional experience for the audience such they experience the narrative as if it were happening to them (Bryman et al. 2011, Holman-Jones 2005, Ellis 2004). As such, there is an increased ability for the audience to understand the multidimensional context (e.g., cultural, political, financial, social, emotional) in which the subject matter evolves (which in this case is how business model innovation occurred within the firm).

The development of the case study has been guided by recent literature on case study design (Yin 2009), the use of case studies in business research (e.g., Perran and Ram 2004), and actual case study research that relate to the research topic (e.g., Moingeon and Lehmann-Ortega 2010; Svejenova et al. 2010; Daganova and Eyquem-Renault 2009, Calia et al. 2007). The case study/autoethnography itself is structured based by the critical periods that influenced changes and contributed to business model innovation within the firm.

3.2 Research Questions

The questions this research will attempt to address are:

1) How does the process of business model innovation occur within a company?
2) What are some of the triggers that contribute to business model innovation and how does a company respond to these triggers?
3) What existing concepts/theories of business model innovation are supported in this case study?
4) What can be learned from this experience of business model innovation retrospectively as well as considerations for the future?

3.3 The Unit of Analysis – The Firm (Tesera Systems Inc.)

Tesera Systems Inc. is a small privately held natural resource and environmental
consulting firm that is focused on using innovative techniques and technologies in helping clients to derive better information (to reduce uncertainty and risk) in order to make better decisions. The company headquarters are in Cochrane, Alberta (on the outskirts of Calgary). The company currently employs 12 staff who are dispersed throughout British Columbia and Alberta. Despite this relatively small size, the influence of the company is greater than the amount of staff directly employed owing to the current business model. More concisely, the company has evolved from what could be called a more traditional, highly competitive-based business model to a more contemporary collaborative-based business model. The following sections of this chapter will describe critical periods over which this evolution occurred as well as reveal the triggers (i.e. "the why") and the response mechanisms ("the how").

3.3.1 Period 1: Pre-incorporation - The Genesis of the Firm

Tesera Systems Inc. was first incorporated as the McGregor Resource Analysis Group. The initial naming of the company was to indicate its original subsidiary relationship to the McGregor Model Forest (near Prince George, British Columbia). The McGregor Model Forest was one of 11 model forests established in Canada in 1992 under the Canadian Model Forest Program of the Canadian Forest Service/Natural Resources Canada. Model forests were set up to be hands-on laboratories where leading edge techniques for Sustainable Forest Management (SFM) could be developed, tested, applied, monitored and shared (MMFA 2001). The McGregor Model Forest Association (being a partnership of industry, education, government) was very focused on developing and integrating technology to support collaborative decision-making. In this regard, a system was developed called "The McGregor Approach to SFM" which incorporated scenario planning, computerized tools (for modeling, forecasting and visualizing the effects of different forest management scenarios), indicators, monitoring and evaluation within a continual improvement/adaptive management framework. This "approach" was very
well received to address the newly emerging field of SFM within the forest industry particularly as SFM became a driving force to address consumer led demand for forest certification of forest products (i.e. proof that forest products were derived from sustainably managed forests).

The genesis of the company was the result of two primary triggers. The first trigger was based upon addressing the needs of the larger forest sector (i.e. forest product companies) outside the boundaries of the model forest to provide assurance to its customers that forest products were derived from sustainably managed forests (i.e. Forest Certification). The second trigger was the desire of the MMFA to become financially self-sufficient as continued long-term federal funding of the Model Forest Program was not guaranteed. As a result, the response to these triggers was the move to incorporate a for-profit subsidiary company that would deliver consulting services to both the MMFA as well as outside clients (e.g. forest companies/consortiums, provincial government, etc.). Despite the positive aspects of this opportunity, it was also met with criticisms. In particular, other forest consulting companies viewed it as being a subsidized competitor. Furthermore, the federal government itself, was challenged by the concept of a for-profit entity acting as a funding generating subsidiary with the explicit purpose of developing financial self-sufficiency. Despite these criticisms and concerns, the McGregor Resource Analysis Group was legally incorporated in 1998 as a for-profit subsidiary within the non-profit MMFA (MMFA 2001).

3.3.2 Period 2: Incorporation of the Firm (as a For-Profit Subsidiary)

The newly incorporated for-profit subsidiary, named the McGregor Resources Analysis Group (MRAG), was led and staffed by the previous employees of the MMFA. At that time there were 11 employees (including executive staff). The ownership of the subsidiary was divided between the MMFA and senior employees/directors (internal and external) of the company through an initial private share offering. The organizational chart
shown in Figure 2 summarizes the relationship between the MMFA and MRAG.

As such, the MRAG provided services to the MMFA (to deliver the MMFA program) which were previously provided by the employees of the MMFA. In essence, very little changed as the same people were delivering the same services for the MFMA program. This included consulting services as well as continuation of the software development that supported the "McGregor Approach to SFM". The software being developed was spatially explicit landscape modeling software that was used to support leading-edge spatially explicit resource modeling and analysis. An important point to note was, at the time, there was a lack of software available with this capability and part of the early strategy (before the firm was established) was to develop the software so it could be licensed and sold. This contributed to the ongoing push to develop this software.

The spatial explicit nature of this software was necessary to be able to show where and when activities would occur on the landscape through time relative to one another (e.g., harvesting, protected areas, wildlife corridors, recreation areas). This was a very important function for not only being able to link strategic planning to operations (and being able to
identify management thresholds/limits via indicators), but also to be able to create landscape visualizations such that management scenarios over vast areas and long timelines could be communicated extremely effectively with stakeholders. The software development was a key function in the ability to provide an integrated set of services that was very unique within the forestry sector which in turn were very well suited to addressing a new market-based requirement (i.e. SFM and subsequently Forest Certification). The ongoing challenge and difficulty in this approach was that development of the software and delivery of the services was occurring simultaneously. This presented some challenges and difficulties. Since software development was “in progress”, the scope of what the software needed to address was ever expanding. This was partly due to the fact that the concept of SFM was quite new, and though there were commonly accepted criteria for SFM, the modeling and analysis of SFM was only bounded (or unbounded) by the imagination of those involved. This often created difficulties in addressing the balance between a practical representation of reality and striving to represent as much detail as possible.

At the same time, the firm was establishing a presence in developing projects with outside clients. In essence, the firm adopted a traditional competitive business model. As such, incumbent forest consulting firms that had facilitation, modeling, analytical and geomatics capacities were considered competitors and defined the competitive “landscape”. Some of the projects involved securing work through competitive processes (i.e. request for proposals, invitation to tender, etc.) where as other projects resulted from the leading-edge work that was conducted with the MMFA.

Several large projects involved using the “McGregor Approach to SFM”. Under the approach, the first steps involved worked with stakeholder groups (i.e. public advisory groups) to identify a range of management scenarios that they would like to see analyzed on the land base. Themes were chosen for these scenarios (e.g. biodiversity, recreation, resource
extraction) and then objectives were set for the different themes, and management indicators were also identified. This first stage of the process was fairly involved in order to obtain information that could then be represented through landscape modeling and analysis (through time). Work plans for these projects were established based on certain assumptions and timelines. A critical assumption for these projects was that the software development would "mature" and stabilize which didn't necessarily occur as envisioned (or assumed). The software was required to run on large land bases (> 1 million hectares) and was also designed to be platform independent (for the purposes of licensing and selling). As the complexity of the software evolved, so too did the computer processing resources required to run the software. Fortunately, increased computing processing capabilities could be obtained, though at a significant cost. Interestingly, the tendency during this time was not to address the question "how much was too much?" with regards to the software development, but instead to keep acquiring more processing power to address bottlenecks. Part of the problem was likely that this was relatively unknown territory, and that it was very difficult to answer this question. The other factor to consider was that the software development was a "cornerstone" of the MMFA. It was a distinguishing element amongst the entire Model Forest Network. Continued development was considered progress and budgets were allocated for continued development of the software under the Model Forest program. As such, the legacy of software development was a strong driver for continued software development.

