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TETRAHEDRAL BUSINESS DESIGN FRAMEWORK

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Résumé

Comment mieux représenter des structures d’affaires de manière holistique pour fins d’analyse? La réponse offerte par cette autoethnographie analytique est le « Tetrahedral Business Design Framework », ou Tétraèdre, qui tente de satisfaire trois objectifs : (1) être retenu pour faire partie du dialogue entre experts et gens d’affaires, (2) s’adapter à divers contextes d’affaires et (3) être approprié fidèlement par ceux et celles qui y ont recours. La thèse présente et compare plusieurs cadres conceptuels émanant de la théorie des organisations, de la gestion stratégique des organisations et des modèles d’affaires.


Quatre études de deux industries et de deux firmes de ces industries permettent de mettre à l’épreuve le Tétraèdre : d’abord une étude de l’industrie du comic book et celle d’un studio de services créatifs. Suivent une étude de l’industrie du bois d’œuvre au Québec et celle d’un remanufacturier de Québec. Des réflexions finales et des pistes de recherches futures viennent clore la thèse.
Abstract

This thesis is an analytic autoethnography informed by writing as a method of inquiry. It seeks to provide a situated answer to the following research question: how to better represent business endeavours holistically for analytical purposes? The answer-meme is the Tetrahedral Business Design Framework, or Tetrahedron. By thinking of the Tetrahedron as a meme in discursive science, the research objective can be broken down in three components: objectives of selection, variation and retention. This thesis presents various frameworks from theories of the firm, strategic management and business model literatures, how the Tetrahedron was created, and why it is more likely to succeed at selection, variation and retention than previous business design frameworks.

The Tetrahedron starts with four basic ideas: Character (who or what is the business endeavour?), Stakeholder (who is involved?), Offer (why are stakeholders involved?), and Creation (what do these stakeholders do?) These basic ideas are presented as four interlinked poles geometrically arranged as a three dimensional tetrahedron. Each pole relates to the other three in a precise way through links portrayed as pairs of unidirectional flows: Alignment, Bundling, Contribution, Defence, Engagement, Feedback, Gain, Learning, Network, Orchestration, Role, and Threat. The framework is thus composed of four poles linked by twelve flows. The overarching concept binding a pair of poles and their two directed flows is called a dyad: Competition, Cooperation, Exchange, Trust, Value, and Web. That which sums up the relationships between three poles is called a face: Craft, Community, Prosperity, and Team. The Tetrahedron features a total of twenty-six distinct design elements held within a single geometric meme.

The Tetrahedron is presented through two pairs of industry-firm analyses: the North American comic books industry is presented first, followed by Studio Grafiksismik Inc., a small firm which was active in that industry from 2003 to 2005. The Québec lumber industry is presented second, followed by Miradas, a lumber remanufacturer located in the Quebec City region. Concluding remarks and future research opportunities are presented last.
Foreword

Businesses are powerful ideas. They have come to shape much of man’s collective activities in recent centuries, from the Industrial Age to the Information Age (Micklethwait & Woolridge, 2003; Weeks & Galunic, 2003). Business is taught at various levels in the education system, perhaps most notoriously through Master of Business Administration (MBA) programs in universities throughout the globe. Like most other subject matters, knowledge about businesses has been broken down and grouped into silos for the purpose of education and research, yielding numerous faculty departments and specialized journals. Common knowledge silos include finance, accounting, marketing, management, operations, information technologies, and numerous others. By the time a student graduates from a MBA program, business has been dissected and scrutinized part by part. Yet few courses or research contributions provide a synthesized, granular, systemic and holistic conceptualization of what a business endeavour is. This is what business design seeks to achieve.

Three streams of literature which are related to this subject are theories of the firm, strategic management and business models. Theories of the firm seek to answer why firms exist in contrast to markets (ex.: lower contractual transaction costs, or lower knowledge transfer costs, or better *meme* variation, selection and retention – *meme* being an umbrella term for ideas, concepts and beliefs). However, such theories do not concern themselves with what knowledge or insights best describe the firm (i.e. knowledge about the business, or memes used to conceptualize businesses.)

Strategic management seeks to guide business transformation through time and it is thus concerned with the big picture. While strategy literature provides interesting frameworks for the formulation of broad aggregated views of business systems, such frameworks need not concern themselves with the tactical or the operational. As a result, frameworks found in strategy literature often lack the enabling qualities which allow researchers and practitioners to represent businesses at more granular and detailed scales, simply because it is not their mission to do so. Nevertheless, it is from this stream of literature that business models and business design emerged. Their complementarities can be illustrated in a bridge metaphor: design provides the analytical tools to represent the business in its current and envisioned forms, while strategy mainly concerns itself with bridging the gap from present to future.

Business models are closely related to business design in intent. Other kin include business ideas and business concepts. If one was to represent the scope of synthesis sought to represent a business endeavour, business concepts and ideas would lie at one end – one-
liners and one-pagers – while business design would lie at the other end – granular and detailed representations of holistic systems covering the length of a whole book or chapter as is the case in this thesis. Business models would cover much of what lies between, since a clear definition of what the scope of a business model should be has yet to emerge from the literature. The problem with business model literature and its frameworks is its context in the larger popular business culture. Business models were created to describe new economy phenomena, with a strong focus on e-Businesses. The names given to the main conceptual elements which make up business model frameworks reflect this origin. If tackling the model of a virtual, networked-based, customer-centric firm is made easier, trying to describe it with an entrepreneurial or investor focus is usually much harder. This contextual tainting makes much of the business model stream of literature difficult to transfer to other phenomena, such as barter economies, business unit analysis or market-scale conceptualization. Business design, still in its infancy, is not so bounded by context. This is one of the reasons why the name “Tetrahedral Business Design Framework” was chosen over “Tetrahedral Business Model Framework”. The name provides two benefits; first, it makes clear that the Tetrahedron can enable conceptualization from the synthetic to the granular. Second, it removes the framework from the topical boundaries commonly associated with business models.

The question posed by business design is how to tackle what is essentially a knowledge representation challenge: how does one better represent a holistic, systemic conceptualization of business without unhelpfully pointing the learner to the massive sum of all published business knowledge? One answer lies in synthesis: finding root concepts whose interplay yields other concepts, and so forth. This is a very basic, fundamental, and potent quest which has been played out throughout History and myth:

I ween that I hung of the windy tree, hung there for nights full nine; with the spear I was wounded, and offered I was, to Othin, myself to myself, on the tree that none may ever know what root beneath it runs. None made me happy with loaf or horn, and there below I looked; I took up the runes, shrieking I took them, and forthwith back I fell. Then I began to thrive, and wisdom to get, I grew and well I was; each word led me to another word, each deed to another deed. (Icelandic Edda, Hovamol, v. 139-140 & 142, translated by Bellows, 1936)

This quote presents the metaphorical origins of the runic Futhark which makes up the Old Norse written form. Questing for these runes requires effort: uncomfortably long time spent bound to the Tree of Knowledge, in the labour of spiritual birth, a moment of clarity when he who scrutinizes the roots of what there is to know finally sees.

This thesis is the picking up of the runes.
À ma famille
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Introduction

Three themes must be explored to set the tone for this thesis. First, I will tell a personal story about where this work comes from. Second, I will discuss the epistemological underpinnings of this seven years long research. Finally, I shall turn to the methodology which structures this work and which sustains my ongoing academic endeavours. Once this is done, I shall delve deeper into analytical ethnography as the main methodological approach for this thesis and writing as my foremost tool of inquiry. In both cases I shall provide the relevant criteria for evaluating my work, a topic of great relevancy to those who will judge this thesis as a rite of passage into scientific discourse.

Why write this thesis?

I’ll make this personal tale as concise as I can, so please bear with me. I’m first and foremost a storyteller, with strong affinities for visual storytelling. I grew up reading bande dessinée, manga and comics, and have dreamt of earning an honest living from the craft ever since I was a teenager. Being curious about the craft, I soon learned that there was much more than putting pen to paper in order to reach the audience in a sustainable, profitable manner. In fact, I’d never actually read a bande dessinée, manga and comic delivered straight from the artist until I founded Grafiksismik. Vast webs of businesses and organizations stood between the artist and the audience. Or more precisely, vast webs of businesses and organizations enabled the artist and the audience to reach one another.

And so I entered Law School to learn about copyrights and contracts and then entered Business School to learn about the way we humans organize collective work nowadays. Though I still dream of earning an honest living from storytelling at the end of the journey, perhaps many decades from now, the quest for knowledge has grown into its own reward. The quest is this: How can we best convey meaning and communicate knowledge about business endeavours as holistic systems without losing ourselves in their myriad components?

I’m no big fan of reinventing the wheel, so I read and researched and found three insights I really liked. The first one is about storytelling (Magretta, 2002):

“The word “model” conjures up images of white boards covered with arcane mathematical formulas. Business models, though, are anything but arcane. They are, at heart, stories – stories that explain how enterprises work.”

The second one is about visuals (Senge, 1990):
"Language shapes perception. What we see depends on what we are prepared to see. Western languages, with their subject-verb-object structure, are biased toward a linear view. If we want to see system-wide interrelationships, we need a language of interrelationships, a language made up of circles. Without such a language, our habitual ways of seeing the world produce fragmented views and counterproductive actions."

The third one is about aesthetics (Speculum Regale, 13th century, translated by Larson, 1917):

"Always buy shares in good vessels or in none at all. Keep your ship attractive, for then capable men will join you and it will be well manned."

The first one taught me that I wasn’t alone in trying to represent complex systems in very compact and meaningful ways. The second one taught me how to go about it. The third one I’m still working on. There are actually two fundamental things to understand about an attractive drakkar: first, it needs to float. Second, it needs to be appealing. This thesis tries to address the first concern: the Tetrahedron needs to float like any good vessel, to hold its own through the roughs of scientific discourse. Making it attractive will come at a later stage, though I consider it a necessary stage for the Tetrahedron to bear its fruits in full in social discourse. Note that by aesthetics and attractiveness, I refer to the ease and pleasure we have in interacting with systems – say, the graphic user interface (GUI) versus text-based interaction with a computer.

And thus I find myself once again in the embrace of visual storytelling, as quoted above, albeit in a milieu much less prone to use it in its scholarly discourse: the social sciences.

**On Epistemology, or How I Pretend to Know Things**

My starting point is perhaps best summed up by Delanty when discussing Giddens (Delanty, 2005):

"As far as social science is concerned, through the ‘double hermeneutic’ the first medium of interpretation (that of the social actor) is reinterpreted by social science. The double hermeneutic is a reflexive relation in that the phenomena studied by social scientists are already constituted by knowledge. So the role of social scientists is the reflexive task of introducing new ways of looking at things. The reflexive relation is reciprocal in that social scientific knowledge, as with all expert knowledge, is fed back into everyday life. The double hermeneutic implicates science and society in each other’s order of interpretation."

There is no void or gap between lay and expert knowledge, rather a circular reflexive space of knowledge transformation where society informs the sciences, which in turn transforms
society. This implies communication, and science as a discursive practice. And here there is a real gap: social discourse is quite different from scientific discourse, at least where business schools are concerned. The Economist had this to say about that gap in its August 27th, 2007 edition:

"What is the point of research carried out in business schools? [...] On one level, the question is simple to answer. Research in business schools, as anywhere else, is about expanding the boundaries of knowledge; it thrives on answering unasked questions. But it is also about cementing schools'--and professors'--reputations. Schools gain kudos from their faculties' record of publication: which journals publish them, and how often. In some cases, such as with government-funded schools in Britain, it can affect how much money they receive. For professors, the mantra is often "publish or perish". Their careers depend on being seen in the right journals. Part of the trouble is that the journals labour under a similar ethos. They publish more than 20,000 articles each year. Most of the research is highly quantitative, hypothesis-driven and esoteric. As a result, it is almost universally unread by real-world managers. Much of the research criticises other published research. A paper in a 2006 issue of STRATEGY & LEADERSHIP commented that "research is not designed with managers' needs in mind, nor is it communicated in the journals they read...For the most part it has become a self-referential closed system [irrelevant to] corporate performance."

My point here is that the double hermeneutic can be bogged down by the way we communicate. This resulted in two sets of apprehensions: one which I had to deal with right at the start of the research process, and one which I would carry on with me even after handing in the thesis. My first fear was that I would run the risk of spending years of valuable time and effort in creating scientific knowledge that would fail to inform my own lay practices, namely my role as entrepreneur and as artist. If I could not trust the scientific publication system to provide me with a clear path to engage in double hermeneutic learning – stressing the write-up of highly quantitative, hypothesis-driven and esoteric papers, which is precisely what I felt it did at the time I began this thesis – then I would have to find my own path: I would place myself at both ends of the spectrum as artist entrepreneur and as academic researcher. I would internalize and enact the double hermeneutic myself through my discourse in social and scientific circles, two discursive spaces that I would link through my own reflexive interpretations of one another. In short, my thesis would be based on an autoethnography.

My second fear was to create scientific knowledge that would fail to inform social systems. The Tetrahedron is a tool meant to help people to represent knowledge of complex systems holistically. It addresses a personal problem formulated in my teenage years: having to deal with business in order to engage in storytelling as a profession. It also addresses much wider problems: how to gain holistic insight of complex systems, as expressed by Magretta
and Senge in the opening section of this chapter. It should be clear that I would not have begun a thesis if I was meant to be its sole audience. My intent is for the Tetrahedron to eventually contribute to science as a discursive practice. Science as a discursive practice is (Delanty, 2005):

“[...], addressed to the question of the mediation of scientific discourse with social discourses. [...] A discursively mediated relationship between social science and society takes place in the public identification and definition of collective problems. This is the crucial dimension to social science as a discursive practice. Social science is shaped in the definition of problems. To that extent it itself is constructed in the process of problem identification. The question of the normative foundations of social science cannot be answered merely by reference to science as an expert culture. The professional culture of social science does not itself construct social problems from its own discourse but does so in response to public and media agenda-setting. Problem construction is a dynamic process involving many social actors who define, negotiate and thereby construct problems. In this way social reality enters social scientific discourse as a constructed reality and one which is the product of contentious action.”

People familiar with scientific discourse should have no problem understanding the Tetrahedron thanks to this thesis, but should also be aware that work remains to be done in order to make the Tetrahedron fully appropriable by social actors. Such work, however, goes far beyond the scope of this thesis and should be viewed as a distinct problem that deals with how we interface with knowledge and which technologies provide which means to reach which communicative ends. Put another way, making the Tetrahedron attractive depends on solving aesthetic problems which I hope to address later in my career, quite probably as socially constructed, scientific problems in their own rights.

A note on the double hermeneutic and lay versus expert knowledge: I do not place one above the other. Both have different significance, and I see them both as reflexive spaces. Artists, entrepreneurs and scholars question what they do. The difference is in how they ask their questions, and the way they formulate, communicate and enact answers. And sometimes the difference is very slim – I believe it is naïve to assume that the difference between lay and expert knowledge is unproblematic. As Wynne puts it (1996):

“...science is articulating and imposing not only propositional claims but tacit formulaic and hermeneutic ones too – in other words, symbolic ones about the performance and legitimacy of social institutions, and about the ‘naturalness’ of particular models of human nature and relationships. Furthermore, once this crucial point is recognized, then, lay public responses to scientific expertise can be seen as responses which combine human questioning or rejection of these implicit ‘formulaic’ and ‘hermeneutic’ expert system claims, with alternative propositional ones. Indeed it is exposed as problematic to use such
categorical distinctions without further qualification, since the basis on human and moral
grounds of legitimate non-expert responses to scientific expertise shifts the epistemic
framing of the social purposes of knowledge, and hence the criteria by which valid
propositional claims would be established."

My point here is that trying to enact the double hermeneutic as artist-entrepreneur-
researcher was not intended as a mean to import lay data and transform it into scientific
wisdom which would then enlighten my practice. This is not a circular, one-way flow of
knowledge transformation. It goes both ways. When I ask how we can best convey
meaning and communicate knowledge about something, I think it has a lot to do with how
we can best facilitate discourse between social and scientific systems. My epistemic
approach was to question my practice through my expertise, and my expertise through my
practice. The main difference between the two, for me at least, has played out as the time
available to thought and memory as counsels of action – I have come to realize that,
generally, I spend more time on memory in actions related to practice as internalizing
memes into intuition, while I spend more time on thought in actions related to expertise as
generating and coalescing memes into stable and communicable insights. This may be
related to the way work is organized in social and scientific discourse, or may be a side
effect of the way I used analytical autoethnography.

On Methodology, or How I Got to Know Things

I’ve already discussed my epistemological stance and how it led me to engage in an
autoethnography. Here I want to focus on situating autoethnography in qualitative methods
and explain why I chose analytical autoethnography over other options. I’ll discuss the
actual autoethnographic process used to craft this thesis at greater length in the next section.
Autoethnography is not native to business schools. This is an important point. At first
glance, leveraging personal experience in a reflexive way is a perfect fit for the
epistemology presented above. The problem is that the objectives of business studies and
ethnographic studies can be quite different, as illustrated by the Anderson-Denzin debate
over analytical autoethnography (Anderson, 2006; Denzin, 2006). Here is what Jones has to
say on autoethnography in SAGE’s Handbook of Qualitative Research (2005):

"This is a chapter about the personal text as critical intervention in social, political and
cultural life. [...] It is about autoethnography as a radical democratic politics – a politics
committed to creating space for dialogue and debate that instigates and shapes social
change [...] This is a chapter about how a personal text can move writers and readers,
subjects and objects, tellers and listeners into this place of dialogue, debate, and change.”
The intent being critical, many ideas to be conveyed being emotional, it should come to no surprise that autoethnography relies on prose as well as poetry and performance and myriad other means to communicate research and results as fully as it can. So what happens when criticism is not the intent, or when emotions are not what one wishes to communicate as is the case here? Analytic autoethnography, while still not native to business, is much closer to the analytical agenda guiding this research.


"Anderson’s agenda is clear. He wants to define and then claim ownership over at least one version of autoethnography, what he calls analytic autoethnography."

Had I been quicker in writing-up the thesis, and had methodology been my foremost concern, I might have beaten Anderson to the punch (well, probably not). I instead find myself benefiting greatly from his work, however abrasive it may be in ethnographic circles. Here is how Anderson defines analytic autoethnography (2006):

"Put most simply, analytic autoethnography refers to ethnographic work in which the researcher is (1) a full member in the research group or setting, (2) visible as such a member in the researcher’s published texts, and (3) committed to an analytical research agenda focused on improving theoretical understandings of broader social phenomena."

Analytic autoethnography has methodological and analytical advantages and limitations which will be discussed in the next section. For now, the point is that analytic autoethnography is a prima facie fit for what I have done these past seven years, the third criteria being the key to distinguish analytical autoethnography from other types of autoethnographies. One of this method’s most interesting features is this: analytic autoethnography provides access to certain kinds of data which are otherwise inaccessible. These are perhaps best described by Richardson and St. Pierre in SAGE’s Handbook of Qualitative Research (2005):

"In my study, I used writing as a method of data collection by gathering together, by collecting – in the writing – all sorts of data I had never read about in interpretive qualitative textbooks, some of which I have called dream data, sensual data, emotional data, response data (St. Pierre, 1997b), and memory data (St. Pierre, 1995)"

These various types of data are too atomized and numerous to be formalized individually. They are diffuse, fleeting, and not easily apprehended. They include patterns of thought which recurrently haunt the mind while taking a walk or a shower, apprehensions which only gain substance with hindsight, hunches which play out month after month, and so
forth. Such data rains on paper through writing, like so many molecules of water coalescing into raindrops and leaving the clouds for firm ground; droplets which, from time to time, crystallize in a clear idea; snowflakes, in this metaphor.

Writing as a method of inquiry will be discussed in the next section. For now, the important thing to know is that writing is not limited to the type of data just discussed. It also plays a major role in order to inquire into scientific literature, to inquire into concepts, and to inquire into frameworks. This thesis can be conceptualized as the end of the writing process, but that would be to forget what I pointed out in the previous section. Much work remains to be done to reap the fruits of the Tetrahedron, and this thesis is itself a tool of inquiry, a moment in writing, in a much broader, career-spanning exercise. While this analytic ethnography may indeed be over, the writing process is intended to be an ongoing one.

Interlude
This analytic autoethnography, founded on a constructivist view of scientific knowledge, was conducted through writing as a method of inquiry and presentation. My Ph.D. studies began in 2000, while Richardson and St. Pierre’s work on writing was only published in 2005, and Anderson’s paper on analytic autoethnography was only published in 2006. I went into this trying to live the double hermeneutic, not knowing I was writing an analytic autoethnography. This, of course, changes nothing to the nature of the exercise. It does, however, provide me with conveniently documented labels to brand my work, and makes the presentation of my endeavour much easier.

The next section presents analytic ethnography and writing as a method of inquiry in greater detail, primarily for the purpose of evaluation: what are they, and how are they to be judged? This is an important topic for the thesis as a stepping stone into scientific discourse: how will scientists be able to recognize me as a peer? Once this is done, I’ll get to the heart of the matter: how did I actually enact my methodological choices?

Evaluating Analytic Ethnography and Writing as a Method of Inquiry
Building upon his definition, Anderson proposes five key features of viable and valuable analytic autoethnography (2006). It is on these five grounds which an analytic autoethnography should be judged, and these constitute the first ones to be presented by which to judge this thesis:
Let's look at them one by one. First is CMR, which comes in two flavors: opportunistic or convert (Anderson, 2006). Opportunistic CMR refers to cases where group membership precedes the decision to conduct research on the group, such as my own memberships in the comics industry and in Grafiksismik. Convert CMR refers to cases where complete immersion and membership is gained during the course of the research.

Second is analytic reflexivity, which "...involves an awareness of reciprocal influence between ethnographers and their settings and informants. It entails self-conscious introspection guided by a desire to better understand both self and others through examining one's actions and perceptions in reference to and dialogue with those others" (Anderson, 2006). Analytic reflexivity permeates this thesis, as should be clear from the introduction when I discussed the double hermeneutic and my personal epistemological stance. Analytic should also be understood in contrast to critical reflexivity: my aim is not to engage in policies of action and criticize the industries and businesses which I encounter. My aim is to describe and analyze as best as I can, though this may include unearthing design weaknesses, gaps or contradictions when these are relevant to the analysis. In such cases I may suggest design changes, but never as prescriptive measures. The Tetrahedron is not meant to be prescriptive. What it is meant to do is describe with the intent of further discourse, because it is in this discursive action that reflexivity can truly be constructed.

Third, autoethnography requires that the researcher be visible, active and reflexively engaged in the text (Anderson, 2006). This is achieved here not by poetry or sequential art, though the thought did cross my mind a few times, but rather in the way I have tried to make this thesis a transparent exercise. As I stated above, my aim is not to convey feelings or emotions to promote social justice, but rather to commit to a theoretical analysis. A transparent thesis opens up the inner workings of the analysis for closer inspection. Think of it as a commentary track on a DVD, where the director comments on his work as the movie progresses. Here this commentary track is embedded in the text, notably by writing in the first person, and trying to be as upfront and candid as I can about how I approached problems and trade-offs which needed to be made.

Fourth is dialogue with informants beyond the self. As Anderson puts it, "[the] ethnographic imperative calls for dialogue with "data" or "others"" (2006). In this research, it means dialogue about the Tetrahedron as well as dialogue about North
American comic books, Grafiksismik, Québec lumber and Miradas. It means dialogue with different type of people, lay and expert, as well as different types of dialogue, ranging from brief, impersonal exchanges, to long, profound relationships. These are described in greater detail in the next chapter. For now, let me note that dialogues on the comic book industry began in the early 1990s, and crystallized into participatory action through Grafiksismik in 2003. Fostering more meaningful dialogue on the comics industry was my personal motivation when I entered the Ph.D. program, and in fact the Tetrahedron sprouted from an ill-conceived dialectic framework between storytellers and audiences which I formulated in 2000. Dialogue on Grafiksismik began informally as early as 1996 but only gained serious momentum upon my return from Japan in 1999. It is dialogue with like-minded individuals which led us to start-up Grafiksismik in 2003. Dialogues on the Tetrahedron began in 2001. Dialogues on the lumber industry and Miradas are much more recent and are anchored to 2006 feedback from my thesis project committee. In all these cases, I am indebted to countless individuals for stimulating debate and imaginative insights.

Fifth is commitment to an analytic agenda. “The purpose of analytic ethnography is not simply to document personal experience, to provide an “insider’s perspective”, or to evoke emotional resonance with the reader. Rather, the defining characteristic of analytical social science is to use empirical data to gain insight into some broader set of social phenomena than those provided by the data themselves.” This is precisely why the Tetrahedron is presented as distinct and autonomous from the industry and business analyses which illustrate its inner workings. In the end, my analyses of the North American comic books industry, Grafiksismik, the Québec lumber industry and Miradas are meant to be demonstrations of what can be achieved through the Tetrahedron. My commitment is to contribute an original and meaningful conceptual business design framework for social scientific discourse.