3.3.3 Period 3: An Independent Firm – Tesera Systems Inc.

The earlier concerns and criticisms of establishing a for-profit subsidiary company continued to grow after the MRAG had been incorporated and started conducting projects. Despite being established to meet financial self-sustainability objectives for the anticipated reduction in federal funding support (i.e. CFS/NRCAN), it was clear that this type of relationship
was not what was expected (nor encouraged) as part of the Model Forest program. This was a particularly important consideration since the Canadian Model Forest Program was ending its second 5-year phase, and entertaining proposals for a third 5-year phase. In recognizing the incompatibility and difficulty this presented for the continuation of the McGregor Model Forest, it was determined that the best solution moving forward was to sever the subsidiary relationship between the MMFA and the MRAG (known by that time as the McGregor Group). As a result, an agreement was formed to enable the firm to repurchase the MMFA shares as well as an agreement regarding the status and ownership of the developed technology (e.g. computer models, software, etc.). It is important to note that this move to sever the link between the MMFA and MRAG resulted MRAG inheriting the burden of the administrative and R&D structure that was initially linked the MMFA.

To further clarify this independence from the MMFA, the McGregor Group changed the name of the firm to Tesera Systems Inc. A “tesera” is a small tile within a mosaic. As such, the concept of the “small pieces that make up the big picture” was particularly appropriate to the nature of the work the company was involved with. “Systems” was added to reflect the “high tech” nature of the work as well as the integrated approach that was developed for SFM (which was later rebranded as the “Tesera Approach to Sustainable Resource Management”). Tesera Systems also physically separated from the MMFA in moving to a new head office location (until this time, a majority of the employees shared common office space with the MMFA). From a broad perspective, each organization was enabled to pursue its endeavors independent of one another.

Shortly after this formal separation from the MMFA, a second share offering was extended to all the employees of the company (at this time there were 18 employees). One of the intentions of this share offering was to encourage a sense of ownership within all the employees of Tesera. From an equity perspective, the share offering to employees didn’t have
an effect in raising capital but rather reduced accrued overtime liabilities (since many shares purchased by employees were conducted through accrued overtime reductions). A large portion of employees accepted the share offers (i.e. total of 17 shareholders).

Even through the direct service support (by Tesera) for the McGregor Model Forest program discontinued under this agreement, many of the large external projects continued (as well as a number of other smaller contracts). Several of the large projects were based upon a consortium approach where a group of forest companies (including government) would collectively develop SFM plans over large land base units known as timber supply areas (hundreds of thousands to millions of hectares in size). The primary source of funding to conduct this work was through provincial stumpage revenues that were administered through a provincial program called Forest Renewal BC (FRBC). Several initiatives were established with the province to address alternative ways of conducting forest management such as the Innovative Forest Practices Agreement (IFPA), and the Enhanced Forest Management Pilot Projects (EFMPP). In addition, the company was also involved in resource analysis work as part of the provincial Timber Supply Review (TSR) process.

In order to meet the timelines and commitments to deliver on these projects (i.e. multi million dollar contracts), the company embarked upon a growth phase. This required both an increase in the human resources as well as computing hardware and software development resources (to address the delivery/development issue described earlier). The capital needed to support this growth phase was obtained through Government of Canada business improvement loans (BILs). These were government secured loans to support capital improvements for companies. For the most part, this supported the acquisition of a series of high powered computer processors, servers, storage and communication devices. From a human resources perspective, Tesera’s staff increased to approximately 25 people to support the project workload and timely delivery according to the project work plans. At that time (2001), a large
proportion of the staff worked centrally from the head office (Prince George), with the exception of two staff members, one who had always worked remotely from northwest BC, and one staff who just relocated to Calgary, Alberta (primarily due to a spouse's relocation but also represented an opportunity to diversify geographically).

As mentioned above, a significant amount of work continued on the initial phases of these large projects which involved a tremendous amount of public involvement work, and a significant amount of data collection/processing to prepare for the analysis phases. As such, there was an ample amount of work to keep staff busy and billable. At that time, the revenue model for the business was essentially based on professional services, such that greater revenues were generated by hiring more people. Additional elements to this revenue model were also put in place to offset computing costs (i.e. CPU time), and well as cost recovery of software development (i.e. a charge per hectare for the application of the modeling software). These revenue model elements were negotiated into the initial project contracts. With many of the project staff fully utilized, the company performed quite well financially.

3.3.4 Period 4: The Perfect Storm

Despite the growth, the level of activity on projects and the favorable financial situation of the company, some of the initial internal challenges continued to persist. Again, these were related to the issues of continually increasing complexity/scope of the projects as a result of the software being in a continual development phase. Preliminary analysis and model runs required fixes of the software bugs (which were anticipated) and also issues related to processing capacity; however, the assumptions related to project timelines were perhaps overly optimistic given this uncertainty related to development. These factors led to awkward relationships with clients who were justifiably concerned with the timelines (particularly due to subsequent commitments that were made to their organizations). Fortunately, many of the
clients recognized the benefits offered by this approach and the unique aspects of the tools that were being developed (i.e. spatially explicit landscape and resource modeling) and some flexibility was negotiated.

In addition to these internal factors, several external factors emerged at that time which transformed the forest sector. The Canada/US softwood lumber dispute was escalating, and the various back and forth challenges in this dispute resulted in increasing costs to lumber producers. In May 2002 the United States imposed a 27 percent duty on Canadian softwood lumber (pine, spruce and fir) (CBC 2006). These were the primary forest products produced by our clients. The forestry sector responded by increasing efficiencies of mills and there was also significant consolidation within the industry such that numerous independent forest product companies were being acquired by multinational companies (e.g. Canfor, Weyerhauser, West Fraser).

The BC mountain pine beetle epidemic was another emerging crisis that directly affected many of Tesera’s clients particularly in the western part of the province (Moricelakes Timber Supply Areas) but also in the eastern parts of central BC (Robson Valley Timber Supply Area). Mature pine stands were completely devastated by the mountain pine beetle and quite often these pine stands were a very high percentage of the available timber in these areas for near term timber supply.

Perhaps the most devastating external factor that had the most severe consequences to Tesera was the 2001 BC provincial election which resulted in a change in provincial political parties from the New Democratic Party (NDP) to the Liberal Party. Amongst a number of fiscal austerity measures brought in by the newly elected Liberal government, was a termination of the NDP initiated FRBC program which provided core funding of many of Tesera’s large projects. As noted earlier, Tesera had recently signed contracts for these large projects which required the investment in human and capital resources to service the needs of these projects.
In October 2001, the Provincial Government officially provided notice to FRBC to cease operations on March 31, 2002 (FRBC 2002). The government announced that FRBC would be replaced with a more efficient program. There was, however, a significant lag between the announcement of the termination of the FRBC program and the eventual establishment of the replacement program. As such, contracts for projects that were developed under the FRBC program were cancelled. Tesera had made large investments in capital and human resources without a critical source of revenue to support these commitments. Though FRBC was replaced with a new program called the Forest Investment Account (FIA), there was a significant lag and period of uncertainty. As such, when projects were reinitiated under the FIA program, contracts were renegotiated under reduced funding resources of which some of the elements of the previous revenue model were not accepted. Essentially, the revenue model was strictly for services (and not reflective of computing costs nor was cost recovery for software model development via a per hectare rate).

The response by Tesera to this situation was to increase its effort in pursuing other forest consulting work. With many forestry consulting companies in the same situation, it was a “buyers’ market”. The environment had become ultra-competitive and it was quite evident the unwritten strategy of many firms was to underbid in order to get projects. This effect led to many forestry consulting companies going out of business and for those remaining, the competition had the effect of commoditizing forestry consulting services, and depressing consulting rates (i.e. known in the industry as the “race to the bottom”).

This response led to an unfocused approach to business development. Tesera expended significant efforts to respond to request for proposals (RFPs) and invitations to tender (ITT) which might only have the slightest relationship to the types of services offered by Tesera. In essence, Tesera adopted a desperate strategy of trying to be “everything to everyone at any price”. This was extremely time intensive and the success rate was minimal. Projects which
were successful through these efforts were generally at low (or negative) margins.

 Additional efforts were made to diversify into different geographic markets/sectors. The author relocated to Southern Alberta in 2001 followed by the then Vice President in 2002 and shortly after by 4 staff members (existing and new). The President relocated to Southern Alberta in 2003. With both the President and Vice President having relocated to Southern Alberta, the location of the corporate headquarters was officially moved to Cochrane, Alberta, with the office in Prince George now considered a branch office.

 During this period, the culture and morale of the organization was negatively impacted. Senior employees who sat on the board resigned their board positions (that were filled by newer employees). Employees who remained in the Prince George office openly expressed a feeling of abandonment. Several employees left the organization, and several support staff were laid off (with the majority departing between May – Nov 2004). As time progressed, the two principals (President and the prior Vice President) of the firm took a voluntary layoff and the remaining employees agreed to payroll deferral in order to address financial challenges. The organization was essentially on life support with liabilities accumulating and debt payments were deferred, being paid as late as possible. Both the President and Vice President continued to work for the company in a reduced capacity though the Vice President took another job (which further reduced his involvement). In addition, during this time a key senior manager also resigned. Shortly after, the Vice President, eventually resigned from both the executive position and as an officer of the board.

 In what was seemingly a devastating impact to the company with the departure of key individuals, a request was made of specific existing staff to step into these key roles. The senior resource analyst role was filled by a newly hired recruit who had a similar role in his previous employ. The author of this paper was asked to take on the roles and responsibilities of the recently departed Vice President/Corporate Treasurer (a daunting task with having no formal
business education/experience, but having the key qualification of being “conscientious” as
explained by the President of the company).

3.3.5 Period 5: Survival Mode

In retrospect, this lack of formal business knowledge was not such a detriment since there was no preconceived notion of the level of despair of the situation, nor was there a sense that it couldn’t be fixed. There was a tremendous learning curve involved in assuming the roles and responsibilities of the recently departed Vice President. The beginning of this learning curve really marked the early stages of business model innovation in the company. This was applicable both for developing and understanding of business principles as well as understanding the status of the company itself (financially, culturally, etc.). With regards to the former, several resources to understand business principles were involved. Learning was gained from many contemporary books on business in such areas as leadership, strategy, culture, etc. (e.g. Collins 2001, Moore 1999, Burlingham 2005, Kim and Mauborgne 2005, Goleman 2003, Michelli 2007, Greco 2004). These contemporary business books provided a tremendous resource to learn from the experience of other companies and to be able to incorporate contemporary and innovative ideas into Tesera. Another important opportunity (in terms of defining the openness to learn from the experience of other businesses) came about with the participation in a group called CETAC West. This organization was developed to assist entrepreneurs of environmental technology companies in developing their products and services through things such as mentoring, advisory boards, and workshops with other participating companies.

The process of being exposed to the experiences shared by other businesses (e.g. challenges, issues) through the books and workshops (described above) brought about a profound realization: the issues and challenges that we were experiencing as a company were
The initial period of assuming the roles and responsibilities of the recently departed Vice President could be best described as a financial triage situation. The principle that was adopted was to keep things as simple as possible so that all involved (managers, company board) could understand the situation.

Much of the previous bookkeeping and day-to-day accounting activity had been conducted internally (i.e. internal bookkeeper/accountant, VP). It was openly expressed by other members of the board that there was very little understanding of the financial details. In moving forward, and following the "keep it simple" principle, the bookkeeping and accounting functions were outsourced. This helped contribute to greater financial clarity since the bookkeeper and accountant were now considered as external advisors with no vested interest in the financial results of the company.

The primary issue to address in this phase was a highly complex backlog of short-term financial liabilities that were in various stages of delayed payment. This not only required significant time to manage the complexity, but also incurred significant financing costs as well as risking the continuity of services to our firm. Again, one of the first steps was to simplify this process, and develop a system for the timely payment of short-term liabilities.

Another financial issue that emerged involved our long-term debt instruments (i.e. Business Improvement Loans). As mentioned previously, the BILs were used to purchase computer hardware (i.e. rapidly depreciating assets) to meet the growing processing demands.
of the software that was being developing. The bank administering the BILs recognized there was a key change in management and an effective change in company ownership (with departing employees shareholders). As such, the bank became increasingly interested in the financial status of the company. The maintenance of key covenants were required for the BILs but were not actively monitored by the company nor by the bank (other than by submission of year end financial statements). As a response to the bank’s concerns, the company immediately implemented the use of several financial ratios (established in consultation with our external bookkeeper). Furthermore, regular monthly financial reporting was initiated in order to provide the input to generate the financial ratios on a monthly basis. This measure provided both transparency and clarity of financial performance for both internal purposes (board of directors) and external purposes (bank). This was the start of a greater understanding of the financial status of the company, and provided an ability to develop a strategy to manage the liabilities of the company.

Another financial liability emerged for the company in the form of exiting shareholders. As mentioned above, there were several employees who either left the company, or were laid off. A shareholders agreement was established when the company was first incorporated, and one of the conditions to own company shares was the requirement to be an employee or director of the company. Under the shareholders agreement, the company was required to buy back the shares starting 6 months after the date of departure (with provisions to schedule payments over a period of 5 years with interest). At that time, nine previous employee shareholders (almost half being major shareholders) required their shares to be repurchased by the company. At that time, this repurchase requirement represented 52% of the issued shares.

In adhering to the “keep it simple” principle, another informal corporate principle emerged arising from this shareholder situation. The principle of consistency was used to
navigate through this issue of shareholder buyback negotiations. The share price calculation was developed through a series of formulas such that it would consider multiple of earnings (projections), book value, and factor of sales. Even though the share price applicable to many of the exiting shareholders was based on highly optimistic projections (that were not reflective of the financial situation of the day), it was decided that the company would adhere to consistency of the share price determination process. Despite a long negotiation process (of which share price was the largest issue), all previous shareholders eventually settled based on the calculated price. Through this process, the company has recognized the value of consistency in share price determination, and has consistently used the same process to this day.

3.3.6 Period 6: Establishing “Pillars” for Recovery

In “Survival Mode”, there was a steep learning curve, but perhaps the most important thing, was the immense opportunity to critically examine and learn about the key elements of our business (i.e. what we did, why we did it, how we did it, and if it made sense). As per Peter Drucker’s Theory of the Business (1996), this was where we asked ourselves if “the story of our business” still made sense.

The financial survival of the company was obviously of critical importance. In survival mode, the financial management related to dealing with the internal financial crisis was all consuming and an incredible distraction to the actual work the company excelled at (i.e. core competencies). As such, the most important lesson learned was to never put our company in that position again. Through this experience, the burden of debt was immense, and this experience very much shaped and influenced the evolution of the company’s business model.

In survival mode, we became a very financially lean company (out of necessity). In evolving into a recovery mode, we continued to recognize the value of being lean but we also
recognized that investments that we made as a company had to be smart. In staying with our “keep it simple” philosophy, we established 4 “pillars” for recovery (ceremoniously written on a piece of scrap paper which still sits prominently on the author’s desk as a reminder).

1. **Aggressively reduce debt** – with the top priority being the elimination of the Business Improvement Loans (BILs). Contrary to their name, these loans were actually reducing our ability to improve as a business (due to several factors both external and internal). As such, eliminating the BILs was paramount, but reducing all debt and liabilities was a fundamental principal.