So we have moved from prima facie fit to tangible fit, with five criteria for evaluation clearly laid out. Lest we forget why this is a good thing, here is Anderson again on the advantages of analytic autoethnography (2006):

“The virtues I see in analytic autoethnography fall broadly into methodological and analytic categories. The methodological advantages relate to the ways in which being a CMR facilitates the availability of data. One obvious advantage in this regard is that the autoethnographer has multiple reasons to participate in the social world under study, and thus, multiple incentives to spend time in the field. [...] A second advantage of

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1 All informants identified by name have provided written statements of consent to appear in this thesis.
Autoethnography involves access that it provides to "insider meanings". [...] Perhaps a greater methodological advantage of being personally identified and involved in the social world under study is that it gives the researcher an added vantage point for accessing certain kinds of data. [...] In terms of analytic advantages, [...] autoethnography provides an opportunity to explore some aspects of our social lives in a deeper and more sustained manner. The resulting analysis recursively draws upon our personal experiences and perceptions to inform our broader social understandings and upon our broader social understandings to enrich our self-understandings.

There are also limitations, however:

"Most of us, most of the time, do not find our research interests as deeply intertwined with our personal lives as autoethnography requires."

This is a point made apparent by the lengths of the various dialogues described above. This research did not run into such limitations, except for the Québec lumber industry and Miradas business analyses, which sprout from my thesis project committee’s desire to see me tackle cases in which I was not yet intertwined in any way. Why did my thesis project committee ask me this? For starters, Anderson’s paper on analytic autoethnography had not been published yet, and I had not presented my methodology as such. At the time, it seemed to make sense to ask for case studies in which I had no stake for the sake of added objectivity and demonstrative power. With hindsight, this was a mistake. There is no added objectivity or demonstrative power to be gained from such cases. Whatever objectivity I pretend to have can only be made stronger by better describing my personal, situated, contextualized epistemological standpoint as I have endeavoured to do here in this "transparent" thesis. As Delanty puts it when discussing Haraway (2005):

"According to Donna Haraway, a situated objectivity is self-consciously based on what she calls a 'partial perspective', that is one that rejects the illusion of a totalizing objective perspective in favour of a view that aims to capture the reality of human experience as lived (Haraway, 1988). [...] Sandra Harding claims that in fact the kind of objectivity that standpoint epistemology achieves is precisely a 'strong' one simply because it makes available for critical scrutiny all the evidence marshaled for or against a scientific hypothesis as well as reflexively questioning the research process and the nature of evidence (Harding, 1991)."

I do not mean to say that the Québec lumber industry analysis and the Miradas business analysis should be excluded from the thesis, or that they were wastes of time. But the value of those two analyses is not in added objectivity. Their value can be found in emancipating the Tetrahedron from autoethnography. In a nutshell, while autoethnography was the methodology used to bring the Tetrahedron into the field, analyses using the Tetrahedron
do not need to be performed through autoethnography. A thesis should present the ends and the means, but I think it is important to understand that the end – the Tetrahedron – is independent from the means.

With this said, and criteria, advantages and limitations clearly put forward, let us move from analytic autoethnography to writing as a method of inquiry. Autoethnography requires data, as stated in the fourth (analysis founded on dialogue) and fifth (analysis founded on empiricism) criteria. But what kind of data? This very much depends on what type of insight is sought. As stated in the introduction: How can we best convey meaning and communicate knowledge about business endeavours as holistic systems without losing ourselves in their myriad components? I then pointed to business models as narratives and visuals as means of representation for complex systems, wrapped in aesthetics which enable and facilitate learning. Data, in this case, needs to relate to these three insights. It feeds writing as a sense-making exercise through texts or visuals or both, with aesthetic intents. Such data can take many forms, such as interviews, field notes, writing stories, corporate documents, statistics – data already transformed into text, or as stated above, dream data, sensual data, emotional data, response data, and memory data – data that has yet to be constructed as text.

Let me tell you a very short story. Back in 2001 I was still grappling with the main concepts that should be in a conceptual business design framework. Previous frameworks were running through my mind, along with short question-marked narratives that I felt I had to answer and satisfy if a framework was to make sense. An example: a guy gets stranded on an island. Can he do business with himself? No. He’s pretending; he’s playing. Business requires an exchange, two folks at least. Okay, so there’s another guy on the island. They barter a fish for a coconut. Business? More like a commercial encounter, with no money. Doesn’t matter. Things were created – get that fish out of the sea, get that coconut down from the tree. Things were offered; food, tastes, a first encounter to build trust. Stakeholders were involved. Still, it’s a one-time deal. Make it recurrent and you have a business, or a market – something that is more than its parts. It has its own character, however minute or fragile.

So these kinds of mini-stories run though my mind, and I’m in a bus between Montreal and Quebec City, fresh out of a one-day 3DSMax (a 3D software used in games and special effects) seminar, and I start scribbling things down. Stakeholders. Offers. Creation. Character. Then other stuff, other concepts, but stuff that ends up being relations between these four. I draw lines. Lots of crisscrossing. I should be doing this in 3D – might get rid of the crisscrossing. Here we go: Tetrahedron. I spent the rest of the trip trying to attack the
Tetrahedron (Karl Popper would have been proud), replace words and concepts with others, but those four poles held. Days, weeks, months, years, and they still held. My point?

“I used writing as a method of data analysis by using writing to think; that is, I wrote my way into particular spaces I could not have occupied by sorting data with a computer program or by analytic induction. [...] Thought happened in the writing. As I wrote, I watched word after word appear on the computer screen – ideas, theories, I had not thought before I wrote them. Sometimes I wrote something so marvelous it startled me. I doubt I could have thought such a thought by thinking alone. And it is thinking of writing in this way that breaks down the distinction in conventional qualitative inquiry between data collection and data analysis – one more assault to the structure. Both happen at once. [...] Data collection and data analysis cannot be separated when writing is a method of inquiry. And positivist concepts, such as audit trails and data saturation, become absurd and irrelevant in postmodern qualitative inquiry in which writing is a field of play where anything can happen – and does.” (Richardson & St. Pierre, 2005)

So there you have it. In practice, this has meant countless versions of personal notes, Powerpoint presentations and Word documents for personal review or outside review by various folks with various levels of involvement with the intent of engaging them in the dialogues mentioned above. Some of these writings were dead-ends, others became the object of conference presentations or course material. Most were merged, dissolved and extracted multiple times from one or more versions of this evolving thesis. But how does one judge such a process? Richardson and St. Pierre provide four criteria (2005):

“1. Substantive contribution. Does this piece contribute to our understanding of social life? Does the writer demonstrate a deeply grounded (if embedded) social scientific perspective? Does this piece seem “true” – a credible account of a cultural, social, individual, or communal sense of the “real”? [...]”

I firmly believe this thesis to be a substantive contribution. It is an autoethnography in which I have wholeheartedly invested seven full years of my life, with all the intensity and passion associated with living an entrepreneurial dream. I cannot think of a more ambitious undertaking in my life so far. It is deeply grounded in personal experience and action, and true as much as I can make it from my limited and partial standpoint.

“2. Aesthetic merit. Rather than reducing standards, another standard is added. Does this piece succeed aesthetically? Does the use of creative analytical practices open up the text and invite interpretive responses? Is the text artistically shaped, satisfying, complex, and not boring?”
As stated above, my agenda is analytical, not evocative nor critical. As such, I think the most suited aesthetic I can think of in this context is autoethnographic transparency; this is where interpretive space is created, where my interpretations can be situated. I do sincerely hope it is not boring.

“3. Reflexivity. How has the author’s subjectivity been both a producer and a product of this text? Is there adequate self-awareness and self-exposure for the reader to make judgments about the point of view? Does the author hold himself or herself accountable to the standards of knowing and telling of the people he or she has studied?”

This is essentially Anderson’s second criteria of analytic reflexivity, and I do not wish to repeat what has already been said about the double hermeneutic and the dialogues I have engaged in. Much of this will be detailed in the next section when discussing how the method was enacted during the research. However I do want to address the last point, which is making me accountable to the standards of knowing and telling of the people I have studied. I have never shied away from opportunities of dialogue. My analysis of the comics industry was sent to the head of one of the main publishers of comics whom I’d met earlier at the San Diego Comic-Con. His feedback was positive, confirming the growing importance of shojo manga and female readers in the sequential arts. My analysis of the lumber industry was presented to numerous key industry stakeholders, who confirmed the analysis as representative, and the Tetrahedron as the most substantial contribution of the research, providing new insights into the industry. My analysis of Miradas was presented to its president and founder Raymond Grondin, who also confirmed the analytical relevancy of the research. At every opportunity, I have made myself accountable as a mean to further dialogue. This is still an ongoing process as of December 2007. As Richardson puts it when discussing how texts validate themselves (see Richardson’s section of Richardson & St. Pierre, 2005): “Paradoxically, we know more and doubt what we know. Ingeniously, we know there is always more to know.”

“4. Impact. Does this piece affect me emotionally or intellectually? Does it generate new questions or move me to write? Does it move me to try new research practices or move me to action?”

These are questions only you, the reader, can answer.

So here we are: five criteria for analytic autoethnography and four criteria for writing as a method of inquiry with some limited overlap between the two. Are we missing any criteria? Yes. This is a thesis, and it has requirements distinct from research papers or conference presentations. These were presented quite clearly to me by Michel Audet after he
graciously agreed to pre-read this thesis. Mr. Audet was Dean of the Faculté des études supérieures at Laval University from 2000 to 2003 and Director of the Ph.D. program at the Faculté des sciences de l'administration for some time prior to becoming Dean. In essence, a thesis must be built around a certain structure, and this structure embodies certain requirements:

« The prélecture of Sébastien’s manuscript is, for me, a good occasion to remember that the ambivalence, or tension, between goals of originality and conformity are intégral to a Ph.D. To deal with this ambivalence, I have tried to pay great attention to the original aspects of the manuscript while identifying those elements which I believe to be common to all types of theses I know, in my domain of expertise or any other. I have identified to following elements [...]»

- Introduction
- Research Question
- Research Prime Objective
- Critical Review of the Literature
- Conceptual Framework
- Operational Framework
- Presentation of empirical data, if any
- Interpretation of empirical data, if any
- Conclusion

These elements can be named or positioned differently from one thesis to the next, but they must be there, and they must satisfy the requirements of the thesis committee. »

This structure maps over positivist beliefs remarkably well: introduce the research, present the question you wish to ask, justify its pertinence, justify the lack or insufficiency of the responses given so far, present what you believe will make a better answer, present how you will collect data to get that answer, present the data, interpret the data, and conclude—an orderly temporal research progression from point A to point B.

That structure can, but doesn’t have to, map over a constructivist autoethnography. I think the elements do need to be there, but they do not need to proceed from A to B like that. They certainly haven’t proceeded from A to B in such temporal progression for me. To be clear, Mr. Audet’s list isn’t numbered, and it was never his intent to favor any specific epistemological standpoint. I am quoting Mr. Audet to emphasize that all the elements are essential but usually follow a structure that isn’t the one upon which this thesis is built. That I was endeavouring to follow-up on Senge’s attempt to represent complexity in a non-linear and circular fashion didn’t occur to me prior to reading Senge (1990) in 2003, three years after I entered the Ph.D. program. The question I wished to ask got reformulated multiple

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2 Translated from French and validated by Mr. Audet on June 10th, 2008
times. As a result, presenting what I believed would make a better answer, and presenting how I collected data to get that answer, changed with time also. But that is what the Ph.D. is, or at the very least should be, about: exploration. I read and wrote my way into new territories I had not realized existed before. To quote St. Pierre again (Richardson & St-Pierre, 2005): "thinking of writing in this way breaks down the distinction in conventional qualitative inquiry between data collection and data analysis – one more assault to the structure."

Here’s what we will do: we’ll bind these elements into coherent narratives. One narrative will be about Introduction: what this research is about, who’s behind it, and what I’m trying to accomplish. Another narrative will be about how I got to the Tetrahedron – research questions and reformulations, objectives, critical literature review, and the operational framework putting all that stuff in motion. Let’s call that chapter Methodology. Then let’s talk about the Tetrahedron and call it that. Then let’s proceed with four related analyses through the Tetrahedron: the comic book industry followed by Grafiksimik, and the Québec lumber industry followed by Miradas. That’ll give the thesis an industry to business-within-industry dynamic while presenting and interpreting relevant texts. Finally, there’ll be a Conclusion to tie the loose ends together.

Good reading.
1 Methodology

The conceptual basics of analytic autoethnography and writing as a method of inquiry have been covered in the Introduction. Now we turn to how these two were instantiated: Which research questions were asked; how were they reformulated; what were the research objectives; what made up the literature review; what is my critical analysis of that literature; and which operational framework was used to put all that stuff in motion?

1.1 Questions, Reformulations, and Objectives

Questions are means to find answers. I entered Business School to learn about the way we organize collective work, with the clear intent of starting a comic book production studio down the road, which was itself a mean to an end: contribute to the fiction storytelling discourse as storyteller rather than audience. Thus I began with "What is business?" That seemed simple enough. I still thought in positivist terms back then, and I honestly thought there would be one answer to that question. Of course this was before I studied epistemology. I did have some early qualms with the question though. On one part, I had been trained to think as a lawyer (Law School will do that to you), so I intuitively thought that one legal entity equals one business entity. But when you study business in Business School, how many distinct legal shells enable one business entity to prosper doesn’t necessarily mean much; they might be irrelevant to the analysis of the wider system.

Another problem I saw had to do with networked organisations. More precisely, it had to do with how we describe them and the apparent ease with which one could intuitively draw an inside versus outside boundary around the networked organization, at least in the classroom. I never found these boundaries to be self-evident. What is inside and what is outside a business depends on the criteria you use to draw the border. Is it pay roll from a given legal entity? Is it location within a given building? Is it culture? What about project-based networked organisations? Could there be many insides and outsides, perhaps as many as there need be, based on different boundary-setting criteria: information sensitivity, location, status, and so forth? Was my first moment of doubt – the fact that legal boundaries didn’t always map onto system boundaries during the analysis – a mere instantiation of a wider problem?

The more I thought about it, the more I came to realize that there was no a priori objective boundary for an organization; it was an evolving network nested within other evolving networks, and drawing any kind of boundary was part of the analytic process itself. But the word "business" was problematic in other ways, too. I had assumed an overlap between business as an organization and business as the type of activity it carried out. Could illegal
activities be understood as business? What about churches and faith-based organizations? The Catholic Church was probably the most durable organization yet – but certainly it was not engaging in business, was it?

As I realized that the term “business” was turning into a Pandora’s Box, I started talking about business endeavours whenever I could so as not to imply that I was focusing on firms. My interest had been much broader from the beginning. I was interested in business endeavours of all sizes and shapes: business units, firms, markets, industries, or however else we characterize structures that enable humans to carry out commercial exchanges. Clearly, “What is business” was no simple question. More to the point, it was no longer a desirable question: it would not yield the insights which I sought.

Enter constructivism, through which I learned that various groups might answer the same question differently, since what constitutes business, as a type of activity or as a type of organization, varies with contextualized social consensus. That provided two possible directions for what to do next: stick with the “what is?” question and firmly position myself inside one contextualized group for the purpose of this research or reformulate the question with a “how to?” to think about business endeavours in ways which enabled multiple standpoints of analysis. Reformulation was the path I chose, but it didn’t happen overnight.

My first peer-reviewed contribution to social sciences was published in the conference proceedings of eBRF 2002. It began with this: “What is an e-Business?” In 2003, the first line of my paper was much more nuanced: “Can a conceptual framework be used to unearth an industry’s main business design challenges?” Implicit in this reformulation of the main question asked through my conceptualization of business design was that the answer takes the form of a framework. In 2004, this was made more explicit:

“Business is a complex human activity, and design aims at making sense of such complexity. By “design”, we mean intended complexity, either in what is intended to emerge or in what is planned to occur. In devising intentions, one uses knowledge. Frameworks are meant to represent knowledge about abstract objects, concepts and other entities, as well as the relations that may hold between them (Binwal & Lalhmachhuana, 2001).”

These peer-reviewed contributions didn’t map over the thesis in neither form nor content, but the question of what business design was remained important – each contribution had to do with business design in some way. I wanted to make sure that the term “design” communicated my intent, so I kept defining and commenting on business design at every opportunity. In 2005, I finally got to tackle how others approached questions of similar
intent and began to devise a more structured approach to what might constitute a relevant literature review:

"Economic theories of the firm such as transaction cost (Coase 1937) as well as strategic theories of the firm such as the resource-based view of the firm (Hamel & Prahalad 1990), the knowledge-based view of the firm (Conner & Prahalad 1996) and the cultural evolution theory of the firm (Weeks & Galunic 2003) have helped answer why firms exist. However, these theories do not address the conceptual core of what firms are. This question has usually been the affair of strategists and organization specialists, in that understanding what firms are can be seen as a starting point for the journey to what firms become. In other words, strategists and organization specialists have had an incentive to represent and understand what a business endeavor is in terms of ideas, concepts, and the relations they may hold in order to carry out their work. In what follows, these holistic conceptual representations are called frameworks (Binwal & Lalhmachhuana, 2001)."

In 2006, the focus was clearly how to approach knowledge representation:

"Above all, how do customer expectations impact the overall design of one's business? [...] To answer the last question, one must first conceptually represent what goes into the holistic design of a business endeavor."

And finally, in 2007, the most recent one-sentence summary:

"Conceptual business design frameworks seek to provide the conceptual anchors to represent the whole of business, which is to say vast amounts of knowledge, insights and wisdom in systemic, meaningful and tractable fashion (Senge, 1990)."

So, the layman's question at the start of the Ph.D. was "what is business"? The expert's question, reformulated more times than is accounted for here, has become: "how to better represent business endeavours holistically for analytical purposes?" Let me point out a few things:

1- What is "business" and "non-business" as an activity is answered by the analysis itself: this is its reflexive nature – to be able to qualify itself;
2- "Endeavour" is my way of saying that size does not matter when using the Tetrahedron – it can be used to conceptualize whole industries or minute micro-enterprises and everything in between. This was a concern as early as 2001. Explaining where boundaries stand and based on which criteria is part of the analysis;
3- "Holistically" points to the challenge posed by systemic complexity – basically, what Peter Senge was quoted as saying in the introduction of the thesis;
4- "Analytical purpose" refers to the epistemological and methodological underpinnings of the thesis. I do not believe myself to be knowledgeable and wise enough to criticize other people's business endeavours, much less hand out recipes for success;
5- "How to" is the research question, not "what is";
6- "Better represent" is what ties this whole exercise to business design and frameworks, as shown in the quotes above.

There is one more thing to say about business design, and it has to do with why I chose to stick with the term "design". After all, the thesis could be titled "Conceptual Business Representation Framework" or "Conceptual Business Analysis Framework" and, at first glance, it looks like such titles might do the job just as well. Not quite. In video games, comics, and animation, the best designs nail things down beyond what words already do. The best designs not only translate the written word into enticing visual, they bring life to it in such a way that the visuals feed the writing. The best designs are actually muses that feed the story's purpose. And so do the designs I am talking about here: to "better represent" is to bring the "analytic purpose" into double hermeneutic learning territory. Or, to repeat what I stated in the introduction: When I ask how we can better convey meaning and communicate knowledge about something, it has to do with how we can better facilitate discourse between social and scientific systems. Business design is at its best when it nails down what it is trying to analyse to the point of being a muse to action.

The research objective is thus to "better represent", where "better" is evaluated through a given representation's capacity to facilitate discourse between social and scientific systems. This research being a thesis, there are two additional points to make:

1- A thesis is meant to contribute something new to scientific discourse, and;
2- This thesis follows the stated objective insofar as it provides an original conceptual framework, but stops short of making the Tetrahedron attractive for social discourse, which depends on solving distinct aesthetic problems, as stated in the introduction.

At the core of the research objective is the Tetrahedron as an instrument of discourse, or as a meme vying for human attention in business practice and business schools. At this point I think it is useful to present a theory which I usually present last while discussing theories of the firm. The theory of the cultural evolution of the firm was presented by Weeks and Galunic in 2003:
“We argue that firms are best thought of as cultures, as social distributions of modes of thought and forms of externalization. Using the term ‘meme’ to refer collectively to cultural modes of thought (ideas, beliefs, assumptions, values, interpretative schema, and know-how), we describe cultures as social phenomena, as patterns of symbolic communication and behavior that are produced as members of the group enact the memes they have acquired as part of the culture. Memes spread from mind to mind as they are enacted and the resulting cultural patterns are observed and interpreted by others. The uncertainties of interpretation and the possibilities of reinterpretation and recontextualization create variation in the memes as they spread. Over time, firms evolve as a process of the selection, variation, and retention of memes. Our claim is that understanding firms in this way provides a new perspective (which we call the ‘meme’s-eye view’) on the question of why we have the firms that we have and makes possible a genuinely descriptive, as opposed to normative, theory of the firm.”

By thinking of the Tetrahedron as a meme in discursive science, the research objective can be broken down in three components: objectives of selection, variation and retention, here described in more detail by the same authors (2003):

“Selection assumes competition for a scarce resource; retention assumes the ability of the replicator to be copied accurately; and variation assumes that this copying is not always perfect. [...] A meme is said to be selected in a firm when a member of that firm (either consciously or without conscious thought) enacts that meme from among those previously internalized. A meme is internalized by a member of the firm when he or she (again, consciously or unconsciously) observes and interprets the cultural expression corresponding to that meme. [...] The process of selection always presumes variation. That is, there must be a variety of meme expressions with different combinations of function, fit and form for selection to be more than random choice. [...] Retention complements variation. If variation is about new memes and new combinations of memes, retention is about the longevity, fidelity, and fecundity of existing memes: how memes survive and are diffused more or less unchanged over time.”

The first objective is thus that the Tetrahedron be selected to discuss business design in scientific and lay circles. As quoted above, it assumes variation within available business design frameworks, which, in turn, assumes that absent or mislabelled points, nodes and links in frameworks can adversely affect business conceptualization. If this were not the case, all frameworks would stand as equally insightful, making moot the idea of selecting one framework over another. The frameworks presented here are selected based on the author’s appreciation of the meaningfulness of the points, nodes and links provided for conceptualization. Thus, it should be understood that this thesis does not provide an exhaustive review of the field and that the frameworks presented here had to favour their own selection, reinforcing the assumption described in this paragraph.
Another point to be made about selection concerns the use of metaphor: though I love metaphor in fiction storytelling, this thesis mainly deals with frameworks indigenous to business literature. There are two reasons for this. First, frameworks imported through metaphor require insights about the subject from which one formulates the metaphor. For example, if one says that business is theatre, one first has to conceptually represent what theatre is through a framework, and then translate that framework for the purpose of business conceptualization (for more on business as theatre, see Pine & Gilmore, 1999). Since any object is subject to metaphorical appropriation, this exercise can potentially take any form. The power of metaphor is also dependent on one's prior understanding of the object from which one seeks to import meaning. In other words, if one knows nothing about theatre, the metaphor of business as theatre is not very helpful. Consequently, different metaphors get selected by different people for different reasons, with various results depending on the attributes of the imported framework. Frameworks indigenous to business literature are more universal in that they do not rely on one's prerequisite knowledge of a metaphorical object. Second, to leave out frameworks imported through metaphor does the reader no disservice; Morgan's Images of the Organization (1996) is wholly concerned with this topic and does a splendid job at presenting this subject.

To sum up, the first objective of this research is to contribute a meme which promotes its own selection over other memes of similar intent (e.g. other business design frameworks). The corollary to this objective is that the literature review of this thesis focuses on memes of similar intent and which have shown some success in getting selected for wider discourse. If the Tetrahedron can't go up against these memes, there is little point in wasting precious time and resources over an exhaustive review of the world's literature which would include frameworks from obscure consultancy firms or frameworks which would only be relevant to business design through great leaps of imagination.

The second objective is that the Tetrahedron be able to propagate seamlessly through organizational variations once selected: from early adopters onto varied endeavours of all size and intent, perhaps even in unforeseen arenas like faith-based organizations or political organizations. This goes beyond the obvious choice of using generic terms over constraining vocabulary. For example, a framework relying on generic business vocabulary is *prima facie* subject to more varied uses than one thick with eCommerce buzzwords, eCommerce being a component of business, and not the other way around. But to really enable variation, a business endeavour's stage of life must also be taken into account.

An assumption is made that businesses make use of two complementary logics: causation and effectuation. Not all frameworks can deal well with both, and this is a key point to
understand because effectuation is extremely important at start-up, while causation is more prevalent in larger, mature firms (Sarasvathy, 2001). Causation centers on given goals, such as achieving certain market shares within certain industries. The challenges are finding the right goals and choosing the right means to achieve such goals. Effectuation centers on emergent goals, such as entering new markets and industries through fusion or alliances none had foreseen. Through one’s knowledge and network of contacts, contingent action allows goals to emerge and evolve (Sarasvathy, 2001).

Both logics are complementary, but most MBA strategic planning and marketing textbooks have focused on causation at the expense of effectuation. For example, Rayport and Jaworsky propose a business design framework based on four distinct infrastructures (technology, media, capital and policy) pointing to a central business strategy of six interrelated and sequential parts (2000). Such a sequential approach leaves little room for effectuation, making variation that much harder to achieve within the proposed framework, in the sense that the framework does not synch well with the prevalent logic of most start-ups.

To sum up, the second objective is to contribute a meme which can be compatible with varied forms of business endeavours and varied contexts. Carefully choosing names for conceptual building blocks which can find traction in varied contexts is the obvious route. Less obvious but just as important is that one must also take into account causal and effectual reasoning, which are present in all business endeavours. Both or either can be the focus of conceptualization through the use of a framework, but not all frameworks are conducive to such analysis.

The third objective is retention. What core questions, or which core elements, lie at the root of all planned and emergent complexities which inform the design of a business? The following answer was provided by Michael Porter in an Academy of Management Executive interview: answers take the form of frameworks which try to capture the full richness of business with the most limited number of core elements (Argyres & McGahan, 2002). What is that number is left for debate, as discussed below. Semantic networks are apt at conveying numerous insights with elegant simplicity and thus favour their faithful retention. They are also tricky to use and prone to conveying unintended meaning. For example, the absence of links between nodes may be interpreted as denoting the absence of relationships where the opposite is implicitly true, thus representing the opposite of what the author is saying in the accompanying text; a trail of arrows may lead to think in a certain direction, favouring conceptualization around a given logic, like causal over effectual thinking, thus making the framework limited to one way of thinking; nodes and
links labelled too narrowly may favour certain types of stakeholders over others, like customers at the expense of other stakeholders, thus sacrificing framework breadth; and so forth.

With this caveat in mind, this research assumes that semantic networks facilitate the retention of insights about business conceptualization in a way which eludes bullet point listings or tables. Considering that such networks have been used successfully in numerous other bodies of knowledge, from theology to artificial intelligence, there is nothing to contradict this assumption. The success and ubiquity of certain frameworks in strategic management, such as Porter’s value chain, strengthen this point (Porter, 2001).

To sum up, the third objective is to contribute a meme which favours retention by experts and non-experts alike. Frameworks which take the form of semantic networks composed of a limited number of core elements are the focus of the literature review which follows.

I believe that these three objectives, if properly pursued, can add up to contributing something new and meaningful to scientific discourse as required by a thesis. They certainly provide the contours of a literature review as well as the basis of a critical literature review, and this is precisely what the next section holds.

If this was a positivist research, one could deduce from these assumptions that an ideal framework would favour its own selection, move through infinite variation and guarantee perfect retention. It would have enough elements to meaningfully conceptualize business endeavours at various scopes of analysis without being so complex as to prevent researcher or practitioner appropriation. It would be flexible enough to be used in any industry, in endeavours of any size, in any culture or time-period. And it would be a semantic network of such elegant simplicity that it would guaranty meaningful retention of the insights it holds. But this is not a positivist research, and I have not been blessed with the power of crafting perfection. This is an autoethnography, and I will now turn to the literature I have read in order to construct and contribute the best framework I possibly could, given these three objectives.

1.2 Readings and Critical Analysis

This section presents a portion of what I read to fuel my creative fire. It is an overview of scientific discourse concerned directly or indirectly with understanding how to better represent business endeavours holistically for analytical purposes.
Let me be a bit more precise: Readings of non-scientific nature such as newspapers, specialized websites, and various other publications that do not go through a peer-review process are not discussed here unless otherwise noted. Insightful but unpublished course material and post-conference dialogues with peers around a bottle of 16 years old Lagavulin is likewise excluded; only peer reviewed published papers are discussed in this section.

Now think of the enormity of starting a research with a question like “What is business?” How to better represent business endeavours holistically for analytical purposes was a question formulated late in the game. At the start of this research, the relevant literature was potentially anything and everything ever written about business. And stuff about business would keep on getting published much faster than I’d ever be able to read.

Two logics came into play:

1- Causation, which centers on given goals, such as achieving certain objectives in a thesis. The challenges are finding the right objectives and choosing the right methods and protocols to achieve such objectives.

2- Effectuation, which centers on emergent objectives, such as discovering research opportunities and payoffs none had foreseen. Through one’s knowledge and network of contacts, contingent action allows objectives to emerge and evolve (Sarasvathy, 2001).

I want to be crystal clear here: I did not set out to do a scientific literature review prior to writing the thesis. I did not understand what was truly distinctive about the thesis until late in the game. I had no clear idea of what made up a relevant literature to help understand how to better represent business endeavours holistically for analytical purposes, in part due to the fact that the question kept evolving throughout the research. This is no lack of scientific rigueur. This is effectuation at its best: once I discovered relevant streams of literature which were new and relevant to me and this thesis, I switched to causal thinking in order to research those streams and unearth all the insights I could fathom.

A good example is how I came across the work of Peter Senge (1990). I met a guy working on an interesting metaphor: business as lasers (Morneau, 2005). He recommended I read two books, one of which was *The Fifth Discipline*. There wasn’t much in there for me in terms of business design frameworks, but there was this part about representing system relationships which just blew me away. That got me to read referenced work and Google terms like “systems thinking” here and there to find who was involved in systems
representation. From there I got a better hold of academic terms which key researchers were using to describe what I was really after. I typed these terms in databases like Proquest and University Laval's Arianne. And from there I worked my way into semantic networks and related topics, compiled references, compared them, and began to get a better grasp of the subject matter.

However, not all explorations warrant exposure in the thesis. Some were dead-ends. Others provided minimal usable insights – relational marketing, hedonic consumption, and knowledge management are examples of streams left out of the literature review. The criteria used for inclusion here evolved over time as I was getting a better grasp of the question and the objectives I was pursuing. These criteria are derived from the three objectives stated in the previous section: works are discussed insofar as they help to understand how selection, variation and retention occur for constructs aimed at better representing business endeavours holistically for analytical purposes. The core of the literature review thus focuses on other business design frameworks which also vie for selection, variation and retention.

That core review of other frameworks is critical in nature, which is to say I will compare and criticize them across selection, variation and retention attributes. But we also need context to understand where these frameworks come from, and this constitutes the beginning of the literature review in non-critical, analytic fashion.

Let’s begin with the context we need: theories of the firm, strategic management and business models. Theories of the firm are at the crossroads of economics, organization science and strategic management. These theories are a nice place to begin since they seek to answer why firm exists, and what determines their scale and scope (Coase, 1937) – very interesting topics for holistic business analysis. In addition, the three objectives I presented above are grounded in one of those theories.

Transaction-cost theory, which postulates that firms can lower the transaction costs of the market through employer-employee relationships, was introduced by Coase (1937). Transaction-cost theory postulates that people enter into the employer-employee relationship because they don’t know everything that can happen in advance – the relationship provides a contractually defined area of flexibility within which the employer can reorganize and control his employee’s work at his leisure, which is something the market cannot emulate. This assumption of imperfect knowledge was made explicit by Simon, who called it bounded rationality (1957). Bounded rationality opens up another line of reasoning: if people don’t share the same knowledge, people may deceive one another.
Williamson presented this aspect of bounded rationality as opportunistic potential (1975, 1985).

From its roots in economics, the theory of the firm evolved and borrowed insights from strategic management and organizational science: Wernerfelt’s resource-based view of the firm (1984) was enhanced by Hamel and Prahalad, who proposed core competencies as the prime resource of the firm (1990). Competencies are a form of knowledge, and a resource-based theory of the firm soon followed, presenting knowledge as a key to answer why firms exist, independent of any opportunistic behaviour (Conner & Prahalad, 1996). This normative view of the firm (businesses seek to minimize the cost of acquiring or generating knowledge) was further developed into a descriptive view of the firm by Weeks and Galunic, who introduced the firm as the locus of meme (idea, concept or belief) selection, variation, and retention (2003). In short:

“Theories of the firm seek to answer the question: Why do we have firms? Yet, in phrasing the question that way, we must not lose sight of the important extent to which firms have us. [...] The most direct answer may be that we have firms today because we had them yesterday. That is, we believe we need firms in large part because we have been schooled to believe we need them. They serve our purposes because they have a hand in defining those purposes and in evaluating their achievement. [...] We have organisms because they are a good way for genes to replicate themselves. We argue similarly that firms have evolved because those memes that are part of firms tend to replicate more than similar memes that are not part of firms. We have the firms we do, in other words, not because they are necessarily good for society or good for their members (though often they are both), but fundamentally because they are good ways for memes to replicate themselves. This may sound wildly counter-intuitive, but it rests solidly on two premises, one from evolutionary theory and the other from our understanding of what culture is and how it operates.”

From this I’d like to point out a key takeaway: the Tetrahedron is a meme, and I want it to be selected in expert and lay practices, used in varied contexts and retained in its key components and geometry at the very least. The three objectives I have stated for this thesis map onto the processes which allow memes to propagate in business endeavours as understood in the cultural evolution theory of the firm. This is how the Tetrahedron can eventually enter and energize lay discourse.

Let us turn to strategic management. The expression “business design” became widely known thanks to Slywotzky and Morrison’s book The Profit Zone, published in 1998. The business design exercise, which involves gaining conceptual high ground over the business endeavour in order to view its sum and parts anew, is much older. In 1979, Mintzberg introduced a framework of five basic parts describing the organization as an operating core,
a middle line, and a strategic apex on top, supported by a technostructure and support staff on the sides. This presented the firm as an arena for strategic behaviour, which went in the same direction as Miles and Snow’s organizational strategy, structure, and process (organizations strategically acting as defenders, prospectors, analysers, and reactors in an adaptive response cycle to entrepreneurial, engineering, and administrative problems) and, later, Porter’s competitive advantage approach (Miles & Snow, 1978; Porter, 1985). Strategy formulation, which can be viewed as a complementary part of business design by bridging current and envisioned designs, was explored further by Mintzberg, Ahlstrand et Lampel in their Strategy Safari: a guided tour through the wilds of strategic management (1998).

Proponents of the firm as an arena for strategic behaviour seem to have an inclination to create actionable frameworks. Porter did so with the introduction of the value chain in 1985, a contribution followed by various complements such as Rayport and Sviokla’s virtual value chain (1995) and Govindarajan & Gupta’s strategic innovation conceptual road map (2001). With the rise of the new economy came growing concerns about Porter’s framework’s ability to keep up with various transformations, culminating in the Porter-Tapscott debate (Porter, 2001; Tapscott, 2001; Useem, 2001).

Other strategy-focused frameworks were introduced: in 1994, Collins and Porras sought to look at the conceptual foundations which made businesses successful in the long run, yielding an interesting yin-yang framework of core and peripheral issues (1994). Slywotsky and Morrison’s 1998 book The Profit Zone presented twenty-two generic profit models which transcended industries and technologies, and placed these models within the strategic tier of a three tiered framework. Conceptualization founded on this framework and its accompanying models was christened “business design”, in an apparent nod to the strategic design school of thought. Rayport, Jaworsky & Seigal’s 2000 textbook Introduction to e-Commerce presented a four infrastructures framework: media, technology, capital and public policy contributing to a grand e-Commerce strategy, divided in six sequential parts: framing the market opportunity, business model, customer interface, market communication and branding, implementation, and metrics. Also in 2000, Hamel synthesized the various business models and business plans he had been privy to so far and proposed a framework based on four conceptual pillars, one of which was core strategy. In 2001, Sveiby presented a knowledge based framework to guide strategy formulation around three core knowledge anchors: external structure, individual competence and internal structure. Also in 2001, Normann presented his Crane framework, advocating strategic conceptualization through scenario formulation.
In parallel to these strategy-based efforts, new frameworks were being devised. Montreuil presented a process-based framework, with a self-realization process subdividing in ever more granular sub-processes, which evolved into the POINT framework: Process, Organization, Information, Network and Technology (Montreuil, Vallerand & Poulin, 1996). Pine and Gilmore conceptually described businesses through theatre, yielding another provocative framework (1999). Finally, Caisse and Montreuil presented their Tetrahedral Business Design Framework, the first draft of a research which is presented here (2003).

The main takeaways of this stream of literature are various conceptual frameworks that directly or indirectly address how to better represent business endeavours holistically for analytical purposes. These frameworks constitute the core of the literature review and are presented in greater detail below. But before we get there, we need to look at business models, a niche of works published within strategic management literature.

Business models sum up the Gestalt of what businesses are. Their main interest for business design is how certain characteristics keep showing up, hinting at some fundamental concepts which might be relevant to all businesses. Many poles, flows, dyads and faces of the Tetrahedron come from such commonalities. The higher conceptualization sought through the use of a business model is not new. A colorful example can be found in Theodore Levitt’s Marketing Myopia (reprinted in 1975 as an HBR Classic):

The railroads did not stop growing because the need for passenger and freight transportation declined. That grew. The railroads are in trouble today not because the need was filled by others (cars, trucks, airplanes, even telephones), but because it was not filled by the railroads themselves. They let others take customers away from them because they assumed themselves to be in the railroad business rather than in the transportation business.

Such questioning about one’s “true” business only grew with the rise of the new economy, as researchers sought to decipher order and commonalities out of the chaos and confusion wrought by the digitalization of information on a global scale. To understand change, one had to conceptually rise above it – business had to make sense of e-Business, merging the two in a single intelligible vector of transformation. Basic efforts centered on mapping the new economy in terms of actors and their various roles, such as the agora, the broker, the club, and the transformation agent (May, 2000); the e-business storefront, the infomediary, the trust intermediary, the e-business enabler, and the infrastructure providers (Hartman, Sifonis & Kador, 2001); the vertical and functional eHubs (Mohanbir & Kaplan, 1999); the forward integrated producers, the supply-side aggregators, the backward-integrated users,
and the demand-side aggregators (Rayport, Jaworski & Siegal, 2000); and the customers, context providers, contents providers, commerce services providers and infrastructure providers as arranged through business webs taking the form of agora, alliances, aggregates, value chains and/or distributive networks (Tapscott, Tycoll & Lowy, 2000). In parallel, Hagel & Singer called for the “unbundling” of corporations so that their components could be better re-aggregated in new ways, which Tapscott echoed through his b-webs (Hagel & Singer, 1999; Tapscott, 2000).

All of these roles implied various business characteristics, but provided little insights beyond topographical and lexical order. In essence, business models were important to sum up the holistic nature of myriad businesses into short narratives, but they were a far cry from the conceptual frameworks sought to bridge all the elements that made up a business. This narrative value was put forward by Magretta in an effort to save the “business model” neologism from falling out of grace after the bursting of the Internet bubble (2002). The business model literature was thoroughly reviewed and synthesized in Osterwalder’s Ph. D. dissertation entitled “The Business Model Ontology - a proposition in a design science approach” (2004). This exercise yielded the business model literature’s first holistic business design framework, though lacking a semantic network’s systemic insights.

Here too, the main takeaways of this niche stream of literature are various conceptual frameworks that directly or indirectly address how to better represent business endeavours holistically for analytical purposes.

I believe this is enough context to tackle the core of this literature review: frameworks that have a shot at selection, variation and retention as means to “better represent”. This will be done in two ways. One is analytical: frameworks are presented so that they can be understood not only as separate entities, but also as discursive statements in an evolving literature. The other is critical: frameworks are compared along their selection, variation and retention potential.

But first, a warning: for the sake of narrative simplicity, I’ll present the Tetrahedron as part of that literature. I have multiple reasons for doing so. First, I want to look at these frameworks as means of representation. The focus is on how they accomplish this: how many components they have, how they are related, their scope, and their position relative to one another. Second, these frameworks are compared and criticized. Making the Tetrahedron part of this exercise makes it possible to better appreciate the thesis as a discursive statement in an evolving literature. These frameworks, Tetrahedron included, are not presented in any greater detail than what is needed to understand how they go about
representing business designs. The Tetrahedron is presented in greater detail in the next chapter.

The danger in taking this approach to a literature review is to make the exercise look like a beauty contest, with the Tetrahedron coming out on top. This is certainly not my intent. Rather, I want to show how these various frameworks informed the creation of the Tetrahedron, from things I wanted to borrow to pitfalls I wanted to avoid. This review is thus structured as a narrative, from first attempts to my own contribution. There’s an added benefit, too. Remember that “better” in “how to better represent business endeavours holistically for analytical purposes?” The Tetrahedron is one contribution, but it is by no mean the final answer to that question, if there can ever be one. This review presents various frameworks and positions the Tetrahedron as a superior discursive statement amongst these. This shouldn’t come as a surprise; if I didn’t believe the Tetrahedron to be “better” than what is available now, I wouldn’t write a thesis about it. Hopefully, this review might achieve something else, too: inspire and entice a reader, sometime, somewhere, to enter the discourse with even “better” answers, Tetrahedron included.

Frameworks can take various forms, from bullet point lists like Slywotzky and Morrison’s three dimensions to three dimensional semantic networks like the Tetrahedron (Slywotzky & Morrison, 1998; Caisse & Montreuil, 2003). They can vary in scope in two ways: first, they can be industry-specific or generic, allowing the insights they hold to be appropriated by various industries and cultures with varying degrees of changes and adaptations. Second, they can feature a few key elements, or present a plethora of concepts, enabling conceptualization at strategic, tactical or operational levels, with varying degrees of granularity and complexity. One important point for the purpose of this literature review is that the focus is on the frameworks – characteristics such as form and scope – rather than their various components. A thorough review of the precise meaning of each framework component would add too many pages to this thesis without adding enough to the critical review of their selection, variation and retention potential.

We begin in the late 1970s with two frameworks: one by Miles and Snow (1978) and the other by Mintzberg (1979). Both contributions validated strategic management literature as a legitimate forum to discuss holistic business conceptualization. As shown in Figure 1.1, Miles and Snow’s strategy, structure and process framework relies on a handful of broad concepts. It presents the firm as an arena for strategic response to three successive problems any business is likely to face, and deals primarily with the types of products a firm should be making in response to these. At its core, this framework is about evolving problems and
the appropriate strategy to be devised, which has repercussions on structure and process. What makes up structures and how processes work are left largely undefined.

![Adaptive Cycle Stage: Time](image)

<table>
<thead>
<tr>
<th>Strategic Typology</th>
<th>Entrepreneurial Problem</th>
<th>Engineering Problem</th>
<th>Administrative Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defenders</td>
<td>Each strategic type has its own set of problems, solutions, and costs &amp; benefits for each stage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prospectors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysers</td>
<td>Each strategic type has its own <strong>structure and process</strong> to deal with the problem it faces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactors</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Figure 1.1 Miles and Snow’s Strategy, Structure and Process Framework

Mintzberg’s five parts framework is complementary to Miles & Snow’s work. As shown in Figure 1.2, it presents the organization as an arena for strategic action, with strategic management at the helm of various categories of human resources.

![Mintzberg’s five parts of the organization](image)


Figure 1.2 Mintzberg’s five parts of the organization

Mintzberg’s framework does not provide any typology or temporal evolution for strategic action, nor does it tackle process, but it does provide a generic **structure** to complement Miles & Snow’s work (1978). This left **process** as the main component still lacking a good conceptual framework, until Porter presented the value chain in 1985 and revisited it in the context of the new economy in 2001, as shown in Figure 1.3.
Just as Miles and Snow focused on strategy over structure and process, and Mintzberg focused on structure over strategy and process, Porter focused on process over structure and strategy. A synthesis emerged in 1998, in the form of Slywotzky and Morrison’s business design framework, which was a list of concepts rather than a semantic network:

- **Strategic Dimensions:**
  - Customer Selection
  - Value Capture
  - Differentiation / Strategic Control
  - Scope

- **Operating Dimensions:**
  - Purchasing System
  - Manufacturing / Operating System
  - Capital Intensity
  - R&D / Product Development System
  - Go-to-Market Mechanism

- **Organizational Dimensions:**
  - Organizational Configuration
  - Hiring
  - Incentives

*Strategic* dimensions targeted the same concerns Miles and Snow were trying to address, but did so quite differently. Instead of focusing on products, Slywotzky and Morrison focused on customers and went far beyond four types of behaviour. They introduced
twenty-two profit models: elegantly simple semantic networks representing how a business relied on one or more strategies to secure a rent from its activities. *Operating* dimensions targeted almost the same issues as the value chain, adding one crucial concept: capital intensity. *Organizational* dimensions received comparatively little attention from the authors. While Slywotzky and Morrison must be given credit for bringing these three types of dimensions together, they must also be criticized for the lack of clarity with which interactions between these conceptual elements were presented. In essence, the elegant simplicity which they brought to their profit models was lacking in their holistic view of business conceptualization and how strategic, operating and organizational dimensions were interwoven into one another.

This crucial issue was addressed by Rayport and Jaworski as well as Hamel in 2000. Rayport and Jaworski’s efforts to conceptualize e-businesses are presented first for the sake of narrative simplicity. As shown in Figure 1.4, this framework postulates four infrastructures which inform an e-commerce strategy, represented as a six-step process. The Business Model step is subdivided into four components. The resulting framework is essentially an enhanced version of Slywotzky and Morrison’s synthesis: an e-commerce focused semantic network featuring many similar concepts, framed by four infrastructures.

![diagram](image.png)


Figure 1.4 Rayport and Jaworski’s e-commerce framework
This framework is not intended to be universal and provides limited variation potential for other contexts and industries. It is also highly causal, presenting a flow of successive conceptualizations about infrastructures, leading to strategy, itself divided into six successive steps for implementation. This leaves little room for effectuation or contingent action, at least insofar as it is not explicitly shown in the framework. For example, it provides no means to conceptualize how a business might try to influence the four infrastructures through lobbies or sustained and targeted action.

Hamel’s business model framework was the first to go beyond Slywotzky and Morrison’s synthesis regardless of industry or context, and to delve deeper into strategic, operational and organizational dimensions, as well as the relations they may hold. As shown in Figure 1.5, Hamel used four basic building blocks, broke them down into constituent elements, drew three bridge components and added four underpinning concepts.

Most of Slywotzky and Morrison’s ideas are present; strategic dimensions can be found in the core strategy; operating dimensions can be found sprinkled throughout the framework, and; organizational configuration can be found in the bridge components linked to strategic resources. Profit models implicitly find their way in through four underpinning components, though Hamel does not focus on these as much as Slywotzky and Morrison do.
Contrary to Rayport and Jaworski, Hamel kept clear of recipe thinking, providing no vector of planning and no succession of elements to tackle in any particular order. This left the door open to causal and effectual logics. He also went well beyond Slywotzky and Morission's three dimension types and added other concepts useful to business conceptualization. For example, the Value Network block and the Company Boundaries bridge component incorporated insights about the network enterprise and other recent concepts in new economy strategy literature, such as Tapscott's business webs (2000).

More recently, business model literature was synthesized by Osterwalder, Pigneur & Tucci to arrive at a holistic listing of elements common to most business model descriptions (2005). This ontology is shown in Figure 1.6 and features some overlap with Hamel, minus the semantic network. It is structured around four pillars, each divided into one, two or three building blocks.

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Business Model Building Block</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Value Proposition</td>
<td>Gives an overall view of a company's bundle of products and services.</td>
</tr>
<tr>
<td>Customer Interface</td>
<td>Target Customer</td>
<td>Describes the segments of customers a company wants to offer value to.</td>
</tr>
<tr>
<td></td>
<td>Distribution Channel</td>
<td>Describes the various means of the company to get in touch with its customers.</td>
</tr>
<tr>
<td></td>
<td>Relationship</td>
<td>Explains the kind of links a company establishes between itself and its different customer segments.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Value Configuration</td>
<td>Describes the arrangement of activities and resources.</td>
</tr>
<tr>
<td>Management</td>
<td>Core Competency</td>
<td>Outlines the competencies necessary to execute the company's business model.</td>
</tr>
<tr>
<td></td>
<td>Partner Network</td>
<td>Portrays the network of cooperative agreements with other companies necessary to efficiently offer and commercialize value.</td>
</tr>
<tr>
<td>Financial Aspects</td>
<td>Cost Structure</td>
<td>Sums up the monetary consequences of the means employed in the business model.</td>
</tr>
<tr>
<td></td>
<td>Revenue Model</td>
<td>Describes the way a company makes money through a variety of revenue flows.</td>
</tr>
</tbody>
</table>

Figure 1.6 Osterwalder, Pigneur & Tucci's Nine Business Model Building Blocks

This framework has the advantage of building upon past attempts at business conceptualization but does not represent the systemic relationships which bind these elements together. For example, it synthesizes Hamel's business model framework pillars and components as part of an ontology, but loses Hamel's system insights in doing so.
What all of the frameworks presented so far have in common is that they deal with businesses in the narrow sense I discussed earlier: businesses as firms. They are not intended to intuitively scope down to business unit level, nor are they intended to scope up to help conceptualize markets and industries, although it might be possible to do so with various degrees of tweaking. The following frameworks are meant to be more flexible about scoping.