2. **Invest in the company** – providing the staff with the tools they needed to do their jobs efficiently and effectively. Previous fiscal cuts (e.g. not investing in proper hardware and software upgrades and maintenance) resulted in staff performing workarounds or spending much more time on work than was technically necessary. This was not only more time consuming, but also frustrating to the employees.

3. **Invest in the employees** – Providing competitive salaries and benefits was the industry status quo, but Tesera needed to look to innovative ways to incorporating things that would establish a culture and a sense of belonging. A key part to building the culture within the company was to strengthen those things that were important to employees but were not related to regular salaries/benefits. A primary focus was on things that would contribute to a better work/life balance. For example, flexible working hours were already in place, but the company also embraced virtual working environments, and provided the option to all staff to work from a home office. Other programs were also developed to nurture the development of a corporate culture. This included company supported initiatives to encourage personal development (i.e. self-directed opportunities based on personal interests), and company supported initiatives encouraging active involvement in community (i.e. employee directed corporate donation programs to
chartable organizations that they are involved in).

4. Invest in shareholders – Normally shareholders are at the top of the priority list; however, without the other “support” of these other pillars, being a shareholder in a bankrupt company would be meaningless. Up to this point, the shareholders of the company had not been paid dividends, but the importance of this pillar recognized the patience and fortitude of the shareholders and a commitment to build company equity in order to pay shareholders future dividends.

To our surprise and delight, these 4 simple principles invigorated and energized the company. They were a “call to action” and provided us with a sense that we were not victims of circumstance, but instead we were now in control of our destiny.

Another key turning point in this recovery phase focused on the future of our software development. The amount of effort and resources that were being expended to continually develop the software was significant. In essence, we continued to develop software because that is what we did from the beginning (a legacy from our past); however, it was never really critically questioned. As noted earlier, the intent from the initial establishment of the company was to be able to “package and sell” the software to the outside world. The biggest problem was that the outside world had changed considerably. The potential customers had changed significantly. Forest consulting firms were dramatically reduced, and forest companies had significantly consolidated. Furthermore, a commercially available software solution had emerged as an industry standard (albeit with lesser capability in some regards). In order to understand how best to proceed with the software, a key resource was the book “Crossing the Chasm: marketing and selling disruptive products to mainstream customers” (Moore 1991). The software that we had developed was clearly a disruptive product with the purpose of gaining market share and displacing an industry standard product. The book used the analogy of the D-day invasion, with the first critical phase of amassing all your resources to gain a “beachhead”
in the target market. But the critical question early in the book was does your company have
the depth of resources to secure a beachhead? This question brought about a critical
realization. Our company was not in a position to mount the resources to challenge the
industry standard. With this understanding, came an alternative idea. Rather than trying to
compete with an industry standard, an effective strategy would to build linkages between the
industry standard software and our software. In essence, our approach would be more
collaborative and recognize/leverage the strengths of each. As such, the greater we were able
to build compatibility with the industry standard software, the more likely we would be able to
turn the clients of the industry standard software into our clients. This was the beginning of
Tesera recognizing the virtues of a “collaborative” business model in which we would focus on
what we did best, and look to collaborate with others on what they did best; thereby creating
mutual benefits.

3.3.7 Period 7: The Development of the Collaborative Business Model

This change in philosophy (i.e. collaborative approach) very much resonated with the
company. In part, due to the fact we were very lean, it made sense to focus on our core
competencies and to work with other like-minded companies who specialized in
complimentary services (focusing on what they did best). As such, relationship building was a
key aspect of this collaborative approach, which again, resonated with the nature of our small
company.

The other large influence in developing this collaborative business model, was a book
called “Small Giants: Companies that Choose to Be Great Instead of Big” (Burlingham 2005).
This book provided inspiration and confidence that there were alternative ways to develop our
company than our previous approach. The approach of focusing to develop a great company,
rather than specifically looking to grow in number of people (i.e. the previous approach of
Tesera), fit very well with the new collaborative approach we were looking to develop. This was also reinforced by the book *Good to Great* (Collins 2001).

Another very influential book that contributed to the development of our collaborative approach was the *Blue Ocean Strategy: How To Create Uncontested Market Space And Make The Competition Irrelevant* (Kim and Mauborgne 2005). The Blue Ocean Strategy was very instrumental in allowing us to think very differently about how we pursued opportunities.

Again this fit very well with the collaborative approach. A very influential aspect to this was the process of identifying what were “healthy opportunities” for us as a company. This helped us identify the importance of developing relationship-based opportunities with clients that would value quality and proactive value-added solutions. The building of relationships with potential clients was the key to establishing trust and developing proactive solutions and actually creating opportunities (*i.e.* uncontested market space or “Blue Oceans”). This relationship-based approach provided a tremendous incentive for us to proactively develop solutions in our clients best interest and greatly contributed to long-term sustainability (*i.e.* long-term customer relationships). In essence, this provided us the focus to determine which opportunities were “healthy” for us as a company, and which ones were not. As mentioned earlier, we traditionally pursued business opportunities through passive means (*i.e.* RFP, ITT, ITQ processes). These were primarily government-related projects with the criteria heavily weighted to lowest cost with little regard to quality or value-added. It became very clear through this process that government related projects didn’t align with the collaborative business model we were developing since focus of this approach was relationship-based, oriented on the long-term interests of the client. As the government projects were based on low-cost, short-term commitments, they were not conducive to a relationship-based approach that involved upfront investment in client relationships, proactively seeking value-added opportunities, and seeking long-term solutions for the client. In effect, we essentially
discontinued pursuing government projects and focused exclusively on building relationships with clients that aligned well with our collaborative approach.

This sharpened focus of pursuing opportunities through building long-term relationships with clients, provided a new enthusiasm. Rather than our employees spending large amounts of time pursuing passive opportunities which were highly competitive and low margins (e.g. Government RFPs), we asked staff to take a different perspective of business development. This new perspective was to focus on actively developing the opportunities (i.e. non-competitive) by identifying clients with whom we could build long-term relationships. These are clients who place a high importance on being exposed to value-added, proactive solutions for their long-term benefit. This approach focused on getting actively involved with various groups, communities of interest, companies, etc. to identify potential clients, and how we could help to alleviate the “pain” they were experiencing. The key to building these relationships was listening first, and engaging in a two-way dialogue to identify how we could help. Pursuing this type of client provided us the unique ability and incentive to continually look for solutions in our clients’ best interest (i.e. investing in our clients’ interests so that they would invest in us for the long-term). This allowed us to tap into our innovative nature that had been suppressed in the existing approach to business development (competitive process).

3.3.8 Period 8: The Implementation of the Collaborative Business Model (the breakthrough)

The different approach that developed from the collaborative business model resonated well with other like-minded companies, and we worked to build the relationships to develop this network of companies with complementary resources and capabilities. Building these relationships not only yielded immediate opportunities (e.g. Tesera contributing expertise on existing projects for other companies), but also it led to strategic discussions of opportunities that could be pursued using this type of collaborative business model. In a very short period of
time (late 2005), an opportunity arose from one of the key collaborative companies to pursue a high profile Environmental Impact Assessment in Southern Alberta for EnCana Corporation (a prominent oil and gas producer and one of the largest corporations in Canada). Due to the nature of this project, there were specific "hot buttons" that needed to be addressed, and key expertise on the team would be a major selling point (as it was very likely this project would go to hearings). The collaborative business model provided us with a distinct advantage. It provided the ability to "cherry pick" the best expertise to best meet the needs of the project (as opposed to a large company who would be compelled to put forth internal resources first). In response to this opportunity, Tesera put together a collaborative team of specialists consisting of 13 companies (ranging from individual consultants to multinational companies). Through a competitive process with two other industry leaders (both which were incumbent service providers to EnCana), our collaborative team approach was awarded the EIA project. This project was the first of its kind for our company in many ways (i.e. scale, scope) and really demonstrated the virtues of the collaborative business model which included:

1) The ability to assemble resource and capabilities extremely quickly - this occurred within days, rather than the traditional approach of having to hire staff.