As shown in Figure 1.7, the core competence, Hamel's contribution from 1990, does not go into great detail as far as business conceptualization is concerned, but it does go straight to the heart of the matter, providing a compelling alternative to the product-focus conceptualization of the enterprise previously featured in the literature.

![Figure 1.7 Hamel's core competence concept](source: Hamel & Prahalad, 1990. The Core Competence of the Corporation. Harvard Business Review. May-June. p.81)

This semantic network seeks to represent the impact of core competences on how one conceptualizes a business, leaving much room for further conceptualization about what a core competence actually is, and at what scope it can be applied. This was complemented in 1994 by Collins and Porras through a *yin-yang* metaphor. As shown in figure 1.8, one half of the framework represents design aspects left open for change according to contextual imperatives, while the other half represents aspects which should be preserved.
Culture, operating practices, goals and strategies are not core competences. Core values and core purpose are not either. Core competence is knowledge about these, about what to change and what to preserve, and about the balancing act they require. The idea that knowledge is at the source of the core competence concept is implicit in Hamel and Prahalad’s 1990 article. In 1996, Conner and Prahalad proposed a resource-based theory of the firm, where the key resource is knowledge. This theory presents knowledge-related costs of transacting as the key defining why any given business design leans toward the firm or the market in terms of organizational structure. Conner and Prahalad’s contribution bridged strategic management literature with knowledge management.

Normann’s Crane framework builds on this knowledge-centric view of the core competence and can probably accommodate design at business unit, firm and industry levels (2001). The Crane is based on scenario thinking and is different from the others in that it makes explicit the influence of time over design. As shown in Figure 1.9, the framework is developed along two axes: time on the horizontal one, scope of analysis on the vertical one. The conceptual past is closely related to the core competence and yin-yang frameworks (Figures 1.7 and 1.8), while the conceptual future deals with strategy and scenario thinking. The vertical axis, concerned with higher and lower systemic orders, could be populated with aggregate ideas like Porter’s competitive threats and opportunities matrix (1980) and Rayport and Jaworski’s four infrastructures at the top (Figure 1.4), structure and aggregate process conceptualization like Mintzberg’s five parts of the organization and Porter’s value chain in the middle (Figures 1.2 and 1.3), and atomized processes and systems like Slywotzky and Morrison’s operating dimensions at the bottom.
While the Crane framework can be populated with other frameworks and ideas, its own semantic network provides little to work with, unless conceptualization is only to occur at highly aggregated scopes of analysis like future scenarios and strategic planning. This problem is addressed by the last framework presented here: the Tetrahedron.

As shown in Figure 1.10, the Tetrahedron approaches conceptualization as a cascade of interrelated concepts without hierarchy: it has no top, down, or center. One of the main strengths of this framework is that it can represent business endeavours of various sizes through basic, universal concepts that change through their contextual inflexions, as allowed by technological and social conditions. Another important strength is that the four pôles, twelve flows, six dyads and four faces are related to one another, thus emphasizing the systemic nature of the design and the ripple effect of all transformations through time. The geometry of these concepts yields a tetrahedron, hence the framework’s name.

The character pole, a business endeavour’s equivalent of “know thyself”, is essentially a continuation of Hamel and Prahalad’s core competence and Collins and Porras’ core values and purpose (Figures 1.7 and 1.8). The stakeholder pole is unique to the Tetrahedron and includes, amongst others, the customer. Using the Tetrahedron with a customer-centric mindset, affinities with Slywotzky and Morrison’s business design framework, as well as Hamel’s business model framework (Figure 1.5), become much clearer: the offer pole is the
nexus of Slywotzky and Morrison’s strategic dimensions and Hamel’s core strategy and customer interfaces, and the creation pole is the nexus of Slywotzky and Morrison’s operating dimensions and Hamel’s strategic resources and value network. The stakeholder pole, however, is much more holistic in its conceptualization breadth. In relation to the offer pole as a broader stakeholder interface, one can find Slywotsky and Morrison’s organizational dimensions of hiring and incentive. In relation to the creation pole, one finds organizational configuration, as well as Hamel’s company boundaries and value network. More importantly, the stakeholder pole explicitly bridges strategic management and stakeholder theory, with gain, contribution, role and network flows (Näsi & Näsi, 2002).

The Tetrahedron is more than a simple rehash of the literature’s key concepts, and there lies its main interest. It links concepts in a novel way, starting out with four basic poles and gaining scope from this simple foundation. It does so by providing increased granularity, with concepts such as gain, roles, and feedback, while keeping a holistic outlook on conceptualization, with broader concepts such as community and prosperity. Normann’s Crane vertical axis can thus be found in this conceptual scalability. The temporal horizontal axis can be found in the character pole, where past core competencies and future selves are explored, in relation to evolving creation, offer and stakeholder contexts.
Now that we’ve seen the main frameworks offered by the literature, let’s see how they hold water against our three criteria: selection, variation and retention. Put in laymen’s terms, what makes one framework more attractive than others, how well can it be adapted to various cases and how easy is it to faithfully remember?

First, selection: this research is concerned with holistic business conceptualization at various scopes of analysis. Miles and Snow’s strategy, structure and process (Figure 1.1) actually centers on strategy, Mintzberg’s five parts of the organization (Figure 1.2) centers on structure, Porter’s value chain (Figure 1.3) centers on process, and Hamel and Prahalad’s core competence (Figure 1.7) and Collins and Porras’ yin-yang framework (Figure 1.8) center on various forms of knowledge – each approaches conceptualization without industry or cultural constraints, but each focuses on specific components of the business endeavour. They are not holistic frameworks in either intent or scope, even though some people might use them for holistic design representation. Slywotzky and Morrison’s three business design dimensions, Rayport and Jaworski’s e-commerce framework (Figure 1.4), Hamel’s business model framework (Figure 1.5), Normann’s Crane (Figure 1.9), Osterwalder, Pigneur and Tucci’s nine business model building blocks (Figure 1.6) and the Tetrahedron (Figure 1.10) feature the holistic approach which is sought for selection.

Slywotzky and Morrison’s three business design dimensions, Rayport and Jaworski’s e-commerce framework, Hamel’s business model framework, Normann’s Crane, Osterwalder, Pigneur and Tucci’s nine business model building blocks and the Tetrahedron also present very different selection attributes where conceptual linkages are concerned. Slywotzky and Morrison, as well as Osterwalder, Pigneur and Tucci, present no links between their key conceptual dimensions or pillars. In other words, while interrelations between dimensions or pillars are implicit, no explicit concepts are provided. Explicit interrelationships are conceptualized by Rayport and Jaworski, Hamel, Normann and in the Tetrahedron to varying extents. Rayport and Jaworski’s e-commerce framework links its concepts linearly. For example, there are no explicit links between the four infrastructures, but all point to an e-commerce strategy. This strategy is a chain of six successive elements with no explicit loops provided to represent any relationship between non-adjacent elements. Hamel’s business model framework links its four main conceptual pillars with bridge components, but does so in a two dimensional representation, leaving some pillars unconnected to one another. For example, how are customer interfaces and value networks related as depicted in Figure 1.5? If this is not an oversight, than one finds himself forced to ask why some pillars are related and others are not, beyond the limits posed by the clarity required from a two dimensional semantic network. In contrast, the Tetrahedron provides
links for all its poles and, contrary to Slywotzky and Morrison’s three business design dimensions, Osterwalder, Pigneur and Tucci’s nine business model building blocks and Hamel’s business model framework, gains scope not by listing more granular concepts as sub-elements, but rather by representing these concepts as links (flows) and interrelations (dyads and faces). Normann links his concepts through axes; since there are only two, the representation is two dimensional, and the criticism addressed to Hamel cannot be repeated here. Normann does not list sub-elements except where the scenario creation process is concerned, limiting the use of his framework to highly aggregated analyses.

To sum up my criticism of these frameworks in terms of the selection criteria: only six are holistic in intent and only two of these use semantic networks which link all their elements together. One is two dimensional and limited to high level analysis: Normann’s Crane. The other is three dimensional and can be used for all levels of analysis: the Tetrahedron.

Let’s now turn to the variation criteria applied to the six frameworks which shared holistic intent. Rayport and Jaworski’s framework is intended for e-commerce and seems ill suited for other types of endeavours. This is easy enough to see because this is how the framework is titled. However, Slywotzky and Morrison’s three business design dimensions, Hamel’s business model framework and Osterwalder, Pigneur and Tucci’s nine business model building blocks are just as limited by the discourse from which they emanate: customer-centric strategic planning. Conceptualization mainly occurs around customers, leaving other stakeholders as an afterthought, in apparent confidence that they are either much better understood by whoever is concerned with the analytic exercise, or that these stakeholders are much less critical to the business endeavour. For example, how is the entrepreneur conceptualized in Slywotzky and Morrison’s three business design dimensions? Business endeavours are, after all, entrepreneurial artefacts. Can conceptualization truly be holistic without insights on this key stakeholder? Rayport and Jaworski’s framework, already aimed specifically at e-commerce analysis, proposes four-component business models within an e-commerce strategy, all focused on customers. Entrepreneurs and employees are nowhere to be found, except perhaps as part of the business model’s resource system. But what is their rationale for initiating and enacting the business? Investors and governments can be conceptualized in the capital and public policy infrastructures, but the endeavour is never aimed at them. It is not clear how one should conceptualize what these stakeholders gain from participating in the business, contrary to customers who have a value proposition within the business model, bridging the framed market opportunity and the customer interface. Hamel presents a customer interface with four sub components: fulfillment and support, information and insight, relationship dynamics, and a pricing structure. Why not use the same rigor and depth to understand
stakeholders like owners, employees, suppliers, or investors? Osterwalder, Pigneur and Tucci’s nine business model building blocks, reaped from a careful and thorough combing of the business model literature, yields a similarly customer-centric ontology, though other stakeholders are explicitly mentioned.

Normann’s Crane is a different beast, naming customers explicitly, mentioning no other stakeholder, but still managing to steer clear of customer-centric thinking by making the concepts of its horizontal axis available to whoever may be conceptualized along the vertical axis. The Tetrahedron avoids any type of centricity. For example, exploring and understanding the rationale for customer gain and contribution is explicitly represented as no more and no less important than understanding gain and contribution for investors, employees, partners or core managers. This is a major difference. The Tetrahedron allows, but does not require, conceptualization to be customer-centric; it can accommodate any type of centricity, or none at all.

Slywotzky and Morrison’s three business design dimensions, Rayport and Jaworski’s e-commerce framework, Osterwalder, Pigneur and Tucci’s nine business model building blocks and Hamel’s business model framework share an emphasis on profit, while Normann’s Crane and the Tetrahedron remain mute on the subject. In other words, conceptualization of non-profit organizations or business endeavours which mix public and private elements involves some adaptation for the first four frameworks, while the other two can more readily be used.

Finally, Rayport and Jaworski’s e-commerce framework follows a causal approach: its conceptual links are unidirectional, from an upstream market opportunity to downstream customers, with the selection of appropriate tools being the main conceptualization challenge to achieve planned goals. Slywotzky and Morrison’s three dimensions and Osterwalder, Pigneur and Tucci’s nine business model building blocks provide no conceptual linkages at all, making the distinction between causation and effectuation moot. In contrast, Hamel’s business model framework, Normann’s Crane and the Tetrahedron accommodate both causal and effectual logics.
To sum up my criticism of these frameworks in terms of the variation criteria: all frameworks except the Crane and the Tetrahedron are limited to the analysis of profit-driven, customer-centric, strategically-planned firms. Rayport and Jaworski’s framework is more limited, aimed at causal analysis of e-businesses. Customer or industry focused frameworks may be quicker to assimilate by their users, but the problem is that it is always easier to adapt the generic to the specific rather than transform the specific into the generic.

The retention attributes of these six frameworks vary substantially. Slywotzky and Morrison, as well as Osterwalder, Pigneur and Tucci, propose bullet lists of dimensions or blocks divided in groups. Unless one memorizes every listed concept, there is no visual anchor, nor any relational logic between the groups to help remember their constituent elements. Rayport and Jaworski’s e-commerce framework presents fourteen elements also divided in three groups: infrastructures, strategic steps and business model components. Contrary to Slywotzky and Morrison, there is a visual anchor, and there are relational logics involved, but Figure 1.4 only exists in this thesis; Rayport and Jaworski propose distinct semantic networks for the four infrastructures and the strategic steps of Figure 1.4, but do not link these together with their business model elements in a single semantic network as has been done here for the purpose of synthesis.

Hamel’s semantic network starts with four elements which can be broken down into thirteen sub-elements, linked by three bridges and underpinned by four profit boosters. While the thirteen sub-elements and the four profit boosters may not be easier to remember than Slywotzky and Morrison’s bullet list of twelve subcomponents, the bridge elements are a clear improvement, bringing relations between the four pillars to the conceptual forefront.

Normann’s Crane is easy to remember because it showcases few concepts in a simple semantic network of two axes, where scenarios are placed in the upper right quadrant. The problem is that there are almost no subcomponents to zoom-in on the business design. The Tetrahedron is equally simple to remember with its four main components, but the key here is in the geometry implied by the framework’s name: subcomponents are not bullet points within four poles, but rather relationships, from what a single pole contributes to another pole (a flow), to the key idea linking two poles (a dyad), to the more aggregate concept linking three poles (a face). In this case, retention is not about memorizing lists of sub-components, but rather about giving names to relationships between the four poles.
To sum up my criticism of these frameworks in terms of the retention criteria: bullet lists do not suffice. Only the Crane and the Tetrahedron share names which evoke their visual forms, and only the Tetrahedron embeds its conceptual elements in the relationships borne out of the geometry its name implies.

How to better represent business endeavours holistically for analytical purpose is a fundamental issue, yet remarkably few frameworks showcase strong selection, variation and retention attributes. Why? I can only see three possible answers. First, that business conceptualization is a waste of time. I don’t buy it for a second. The pursuit of holistic knowledge about business cannot be accepted as a waste, considering the importance of businesses in the 21st century. The second possible answer is that frameworks are ineffective at answering the question. The presentation of numerous frameworks above and the wealth of insights they help provide contradicts such an assertion. The third answer I can see is that creating holistic, meaningful, flexible and simple frameworks to better represent business endeavours holistically for analytical purposes is a difficult undertaking, and is still in its infancy as an academic endeavour. That’s the answer I’ll be working with for the remainder of the thesis.

This literature review positions the Tetrahedron as the most compelling contender to help better represent business endeavours holistically for analytical purposes. Interestingly enough, the literature streams presented above provide no methodology to craft a framework. How authors decide upon the number of core elements to include in a framework is a mystery, as is their rationale for interlinking some elements and not others, or developing some elements into sub components and not others. This was frustrating for me as a reader, and I hope to buck the trend here. The next section is a thorough account of the conceptual and real-life processes which shaped the Tetrahedron into being.

1.3 Operational Framework

This is the research question: “how to better represent business endeavours holistically for analytical purposes?” The answer-meme must fulfill three research objectives: entice selection in scientific and, eventually, lay circles; prosper through variation; and promote faithful retention. To arrive at the answer-meme, I have set out to write an analytical autoethnography of my life as artist-entrepreneur-researcher in the North American comic book industry. This analytic autoethnography must fulfill five criteria (Anderson, 2006):

“...(1) complete member researcher (CMR), (2) analytic reflexivity, (3) narrative visibility of the researcher’s self, (4) dialogue with informants beyond the self, and (5) commitment to theoretical analysis.”
I have set out to fulfill all these criteria through writing as a mode of inquiry: CMR as writer of fiction for comics, analytic reflexivity through writing, narrative visibility of myself through writing, dialogue with informants beyond the self through writing, and commitment to theoretical analysis through my writing. By these I mean emails, forum messages, semantic networks, PowerPoint presentations, lay and expert articles, and basically everything which can be put down on screen or on paper. All of these have coalesced to form this thesis, which is more than the sum of its parts. The thesis does not align previous writings in a linear narrative. It rewrites everything, informed by everything at once. It is the pinnacle of analytic reflexivity, where the various strands of thought are weaved into a grand tapestry. And these are the four things which it must accomplish: yield a substantive contribution, exhibit aesthetic merit, be reflexive, and have impact (Richardson & St. Pierre, 2005).

Is there an operational framework to achieve these four traits? In my case, it begins with effectuation: improve myself, know more and connect with people. These are the three basic tools that give you leverage to do more (Sarasvathy, 2001). And at one point, what you need to do becomes clear. Causal logic takes over, and the chaos of potentialities and possibilities becomes an ordered system built to reach one or more objectives. I should add that effectuation and causation are not at odds here. They simply do some things better than the other: effectuation deals well with chaos, while causation is very good with order. In this way, the operational framework is a gradual ordering of initial research chaos.

This thesis began to take academic shape in early 2002 as a student-teacher dialogue on how to better represent the fiction storytelling industry. From my point of view, most available frameworks seemed to fit a manufacturing mindset and seemed ill-suited to tackle a mostly project-based, virtualized knowledge industry already described as the precursor of things to come for many other industries (Kotkin & Friedman, 1995). A more flexible and relevant framework seemed necessary. From my thesis director’s point of view, the conceptualization I provided through a simple dialectic storyteller-audience framework was piecemeal and artist centric (Caisse, 2001). A holistic framework seemed required, and if I perceived current ones as unsuitable for explaining comics and related media, a new one would have to be devised. The discussion evolved. The quest for a holistic business design framework was soon on the agenda.

Most of 2002 was devoted to a broad business literature review in order to find disciplinary footing. The early focus was on strategic management. That the Tetrahedron is mainly a contribution to business knowledge representation rather than an extension of well
established streams of literature like strategic planning was not obvious at first. Only three years later did it become clear what the Tetrahedron was and what its core contribution would be. It is during this 2002 exploratory phase that the original version of the framework was conceived. It comprised the four poles and twelve flows presented here, but did not ascribed names to dyads and faces, leaving much conceptual work to be done on the reader’s part. This first version was presented at eBusiness Research Forum 2002, and the paper’s tone reflected perceived inadequacies in previously published design frameworks. It did little to present synergies and complementarities with other works. This situation was remedied only three years later. Nevertheless, by the end of 2002, the author had a truly original, unique and holistic business design framework to confront to business reality.

The three years which followed, from 2003 to 2005, were shaped by three dialogues. The first one was with lay practice: the conception, start-up, growth and shutdown of Studio Grafikssismik Inc., from incorporation in February 2003 to termination of all activities in December 2005. This real life entrepreneurial experience was played against the theoretical backdrop of the Tetrahedron at all times.

The second dialogue was with the scientific community: yearly participation to the e-Business Research Forum in Finland. The eBRF provided a peer-reviewed tribune to present research, effectively giving the author a deadline to distil his business experience through the framework and to reap scholarly feedback in the process. The design of the industry in which the studio was most active was presented in 2003, followed by the studio’s design in 2004. The Tetrahedron, examined with other business design frameworks, was presented in 2005. Unlike the 2002 contribution, the 2005 paper anchored the Tetrahedron as a contribution to knowledge representation, presented numerous other frameworks and compared them along various criteria.

The third arena of dialogue was in that place which transforms non-experts into experts: the University: I was a teacher’s assistant in a MBA new economy enterprise design course. The Tetrahedron was made available to students who used it on a voluntary basis for various projects during the course. Contacts necessary to understand the lumber industry and to approach businesses like Miradas and Bell were made during the course.

Studio, eBRF and student feedbacks led to various Tetrahedron versions and transformations. For example, a short-lived business design pentagram relying on five ideas commonly found in the business literature was created and quickly discarded in the autumn of 2003 in an attempt to address eBRF feedback. The Pentagram was an ill-conceived reaction to the high level of complexity perceived in the Tetrahedron. The Pentagram is
worth mentioning here because its failure emphasized the Tetrahedron's strengths, and my own reflexive attempts at making a better substantive contribution. On the one hand, the Pentagram seemed simpler because it presented only five elements in contrast to the Tetrahedron's twenty-six. However, when I sought to emphasize interrelations between key ideas, which is one of the crucial learning experiences of holistic business design as well as the essence of systems thinking, these five elements transformed into poles. In other words, the Pentagram was simple as long as no names were given to the interrelations of the five key elements it presented. Interlinking these five fashionable business elements yielded ten bilateral bridge components, or twenty one-way links, without even starting to address more aggregate concepts linking three or four basic elements. The Tetrahedron was much simpler since only four poles were at the source of the other twenty-two elements (flows, dyads and faces).

The Pentagram had turned out to be a huge step backwards, but had made clear that any list of common business elements such as profits, clients, strategy, structure, and the like would be doomed as a framework if one started to examine the conceptual links between these elements. This, in turn, begged the following question: what was the best number of basic business design elements to include in a framework? Two poles would yield two flows and a dyad. This seemed to be too simplistic and shallow to aptly describe business. Three poles would yield six flows, three dyads and a face. This option was toyed with quite a bit, but I never found a way to satisfactorily reduce the whole of business to thirteen concepts based on the interactions of three basic ideas. Five poles would yield twenty flows, ten dyads, and way too many faces made up of three of four poles to facilitate researcher and practitioner usability. The Tetrahedron was the right compromise of scalability between the simplistic conceptualization of a triangular framework and the unwieldiness of a five-pole framework.

It is after toying with the Pentagram that the Tetrahedron and other holistic business knowledge representation endeavours were presented anew and with much more depth at eBRF 2005. This contribution became the source for much of the previous section, most notably the presentation of other holistic business design frameworks. While I had thorough knowledge of their use and meaning – I had used these frameworks with MBA students from 2002 to 2005 – they had not been previously presented in relation to the Tetrahedron explicitly outside of the classroom.

As the studio endeavour came to a close in December 2005, all my attention turned back to the Tetrahedron. With hindsight, the framework was clearly a knowledge representation endeavour. Unlike most strategic management tools, it was descriptive rather than prescriptive. It did not predict the future, and did not suggest any success recipe. What it
did provide was the lay of the land, or the knowledge required to make one’s own route. The Tetrahedron was also my personal attempt at representing the synthesis of the knowledge acquired in business school as well as in business practice. The literature review stretched out, encompassing knowledge management, organization theory, firm theory, artificial intelligence as well as other fields and domains which turned out to be dead ends for the purpose of this thesis.

The sum of these explorations and undertakings crystallized as a thesis project presented in February 2006. The project was structured around the four e-Business Research Forum contributions already written, with various improvements, enhancements and additions. It presented the Tetrahedron in relation to relevant frameworks of similar intent and set out to demonstrate its worth with two action research cases: the design of Studio Grafiksismik, and the design of the fiction storytelling industry, in which I was active as both president of Grafiksismik and as freelance writer.

Thesis committee feedback was positive, but critical of the strong ties which I held for both the Tetrahedron and the objects of its use. The thesis committee asked for other case studies pertaining to businesses or industries in which the author had no prior stake, and for which no other stake than the academic would be allowed to burgeon in the course of research. I met the thesis committee’s challenge over the course of 2006: I partnered with a forestry engineer to better examine the design of Québec’s lumber industry, studied the design of a Québec lumber re-manufacturer from within thanks to the help of a MBA student who’s father was the founding entrepreneur, and partnered with a salaried intern at Bell Canada to decipher the design of a business unit critical to the multinational’s transformation towards Internet-based telephony (this last case was dropped from the thesis draft after prélecture feedback). Figure 1.11 sums up the arenas of feedback from which the Tetrahedron grew and improved until I handed in the thesis draft for prélecture.
MBA courses provided feedback in the form of selection criteria (when and why the Tetrahedron was chosen or ignored by students in favour of other frameworks in the course of various projects), variation (student and business leader praise and criticism in diverse types of businesses), and retention (how the Tetrahedron was actually used by neophytes). The e-Business Research Forums provided a different sort of feedback, mostly centered on content and structure as elements of selection, such as choices of names and concepts as well as usability.

One of the key Tetrahedron features directly owed to eBRF feedback is the cascade nature of the Tetrahedron’s presentation, from *poles* to *flows* and *dyads* to *faces*, an important path to take in order to gradually grasp the scope and breadth of the framework – this is detailed further in the next chapter when I present the four poles. Studio feedback was implicit (attitudes, memories, emotions, and so forth) and explicit (written feedback and criticism) and reflected upon daily for over three years. Insights did not come as epiphanies but rather as patterns slowly and gradually gleaned through the chaos of business practice. Representing the studio’s design came gradually, with many trial-and-error explorations.
made to find out how and where to better represent important concepts which became the names of dyads and faces, as well as common design issues such as strengths, weaknesses, challenges and opportunities within the poles, flows, dyads and faces.

The thesis project and the three subsequent case studies leading up to the thesis draft handed in at prélecture impacted the Tetrahedron in an unforeseen way. The three later case studies had a lay audience of business leaders. The insights unearthed through the Tetrahedron had to be presented in a more intuitive and engaging manner. This forced the development of distinct semantic networks for each poles in order to better represent the knowledge they conveyed. Thus were born the polar templates as presented in Chapter 2.

Two of the three cases (the lumber industry and Miradas) ended up together as a new eBRF contribution about business design innovation in 2007. I'd like to point out that all these eBRF contributions featured my thesis director as second author, and all these contributions pervade this entire thesis. There would be no point in trying to identify which sentences and which paragraphs of these various articles appear here unaltered. These contributions were carved up, cut, mashed, peppered with new insights, and otherwise enhanced before being thrown back into the first cauldron that was the thesis project; they were again carved up, cut, mashed, peppered with newer insights, and otherwise enhanced for a second time before being thrown back into the second cauldron that was the thesis draft; and then they were carved up, cut, mashed, peppered with yet newer insights, and otherwise enhanced for one last time before being thrown back into the third cauldron of boiling ideas that is this thesis. However, as a rule of thumb, most of the business design frameworks review can be traced back to eBRF 2005; specks of information about the Tetrahedron can be traced back to eBRF 2002; some early information about the comics industry can be traced back to eBRF 2003; some early information about Grafiksismik can be traced back to eBRF 2004; almost nothing remains from eBRF 2006, which is absent from Figure 1.11 and which featured my thesis director as first author and I as second author; and significant parts of Chapters 5 and 6 are based on material prepared for eBRF 2007. While none of these conference proceedings are included in their entirety in this thesis, Professor Benoit Montreuil has nonetheless signed the relevant documents to allow their inclusion here.

The first draft of the completed thesis was handed in for prélecture in June 2007. Critical feedback was handed back in July 2007. The main takeaway was that the Tetrahedron was worthy of scientific discourse, but that the vehicle of discourse – the thesis – was not yet presented scientifically: with hindsight, pretty much everything about the double hermeneutic, constructivism, analytical autoethnography, writing as a mode of inquiry, the
I was helpfully pointed to autoethnographic research going on outside business schools in *prélecture* feedback. I was enthralled. Analytic autoethnography was exactly what I had done all along since I entered the Ph.D. program, except for that last part which my thesis project committee had asked of me: craft case studies in which I had no prior stake. What I want to emphasize here is that the methodological fracture between what I had done prior to the thesis project (or prior to spring 2006) and what was asked of me by my thesis committee (spring 2006 and onwards) only became clear once I read about autoethnographies as a result of *prélecture* feedback (summer 2007). For over a year, I was conducting case studies about sawmills and Miradas in an attempt to strengthen an already seaworthy Tetrahedron. Nevertheless, 2006 wasn’t a waste. What constitutes added value to the thesis in these last two case studies isn’t so much the analyses themselves, but rather the fact that they were done outside autoethnography, making clear that the Tetrahedron was viable outside of its methodological womb. To sum up, Chapters 3 and 4 deal with the comic books industry and Studio Grafiksismik, a firm designed as part of that industry. For both industry and firm, I have complete member researcher status. Chapters 5 and 6 present the lumber industry and Miradas, a firm designed within that industry. For neither industry nor firm do I have complete member researcher status.

Chapters 3 and 4 are as much about comics and Grafiksismik as they are about the Tetrahedron. They are thick with effectual thinking. The Tetrahedron was shaped by those analyses; as a complete member researcher, I had to make sure that the Tetrahedron was indeed yielding the best business design representations I could conceive. Any hole I could see through experience was a point of criticism against the Tetrahedron. The Tetrahedron was an anchor to structure experience in a way which revealed the underlying systems, but my point is that I had prior knowledge of those two systems, albeit in an intuitive, chaotic kind of way. To put it another way, what is in Chapters 3 and 4 are my own lay insights translated into expertise through a device which was partly constructed through that very process of translation or abduction. The results are not only two scholarly analyses, but also a strengthened construct, though that last part is invisible to readers, since the Tetrahedron is presented as a completed whole in Chapter 2, and the analyses as completed processes in Chapters 3 and 4. With hindsight, it would have been very interesting to structure this thesis as a wiki so that readers could reach back into earlier versions and observe the reflexive analyses unfold, along with the changes made to the Tetrahedron as a result – the polar templates, for example, have changed a lot from 2002 to 2007.
Chapters 5 and 6 are radically different in that I had not significant prior knowledge of the relevant systems. I used the same instrument – the Tetrahedron – but as a scientist trying to understand lay systems. The logics involved were more causal and deductive; both case studies were initiated before I realized the methodological implications of an analytic autoethnography. Without CRM, there is a constructive methodological fracture between Chapters 3 and 4 and Chapters 5 and 6 which adds something to this thesis. This fracture point is important because it shows how the Tetrahedron can be used outside autoethnography while retaining the analytic power of the industry-firm pairing of the Chapters 3 and 4. Taken together, these four chapters reinforce the value of scoping with a single framework: being able to analyze a firm and its industry with the same construct allows dialogue with informants to take place at both scopes more readily. My evolving knowledge of the lumber industry helped me research Miradas better, and my understanding of Miradas helped me ground numerous industry insights more easily. I was able to absorb vast amounts of knowledge in less than a few months. Most importantly, I was able to represent it in such a way that enabled other stakeholders to provide me with highly relevant feedback. The four poles were easy to understand for dialogue in lay circles – they proved to be exactly what they were intended to be: primers for dialogue about holistic complex systems. We had a common language to represent these systems. This analytic process is invisible here also; Chapters 5 and 6 merely present the result of that process.

Let me point out that these two pairs of analyses are quite sufficient for the purpose of this thesis. One pair exposes the autoethnographic roots of the Tetrahedron, while the other validates its use outside of autoethnography. Additional case analyses would no doubt be interesting, but they would add very little to the exercise.

Let’s get back to prélecture feedback. I was not only pointed to autoethnographies, I was also pointed to qualitative research in general, where I might find tools to better articulate the Tetrahedron through a thesis. In a nutshell: Writing as a method of inquiry was the most compelling article I read on methodology. It made me want to write very substantial parts of the thesis anew. And I did. In the process, I discovered new things. New things about stuff I should have realized way sooner, such as the cultural evolution theory of the firm being the foundation of my research objectives. New things I had suppressed, such as having fun with quotes and references, letting them punctuate and intersect my prose. New things I never want to shy away from, like expressing things in my own voice, such as the various reflexive commentaries I have sowed through this thesis in an effort to make it more transparent.
In short, the more work I poured in response to prélecture feedback, the more liberated I became. And in all humility, there is no way I would have had the research maturity to write those two works about analytic autoethnography and writing as a method of inquiry, even though I feel like I have followed their various criteria all along, from 2000 to 2007. I don’t think I could have turned my Tetrahedron into the subject of a thesis which would have satisfied me as a researcher and as writer prior to the publication of these two papers. Like Odin hanging from Yggdrasil, I had to wait an uncomfortable while before I saw the runes.

Before ending this section and chapter, I’d like to comment on the two main writing tools which I’ve used throughout these past seven years:

My grimoire: Since 1996, this leather bound, copper ornamented 9” x 12” book accompanies me when I don’t have my laptop. And when I don’t have my laptop, it’s usually because I want to write or draw or do both unhampered by a keyboard. It is my brainstorming haven, a sanctuary of sorts. In it are sketches, doodles, semantic networks, notes, commentaries, retrospective analyses, scenarios, hopes, deceptions, and works that benefit from added layers of meaning through composition effects as I add new material. It is the Tetrahedron’s cradle. The grimoire is actually similar to a dust jacket: it fits over 9” x 12” blank page sketchbooks which can be changed once filled up with ideas. Seven densely filled sketchbooks such as these sit on my shelves, the eighth being my current grimoire. A smaller version - a leather bound, 7” x 9” jacket which was offered to me as a gift by a close friend who had travelled to Italy – has also accompanied me since 2006.

My laptop: I got my first laptop in 1998 in Japan. It has three key advantages over the grimoire. First, editing is made easy: delete, rewrite, tweak, paste, move, format and so forth. Second, communication is made easy: email, forum posts, instant messaging, and so forth. Third, research is made easy: log on the Internet and the University virtual private network and search – or discover – Google, Proquest, Arianne, or any other relevant database. It does have two main disadvantages. The first is ergonomics: sometimes I want to write, my brain ablaze with ideas, and the battery’s dead, or there is simply no time or place to boot up the system, or the ideas won’t come in a way that fits a keyboard or a single screen. The second is distraction: Sometimes I want to write and just end up surfing the Web after checking my all-important email Inbox.

As of 2007, neither one can be replaced. My grimoire is when I go inwards, my laptop is when I go outwards. I’m not sure I’d want them to be one thing, one space. As writing goes, these two spaces yield very different artefacts and actually benefit from that
difference. But this is mainly personal, a reflexive point on my writing, certainly not a recommendation on how to write for everyone.
The Tetrahedron

How to better represent business endeavours holistically for analytical purposes? My answer, a meme which has been shown in the previous chapter to entice selection, to prosper through variation, and to promote faithful retention, is the Tetrahedral Business Design Framework, or Tetrahedron for short. It starts with four very basic and practical ideas: it takes individual actors to do business (who); it takes more than one actor to do business (who, plural); people do business for a reason (why); and businesses create something (what, where, when and how). These basic ideas are presented as four interlinked poles geometrically arranged as a three dimensional tetrahedron: Character, Creation, Offer and Stakeholder.

Character is the collective actor and its praxis. Creation is the process through which past, present and future contributions are transformed into new stakeholder value potential. Offers are what attract individual actors into the business, like products, shares or careers. Stakeholders are the business’ individual actors, like clients, employees, investors, suppliers, and etcetera. Each pole relates to the other three in a precise way through links portrayed as pairs of unidirectional flows: Gain, Contribution, Role, Network, Bundling, Feedback, Threat, Defence, Orchestration, Learning, Alignment, and Engagement. The framework is thus composed of four poles linked by twelve flows. The overarching concept binding a pair of poles and their two directed flows is called a dyad – these are Competition, Cooperation, Exchange, Trust, Value, Web – and that which sums up the relationships between three poles is called a face – Craft, Community, Prosperity and Team – for a total of twenty-six distinct design elements held within a single geometric meme.

But we’re going too fast. For now, the important point is that four ideas are driving the show: Character, Creation, Offer and Stakeholder. Get the analysis right on these four and everything else follows. Get it wrong and everything else will suffer for it. These four are the reason a Tetrahedron exists. If it had been three basic ideas, I would be presenting a Triangle, and if it had been more, well, we’d be dealing with the Pentagram mentioned in the previous section, or perhaps a square-based pyramid.

The Tetrahedron is shorthand for this thesis’s title: Tetrahedral Business Design Framework. Let’s look at these four words one at a time:

The Tetrahedral Business Design Framework is not a metaphor for the firm, company, enterprise, joint-venture, or any other form of business endeavour. I don’t seek to import insight through metaphor, such as resorting to the audience’s understanding of tetrahedral
molecules in order to inform their view of business. The Tetrahedron simply designates the geometry of the interrelated concepts presented here – it is the shape of the holistic business design meme presented here. The rationale for using this geometrical shape is to facilitate retention: four basic design questions, from which twenty-two design issues can be explored as interrelations – flows, dyads and faces. In other words, the geometry of the Tetrahedron can help remember that a given idea is attached to a given concept. A mere listing of the Tetrahedron’s twenty-six design elements would be much harder to remember faithfully and would simply eschew representing the systemic nature of business in its myriad interdependencies.

Business as a type of human activity deals with the creation and exchange of value between individuals, groups or organizations, in a given cultural context. Not all exchanges of value are business exchanges, and there is no universal cultural definition to qualify them as such. For example, exchanging slaves might have been a business transaction in many cultures just a few centuries ago, whereas it is now a criminal act in most cultures. A Church tithe is another example falling outside the scope of business in most societies. In the end, what is “business” and “non-business” as an activity is answered by the analysis itself. That is its reflexive nature. Business as a type of organization can be conceptualized at various scales, from the individual transaction to the global flow of value worldwide. It comprises entities like firms, enterprises, companies, joint ventures, alliances, networks, organization, markets, and etcetera. “Endeavour” is my way of saying that size does not matter when using the Tetrahedron – it can be used to conceptualize whole industries or minute micro-enterprises and everything in between. Explaining where boundaries stand and based on which criteria is also part of the analysis.

Business is a complex human activity, and design aims at making sense of such complexity. By “design”, we mean the enacting of intended complexity, either in what is intended to emerge or in what is planned to occur. For example, robberies are not usually part of business design (unintended complexity), but one may design a response mechanism in case such an event occurs, or design a response mechanism to lower the probability that such an event ever occurs (intended complexity instantiated as an insurance policy or an alarm system). It is in this sense that one may design a business, present and future, in a tapestry of interweaved systems serving various intents. The term design carries many meanings in business literature, one of which is strongly associated with strategic management. The Tetrahedral Business Design Framework bears no specific relation to the Strategy Design School; the former sees design as the intentional use of concepts, ideas and abstract objects in a sense making exercise which may include strategy formulation
processes of any kind, while the later sees design as a specific expression of strategy formulation (Mintzberg, 1998; Liedtka, 2000).

**Frameworks** are meant to represent knowledge about abstract objects, concepts and other entities, as well as the relations that may hold between them (Binwal & Lalhmachhuana, 2001). The tricky part is that visual representations may carry a lot of unintended meaning. As the saying goes, a picture is worth a thousand words, for better or worse. One of the reasons for which the Tetrahedron presents key concepts in three dimensions is because it allows interrelations to be drawn between all four poles without imposing any conceptual hierarchy between them. This could also have been achieved in two dimensions with a square or circle and two lines joining the geometrically (in contrast to conceptually) opposed ideas, though other intuitive properties of the three dimensional geometry would have been lost, such as the Tetrahedron tri-polar faces. A linear representation of the four basics would have fared much worse, with only three linking pair of flows or bridges. An arrowed progression between ideas is even more problematic, since it leads to think in a causal order, or point to certain ideas as more central, bringing us down the slippery slope of success recipes. This has been avoided here by providing pairs of relations between the four basic ideas, and by avoiding any prescriptive start or finish point to the design exercise.

The Tetrahedral Business Design Framework is a contribution to business knowledge representation using semantic networks as holistic conceptual frameworks. Knowledge representation is a subject which has been the object of much attention in artificial intelligence research. Semantic networks represent information as a collection of nodes connected by labeled arcs which express links or relationships between the nodes (Bench-Capon, 1990; Markowitz, Nutter & Evens, 1992). Here is a more thorough definition:

"A semantic network or net represents knowledge as net-like graph. An idea, event, situation or object almost always has a composite structure; this is represented in a semantic network by a corresponding structure of nodes (drawn as circles or boxes) representing conceptual units, and directed links (drawn as arrows between the nodes) representing the relations between the units. [...] From this combined structure it is possible to deduce things about the composite concept as a whole and its relations to other concepts." (Lehmann, 1992)

Such networks are but one of the many ways available to represent knowledge in artificial intelligence research. In education and psychology literature, semantic networks have received attention under the guise of cognitive maps which are used to show key ideas and relationships between ideas (Novak, 1998). Figure 2.1 presents an example of an early
A semantic network, representing knowledge about God’s Holy Trinity, where God is the Father, the Son and the Holy Ghost, but where all three are distinct from one another (Lehmann, 1992):

![Figure 2.1 Early Semantic Network (Lehmann, 1992)](image)

The Tetrahedral Business Design Framework is a semantic network which aims to best represent business endeavours holistically for analytical purposes, which is a much humbler undertaking than trying to represent the divine in my opinion. In this research, nodes are called **poles** and directed links are called **flows**. This is a functional and aesthetic choice: “Poles” imply some power of attraction and cardinality which “nodes” don’t convey as well. “Links” become “flows”, implying that poles bring something to other poles; their links are directed, active and dynamic. Bi-polar “dyads”, encompassing two poles and their flow pair, and tri-polar “faces”, encompassing three poles and three flow pairs (or three dyads), sprout from the framework’s geometry, and thus represent more aggregate concepts.
Thought not designated as such, semantic networks received a lot of attention in Peter Senge’s The Fifth Discipline under the guise of systems diagrams (1990). Systems diagrams are meant to represent with ease system dynamics which are laboriously explicated in a linear language such as written English:

"Language shapes perception. What we see depends on what we are prepared to see. Western languages, with their subject-verb-object structure, are biased toward a linear view. If we want to see system wide interrelationships, we need a language of interrelationships, a language made up of circles. Without such a language, our habitual ways of seeing the world produce fragmented views and counterproductive actions [...] Such a language is important in facing dynamically complex issues and strategic choices, especially when individuals, teams and organizations need to see beyond events and into the forces that shape change.” (Senge, 1990)

Semantic networks taking the shape of a tetrahedron based on Senge’s research have been used to tackle strategic issues in various organizations (Grant, 1998; Kaipa, Newham & Volckmann, 1998a). A thorough review of the web as of September 2006 yielded one basic attempt at holistic business representation through a tetrahedron (Kaipa, Newham & Volckmann, 1998b). That construct unfortunately remained unexamined by peers and was published more as an e-consultancy prospectus and newsletter resource than as a well researched and documented business design framework.

2.1 The Tetrahedron: Four Pôles

The four poles are the foundation of the Tetrahedron. It is from their number that the geometry emerges, and it is from their interrelations that all other elements sprout. As such, they have received a special treatment: each pole is provided here with a template – a generic semantic network of its own – which is my only foray in making the ship attractive, as mentioned in the opening pages of the introduction.

Character is the collective actor and his praxis. It refers to the planned and emerging intents of collective action, both in terms of past, present and future action and in terms of level of analysis, from the strategic to the tactical (Normann, 2001). The collective actor is a constructed entity, like nation states or sports teams. Both are dependent on their stakeholders to exist – they are hollow shells kept alive by human action and perceptions. Yet people do not hesitate to ascribe them human characteristics, or traits which are rooted in human action. As such, character is the seat of elusive notions like culture, will, personality, identity, and soul (Collins & Porras, 1994; Collins, 2001). This mental image
of the business endeavour is different for every stakeholder, but some common traits are likely to be shared. Stakeholders can also actively mould and transform character.

Example of Character pole represented through Temporal and Conceptual Axes

Figure 2.2 Character Pole

Figure 2.2 represents character using two axes: time and level of conceptualization, both of which are borrowed from Normann’s Crane (2001). Past is on the left, presenting inherited conditions having a substantial impact on design. From this inheritance comes past strategic conceptualization and past tactical conceptualization. Strategic conceptualization refers to Collins and Porras’ core competencies, purpose and values which are meant to endure through whatever design comes next (1994). They reflect strategic choices about design rather than strategy itself. In other words, strategic conceptualizations are highly synthetic snapshots of past, current and future intended designs. Tactical conceptualizations are instantiations of strategy, such as cultural and operating practices as well as specific goals and tactics. These are meant to change over time so that they may yield their fruit: future strategic conceptualizations of the business. This semantic network is thus based on a synthesis and melding of Normann’s Crane and Collins and Porras’ yin-yang frameworks, both of which were presented in the previous section.
Stakeholders are individuals, groups or organizations who participate in the business to achieve their goals and on whom the business is depending for its existence (Näsi & Näsi 2002). Stakeholders are the business’ individual actors, such as clients, employees, investors, founders, suppliers, and etcetera. Figure 2.3 presents stakeholders along three broad types: talent, enablers and clients. In essence, talent refers to people, groups and organizations whose main activity is to engage in the craft which defines business character; clients are end users of the business’ value adding activities, as well as those who connect the business with these end users; and enablers are those who help the business bridge talent and clients, such as investors, counsel, and so forth. This is but one possible, non-exhaustive way to represent stakeholders.

![Stakeholder Pole](image)

Figure 2.3 Stakeholder Pole

An important type of stakeholder left unnamed in Figure 2.3 is the entrepreneur. The entrepreneur can be conceptualized as someone who wants to become a stakeholder in an uncreated system, because that system holds an offer – self-realization for example – that can move the entrepreneur into action. An entrepreneur must create offers to entice other persons, groups or organizations to become stakeholders, together creating an endeavour’s unique character. The entrepreneur is essential to the creation of the tetrahedral design, though the entrepreneur may not be essential to its survival and prosperity.
A single stakeholder can have multiple roles, such as an entrepreneur who might be both employee and investor. Stakeholders often feature matrioshka properties. For example, company A can be an important stakeholder, represented by employee X in its relation with what is defined as the firm. When employee X leaves A for a job at company C, X does not automatically cease to be a stakeholder, and may in fact prompt C to become a new stakeholder. Individuals within teams, teams within firms, and firms within larger firms are other examples of these matrioshka stakeholder synergies.

Competitors can be stakeholders as well, notably as members of associations and lobbies to avoid monopoly break-up or to generate standards and sustainable markets and industries. Competitors who do not participate in the business to achieve their goals and on whom the business is not depending for its existence can be conceptualized as potential stakeholders through the Tetrahedron’s community face, which encompasses the competition dyad as well as the stakeholder pole.

The main strength of the template presented in Figure 2.3 is to explicitly represent three markets in which most businesses find themselves competing: human resources (a subset of talent), capital (a subset of enablers) and customers (a subset of clients). This template also shares synergies with the Offers template presented in Figure 2.4.

Offers are the polished, coherent result of creation, and serve as the basis upon which third parties choose to become stakeholders. Offers are not the sum of business creation, but rather a distillate of it. Businesses only bundle part of the potential value they create in certain forms called offers (Shapiro & Varian, 1999). For example, take the movie trilogy Lord of the Rings by Peter Jackson. The potential customer gain that was created exceeds any individual offer that was made. A lot of footage that didn’t make it in theatres ended up on special-edition DVDs. But the movie premiere experience, buzzing with enthusiastic fans, can’t be delivered by any DVD. No single offer summed up all movie buff gain potential. For every stakeholder, there exists an offer that links him, her, or it to the business. Products, services, jobs, stocks, and the context in which they are offered are all examples of this, attracting all the stakeholders which are essential to the business.
Figure 2.4 presents offers for the three broad stakeholder types presented in Figure 2.3. These offers are subdivided along a five-tiered differentiation and personalization axis adapted from Pine and Gilmore’s *The Experience Economy* (1999). Closest to the center are commodities, followed by offers which sharpen in personalization and differentiation as the reader moves to the periphery: goods, services, experiences, and ultimately stakeholder transformations. Not all businesses will have something to offer to all three types of stakeholders on all five levels of personalization and differentiation. In addition, for those offers which do exist, it is likely that varying degrees of effectiveness will be found – so far, I’ve always used this template with a qualifier for each level and type, such as a black, grey and white gradient to indicate which offers do a great job at satisfying stakeholders, which do a mediocre job, and which fail to transform individuals, groups or organisations into stakeholders.

**Creation** is the process through which past, present and future contributions are transformed into new stakeholder value potential. The use of “potential” as a qualifier is meant as a caveat about value – a notion which can mean many things to many people,
depending on one’s circumstances and perceptions (value is treated below as a framework dyad to further expand on this relativism).

Figure 2.5 presents generic semantic network components often found in various representations of creation endeavours. The example contained in the figure is adapted from Martel and Oral and is in no way meant to imply that these components will be featured in every analysis, or that they always occupy the position represented above (1995). These generic components include processors such as suppliers and consumers; processes such as internal activities and logistics; and various flows or linkages, such as money and knowledge. Which processors, processes and linkages are most relevant to a business and how they are configured in relation to one another varies with each design and is something to be uncovered through analysis.

Example of Creation pole represented by industrial and commercial processes and processors

Examples of linkages between concepts:

Supplies → Knowledge → Costs → Relationships → x, y
Delays → Incentives → Revenues → ...