2) The ability to "cherry pick" the best expertise for a particular project (linking to critical aspects of the project and being a game-changer for being awarded the project)

3) Enabling the experts to excel at what they do best. This meant that technical experts did not have to do the job of project management (which was instead done by project management experts).

4) Minimal capital requirements - the collaborative partners were sub-consultants and paid as the work proceeded through the project. This was in contrast to our previously business model where Tesera hired internally to service projects (requiring substantial capital requirements and risk).
5) Transformational-based relationship with collaborative partners – it was recognized early in this project, that there had to be more than just a transactional-based relationship with the collaborative partners. As such, it was very important to develop a culture within the project team that provided a greater connection to one another. The clients (EnCana) also explicitly built-in team building events into the project.

6) Being able to adjust resources very quickly throughout the project, and to ramp down resources very quickly at the end of the project. Often when large projects end, the abrupt change in workflow can have a dramatic impact on a company that needs to fill the void to keep valued employees and if it can't, these employees may leave (i.e. lay-off, resign). This collaborative approach is much better oriented towards these types of projects since each company has not necessarily "staffed up" but rather is contributing existing resources and expertise in a manner that is much more sustainable to its existing and future operations (without dramatic fluctuations).

7) Building long-term working relationships with collaborative partners (as well as clients)

This particular project, with its large scale and complexity also revealed a number of considerations with this collaborative approach.

1) Effective and efficient leadership and project management are paramount. The primary benefit of this approach is that it allows the experts the ability to excel at what they do best while ensuring that everyone can benefit from all others in the team in meeting the objectives of the project and the client.

2) Cohesion and positive culture amongst the team is an extremely important "asset" to develop, nurture, monitor and manage. The principle is that the whole is greater than the sum of the parts, and that this requires active management.

3) Cash flow management needs to be carefully considered and planned – in this project, timely payment of the sub-consultants (less than 30 days) was a key benefit to positive
relationships/culture. The payment conditions that were negotiated with the client from the outset of the project (and an electronic payment system) greatly facilitated effective cash flow management.

4) Proactive and highly responsive communications with the client and the sub-consultants—Dealing with any contentious issues proactively and expeditiously (no matter how painful) was the most effective way to ensure problems could be addressed and managed such that the project could continually move forward. This open dialogue helped to build trust and understanding amongst the team.

The above project lasted 2 ½ years with a multimillion-dollar budget, and did proceed to joint review panel hearings.

3.3.9 Period 9: The Growth and Evolution of the Collaborative Business Model

Based on the success and learning from the above implementation and large scale application of the collaborative business model, Tesera has further applied and evolved the collaborative business model for other large projects and also within Tesera (i.e. internal services, development, information technology [IT]). The sections below describe how the collaborative business model has grown and evolved with respect to how Tesera pursues projects (and develops relationship with clients and other collaborative companies) and how it has contributed to influencing the internal improvements in our company.

3.3.9.1 Criteria for Assessing/Developing Opportunities

With regards to projects, based on the nature of the collaborative business model (and learning from our experience from previous projects), Tesera has developed principles and criteria for developing/identifying opportunities that best optimize the collaborative business model in terms of:
1) building long-term relationships with clients,
2) enhancing the collaborative network,
3) optimizing internal resources to foster collaboration, and
4) optimize revenue generation.

The disciplined application of these principles and criteria have enabled Tesera to be even more highly focused toward developing the types of opportunities that are most “healthy” for our company and contribute to strengthening our business model. This approach has resulted in much greater efficiency and effectiveness in determining which opportunities to pursue and which opportunities not to pursue.

3.3.9.2 Internal Improvements to Information Technology Management

Tesera has also looked internally to evaluate ways that the principles of the collaborative business model may provide benefits. One of the key aspects of our business is the use and analysis/modeling of large amount of digital data and information. This requires a significant investment in computing resources both in terms of processing capabilities and storage capacity and the maintenance of the IT infrastructure. The approach to this requirement in the past was to continually acquire the computing hardware that would meet the peak (or near peak) computing needs. The IT infrastructure was managed informally with internal staff (whose primary job was not IT).

When applying the principles of a collaborative business model to this internal situation, the key recognition is that by managing the IT infrastructure internally, it was reducing our ability to do what we did best which was actually using the IT infrastructure for innovative solutions (not managing and maintaining it). The first step in this process was to collaborate with a company that specialized in IT management/maintenance. This solution brought much greater efficiency to this issue of IT management and maintenance, while at the
3.3.9.3 Migration to Cloud Computing

The second phase of this process was looking at the IT hardware itself (*i.e.* the IT assets). As cloud computing was just emerging as a service-based solution, Tesera examined this alternative solution to meet our fluctuating computing needs. Cloud computing fit the collaborative based business model very well. It allowed us to engage other companies who specialized in building/maintaining/securing/improving IT infrastructure while at the same time being able to access unlimited processing and storage capacities on demand. This fit the needs of our projects very well where often we would need peak computing resources periodically, and cloud computing provided the ability to accommodate these situations perfectly, and thus only pay for these resources when needed. This ability to quickly ramp up and retract computing resources via cloud computing was very similar to the benefits of our collaborative business model (and contributed to our “Small Giants” philosophy/approach).

3.3.9.4 The Adoption of the Virtual Office Environment

Another initiative that contributed to the evolution of our collaborative business model was the adoption of the virtual office environment. This initiative started relatively modestly and very situation specific. Initially, it was used as a means to accommodate individual employees in terms of attracting talented employees (and enable them to work from their current location), or to retain talented employees that had to relocate for personal reasons (*i.e.* spouse’s work) that would still enable them to continue to work for the company. This modest approach allowed our company to adapt gradually to the concept of virtual office environments. Initially, there were only a few employees in the company working virtually and it was fairly
easy to make adjustments to overcome many of the challenges, particularly as technology evolved quickly to help address both technical limitations (internet speeds/bandwidth) and to some degree address social related challenges (e.g. remote computing, virtual collaboration tools, instant messaging (IM), voice-over-IP/Skype). In 2008, Tesera provided the option for all employees to work virtually from their home offices in order to provide better work-life balance opportunities. As a result, even though the company owns a physical office space for its head office, today all of Tesera’s employees are working from their home offices.

The virtual office environment has provided significant benefits that contribute to Tesera’s objective of improving benefits to employees while also aligning very well with Tesera’s collaborative business model. For example, from an internal benefits perspective, staff commuting is greatly reduced but their ability to work virtually in many different locations via technology from their virtual office space is unbounded. A substantial amount of internal staff meetings are conducted electronically (via Skype, WebEx, JoinMe GoogleDocs) with staff located in several different cities (as well as being able to accommodate them when they are away from their home office). Client meetings are also conducted more and more using similar tools, and, as such, it greatly reduces travel costs and time both for our clients and our staff. In essence, the virtual office environment has diminished barriers related to physical location and/or distance. The migration to a virtual workspace has resulted in a greater ability for our staff to work collaboratively with others (i.e. other staff members, collaborative companies, or clients) regardless of whether they are located in the same city or on the other side of the world.

### 3.3.9.5 Demonstrated Resilience of the Collaborative Business Model

Perhaps one of the most satisfying achievements of the collaborative business model is that it has demonstrated the resilience that the company had been looking for (so as not to
repeat the near-death experience again). Surprisingly, the first test of the resiliency of the collaborative business model occurred in an extreme period of growth (2006 – 2007) in our local market (Southern Alberta). During this time, there were shortages of skilled employees and companies were experiencing severe problems of employee retention (i.e. employees were being lured from one company to another). Fortunately, with the measures put in place to address employees’ broader set of needs (flexibility, life balance, etc.), Tesera was able to avoid any loss of employees to other firms during this extremely competitive period.