Processor: Stakeholder A

Processor: Stakeholder B

Example of a semantic network used to represent industrial and commercial processes and processors with unlabeled linkages:

Adapted from Martel & Oral, 1995

Figure 2.5 Creation Pole
The four poles don’t have to be presented in any specific order, but I’ve found through usage and feedback that the following presentation order seems to favour understanding: Character, Stakeholders, Offers and Creation. Character provides context for everything else, Stakeholders present the *dramatis personae*, Offers provide them with motives and incentives, and Creation presents the plot of their everyday story. From there, flows, dyads and faces can be presented. Note that I’m talking about presentation order – analysis occurs amid a much more chaotic sea of circular hermeneutic reflexivity amongst all design elements. I’ve also found the poles to be splendid tools of synthesis when one must present a holistic design under severe time constraints. Since all other elements are relations between the poles, key points which need to be discussed can be contextualized using the poles without having to invoke flows, dyads or faces by name. In other words, a focus on the poles when time is short is much more conducive to retention than, say, twenty-six short summaries of every component comprised in the Tetrahedron.

### 2.2 The Tetrahedron: Six Dyads, Twelve Flows and Four Faces

This is where the Tetrahedron truly gains elegance over previous frameworks. The poles are interrelated, these interrelations are explicated rather than implied, and these interrelations are named. Instead of pulling design elements out of my sleeve and bullet listing them below the four key ideas which I presented through the poles, design elements emerge through conceptual interrelationships borne out of the Tetrahedron’s geometry. This section presents three types of relationships between the four poles: flows, dyads and faces. Faces are presented last, while dyads and flows are presented together. Unlike the poles, none of these is accompanied by a semantic network template.

Bipolar dyads sum up the key concept bridging two poles in a coherent whole. Dyads are aggregated, composite memes which can be broken down into finer links between the poles: directed flows. Flows represent what a given pole brings to another pole. Flows thus come in pairs running in opposite directions between each poles. When I say that design elements emerge through conceptual interrelationships borne out of the Tetrahedron’s geometry, I also mean that there aren’t two or three overlapping dyads for a given pair of poles. There is just one dyad per pair or poles, three outbound flows per pole, and three inbound flows per pole. This is true for all four poles. This is in sharp contrast to other frameworks which can apparently have arbitrary numbers of bulleted sub-components showing up within any given component – an appearance of arbitrariness sustained by the opacity of their construction, since authors seldom detail how they arrived at these components and sub-components.
For the sake of simplicity, each flow pair is presented with its relevant dyad. The Tetrahedron’s six dyads are Trust, Cooperation, Competition, Value, Exchange, and Web.

**Figure 2.6 Trust Dyad and Alignment and Engagement Flows**

**Trust** is a covenant between stakeholders, the essence of what transforms individual actors into a collective actor. It can be expressed as a wide spectrum with profound distrust on one end and absolute trust on the other. While there may be distrust between a given set of stakeholders, trust may be found between another set of stakeholders. Trust can be conceptualized as glue and lubricant for the collective actor: glue that can bind stakeholders beyond the life of the endeavour and lubricant which can lower transaction costs as certain stakeholders forego various processes meant to locate and retain trustworthy stakeholders and minimize risks while doing business with stakeholders who have yet to be trusted.

**Alignment**, flowing from the Stakeholder pole to the Character pole, is how individual stakeholder gain enhances collective stakeholder gain. For example, continued and enhanced gain is sought by most stakeholders, which is why survival and prosperity are often described as the only real goals indigenous to organizations; they are goals on which most, if not all, stakeholders share alignment (Näsi & Näsi, 2002). Examples of misalignment abound, like contracts which confer too much power to a single stakeholder or individuals tampering with financial statements in order to cash in on stock options at the expense of other stakeholders.

**Engagement**, flowing from the Character pole to the Stakeholder pole, is how the collective actor binds stakeholders to itself, from the implicit to the explicit, and from the informal to the formal. For example, the promotion of stakeholder identification with the business – attributes perceived as shared by both the individual and the collective actor – is a form of engagement. Character can manifest here in a number of ways, generating stakeholder pride, loyalty and enthusiasm, or cynicism, resentment and spite.
Remember what I said in the introduction about not trusting the scientific publication system? This is what I wrote:

“If I could not trust the scientific publication system to provide me with a clear path to engage in double hermeneutic learning—stressing the write-up of highly quantitative, hypothesis-driven and esoteric papers, which is precisely what I felt it did at the time I began this thesis—then I would have to find my own path...”

If I was to conceptualize the social scientific project through the Tetrahedron, I, as a stakeholder, would not trust its current character, even though I do share alignment in its quest for knowledge. My point is that the flows which constitute a dyad are distinct; in this case, sharing alignment is not enough to generate trust.

Figure 2.7 Cooperation Dyad and Learning and Orchestration Flows

Cooperation is intentional collective creation, both in terms of work orchestration and learning. Cooperation is intentional because it combines both aspects: it is not merely doing stuff together, nor learning for its own sake, but rather creating together with the intent of learning. Put another way, cooperation is about honing collective skills for an improved praxis. Cooperation can occur on many scales, from core group cooperation to business alliances. It can relate to any processor, process or linkage presented in Figure 2.5, such as shared knowledge or logistics.

Learning, flowing from the Creation pole to the Character pole, is creating better ways to create. Put another way, learning improves the collective actor’s praxis. Learning prevents stagnation and provides flexibility (Mintzberg, Ahlstrand & Lampel, 1998). Over time, it transforms how stakeholders collectively conduct business and thus shapes character. How stakeholders learn as individuals is the domain of psychology, which goes well beyond the purpose of this framework.

Orchestration, flowing from the Character pole to the Creation pole, is the context provided for creation. Orienting a business toward a vision, stating a mission, or setting goals are all examples of orchestration. Orchestration prevents chaos and
provides order (Mintzberg, Ahlstrand & Lampel, 1998). It should be noted that such context is attached to the collective actor rather than the individual stakeholder. For example, the collective actor may seek profitability while individual stakeholders seek self-realization through highly personalized offers; one does not contradict the other.

![Figure 2.8 Competition Dyad and Defence and Threat Flows](image)

**Competition** is the array of offers which may tempt potential or current stakeholders away from the business' own offers, thus threatening character with erosion and calling for proper defences such as differentiation or name recognition. Marketing and strategy are two bodies of knowledge closely tied to this dyad. Competition exists for all offers, whoever the target stakeholder may be, and whatever place an offer may hold on the differentiation and personalization scale of Figure 2.4. For example, upscale restaurants may not compete for clients beyond their respective cities, but may compete for investors on a regional scale and talented chefs on a national scale. Competition is also closely related to character, as the later defines inherited conditions and strategic conceptualizations indigenous to the endeavour’s design. For example, patents are temporary legal monopolies granted by nation states; their existence and extent are part of the competitive landscape as expressed in the business’ inherited conditions and subsequent strategies and tactical moves.

**Defences**, flowing from the Character pole to the Offer pole, are counter measures erected to protect past, current and future offers. Examples are intellectual property (Slywotzky & Morrison, 1998) and differentiation – the creation of a unique market position involving a differentiated set of activities (Porter, 1996). Defences are not always the result of planned efforts and can be emergent like unique competences or legislative protection.

**Threat**, flowing from the Offer pole to the Character pole, is the potential for interrupted survival or prosperity. Offers, which are the interfaces between businesses and stakeholders, entail costs which represent a risk should they fail to convert individuals, groups and organizations into stakeholders. Threats also include
constraints and dangers such as lawsuits. For example, a book may face other books in the marketplace, but may also face censorship or libel issues.

![Figure 2.9 Value Dyad and Bundling and Feedback Flows](image)

**Value** is an offspring of assumptions and perceptions; it is what a set of stakeholders assumes to be valuable to another set of stakeholders, expressed through bundling, and what that set of stakeholders actually perceives to be valuable, expressed through feedback (Firat & Venkatesh, 1995; Holt, 1997). This is one of the Tetrahedron's key features: Value is not treated as a well-known absolute, but rather as a dynamic and ongoing dialectic between various stakeholders. The discovery process takes place through the creation of offers — the bundling flow — and the offer's validation or invalidation of creation — the feedback flow. Note that this dyad is necessary to properly analyse failure and cannot be reduced to a single pole. To include value in offers or creation would be to assume that the nature of stakeholder value is known to the business, which would in turn mean that there is no risk to doing business, since all creation costs and offer-generated revenues could be known in advance.

**Bundling**, flowing from the Creation pole to the Offer pole, is the aggregation of value potential in coherent forms called offers. As such, the objective of an offer is to make one a stakeholder, or to preserve and enhance such stake holding. As a result, different bundles are made to appeal to different stakeholders (Shapiro & Varian, 1999). For example, a job offer may bundle salary, challenges, career outlook, etcetera, as well as emergent qualities like proximity to relatives.

**Feedback**, flowing from the Offer pole to the Creation pole, is channeled stakeholder response as filtered through offers, validating or invalidating creation activities. Put another way, feedback is how contributions are perceived and given meaning. Offers act as a filter because they set the context for stakeholder response. For example, privacy statements are often part of the offer and set the policies which guide what information can be reaped and sent back to the business. Feedback is how businesses can get to know more about what stakeholders perceive as value and consequently
adjust their creation process. In addition to obvious information flows, profit is itself a form of feedback, validating or invalidating creation activities (Drucker, 2001).

Exchange is the arrangement of the many flows of contributions and gain which permeate the business. Logistics, accounting and finance are three bodies of knowledge highly relevant to this dyad. Temporal concerns are very salient, with cash flows, delivery times and warranties as obvious examples. Time permeates this dyad because it is a universal and ubiquitous form of contribution and gain. For example, entrepreneurs may contribute large amounts of time and money to their start-up business while accepting to defer gain to a long-term future, while customers may be looking for instant gratification. Money is nearly as universal and is another form of contribution and gain. As the saying goes: “time is money”, and vice versa. Other forms of contribution and gain making up the exchange include knowledge, contacts, property, and so forth.

Contributions, flowing from the Stakeholder pole to the Offer pole, are past, present and future stakeholder inputs in the business, like money, time, talent, skills, and etcetera. This flow explains why the business seeks stakeholders – it depends on stakeholder contributions for its existence. Contributions can be aggregates of other contributions. For example, buildings and trademarks are aggregate contributions, themselves the sum of past contributions like financing and hard work. Contributions can also have strong temporal characteristics, valued for their deployment over certain lengths of time or at certain points in time. For example, offers like warranties and prestigious products can be based on future, promised, estimated, expected or potential contributions, like the promise to honour engagements or not to dilute a brand over time.

Gain is enabling or relieving stakeholder value creation (Normann, 2001). When creation fails to turn into gain, the stakeholder has no incentive to pursue the business relationship. This explains the motivation behind stakeholder participation in the business. For example, a bookstore customer may buy reference books because they
enable him to learn new facts or relieve him from personally gathering those facts. An employee may work to earn a salary, and an investor may invest to reap a profit, but one should see that money is itself an abstract commodity constructed to enable or relieve value creation.

Figure 2.11 Web Dyad and Networks and Roles Flows

Web is a network of networks which evolves through time, as networks dissolve and mesh with each other and stakeholder roles are accordingly redefined and transformed. The business web extends well beyond the firm and its current creation processes. Markets and industries can be represented as portions of a web, and the “environment” as a Gestalt reticular representation, encompassing all stakeholders, past, present and future.

Networks, flowing from the Creation pole to the Stakeholder pole, describe how stakeholders are related in their various roles, specifying the responsibilities of each stakeholder in relation to creation processes (Poulin, Montreuil & Gauvin, 1994; Martel & Oral, 1995). Networks can take many metaphorical forms, including supply chains, value chains (Porter, 1985; Porter, 2001), virtual value chains (Rayport & Sviokla, 1995), value webs (Tapscott, Ticoll & Lowy, 2001), and be the subject of multiple categorizations, such as formal versus informal, internal versus external, and etcetera.

Roles, flowing from the Stakeholder pole to the Creation pole, are the masks worn by stakeholders in relation to creation networks. Such taxonomy brings clarity and insight as to what contributions are expected of each stakeholder. For example, Y Inc. is a supplier of X Inc., while Mr. Z is one of its customers. Note that many so-called e-Business models are in fact role descriptions made in the context of the new economy (Mohanbir and Kaplan, 1999; Hartman, Sifonis and Kador, 2000; May, 2000; Rayport, Jaworski and Siegal, 2000; and Tapscott, Tycoll & Lowy, 2000).

The four faces are presented after the flows and poles for the simple reason that the faces are constituted by these flows and poles. Faces are aggregate memes which represent three
of the framework’s four basic ideas (three poles) and how they are interrelated (six flows and three dyads). Like dyads, faces do not represent ideas which are new to business literature, but rather present new anchorage and configurations for common business concepts. The four faces are Craft, Team, Community, and Prosperity. I have found that a good way to use the faces is not to dig into details which have not been covered in constituent poles, flows or dyads, but rather to synthesize as much as possible to reveal higher systemic insights.

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**Figure 2.12 The Four Faces: Craft, Team, Community and Prosperity**

**Craft** is the essence of the Stakeholder, Creation and Offer poles – how stakeholders create and deliver offers, summing up daily business practice in its minute and countless skillful acts. A less intuitive way to put it is how offers create stakeholders (how offers dictate roles and what is expected of people), or how value is exchanged in the business web (the three dyads as a face). Craft is thick with daily action and pragmatic details. It is also about the timelessness found in losing one’s self in what needs to be done (Mainemelis, 2001).

This face is a good place to think about innovation -- innovation about how things are created, about what is offered, and about the human element in all this. Think Toyota in the 90’s, for example, and practices like Kaizen and just-in-time. There can also be innovation about business character, but such innovation is perhaps better described as transformation.
Such high level innovation – holistic business design innovation – is embedded in the character’s future strategic conceptualization of itself.

**Team** is the essence of the Stakeholder, Creation and Character poles, focusing on human interactions aptly named teamwork. Teams are common business artefacts, conceptually anchored to this face’s three dyads in that they navigate a web of trust and cooperation, or lack thereof. Teams are about fit, belonging and making the whole stronger than its parts, things which look easy on paper but which are actually true challenges in today’s global and virtual economy. Stakeholders with profound influence on the business’ character can be conceptualized as formal or informal teams whose main design impact is to create and transform character, such as a core group of entrepreneurs or leaders with exceptional clout and charisma (Kleiner, 2003).

In this sense, the Team face has been most useful to my analyses when not thinking about just any team, but rather when focusing on that core team of folks who shape the endeavour’s character – the core stakeholders who have leverage over the creation of character. This is perhaps most evident in family-run businesses when analysing issues of ownership and their impact on the organization’s character.

**Community** is the essence of the Stakeholder, Offer and Character poles. It is something which only individuals, groups and organizations holding a stake in businesses with similar offers or characters may share with one another. Community is anchored in three dyads: exchange, trust and competition. An example is the community of practice (CoP), where potential competitors exchange insights and gradually build trust in each other’s expertise and behaviour. Alumni, lobbies and professional associations and organizations are other examples of key community players in one’s business design. While industry-wide communities cannot be designed by a single business in the same sense that an offer can, it is possible to design offers which tap into communities in order to provide more gain. Community is also where competitors are to be found; “competitive radars” are metaphorical examples of this, focused on individuals, groups or organizations as close, remote, or potential competitors (Slywotzky & Morisson, 1998).

A short note on community and the business “environment”: The absence of any specific element named “environment” – as in “outside environment” or “competitive environment” – has been the object of many discussions regarding the Tetrahedron. Where is the environment? Where is the outside? Where is the industry, if we’re talking about a firm within an industry? The problem lies with the question: there is no objective environment, no objective “out there” for any given design. Describing that environment is part of the
analysis, because the business endeavour maps its environment through its four poles, and in particular through its offers. Potential stakeholders and competitors are known through what is offered. There is an “out there” insofar as it is relevant to the design being contemplated. That being said, the community face is probably the closest element to tackle the “environment” as understood in lay circles. It does so because it synthesizes offers in relation to character and stakeholders. While the Creation poles looks inward, the Offers pole looks outward, acting as an interface for what is “out there”. I prefer the name “community” to “environment”, though, partly because “community” connotes an active participation or construction on the part of the business, and mostly because conceptualizing through another Tetrahedron yields better analyses of such “environment”: for example, Tetrahedrons can be used business unit, firm and industry levels.

**Prosperity** is the essence of the Character, Creation and Offer poles, and deals with how the collective actor creates offers in a sustainable way, so as to insure its own continued existence. It involves three dyads: the mastery of cooperation and competition in order to generate value. Profit models are highly relevant tools to represent knowledge contained in this face, though profit is not the whole story when it comes to prosperity (Slywotzky & Morisson, 1998). Profit should be understood as a form of feedback in the creation of offers. Prosperity involves the mastery of cooperation, so as to ensure that the business can survive though times and renew itself. It also involves the mastery of competition and the development of intelligence which enables the business to envision its future with clarity.

### 2.3 The Complete Tetrahedron

Like flows, dyads and faces, the Tetrahedron can be though of in terms of interrelationships – in this case, the four poles taken together. Thinking of the Tetrahedron in this way strengthens its retention attributes: it emphasizes the four poles as basic, fundamental and interrelated entities rather that four poles as pieces of a complex puzzle. Like the flows, dyads and faces, no semantic network templates are proposed here, though Chapters 3 and 4 use a common synthetic representation for the Tetrahedron.

The Tetrahedron is holistic in nature, an all-embracing answer-meme created to better represent business endeavors holistically for analytical purposes. As stated earlier, analytical rather than critical means that recipes and prescriptions for success fall outside its scope. Of course business design seeks to represent complex systems which thrive on risk and representing such risk may tip the scales in favour of success by unearthing precious insights otherwise obscured, but no business endeavour is a sure bet. Put another way, if the Tetrahedron helps synthesize knowledge about a firm with a 50/50 chance of success or failure in the next year, an eventual failure – or success – of the endeavour in the
coming year is not a failure nor a success on the framework’s part, but rather a consequence of the risk incurred in the endeavour. What the Tetrahedron aims to do is to represent that risk as best as possible. Some folks may find a way to use the Tetrahedron to change the odds, but this isn’t the game I’ve played here.

Ultimately, the Tetrahedron is hoped to be relevant to business design in any society, any industry, and any time period. It is comprised of numerous ideas implicitly and explicitly presented in business literature. The names given to these core elements are rooted in an unavoidable semantic minefield, and there is very real danger of importing polemics rather than harvesting new insight. The Tetrahedron should be understood not as a Frankenstein of past constructs, but rather a new creature whose parts were identified with familiar names for simplicity’s sake.

On a final note, let me point out that the Tetrahedron is a dynamic construct, founded on the idea that things change through the evolving interrelationships which bind four basic concepts into one coherent whole. This means that topics not explicitly cited as examples of what makes up a pole, a flow, a face or a dyad in this Chapter are still embedded in there somewhere. For example, what about issues like stress, alienation, economic abuse or pollution? These issues can all be framed within the Tetrahedron when they are conceptualized as artefacts of a system. Stress, alienation, abuse, power, pollution can all be created and offered to unwilling stakeholders. Flows like gain and contribution can be phrased in negative terms. In essence, analysing illegal or undesirable business designs or design outcomes is possible, even if not addressed directly in this thesis.
3 Industry Analysis: Fiction Comic Books

Back in 1993, I decided to find out who else was drawing fantasy and science-fiction in Quebec City. I’d been viewing bootleg VHS tapes of Japanese animation since 1987, works that only a handful of people had seen in this part of Canada: Megazone 23 part 1 and 2, Angel’s Egg, Area 88 and many, many more. They were not translated, but they were amazing: highly innovative and stimulating ways of approaching visual storytelling. I figured this could be used as bait for people like me, to lure them out of their basement or their classes, so that we could connect as like-minded storytellers. I knew the enthralling power of these works – I’d spent countless days hunting them down. I also knew I wasn’t the only one with networking in mind.

Back in 1988, I’d visited the Japanese Consulate in Montréal to find out if they had any information regarding manga and anime – Japanese shorthand for animation. The Japanese hadn’t yet realized that their pop culture was exportable. I was turned away, but chose to linger a few minutes in the waiting room to look at Japanese newspapers for the first time in my life, and was called back to the information desk while marvelling at the seemingly inextricable complexity of the characters filling up the front page. It turned out there was something about manga at the Consulate. A few years back, Osamu Tezuka, also known as the God of Manga, had visited Montréal to help translate and promote Astro le Petit Robot or Tetsuwan Atomu. He’d left a package, just in case a Canadian one day came to inquire about manga or anime. I was given that package.

Flash forward again to 1993: I knew I wasn’t alone with networking in mind. Tezuka-sensei himself had left something for the bold and curious. I decided I’d stop viewing those VHS tapes at home. I rented a projection room at Laval University and got my sources to show their tapes there instead. In less than three months, we had over thirty regulars coming every two weeks to get their fix of anime from all over Quebec City. I asked who was actually drawing stuff as a hobby. A dozen hands rose up. We formed a loose group named Alliage on the spot.

The marvellous thing about that group was the variety of influences available: some guys were fanatics of Belgian and French bande dessinée albums, other of American super-hero comics, others of manga – all various cultural instantiations of sequential art, where the story is told through spatially juxtaposed illustrations. Alliage made that knowledge available to others, and pretty soon I was diving back into Belgian and French albums I’d pretty much stopped reading in 1986, and exploring the North American comic book industry much more seriously and intensely than I’d done as a reader since 1987.
From there various things happened:

- Every Alliage member got a membership card in the Société des Créateurs et Amis de la Bande Dessinée (or ScaBD, which I can translate as Society of Creators and Friends of Sequential Art). The ScaBD was a provincial scale non-profit organization devoted to helping artists. Alliage essentially voted itself into key posts, and I became president of the ScaBD for 1994 and 1995. Those two years of presidency placed me at the center of dialogue between amateurs, professionals, government agencies and various other industry stakeholders.

- I wrote my Master’s in Law memoir on comic book publishing contracts in 1996. This provided me with some unique research opportunities. I contacted various Canadian artists to get a look at their contracts and discuss their experiences. I met with publishers, distributors and experts. Some of their insights made it into the memoir. Some of their insights, less relevant to a Master’s in Law, stayed with me for later use.

- In 1998, I received the Monbusho Scolarship and went to Japan to study manga and e-publishing. Here too I met with amateurs, professionals, government agencies and various other industry stakeholders. The dialogue wasn’t only about manga, it was also about my own knowledge of North American publishing and Belgian and French publishing. I came back to Canada in 1999 after a short stop in Virginia for an e-book conference organized by an American government agency.

- In 2000 I tried to create the first comic book intended to be viewed exclusively on an e-book reading device: “The Green Hand” for the Rocket eBook, with scrolling features and a modest soundtrack. This initiative allowed me to engage in further dialogue with e-publishers and device manufacturers, and got me to reflect about sequential art business models in new ways.

- In 2003 I founded Studio Grafiksismik with two friends I’d met through the ScaBD. This micro-enterprise is Chapter 4’s object of analysis. I was president of the Grafiksismik throughout its existence, from 2003 to 2005. This provided me with unique insights into the industry’s inner workings, from privileged conversations with other presidents in the industry to dialogue with countless stakeholders.
In 2005 I became a professionally published writer with Hawke Studios' *The Grimoire*, published through Speakeasy Comics, two organizations which collapsed, dragging Grafiksismik down with them as detailed further in Chapter 4. Since then I have written as freelance artist for Dreamwave and Volta Creations, though in both cases these works have yet to be published. The freelance experience provided yet another standpoint from which to view the industry.

To sum up: this case study feeds upon years of scholarly research, two presidencies in organizations devoted to serving the industry (Studio Grafiksismik Inc. and ScaBD), one year spent in studying and researching in Japan, hundreds of interviews and discussions with industry professionals in Asia, Europe and North America, daily and ongoing visits to industry news websites and forums for over a decade, numerous visits to industry trade shows and conventions, and published freelance work experience.

What follows is my best attempt at representing the design of North America's fiction comic book industry as of 2006, which spills over into various complementary media and markets. The poles are presented first, followed by an in-depth analysis based upon the Tetrahedron's flows and dyads. Salient challenges and opportunities are discussed and anchored around the Tetrahedron's faces, and the overall design is summed up in the Tetrahedron itself. Note that my voice will be toned down during the analysis; I prefer to present it in the third person, if only for the very practical reason that it can be more easily extracted from the thesis and forwarded to various industry stakeholders for feedback.

For readers interested in a broader view of comics as an art form and a medium, I warmly recommend you get a hold of Scott McCloud's seminal *Understanding Comics* and *Reinventing Comics* (1993; 2000).

### 3.1 Design Poles: Character, Stakeholders, Offers and Creation

North American fiction comic books (hereafter comics) are a form of sequential art where the spatial juxtaposition of illustrations is used to tell a fictional story over the length of a small book or pamphlet, the most common format as of 2006 being a 22-page segment of narrative, part of a larger story delivered on a monthly or near monthly basis (a "monthly"). For the purpose of this research, **fiction** encompasses all works which have no pretence of describing reality, though their authors may seek to imitate reality (ex.: realistic illustration styles) in order to provide specific aesthetic experiences to the audience. **Narrative** refers to the creation and communication of meaning (Deighton, 1992). The purpose of such meaning can be quite varied: arouse emotions (Hirschman & Holbrook, 1982), persuade (Grayson, 1997), educate, entertain or provide a connection to the sacred (Kozinets, 1997).
People choose offers based on various criteria related to narratives, such as recommendations, theme, creator reputation, length, conscious or unconscious expectations (ex.: the need for enlightenment or surprise), and so forth. What constitutes a “good” story will depend on whom is asked, reflecting the fact that various people contribute different meanings to offers and gain different value from them (Holt, 1997). Illustrations should be understood as man-made images (pen or computer generated) rather than light captured and stored through technological processes. For example, stories conveyed through the juxtaposition of pictures are not comics, though transformed and reworked pictures could arguably be qualified as such. The spatial character of the juxtaposition is used to distinguish comics from cartoons and animation, where man-made images, computer or pen generated, are presented one after the other for very short periods of time over the same location, giving the illusion of movement to the human observer thanks to temporal juxtaposition. In comics, spatial juxtaposition is one of the main tools used to convey the notion of time, as the reader’s eyes move from panel to panel. Single illustrations such as editorial cartoons are not comics since they do not use sequenced panels to convey a story.

Comic books should be distinguished from comic strips usually found in newspapers, though comic strips can be compiled in book format and thus be published as comic books. Most comics are soft cover periodicals ("softcovers"), which distinguishes them from larger, lengthier and more expensive hardcover European albums. They also differ from manga and other Asian sequential art forms in their use of color and monthly publishing schedules. As publishing cultures mesh in the global market, these distinctions tend to blur. Nevertheless, monthly colored 22-page comic books are still mostly North American artifacts as of 2006.

3.1.1 Industry Character: What is this industry?

Comics began as a printed media, relying on poor quality paper, inks and printing technologies to deliver a narrative. Comics presented the same sensorial stimuli as newspapers and pulps: inks which leave the page easily and lend the book a distinctive odor, the telling thickness of pages turned, the ease with which one may carry the object around, and so forth, but also added visuals of varying styles and qualities. Art had to be inked, since pencils could not be reproduced faithfully over this type of paper without loss of readability, a problem compounded by the addition of color. Inkers still work the industry today, though inks are more a matter of stylistic choice than printing imperative nowadays.

The cinematic quality of the panel by panel page layouts made it natural to approach the narrative in serialized form. The limit on output was dictated by the penciller’s capacity to
balance art quality with serialized narrative instalments. A typical monthly 22-pager requires roughly one penciled page per day from the artist and usually translates into a quarter to a half hour read for the audience. Higher page counts are frequent, but require different scheduling, a multiple penciller team, or a layout-penciller duo. It should be noted that art consistency helps in creating quality trade paperbacks (or “TPBs”), and that relying on different artists on any given monthly usually translates in inconsistent art and displeased readers. Lower page counts are less frequent, since they impose strong limits on the ability to engage the reader in a compelling serialized narrative.

Serialized comics invariably create “back issues”: past instalments of the narrative’s current segment. Back issues become prized if a series gathers an increasing readership. In such a case, there are more readers of the current comic issue than there are copies of any given past issue. Readers who want to read the whole narrative need to borrow or buy back issues, and so begins a collector’s market. Such a market grew over the 20th century, and served as the seed for a larger collector’s market encompassing statues, limited edition prints, memorabilia and collectibles of all sorts. Improving printing technologies, new digitized coloring techniques and web based communications which arose in the 1990s had a deep impact on comics and their audience, from the way they were created to the way people shared their collective reading experiences. Still, much of what comics are has remained the same. Figure 3.1 presents this in three temporal segments, past, present and future, in terms of strategic essence and tactical instantiation:

Inherited strategic essence: Comics create and provide access to worlds, characters and stories protected by intellectual property laws, which are temporary monopolies granted by Law to entice said creation. Under Common Law, enterprises use work-for-hire contracts to own intellectual properties as initial proprietors, one of the key ingredients facilitating the rise of vast cross-title continuities (a “title” is a comic book series, such as DC’s “Action Comics”, in which stars Superman). In sum, comics have been used as a means to create pop culture icons solely owned by publishers. This fundamental feature structures much of the industry’s design to this day.

Inherited instantiations: Comics took the form of monthly serialized fiction for newsstands, subscription or direct sales to comic shops, most commonly in the form of 22-page narratives, compilations of multiple comics (“trade paperbacks”) or graphic novels (trade paperbacks with no prior content prepublication). Self-censorship in response to political pressure in the 1950s resulted in a “Comics Code” favouring the rise and domination of the super-hero science-fiction subgenre, greatly limiting content diversity. The Comics Code Authority, and the ensuing narrow focus on the superhero subgenre, resulted in a stifled
market (see current strategic conceptualization’s comic versus manga market sizes). More recently, publishers have turned to labels to insulate their main trademarks from material deemed less politically correct (ex.: DC’s Vertigo and Marvel’s MAX labels).

Current strategic conceptualization: Building upon its inherited strategic essence and past instantiation, the industry has grown a strong collectibles market which goes well beyond the sale of back issues. This collectibles market has provided additional revenue streams to comic shops which had to find means to thrive in a relatively small 400 million US $ global comics and graphic novels publishing market. For publishers, libraries of characters became assets for global licensing opportunities and every new title doubled in function as research and development (a “pitch”) for the movie business. With globalization, comics have been translated in foreign markets, and manga has made headway into bookstores, opening the path for comics in compiled, trade paperback or hardcover format in North

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3 Numbers estimated from Marvel’s reported direct market publishing revenues from its 2005 Annual Report and Marvel’s reported dollar share on Diamond Comics Distributor’s website and ICv2.com, assuming Marvel sells its comics to Diamond at 40% of retail value.
America. According to Time’s August 10th 2006 issue, manga represents a global 5 billion US $ market.4

*Current tactical conceptualization:* Owners of large libraries of well-known characters largely shape and dominate the industry’s design. DC Comics and Marvel collectively hold over three quarters of the direct market in dollar shares as of September 2006 (reported dollar share on Diamond Comics Distributor’s website). Nevertheless, the growth business is elsewhere. The manga translation business has spawned two new giants: Tokyopop and Viz. New readers, most notably girls and women, have chosen manga and bookstores over comic shops and monthlies. Comics publishers have responded by compiling comics into graphic novels, but few trade paperbacks or original graphic novels have made the North American bestsellers lists. It should be noted that both Marvel and Tokyopop entered the movie making business in 2005-2006.

*Strategic conceptualization outlook:* With manga’s success in bookstores and improving technological reading platforms such as eInk-based tablets, the medium will likely evolve to fit intellectual property library ownership and increased access deployment for both creators and audiences. This means better global access to talent and readers, in local or foreign markets. It also means finer segmentation of the medium, resulting in different printed or virtual artifacts which can reach collectors, connoisseurs, casual readers and curious browsers in synergy. These segments are highly complementary, since they represent various stages of fandom and passion on the reader’s part. New markets, such as India and China, will also likely emerge as literacy rates and incomes improve.

*Tactical conceptualization outlook:* Format diversification to fit finer readership segmentation will emerge from current format explorations (ex.: DC’s oversized, high quality and pricey Absolute Editions, DC’s 52 weekly title for comic shop regulars, web comics for browsing.) Since content is shaped by its form, storytelling will also evolve to become more modular. This has already happened for the monthly comic book and its trade paperback compilation with the increasingly common publication of five to six issue story arcs. How web, manga, comics and album publishing cultures will mesh for modular, worldwide storytelling is less clear.

Will future industry tactics reflect the fundamental inherited strategic aspects of the industry’s character: the birth of icons, on a global and trans-media scale? It should be

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4 See J. Wagner’s “America is Drawn to Manga” article in Time, 2007: <http://www.time.com/time/insidebiz/printout/0,8816,1223355,00.html> Last visited December 13th, 2007
noted that most current comic book icons originated prior to the 1970s, with many of the newer icons coming from books, manga and other media rather than comics. One possible explanation is that the industry no longer targets young audiences while manga and other media do so as part of their wider audience outreach. A change in industry character away from icon creation to icon adaptation from other media is possible since current and upcoming strategies and tactics would allow it, but the overall profitability of such a change seems less interesting.

3.1.2 Industry Stakeholders: Who makes up this industry?

Figure 3.2 presents the industry’s stakeholders divided in three broad groups: storytellers, audience and enablers. For analytical purposes, these three broad groups can be subdivided into smaller categories. Storytellers include individual artists, art collectives, project managers and intellectual property owners. Audiences include distributors, retail outlets and consumers. Enablers include knowledge providers, contact providers, service providers, finance providers, and art merchants.

![Figure 3.2 Fiction Comic Books Stakeholders Pole](image-url)
Storytellers are stakeholders engaged in the creation of fiction narratives. For example, editors can provide creative input about how writers should structure the story or handle characters, notably when vast continuities are involved (interlocking stories set in a shared universe spanning many years of publication). The audience includes consumers as well as channel stakeholders involved in distributing comics until they reach the readers. For example, Diamond has a say in what it distributes, and filters the content it carries in its catalogue through various means such as required minimum sales thresholds and a distinct catalogue for adult porn material. Enablers are the stakeholders which help storytellers find their audience and vice versa. These include investors, critics, convention and event promoters, and so forth. It is important to point out that individuals, groups or organizations can act as stakeholders under varied guises. For example, a comic book writer can also be a comic book reader and an active member in a professional association or community of interest. The key point is that the stakes which are held are different, and these differences need to be conceptually distinguished to better understand the industry’s design. Here is a closer at the stakeholders presented in Figure 3.2:

Storytellers include individual artists, such as:

- Writers who create worlds, characters and stories and script the dialogue which appears as word balloons in comics. Some creative teams split this function into plotting and scripting, one writer crafting the larger story and another writer placing the actual words in the characters’ mouth.

- Pencillers who draw the comic based on the writer’s story and script. Pencillers start with character and props research and design, followed by page layouts. Layouts establish panel-to-panel narrative dynamics, page ergonomics and reading flows (eye movement across the page). Layouts roughs can then be cleaned, sharpened and crafted into intricate pencils. Some creative teams split designs, layouts and pencils into distinct tasks. A penciled page usually represents at least one artist’s full day of work. As of 2006, most pencillers use pen and paper and scan their pages for colorists. Pencilled pages are called “original art” or “originals” and are usually owned by the artist. They are also called “line art” to help distinguish them from colored pages.

- Inkers who enhance the penciller’s line art for stylistic purposes. Inking was once required to print a readable comic. This is no longer the case. For example, inking active elements such as characters or moving vehicles over digitally painted backgrounds provides a style reminiscent of cartoons and Japanese animation. As of 2006, most inkers use brush and paper and scan their pages for colorists. Inked pages are also called “original art” or “originals” and are usually owned by the artist. Note that original pencils and inks can both exist if the inker worked on a scanned pencil print rather than an original penciled page.
Colorists who receive line art from pencillers, or inkers when used, to enhance line art. Colorists use color palettes to convey mood and emotion to the readers. As of 2006, most colorists use Wacom graphic tablets in conjunction with painting software such as Photoshop and Painter.

Letterers who add the writer’s script to the art pages using word balloons and distinctive fonts. Letterers must do so as to facilitate reading flows while giving characters and settings their own voice. As of 2006, most letterers use illustration or page layout software to add dialogue to the art.

Note that most industry writers, pencillers, inkers, colorists and letterers go about their crafts as work-for-hire freelancers, with or without exclusivity with a major publisher. Storytellers can also take the form of art collectives:

- Art studios are subcontracting firms which can carry out one or more art tasks under the direction of an editor. Some successful studios enter publishing to gain ownership of their creations, though few success stories exist.

Storytellers who create collectively also need orchestration provided by project managers, known as:

- Editors, who locate new talent and orchestrate freelancers into project-based teams charged with the completion of single issues or one or more story arcs on behalf of publishers. Some editors work on a project fee basis, while others are salaried workers. Editors provide direction for a property and ensure that completed pages conform to the expectations of the owner/publisher.

Finally, storytellers include intellectual property owners who decide the fate of their properties:

- Publishers either own or license intellectual properties from storytellers and publishers in other media. In the first case, publishers are also producers who pay page rates to freelancers in order to create comics on a work-for-hire basis. In the second case, all depends on who the property is licensed from. If it comes from another publisher, page rates will be paid to freelancers. If it comes from the artists, the publisher may pay page rates or remove itself from production financing and let the artists produce the comic on their own. In all cases, one of the publishers’ primary tasks is to promote the comics to readers and help sales take off. Marvel (Spider-Man, the X-Men, and thousands of other properties) and DC (Superman, Batman, and thousands of other properties), the industry’s two giants, are publishers and producers who own vast libraries of characters with respectively 41.32 % and 33.41 % of dollar market shares as of September 2006. Their nearest competitor is Dark Horse with 3.55 % of dollar market share, which focuses on
Storytellers are engaged in business dialectics with the audience, which includes upstream distributors:

- Diamond Comics Distribution handles the vast majority of the direct market, with exclusive deals with all major publishers. Diamond also distributes to bookstores but faces competition from other book distributors not specialized in comics. Some publishers also have different distributors for newsstands or retailers with synergy potential, like movie rental stores and corner shops.

The audience also has downstream retail outlets, which can take the form of:

- Specialized stores called “comic shops” where readers can find comics, graphic novels, back issues and complementary merchandizing and memorabilia. Many stores have added gaming and collectibles to their offers. Such comic shops constitute the industry’s “direct market”, which is presented below in greater detail.
- Newsstands, which are specialized in the sale of periodicals. The few which carry comics usually offer only a handful of titles out of hundreds of titles available each month from comic shops.
- Bookstores, which carry comics as compiled monthlies in trade paperback or hardcover formats. Since superheroes are but a subgenre of science fiction, the real offer in terms of sequential art is manga. Manga boasts a wider variety of themes and topics, appealing to a varied audience, including children and women. It should be noted that manga powerhouses like Viz and Tokyopop have more clout than Marvel and DC with distributors and bookstores regarding shelf space.
- Retailers, some of which who carry comics to complement their customer offer. Like newsstands, these retailers usually stick to mainstream, wide appealing and well known brands such as Marvel and DC icons, or licensed pop culture properties like Dark Horse’s Star Wars or Devil’s Due’s G.I. Joe comics.

Finally, the audience counts end consumers known to the industry as:

- Readers, who read and/or collect comics; typical readers are young males in their 20’s, a statistical estimate which reflects major publisher’s claimed teen audience and their actual aging and continuity-focused collectors. Notably underserved by the industry are children and women, who have turned to manga to gain access to fiction sequential art.

Enablers facilitate the storyteller-audience dialectic in many ways. Knowledge providers include:
• Academia, which includes researchers, teachers and students of various fields whose subject matter is comics, such as the history of comics, how certain social issues are portrayed in comics, the business of comics, the making of comics, and so forth.
• Specialized media which center their reporting activities on comics. Examples include The Comics Journal and Wizard in print, as well as Newsarama.com, The Beat, Comicon.com, ICv2.com, and ComicBookResources.com.
• Mass media which connect comic books with the wider popular culture discourse. An increasing number of mainstream outlets are paying attention to comics, though this is a far cry from the massive daily coverage received by other media such as music, movies, literature and games.

Contact providers who network stakeholders together include:
• Event promoters who stage “conventions” which bring storytellers and audience together. Conventions are the focal point of artist signings, original art sales, industry announcements, art auctions and back issues hunting. The industry has no trade show which restricts access to professionals. San Diego’s Comic-Con International, the industry’s largest show, boasted over 114,000 attendees plus 9,000 exhibitors and their staff in 2006.
• Communities of interest, which are networks of individuals sharing an interest in comics and/or the worlds, characters and events they contain. The Web is the locus of countless communities, from the minute to the mammoth.
• Professional associations which promote and defend the interests of industry professionals, from artists to comic shop owners. The industry’s premier association is the Comic Book Legal Defense Fund. Other examples include Friends of Lulu, the Will Eisner Comic Industry Awards and the Harvey Awards.
• Agents who connect artists with editors for a fee, acting as talent locators thanks to their contact network. Few agents serve the comic book talent pool.

Enablers also provide various services, such as accounting, legal counsel, and so forth. One service particularly important to the industry is printing:
• Printers print comic book monthlies and graphic novels. Québécor is the industry’s main printer, though competition from Chinese printers is growing. One of Québeccor’s key advantages is a deal with Diamond Comics Distributor which allows publishers to finance their printing fees through direct market retail orders.

Enablers also provide venture capital and various forms of investment to the industry:

• Investors are individuals, groups and organizations looking to invest money in a good business. Many comic endeavours lack the scale needed to attract investors unless combined with cross-media intellectual property deployment. For example, Marvel recently raised 525 million US $ to enter the movie making business as stated in its 2005 Annual Report.

Finally, enablers include art merchants dealing in original comic book art and related illustrations, such as comic book covers and posters:
• Art galleries and auctioneers buy and sell original art. Some galleries and auctioneers do business exclusively on the Internet and at tables rented during the industry’s major conventions.

To sum up, the industry counts numerous types of stakeholders who can be analytically grouped through a storyteller-audience dialectic supported by various enablers. Storytellers include both property owners and artists, and the audience includes both readers and distributions channels used to reach them.

3.1.3 Industry Offer: Why do people and organizations get involved in this industry?

Figure 3.3 presents the industry’s key offers for each of the three stakeholder groups presented in Figure 3.2: storytellers, audience and enablers. This is done using a five-tiered scale of increasing differentiation and personalization as one moves from figure center to periphery. While these offers do not map directly to all stakeholders who are part of a given group, they do represent the essentials which need to be understood in order to decipher the industry’s design.

At its most undifferentiated and impersonal level, or commodity level, the industry can offer storytellers wages and royalties (percentages of revenues derived from the sales of comics), it can offer enablers payments and receivables, and it can offer the audience entertainment and fiction narratives. These are not the industry’s strongest design points. Wages and royalties can be much higher in commercial illustration or video game design; payments and receivables can be obtained from industries with higher growth and stability; and entertaining fiction narratives are available from numerous other media.
At the next level, the industry can offer storytellers jobs and stability, it can offer enablers good accounts and stable revenues, and it can offer the audience sensorial stimuli unique to comic books. Again, these are not the industry’s strongest points, except for the audience. For all the energy they invest, many storytellers and enablers could likely find better money in other industries. For the audience, things are different. An offer’s sensorial stimuli refer to gustatory, olfactory, tactile, pictorial and aural stimuli used to gain access to the narrative (Darley, 2000; Hirschman, 1983; Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982; Holbrook & Zirlin, 1985). Media offer varying degrees of sensorial stimuli, which is one of the reasons why stories get adapted in different forms. For the audience, comics add a unique meshing of text and illustrations to the book reading experience. Many technological innovations have resulted from a perpetual quest to enhance the breadth and depth of real-life pictorial stimuli delivered over paper, such as digital color printing presses (Levinson, 1997; Pine & Gilmore, 1999). It is important to understand that scripts and art pages need to reinforce one another’s narrative qualities. When this does not happen, the story and the audience might have been better served by another media. When script and art enhance one another, they become a unique and compelling product which no
other media can easily reproduce, bridging together all the advantages of the book form (ex.: no need for batteries, no compatibility issues, ruggedness, and so forth) with those of silent cinematography and illustration (ex.: camera angles, color palettes, abstract background motifs, and various other tools to add information to the narrative, truly making every panel worth a thousand words).

At mid-level in differentiation and personalization, the industry can offer storytellers access to talented peers and properties, as well as networking, career and industry opportunities. This offer is particularly relevant to storytellers who love the art form and have grown to appreciate certain creators or creations, since comic book creation is most often a team effort. For enablers, it can offer investment value, as well as access to dynamic and creative popular culture networks. While the investment value could be made more compelling when compared with other investment alternatives, comics do lie at the heart of America’s popular culture and intersect most other media. Networking opportunities between artists and readers, as well as comics relevance in the wider trans-media fiction storytelling discourse are some of comics’ key offers to communities of interest and specialized media. For the audience, the industry can offer serial continuity, narrative interconnectedness and evolution, as well as collectible value for certain issues and special editions. In other words, comics offer more than the instalment they contain, and more than the paper on which they are printed. They offer access to a wider story; when done poorly, the result is readers buying issues they do not want in order to gain access to the larger narrative; when done right, the result is a memorable run which can gain collectible investment value.

At the experiential level, the industry can offer storytellers recognition from peers, audience stardom, and access to exceptional talent and properties. These are offers that the industry does well. Formal peer recognition includes the Harvey and Eisner awards; audience stardom is not as difficult to sustain as in other larger media; and access to exceptional peer talent is made easier thanks to information technologies. For enablers, the industry can offer enhanced reputation and business in a dynamic and creative industry. These offers face fierce competition from other media and art forms and seldom provide the “wow” factor associated with more glamorous industries. For example, governments might have been mentioned as enablers in the design of other industries where tax breaks and fiscal policies encourage their growth (movie making and video game creation are prime examples). This is not the case with comics, at least for North America. For the audience, the industry can offer art, fandom, and memorable worlds, characters and stories. Art refers to comics which are viewed as such by the reader, and thus represent a genuinely unique aesthetic experience. Fandom is a collective experience of shared interest in a given world, character or story. Memorable creations are powerful experiences because they generate
valuable memories. When combined with fandom and art, they become the basis for the emergence of pop culture icons. These are offers that the industry could deliver better; finding art in comics, getting past the fandom stigma of certain communities and locating great worlds, characters and stories is often quite difficult for new readers. The direct market is a relatively modest and obscure distribution mechanism, and some readers have a hard time finding shops which carry a wide variety of titles beyond the super-hero centric title output of the major publishers. The episodic nature of continuities makes some titles hard to read and follow. In essence, the collectible comic book monthly does not provide a good experience to sample what the medium can actually deliver. This is all the more salient when compared to Japan’s low cost and ubiquitous manga prepublication mechanisms.

At the transformational level, the industry can offer storytellers self-realization, access to the world’s best peer talent and properties, and creation ownership. These are offers which the industry does well. Great comics can be crafted by a single creator or a small team at low cost compared to other visual media, providing unparalleled artistic freedom to writers and illustrators. The industry also provides its best talent with the opportunity to add their own touch to pop culture icons such as Superman and Spider-Man. It also provides every top creator with the choice of undertaking freelance work or creating their own properties. In sum, the transformational level of offers is the main draw for most creators and is the core reason why many will try to break into comics even though they might find more financial stability in other industries. For enablers, the industry offers prosperity, business design innovation and renewal. These are offers which are particularly important when creators or publishers switch their focus from freelance work or licensed properties adaptation to the incubation and deployment of their own creations. If an original property reaches pop icon status, the wealth created can provide prosperity, enable business design innovations in the deployment and growth of cross-industry clout, and secure renewal for the enablers since the pop icon can more readily be transferred to other industries as some media gain or lose audience. For the audience, the industry offers identification with storytellers or their creations, helping to build one’s identity and gaining new insight and ethics (Kozinets, 2001). It should be noted that such fiction-based transformations involving changes in lifestyle and habits are often stigmatized in North America (comic book enthusiasts portrayed as “geeks”), in sharp contrast to identification and transformation based on non-fiction-based activities like sports and music (sports team enthusiasts portrayed as devoted and passionate “fans”). Contrary to what this level of offer does for creators, audience transformation through comics can actually be perceived as a drawback.
3.1.4 Industry Creation: What does the industry do?

Figure 3.4 presents the industry’s Creation pole. Stakeholders are mapped in relation to the artwork, comics, information and revenues they create for one another. While many stakeholders may be linked by bidirectional flows or flows of a different nature, only those key to understanding the industry’s design have been represented. Storytellers are mapped on the left while the audience is mapped on the right. Enablers orbit these two groups.

![Fiction comic book industry Creation pole](image)

Publishers hire editors to manage the creation of the art required to make a comic. Editors assemble talent (writers, pencillers, inkers, colorists and letterers), or go through one-stop shop art studios. They mostly do so using their own contacts. Artist agents are the exception, not the rule. Talent is usually paid twice a month, or every eleven pages, according to pre-established page rates which vary from publisher to publisher, and which increase with talent experience and star power. Art travels electronically between talent, and File Transfer Protocol (FTP) logs are sometimes used to establish how many pages are completed and ready for billing. Publishers send the final corrected files to printers. Printers...
print and ship copies according to publisher demands, which usually reflect direct market orders taken through Diamond’s mammoth Previews catalogue, plus minimal promotional overprint for targeted “overshipping” to retailers. Printers also ship to other distributors catering to comic shops, retailers, bookshops and newsstands.