The second test of resiliency of our collaborative business model was the economic downturn of 2008. As discussed earlier, Tesera specifically developed the collaborative business model to prepare for this type of situation. As such, with a collaborative business model, the company was well-prepared to weather the storm organizationally, financially and mentally (i.e. by having been through this before, and having designed the collaborative business model to accommodate these kinds of situations). As such, Tesera was well-positioned to use the downturn as an advantage. During the economic downturn that persisted through to March 2009, Tesera didn’t have contracts cancelled, though some new projects were delayed. Tesera actively used this downturn time as an opportunity to improve internal systems, increase business development efforts, and actually hire new people. As such, once the economic crisis eased and projects came online (April 2009), Tesera was poised perfectly to accommodate the sudden increase in work, which again, was a function and a benefit of the collaborative business model.

Perhaps the most unexpected aspect to this demonstrated resilience of the collaborative business model was that these extreme situations of rapid growth and rapid economic decline (followed by rapid growth) occurred right after one another, and the collaborative business model excelled in accommodating these rapid and dramatic changes.
3.3.9.6  **Horizontal Integration by Collaboration**

In a similar nature to how Tesera looked toward collaboration as a principle for business model innovation, the company is also looking to implement a similar approach to other business processes (in which collaboration can achieve a similar outcome, but also have additional benefits).

In particular, horizontal integration is commonly accomplished through merger and acquisitions. One of the common purposes of horizontal integration is to enter new geographic markets (through acquiring firms that already have a presence). Horizontal integration through acquisitions/mergers can involve significantly large and complex financial transactions, thereby making it difficult for small companies to participate in the benefits of horizontal integration.

An alternative approach that Tesera is working to implement is horizontal integration by collaboration (following the principles of the collaborative business model). In essence, the specific purpose of this approach is to access new geographic markets. The symbiotic benefit to collaborative companies is the extension of the value chain of each company (i.e. either upward or downward) and providing the opportunity for each firm to operate in new geographic markets. The advantage to this type of collaborative approach is that it allows each firm access into new geographic markets with a collaborative company that is already operating in those markets (lowering the risk of doing business in a new country), without the capital requirements/complexity of mergers and acquisitions (even further lowering the risk from a financial perspective). This application of the collaborative business model for horizontal integration is a further innovation to the business model, since the existing applications were oriented to serving the needs of clients and projects domestically, whereas this approach is specifically oriented toward opening new geographic markets.
4 Discussion/Results

Just as Tesera has been influenced and inspired by the stories and experience of others, it is anticipated that the experiences toward business model innovation revealed in this autoethnography will resonate with other practitioners and firms, and provide some insight into the motivations, triggers and responses toward business model innovation. This autoethnography of Tesera provides insight and context (social, financial, political, emotional, etc.) into the process involved in business model innovation. In addition, this retrospective analysis of business model innovation within the firm is expected to stimulate further business model innovation into the future.

4.1 Synopsis Business Model Innovation process with Tesera

One of the key things to recognize is that the concept of business model innovation was not known to Tesera until very recently. As a company, all the processes described in the autoethnography occurred organically and were guided by significant events and influences (i.e. triggers). There was, however, a clear recognition from the outset of changing to a new business model that the company was doing things differently (and we were aware of the general concept of business models); however, it wasn’t until being exposed to the business model innovation concept within this MBA program, that it was recognized that Tesera had gone through the experience and process of business model innovation.

With this recognition (and information associated with business model innovation) came a greater understanding of the processes that the company experienced. It helped to put into perspective and value the experiences (good and bad) that the company went through.

For Tesera, the process of business model innovation very much started in response to a very critical event (i.e. near-bankruptcy) and at the time was viewed more as a life-saving measure, than a business model innovation opportunity. In essence, the company had to
dramatically change the way it did business or else it would have ceased to exist. The transition to a new way of doing business was greatly facilitated by a change of personnel in a key leadership position (that wasn't bounded by traditional views of how to conduct business). From that primary point of transition, the focus was then to build the business model to explicitly prevent future near-death experiences and to build a strong foundation for the future of the company and re-build the company in a way that much better aligned with values of the employee/shareholders (at that time, one in the same).

4.1.1 Triggers and Responses of Business Model Innovation

This autoethnography provides the important context in which business model innovation occurred within the company. In essence, the process of business model innovation within Tesera was driven by certain trigger events that inspired the company to respond in the continual innovation its business model. In order to further clarify how the process of business model innovation occurred within Tesera, the key triggers and responses are summarized below

**Trigger #1:** Departure of the previous Vice President, and the author (having little business experience) assuming the Vice President role/responsibilities

**Response:** Insatiable appetite to learn and gain business knowledge
- Learned from contemporary business books
- Learned from experiences of other businesses (i.e. workshops)
- **Key recognition:** Issues and challenges faced by Tesera were remarkably similar to other companies. Discovered immense value in sharing, listening, and learning from the business experience of other companies.

**Trigger #2:** Financial triage (after departure of previous Vice President)

**Response:** Keep things as simple as possible so all involved could understand
Developed simple and transparent approach to address financial predicament
- Outsourced bookkeeping and accounting (i.e. arms length, independent advice)

**Trigger #3:** Increased bank scrutiny regarding Business Improvement Loans

**Response:** Implementation of regular financial monitoring
- Implemented regular monthly financial reporting and
- Implemented use of financial ratios to provide clarity to Board

**Trigger #4:** Shareholder buyback (from exited employees)

**Response:** Utilization of the "keep it simple" approach
- Recognition of the value of consistency in ensuring fairness.

**Trigger #5:** Burden of Debt

**Response:** Structured company so as not to put in a similar position again
- Highly influenced the evolution of the business model
- Focus on efficiency (lean operations) and flexibility (resource velocity)
- Established "4 pillars for recovery"
  - Aggressively reduce debt
  - Invest in company
  - Invest in employees
  - Invest in shareholders
- Influenced by the book Good to Great (Collins 2001)

**Sub-response:** Invigorated and energized company ("call to action")
- Change from a structuralist to constructionist ontology
- The company took charge of defining its own future

**Trigger #6:** Critically questioning the existing approach to software development
- Influenced by the book Crossing the Chasm (Moore 1991)

**Response:** Recognition that market had dramatically changed
- Recognized making software compatible with existing industry standard software was a better strategy than efforts to compete
- This was a more collaborative approach that recognized the strengths of each
- This was the conceptual beginning of the collaborative business model in which we focused on what we did best, and worked with others with what they did best and created mutual benefits.
**Trigger #7: Influence from Contemporary Business Books**

**Response:**

Small Giants (Burlingham 2005)
- Provided inspiration and confidence for alternative approaches to business development
- Provided ideas of how to accomplish great things with a company without growing in numbers.
- Self-imposing constraints to maximize benefits from resources
- Provide a rationalization for the collaborative business model (growing a great company by a network of collaborative companies)

Blue Ocean Strategy (Kim and Mauborgne 2005)
- Inspired us to think very differently of how we pursued opportunities.
- Help to identify healthy opportunities (*i.e.* Blue Oceans) and unhealthy ones
  - Relationship-based opportunities
  - Clients who valued quality, value-added and proactive solutions
- Focused on actively building long-term relationships for sustainable business

**Trigger #8: General implementation of the collaborative business model**

**Response:** Focus on building a collaborative network of like minded companies
- Opportunities quickly developed through building the collaborative network

**Trigger #9: Implementation of collaborative business model on large scale projects**

**Response:** Illustrated benefits of collaborative business model and considerations for the evolution of collaborative business model
- Strong project leadership is paramount
- Cohesion and positive culture amongst team members is an important asset to build and nurture
- Proactive cash flow management is critical
- Proactive and highly responsive communication (team and client) is critical

**Trigger #10: Experience from application of collaborative business model**

**Response:** Evolution of the collaborative business model
- Criteria established for assessing/developing opportunities
- Internal improvements to IT management
Migration to cloud computing
• Adoption of virtual office environments
• Demonstrated resilience
• Horizontal integration by collaboration

4.1.2 The Resulting Description of Tesera’s Collaborative Business Model

As described throughout the autoethnography (and as summarized through the triggers and responses above) the process of business model innovation and the development of the collaborative business model was very much a self-directed learning process and is certainly a work in progress (of which it will always be). One of the key aspects that helped solidify the shift in how we conducted business was the actual naming of our business model as a “collaborative business model”. The name, in itself, succinctly encapsulated the essence of our distinctively different way of conducting business (i.e. collaborating versus competing). This central philosophy of collaboration within our business model was key to orienting our company internally as well as externally with collaborators and clients.

While the process of business model innovation and the development of the collaborative business model has been detailed above, in order to provide further clarity, Tesera’s collaborative business model (as it currently exists) is described as follows:

• The central principle of Tesera’s collaborative business model is to focus on what we do best, and to collaborate with other companies who focus on what they do best; thereby enabling growth in greatness and influence, but not size.
• Our resources and capabilities are a function of our collaborative network and, as a result, are highly responsive to increased (or decreased) needs.
• The focus is on the proactive development of business opportunities through building long-term relationships; thereby resulting in no (or very little) competition.
Specific criteria have been developed in order to provide a highly focused approach for developing and pursuing opportunities that contribute to the long-term sustainable business relationships (with collaborators and clients) and the achievement of profit generating criteria.

4.2 Business Model Innovation Theories/Concepts that are Supported by this Case

One of the most stimulating aspects of this MBA project has been to see the linkages and parallels of Tesera's experiences to existing business model innovation theories, concepts and frameworks. These linkages and similarities provide the ability to gain a much deeper understanding of the business model innovation experience that Tesera went through. As such, it helps to provide greater insight as to how to continually innovate and evolve the collaborative business model, as well as provided practical insight to those who are either currently undertaking, or considering business model innovation.

4.2.1 Needs for Business Model Innovation

Tesera's motivations for business model innovation are very consistent to the needs for business model innovation as suggested by Johnson (2010). First, there was a critical need to change the profit formula. As outlined in the autoethnography, the cost structures and the manner in which business was being pursued in a highly competitive and low margin environment had resulted in the near bankruptcy situation, and critical change was vital. In a similar context, relating to Drucker's (1994) "Theory of the Business", the existing industry and market had changed so much that the existing theory of Tesera's business was no longer valid. Second, due to the financial predicament of the company (and the diminished resources), Tesera needed to find a way to move forward with an alternative way to assemble resources and capabilities (i.e. collaboration) (similar to Porter's (1996, 62) concept of strategic
positioning of "...performing different activities from rivals' or performing similar activities in different ways"). Finally, third, there was a critical need to change business norms, rules and metrics (and underlying culture and fundamental business beliefs – as explained below) in order to run a profitable business and deliver the customer value proposition under a new collaborative business model.

4.2.2 Emphasis on Cultural and Ontological changes to Enable Business Model Innovation

In retrospect, the "near death" experience at Tesera was a pivotal event that allowed a clear break from existing culture and norms and provided the opportunity to establish different norms (i.e. consistent with Johnson [2010]) that placed a critical emphasis on building long-term relationships with clients, collaborative companies and employees (and even extended to promoting relationships within the communities through employee incentives). It was a move from a very transactional relationship approach, to a much more transformational relationship approach.

This occurred alongside the change in our corporate belief to a much more constructionist ontology in which we were in control of actively defining our future, rather than being a passive participant (consistent with Kim and Mauborgne 2004). This philosophical belief enabled us to define our company based on our values and what was important, and to "weave" these values into how the company operated internally and externally and build the "cultural fabric" of the company.

This cultural shift within our company then influenced the nature of our collaborative business model and how we conducted our business and approached and developed opportunities. As noted earlier, this was explicitly defined in criteria that we used to assess opportunities that were "healthy" for the company in termed of contributing to the things that would grow our collaborative business model (i.e. long-term relationship with clients,
opportunities to strengthen our collaborative network).

4.2.3 Improving Resource Velocity and Cost Structures through Business Model Innovation

A large motivation for the evolution of business model innovation within Tesera was the quest for flexibility and efficiency and consistently adhering to the principal of developing a great company in influence, but not in size. These self-imposed constraints forced the company to develop innovative and creative responses. This was a vastly different approach than Tesera previously employed, and very different from our previous competitors. This allowed us to deliver and enhance value to existing and new clients in a much different way (i.e. collaborative business model) that fit well with expanding into different markets and expanding in scale and scope of projects without necessarily expanding the firm's internal resources. This relates very well to the concept of increasing resource velocity (i.e. much better ability to quickly adjust resources to match demands) which contributes to improving the profit formula (consistent with Johnson [2010]). Furthermore, this also contributed to the evolution of the revenue model through the collaborative business model. Such changes to increase resource velocity (by using collaborative resources) also enabled us to identify opportunities to improve our cost structures. As a result, the collaborative business model approach forced our thinking into identifying what Tesera did best, and working with others with what they did best. If there was a way to do things better, more efficiently, and more profitably, then this collaborative business model focused the firm to look at options that would achieve the same (or better) results. This focused approach enabled us to develop the criteria to assess (or develop) opportunities that specifically linked the type of collaborative partners to the benefit they provided to Tesera (i.e. specialized expertise to secure opportunities, strengthening collaborative network, technical "horsepower") and the respective profit margins associated with the collaborative partners. Again, this relates very well to Johnson's (2010) concept of cost structure within the profit
formula, and in particular, not to accept traditional cost structures as a given (i.e. but rather to look for innovation in the cost structure itself).

4.2.4 Types of Business Model Innovation

In relating to Johnson's (2010) types of business model innovation (i.e. white space within, white space beyond and white space between), Tesera’s business model innovation experience touched on all three types.

In changing to a business model which emphasized the development of long-term business relationships, there was a much greater emphasis in proactively seeking out and bringing innovative solutions to clients (that they may not have even considered), but were well aligned to alleviating their corporate “pains” in alternative ways (more efficient/effective). This approach is very consistent with Johnson’s “white space within” in which opportunities arise by fulfilling important but unsatisfied needs in existing markets. This is also very well aligned to the “edge-centric” strategy suggested by Nunes and Breene (2011), whereby the periphery of the market is continually scanned for untapped or unmet customer needs.

Using the collaborative business model, Tesera’s important emphasis on active development of opportunities (as opposed to passive and highly competitive opportunities such as RFP, ITT, etc.) was a way in which Tesera created new and uncontested markets. This is consistent with Johnson, “white space beyond” which involved the creation of new market space, and is also consistent with Kim and Mauborgne’s (2005) concept of creating new markets of uncontested market space.

Lastly, Tesera’s core business really links well to the last type of business model innovation that Johnson (2010) suggests: the “white space between”. These are opportunities arising to address industry discontinuities (e.g. market shifts, new technology, or changes in government policy). Tesera’s core capabilities are very well oriented to helping clients reduce
uncertainties (and risks associated with uncertainty). The tools and services that Tesera offers to clients provide the opportunity to test various alternative scenarios or sensitivities to provide a better understanding of the changes and reduce uncertainties and risks. As described in the autoethnography, these were first applied in the forestry sector (i.e. to better understand changes in government policy, sustainable forest management, forest certification, etc.) but through business model innovation, (i.e. collaborative business model), Tesera has been able to develop opportunities in other sectors (i.e. water management, energy, environment impact assessment, insurance) and markets that have similar requirements for better understanding uncertainty and risks associated with discontinuity within industries and markets.

A key point to recognize from Tesera’s experience (which is quite clear from the above) is that different types of business model innovation aren’t mutually exclusive. In reality, the business model innovation can have characteristics of each of these types proposed by Johnson (2010).

4.2.5 The Importance of the Business Model

As described earlier by Chesborough (2010), it is a strong business model that is the key to success (as opposed to technological innovation with a poor business model). Tesera’s experience with business model innovation certainly supports the importance of a well-thought-out business model and that business model innovation can be a very valuable process that can dramatically change the fortunes of a business. As was illustrated through the autoethnography, the process of business model innovation and deriving value in a significantly different way is what changed the fortunes of Tesera and led to success.

4.3 Learning from this Experience and Considerations for Future Business Model Innovation

This project has provided a tremendous amount of insight and ability to better
understand the process of business model innovation and relating this to the actual experience of Tesera. As described above, there was substantial alignment with existing concepts, frameworks and theories related to business models and business model innovation. In addition, there have also been some things that have been learned from this experience which can help augment the understanding and knowledge of business model innovation.

4.3.1 Understanding Implicit Business Model Innovation

Business model innovation can be a deliberate and planned process if it is well understood from the outset. Alternatively, it can also happen implicitly through real world business experiences, just as it did with Tesera. Understanding these implicit experiences will be a key to better understanding and improving upon the concepts and theories of business model innovation. As has been shown in this project, an autoethnography is a powerful way to examine the process of implicit business model innovation and reveal important factors contributing to business model innovation.

4.3.2 Crisis as an Opportunity for Business Model Innovation

As described, a crisis is actually a critical opportunity for business model innovation. It forces a company to look at things in a different way, to do things differently, to critically examine trade-offs (to look at which self-imposed constraints can provide the razor sharp focus that is needed to survive, recover, and prosper). This focus provides the keen ability to then develop the strategy for moving forward and to innovate and evolve the business model in a very disciplined way (e.g. developing criteria to evaluate projects/opportunities to develop and pursue, identifying and evaluating enabling technology to contribute to the operational and efficiency and effectiveness in the delivery of the business model, etc.)
4.3.3 Business Model Innovation: a Mindset

Business model innovation is as much a mindset as a process. It requires a belief that a company can guide its own future and has the ability to influence and change markets. It requires a mindset of not accepting that things have to be done in a certain way (i.e. not take existing ways of doing business as a given). It is about having the confidence and fortitude to ask the big questions and consistently look for alternative ways to improve the value to the customer as well as the firm.

4.3.4 Business Model Innovation: Source of Inspiration and a Guiding Light

As in Tesera’s experience, business model innovation can be a very powerful and transformational process. As described above, it involves a change in belief and mindset in creating a vision and framework for the future (which the company defines for itself according to important values for how it wishes to conduct business). As described in the autoethnography, this is a very empowering process that inspires passion and commitment within the company. As progress is made through the process of business model innovation, these sentiments become even more engrained in the company. This creates a strong desire to continually improve and innovate the business model. In essence, the process of business model innovation itself inspires transformational change. Furthermore, the business model itself provides a focus (i.e. guiding light) for innovation. For Tesera, the collaborative business model is a lens that provides the focus to assess both internal and external opportunities, innovations and improvements in terms of how these will strengthen and further enhance the business model and the business itself (e.g. development of opportunities, selection of collaborative partners, enhancement of corporate culture, adoption of emerging technology, strategic development).
4.3.5 Business Model Innovation – Considerations Moving Forward

As shown through the experience of Tesera, business model innovation is an ongoing and evolutionary process that is guided and fueled by the creativity and passion of the firm in responding to change. It is important to continually look for ways in which the business model can be improved in order to continue to build value for customers and the company.

One of the most beneficial things that we have found with the collaborative business model that Tesera uses is that it has built in incentives for embracing change, whether it be emerging technology, defining new markets, or innovative approaches. Because the strength of this business model is in the collaborative linkages that are built, the incentive is to continue to seek out collaborative relationships, tools and processes that strengthen the collaborative business model. By its nature, this collaborative business model is not defined by a particular industry or market, and is really only limited by the imagination and creativity of the company. This illustrates a key consideration for further business model innovation which is the ability for a business model to continually grow and evolve in order to continually and efficiently expand markets.

Just as we have done with Tesera, new frontiers in business can be explored by leveraging the results of business model innovation to provide alternative ways to traditional approaches to business (e.g. horizontal integration through the collaboration rather than merger and acquisition). A key consideration to using business model innovation to push the frontiers of business with alternative approaches is in the mindset and belief that there are no boundaries to how things can be done, rather, the more important thing is to continually question whether there are better ways to get the job done (for the customer and the company).
5 Conclusion

This project has been an extremely fascinating process of delving into the concepts of business models and business model innovation and linking it to the actual experience of business model innovation within our firm. From the perspective of Tesera, this has provided an incredible amount of insight to our experience regarding business model innovation and has enabled a much better understanding of the intuitive process that Tesera went through in the initial development of its collaborative business model and the continual innovation that has occurred. This deeper understanding of business model innovation certainly contributes to how Tesera can further continue to develop its business model innovation process.

It is also anticipated that by sharing this first-hand experience through this autoethnography, it provides a very unique and in-depth manner by which others can understand and appreciate the various facets and complexity of business model innovation and learn about this process in a real world context. As illustrated through Tesera’s experience, the process of business model innovation can be quite an intuitive and implicit process; however, the better that it is understood, the greater the ability to improve and continue to innovate the business model and produce long-term and sustainable benefits for the firm.

A number of areas for future study have also been revealed through this project. In particular, a greater use of the autoethnography (or ethnography) as a research design will be very beneficial to improving the understanding of business model innovation from practical experiences. Another interesting topic for further study is the role of crisis (as an opportunity) for business model innovation. Similarly, examining the change in mindset (i.e. toward a constructionist ontology) in the business model innovation process would be a very interesting area for future study. One final consideration (as demonstrated by this project) is that the context of the business is a very important element in understanding the complexity of the process of business model innovation. This, again, underscores the value of using
contemporary research designs that emphasize context (e.g. autoethnography/ethnography) to gain unique insights and better understanding of complex processes such as business model innovation.

In summary, this project has provided a very in-depth illustration of the power and benefit of both the business model and business model innovation in dramatically transforming a company. As shown throughout this paper, business model innovation and the resulting business model were critical aspects not only for the survival of Tesera, but also for the recovery and sustainable future success of the firm. This, in itself, demonstrates how important it is to understand business models and business model innovation. The more a company can understand its business model and the process of business model innovation, the more likely it will be to create conditions that provide for sustainable growth and success.
6 References


7 Appendices
Appendix A – Examples of Business Model Definitions

<table>
<thead>
<tr>
<th>Authors</th>
<th>Definition</th>
<th>Focus of analysis includes</th>
<th>Notion of Model</th>
<th>Examples include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teece</td>
<td>How a firm delivers value to customers and converts payment into profits.</td>
<td>Situates the business model concept.</td>
<td>Kinds and Types;</td>
<td>Swift meat packers, Sea Land</td>
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<tr>
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<td>Relates business model innovation to technical innovation.</td>
<td>Role Models</td>
<td>containers, Netflix online DVD rental</td>
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<td>... a system of interdependent activities that transcends the focal firm and</td>
<td>Emphasizes interdependencies beyond firm boundaries. Good design requires: Content (who),</td>
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<td></td>
<td>spans its boundaries.</td>
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<td>Role Models to</td>
<td>Shanghai Zhenhua Port</td>
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<td>Role Models and</td>
<td>biotech start-ups</td>
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<td>Interfaces between business model, strategy and tactics</td>
<td>Model Organisms</td>
<td>Toyota and Google</td>
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<td>Dynamics of business model change over time</td>
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<td>Portfolios of business models</td>
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From: Bayden-Fuller and Morgan (2010, 157)