The average North American super-hero themed color comic book is currently sold at 3 US $ to readers. The average trade paperback (“TPB”) compilation (usually 5 or 6 issues bound together as a single story arc) is sold at 18 US $ to readers. Both are generally subject to discounts when ordered through the Previews catalogue in comic shops, since the direct market provides lower risk in the form of a pull mechanism which insures that print runs reflect reader demand. In the direct market, comic shops buy the comics they order. The average reader is a 28-year-old man who spends 1,300 US $ to 1,500 US $ a year on comics and complementary offers like merchandizing and collectibles. Original comic book art follows a different route, since they usually remain the talent’s property. Pencillers and inkers can sell their art to galleries and auctioneers, and often sell directly to collectors through comic book conventions. The average page is usually worth one to three hundred dollars, though pages featuring star talent, renowned characters or memorable scenes or issues can push this value substantially upwards. Intellectual property licensors and investors provide important streams of revenues, sometimes vastly superior to direct market revenues. These can take the form of royalties paid for the right to use fiction characters and funding for the publisher to grow into new ventures such as movie making.

Figures 3.1 to 3.4 represent the basics of the fiction comic book industry’s design. Section 3.2 examines their interrelations and points to design opportunities and challenges, first through the Tetrahedron’s six dyads and their constituent pair of flows, and second through the Tetrahedron’s four faces.

3.2 Dyads, flows and faces: design opportunities and challenges

Interrelations between the four poles vary according to design strengths and weaknesses. For example, the industry’s creation pole is increasingly geared towards collectors rather than readers. This is a strength for stakeholders who offer continuity and licenses which build upon the past, but it is also a weakness for the industry’s overall character as fiction storyteller, slowly moving from icon crafter to icon merchandiser and adaptor, and thus abdicating the strategic control obtained from the creation of new properties to other media.

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or parallel industries like *manga* and television. The six polar dyads and their associated flows are presented first, followed by the Tetrahedron’s four faces.

### 3.2.1 Character-Stakeholder dyad:

**Trust and its Alignment and Engagement flows**

Broken trust is a major weakness in the industry’s design since the 1950s. Trust was broken on two fronts: on the one hand, for storytellers, and the other hand, for the audience. During the 1950s, a congressional witch hunt managed to instil fear in the audience across America, blaming inappropriate content in comics for the ills of America’s youth. As a result, the industry sought to regulate itself and devised its own self-censorship instrument: the Comics Code Authority. Content diversity shrivelled and the super-hero subgenre flourished for a young audience. Trust with the storytellers was thus broken in a failed attempt to win back the audience. A yoke the likes of which no other media has ever seen in North America was imposed on creativity.

Trust with the readership was also broken, albeit differently, because comics could not be trusted to evolve with readers nor provide the diversity of content found in other media. Of course one could ignore the Code and express himself as he pleased, but such comics found marginal distribution and were hard for readers to find. The point is that to this day, most people see comics as a medium geared towards kids and do not trust the medium to deliver the same diversity and quality of fiction storytelling as those found in books, television or movies. Connoisseurs within the industry do know where to find the gems of the art, but this is no easy feat for newcomers.

Ironically, the industry is farther away from kid friendly reading than it has been for decades. Focus on a direct market increasingly aimed at collectors has resulted in a late-20s male readership. Sex and violence aimed at young adults permeates advertisements found in Diamond’s Previews catalogue, and few kids or women are likely to be found browsing the shelves of the typical comic shop, unless *manga* is offered as an alternative nearby.

The challenge is to collectively reinvent the way in which the industry engages readers. Is there an alternative to the monthly dose of super-heroes available through the direct market? Can the industry engage readers on a different time frame? Can it focus the brunt of its efforts on content diversity? Can it burrow its way through another distribution channel or create one anew? So far, the new format of engagement has been the piggyback success of trade paperbacks, greatly helped by the new readership brought in by *manga*. The problem is in prepublication; as long as trade paperbacks remain compilations of
material pre-published in a super-hero driven direct market, content diversity will not be easily found on the shelves.

Stakeholder alignment also presents a major challenge. If one could describe the industry’s final consumers as readers in the past, this may longer be a valid reflection of the current state of affairs. Collectors are key stakeholders in the industry, and their alignment is a powerful force in forging the industry’s future character. This is neither good nor bad, but the collectible industry is quite a different beast than the fiction storytelling industry.

### 3.2.2 Character-Offer dyad:

**Competition and its Defence and Threat flows**

Competition is to be found where the industry has offers to compete with. It competes for readers, collectors, talent, investors, and so forth. The key to understanding competition in comics is to understand the nature of fiction stories. Escapism implies conceptual movement: to escape from somewhere to go elsewhere. Fictional worlds, characters and events transport readers to other worlds, and comics are but one form of gateway to achieve this feat of the mind. Movies, games, books and television are other examples, and they are the prime competitors of the industry. These gateways are controlled by gatekeepers: intellectual proprietors. These are the individuals and corporations who own fictional worlds, characters and events. Those who rule the competitive landscape are those who own the most lucrative intellectual properties: the popular culture icons. For example, the revenues derived from the top ten fiction characters incubated in a narrative story, be it a comic, a cartoon, a book or a videogame, were estimated at 25 billion US $ by Forbes for 2003.

If the industry wishes to retain its icon making character, it must craft offers which enable it to do so. Continuities have been such a tool for super-hero icons at Marvel and DC. Transmedia adaptations and merchandizing has proven to be another for many media and genres, notably for Dark Horse Comics (ex.: Hellboy and Sin City) and DC’s Vertigo imprint (ex.: Constantine). Unfortunately, both Dark Horse and Vertigo must pre-publish in a monthly paced super-hero focused direct market. The opportunity is in unlocking such icon yielding offers from a direct market which does splendidly for the continuity driven super-hero serials but does a disservice to most other genres for the reasons presented above. As stated earlier, connoisseurs do know where to find content diversity on comic shop shelves, but this is no easy feat for the casual readers.

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7 Forbes.com, 2004: Top Characters Gross $25B.
Threat challenges mainly come from manga, an industry which is educating readers in new ways of accessing fiction through sequential art. The challenge is not to ape manga, but rather to understand the creation and distribution dynamics which have enabled that industry to offer such enticing offers to consumers who did not buy sequential art before. The current threat is thus one of attrition with an aging and eroding readership.

Defence opportunities can take two shapes: on one hand, reinforce the industry’s design on super-heroes and collectibles so that if and when manga enters the super-hero genre, it will be on the current power players’ terms (ex.: Marvel and DC currently sub contract some super-hero titles to manga freelancers, but could eventually grow this niche into parallel continuities of manga and comics form.) On the other hand, the industry could take the initiative and reinvent its offers portfolio through new formats and distribution channels. This would imply extensive transformations of the industry’s creation pole. While these new, unproven offers would constitute a threat through the business risk levels associated with developing new formats and channels, they would also constitute much more robust and long lasting defences.

3.2.3 Character-Creation dyad:
Cooperation and its Orchestration and Learning flows

The Internet and globalization have transformed the business landscape. For the comic books industry, cooperation opportunities with foreign businesses and talent abound. In terms of design, the opportunity lies in understanding how sequential art has taken form to reach its audience in other contexts. How is sequential art made elsewhere and why does it work? For example, French albums and Japanese manga are serials, but their output frequency is radically different, just as their distribution channels are. The talent mobilized to create albums and manga is also different, the most obvious being the absence of colorists in manga. In other words, the cooperation opportunity is in learning new ways of doing in order to strengthen the industry’s character, both as storytellers and as collectible makers.

Learning opportunities exist at two levels: the incremental and the paradigmatic. Incremental learning means experimenting on a project basis, such as partnering foreign talent with local talent on a given title or testing new formats with translated material from a given publisher. Paradigmatic learning involves will and resources on a vaster scale, with the intent of radically transforming or creating a large new system. DC’s 52 weekly series is such a learning endeavour, since it required commitment for the creation of fifty-two weeks’ worth of art, in addition to the various resources involved in crafting the processes.
necessary to make it work. The impact of this learning experience for DC is not known at the time of this writing.

Orchestration challenges are important, since cooperation involves devising new ways of organizing work, and learning involves attention to feedback and its organized follow through. One of the opportunities is in seeking and investing in talent with orchestration experience in other markets or media. An example is DC’s hiring of a television executive who, amongst other projects, oversees the development of DC’s 52 paradigmatic learning experiment for weekly pacing.

3.2.4 Stakeholder-Offer dyad:

Exchange and its Contribution and Gain flows

Comic shop Wednesday is the most peculiar and important design feature for the industry. On Wednesday, direct market retailers receive their orders from Diamond. While not every comic books enthusiast goes to buy his comics on that day, many do visit comic shops on a weekly basis to get the latest instalments of their favourite series.

This exchange ritual is fundamental in understanding the direct market, the serial allure of comics and the social nature of the shopping experience. A clear opportunity lies in enhancing the weekly offer portfolio so as to get the most of the consumer’s weekly trip to the comic shop and vice versa. For example, could key back issues making up continuities be republished on a low cost weekly basis, much like television syndication of older shows? A key challenge lies in the non-returnable direct market policy. Monthly orders which are taken through the Previews catalogue are sold to comic shops. Unsold items remain in the retailer’s hands. The monthly ordering system as it currently stands between Diamond and retailers seems ill-suited for weekly series because it asks readers to commit to buying many issues months prior to their distribution, and puts a lot of risk on comic shop owners.

Opportunities for stakeholder gain center on bringing new content diversity to the market, providing readers a better chance to find the right story and giving talent a new voice. How this gain opportunity can enhance comic shop Wednesday is unclear. Manga is offered on a weekly basis in Japanese newsstands and bookstores, but not as part of a non-returnable direct market. Could a returnable market for low priced weeklies be put into place?

Opportunities for enhanced contributions can be found on two fronts: on one hand, serve collectors better. On the other hand, serve readers better. In both cases, the idea is to reap more revenues and margins as well as a finer understanding of customer expectations in a
virtuous circle made up of storytellers gaining access to more tools in order to provide the
audience with access to better fiction worlds, characters and events, as comics or as
collectibles. The collector’s bubble of 1993 serves as a cautionary tale for a design oriented
on the short term. In 1993, amateur collectors who had seen comic book back issues
portrayed as investment through specialized and mainstream media bought massive
amounts of new series premiere issues. The bubble collapsed when these collectors realized
that new series were flooding the market, with important poly-bagged “collector’s first
issue” initial runs and steadily plummeting sales for the remainder of the series, if
subsequent episodes were published at all. In short, first issues were seeing huge sales
because collectors rather than readers were buying, with virtually no collectible value
attached since there was no rarity to these first issues, and no demand for mediocre
storytelling. The industry did get higher revenues, but only for a short time, having failed to
transform collectors into long term readers. Not only did sales drop, but many comic shops
and distributors were put out of business. The lesson is this: to serve one segment at the
expense of the other in a short sighted bid for easy profit is to do a disservice to both, since
collectibles gain value from overall reader demand, and comics benefit from financially
healthy retailers who can count on collectors to bring wealth to the market. Both need each
other, and both also coexist in the album and manga markets.

3.2.5 Stakeholder-Creation dyad:
Web and its Role and Network flows

Comics are part of a large web of media involved directly or indirectly in fiction
storytelling. These media require storytellers, enablers and audiences, many of which can
be shared. For example, good pencillers often make good illustrators for the video game
industry or storyboard artists for the movie industry; investors in comics may have an
interest in investing in other complementary media; and audiences have discretionary
income which is as likely to go into comics as it is to go into any other fiction storytelling
media, entertainment source, leisure activity or hobby.

The design opportunity for this dyad is to better leverage its connections with other media
in order to enhance its growth and prosperity. For example, manga is one of four pillars of
fiction entertainment in Japan, the other three being animation (films, TV series and direct-
to-video), video games and merchandizing (toys and collectibles). Manga publishers have
deep connections with these other industries, and promotional efforts are often
simultaneously done on all four fronts. American publishers do understand this and are
actively involved in such trans-media efforts and licensing, yet many opportunities seem to
go squandered or ignored. For example DC Comics is part of the Time Warner media
empire, but as failed to leverage Time Warner’s newsstand presence to conquer that
distribution channel anew. This is not a question of getting its current titles on newsstands, but rather a question of creating sequential art adapted to newsstands, a feat far from impossible judging from what one finds in Japan and France. Another example is Marvel, which leverages trans-media and licensing initiatives to promote its super-heroes, but seems to shy away from leveraging these same networks to promote new properties, in sharp contrast to what is done in Japan.

Role opportunities center on making comics the engine of popular culture renewal. For example, comic books storytellers could be pushed to the forefront of trans-media initiatives, promoting them as stars just like movie directors often are. This opportunity has already been grasped by the big publishers, who are now highly visible in the opening sequences of their licensed blockbusters. Yet few directors place comic books as props in the hands of Hollywood stars playing accomplished characters. Publishers have shied away from portraying comic book readers as opinion leaders or self-realized individuals, either in their own trans-media initiatives or as product placement on non-comic related television shows or movies.

Network opportunities can be found in actively penetrating other media and industries, mainly through storytellers and enablers, such as writers and editors active in both comics and television. The point is to keep on networking at ever higher levels, so that the core stakeholders of large media empires have a clear stake in the future growth and prosperity of comics, both as an art form and as an icon-making industry.

3.2.6 Offer-Creation dyad:
Value and its Bundling and Feedback flows

Value is in the eye of the stakeholder. Since every stakeholder has different expectations, every stakeholder will find different value in the industry’s offers. Incremental differences matter little in the analysis undertaken here. The key difference in the conceptualization of value is to be found in the offer and creation poles: for storytellers, are new properties being incubated, or is the medium merely adapting properties grown from another industry? For the audience, are comics a collectible object or a storytelling medium? The key design challenge of this dyad is to provide value on all four fronts: create great new properties and adaptations and offer great stories and collectibles without doing one at the expense of the other.

Bundling opportunities exist at the meeting point of stories and collectibles, for original properties and licensed ones. The monthly super-hero comic is one example, where back issues become collectibles if the story is good enough to warrant continued publication.
Trade paperbacks are another way to approach bundling. They are collectibles in the sense that one needs to collect every volume to get the whole narrative, but paperback prices usually stay the same for as long as the book stays in print. This changes when paperbacks are printed in limited numbers, such as special editions signed by the comic’s creative team, or are bound as limited edition hardcovers. For example, DC has recently begun printing Absolute Editions of select titles. Absolûtes are lavishly printed oversized compilations of beloved and critically acclaimed titles, binding twelve single issues or more into one tome. Absolute Editions provide value as exceptional collectible artefacts of the medium, in addition to providing enhanced stature and renown to the title.

The main feedback challenge is to find a way to validate the relevancy of new properties and licences as cheaply and as meaningfully as possible. Comics, trade paperbacks, and other vehicles of sequential art constitute the main feedback tool of the industry: do they sell, what do readers and critics think, and so forth. Comics that fail in the direct market are unlikely to be compiled into trade paperback format. Ironically, the direct market may be structured in ways which prevent some comics from finding their audience until they reach bookstores as trade paperbacks (ex.: non super-hero comics targeted at kids or women). Additionally, 3 US $ per comics may be a high price point for readers who merely want to sample the industry’s offers. In Japan, a similar price point buys a weekly anthology of three to four hundred pages featuring fifteen to twenty different series upon which readers can vote on favourite titles to enter a sweepstake. Unpopular titles are phased out and replaced, keeping content fresh and up to the audience’s tastes. The challenge for comics is to find a sampling format which can enhance diversity and serve to better evaluate new properties and licenses, ideally in synergy with the direct market.

### 3.2.7 Craft: The Stakeholder-Creation-Offer face

The Craft face allows us to explore the basics of what A creates for B, and what B contributes to validate A’s undertaking. In the example above, creation occurred over many months, culminating in an offer that is both comic book and context (the comic shop signing event) meant to bring stakeholders like A and B together. From this sketchy picture, one can get as granular as one likes. Creating the book required a story to tell, good art and script to tell it with, some references, fonts, paper, editing, printing services, and etcetera. All these point to other stakeholders, with roles such as editor, printer, supplier, arranged in networks that can be local, regional, global, or virtual. Producing the book required choosing and discarding artefacts of creation, such as drafts, notes, layouts and alternate plots, awaiting feedback such as editing and sales to validate these bundling decisions. The offer translated into various forms of gain for B, such as engrossment and self-improvement, and attracted contributions like money and information.
Narratives, aesthetic experiences, and self-enhancement opportunities are the key design issues that permeate all elements of this face. Most stakeholders either gain from or contribute to these, and partake in roles and networks that facilitate their creation. Narratives refer to meaning conveyed through fictional worlds, characters, and events. Aesthetic experiences refer to gustatory, olfactory, tactile, pictorial and aural stimuli (Darley, 2000; Hirschman, 1983; Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982; Holbrook & Zirlin, 1985), encompassing any media regardless of artistic merit. For example, cracking open a comic book, smelling it, looking at its page layout and lettering fonts are all aesthetic experiences instrumental to accessing and appreciating its narrative. In this sense, objects can be understood as symbolic links to fictional worlds, like licensed toys and posters (Kozinets, 1997; Levy, 1959). Stakeholders select these experiences based on a number of criteria, such as availability (ex.: is there a comic shop nearby?), affinity (ex.: do I like black and white comics or do I need color to enjoy them?), stylistic preferences (ex.: do I dislike this penciller?), and etcetera (Holbrook & Hirschman, 1982). Most media offer varying degrees of sensorial stimuli, which is one of the reasons why stories get adapted in various forms. Self-enhancement opportunities refer to building one’s identity and gaining new insight (Kozinets, 2001). Creating abstract knowledge categories, educating one’s self, gaining cultural literacy, refining artistic preferences, building an identity and a sense of ethics can all be facilitated by narratives delivered through any media.

All fiction comic book businesses are designed around these three basic components. Offers are created by bundling narratives, aesthetic experiences, and self-enhancement opportunities together and each of these can attract feedback in unique ways. The key insight, however, is that these are interrelated and constitute a single craft. Aesthetic experiences are meant to deliver narratives which provide self-enhancement opportunities. In contrast, collecting deals primarily with aesthetic experiences, though it can encompass self-enhancement opportunities if one approaches it as a game-like hobby. In other words, fiction storytelling is modular enough to accommodate a strong collecting culture, but not the other way around.

3.2.8 Team: The Character-Creation-Stakeholder face

The Team face is mainly about how individual stakeholders come together to create. The key design challenge presented by this face is to create a place, real and virtual, in which teamwork can flourish. This workspace, where the best collective storyteller can be assembled from the various specialists available in the network economy, can be described
in terms of internal, external, individual, and social dimensions (Adler & Kwon, 2002; Kotkin & Friedman, 1995; Perry-Smith & Shalley, 2003).

Workspaces are creation networks of stakeholders set in physical or virtual space-time, which have profound impacts on defining roles, fostering alignment, establishing engagement, enabling learning, and facilitating orchestration (Cascio, 2000; Yan, Zhu & Hall, 2002). What constitutes the right workspace for nurturing timelessness and creativity is a crucial design issue (Mainemelis, 2001). Studios, cities, and larger cultural spaces, including the online world, can be thought of as workspaces. A physical workplace like a studio makes available the full breadth and depth of human sensory stimuli to co-located stakeholders. Virtual space cannot yet duplicate this level of communication, which is a critical issue when designing tools meant to assess alignment and to fortify engagement such as organizational constitution and trust (Mills & Ungson, 2003). It is no coincidence that virtual and physical spaces are sometimes used as imaginary borders to distinguish the internal from the external. The studio is where co-creators can share ideas during unplanned visits to the coffee pot, or settle misunderstandings on a table corner. Workspaces should attract and stimulate the talented individuals that the business needs (Collins & Porras, 1997; DeSalvo, 1999; Meyer, 1999; Mosby, 2001; Wolf, 1999).

Pools of talent and craftsmanship aggregated within or near the same geographical region are sometimes called hubs, and having a workplace within a hub generally makes it easier to network talent together (Kotkin & Friedman, 1995). For example, Hollywood is a hub for movie makers. The comics industry has no significant equivalent, except for the fact that both Marvel and DC are located in New York City. Temporary hubs take the form of conferences and conventions, like the San Diego Comic Con International. Virtual hubs seed communities of interest from which talent and skills can be accessed, like the Comicon.com website. While hubs make it easier to communicate and share stimuli because they make it easier to know where to look, they carry increased communication costs. To get a face-to-face meeting, one still has to move from point A to point B. Physical hubs are attractive because the distance between A and B is usually small. Virtual hubs do not have this advantage. The choice of having a stakeholder inside the workplace or part of the hub has a lot to do with costs, alignment, and engagement. If the full sensory experience is necessary so often as to make travel more costly then co-location, then making a co-creator part of the studio seems the more sensible option.

The key insight of the Team face is that workspaces are in constant flux as stakeholders learn how to create together and improve their craft individually and collectively through various projects. The main design opportunity is to create and improve evolving
workspaces conducive to change, where lessons learned can quickly be applied to stakeholder roles, networks, alignment and engagement, such as virtual organizations that reconfigure their freelance talent pool with every project, while engaging key stakeholders such as major clients and talented individuals on a lengthier basis (ex.: Marvel and DC’s much publicized exclusive contracts with select talent). The main design challenge is to do that on a global scale and learn from other sequential art traditions. Global, virtual and multicultural teamwork is a challenge faced by many businesses and industries, a topic for which an abundant business literature exists.

3.2.9 Community: The Character-Offer-Stakeholder face

The Community face is mainly about why individual stakeholders come together in the way they do, not because of how they create, but because of what they offer one another as individuals and as a collective. Community is built upon aligned interests and, by definition, can only be contributed by other stakeholders (Rafi et al., 2001). Communities of interest are common social artefacts, present in all industries. Since not all stakeholders have equal importance in a business, some communities will be more important than others (Jawahar & McLaughlin, 2001). In comic book fiction, a very powerful and colourful community is the fan base: audience members who share narratives, aesthetic and self-enhancing experiences. This collective experience is a crucial component of gain in fiction storytelling.

Examples of the community experiences include sharing communication pleasure, participating in online message boards or chat rooms, going to signing events with friends, dressing up as fictional characters to attend conventions (an activity known as “cosplay”) and so forth (Belk & Costa, 1998; Stephenson, 1967). The fan community is a strong attractor for those who value fictional worlds as tools for social interaction or as context for their identity (Nambisan, 2002; Pine & Gilmore, 1999; Rowley & Moldoveanu, 2003; Wolf, 1999). Communities can become sanctuaries for stigmatic behaviour in “normal” society, and can promote aesthetic and ethical standards among members8 (Kozinets, 1997 and 2001; Scott, 1994).

Communities of interest can voice their hopes and concerns for fictional worlds, characters, and plot developments. In effect, they indicate and sometimes dictate where they want further authoring to occur. This tension between various groups of stakeholders reflects misalignment, a powerful force for change (Seo & Creed, 2002). The design challenge is to

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ensure that change leads to alignment for most stakeholders, aligning the fan base with the larger stakeholder collective (Adler & Kwon, 2002). The key design challenge highlighted in this face is the balancing act of alignment and engagement required to satisfy various stakeholders, who can enhance their influence by forming communities and have a profound impact on the competitive landscape. For example, how should a publisher balance an aging fan base looking for more of the same, versus storytellers eager to broaden their audience, so as to gain an edge over competitors?

3.2.10 Prosperity: The Character-Creation-Offer face

Since offers are often grouped along symbolic rather than functional lines, they display perceived commonalities due to their association with the same fictional world, character or narrative (Levy, 1959; Solomon & Assael, 1987; Kozinets, 1997). These offers, from physical and experiential avatars of fiction like toys, cards, apparel, and vacation cruises to narrative products like books, comics, games and DVDs, are gateways, or hyperlinks, to their fictional world of origin (Pine & Gilmore, 1999; Allen, 2000; Kozinets, 2001). At the highest conceptual level, the creation pole deals with the creation of fictional worlds, the offers pole deals with understanding what makes a compelling gateway and making stakeholders step through such gateways to these other worlds, and the character pole acts as gatekeeper, choosing which worlds and gateways to create and under which conditions to grant access and collect a toll (Rifkin, 2001).

The Prosperity face can be summed up in the mastery of the access gateway metaphor. This means understanding and conceptualizing the comics industry as one of many complementary fiction storytelling industries, which encompass various other media industries where intellectual property is the primary business tool through which gateways are opened and tolls are collected. Piracy is a major issue in fiction storytelling because it opens gateways through which no toll fees can be collected. A business can create these gateways itself, sub-contract their creation to a third party, or grant a license that allows a third party to create gateways on its behalf. Growing a portfolio of gateways through experimentation is an effectuation process which must be carefully circumscribed (Sarasvathy, 2001). A trademark can be compromised by questionable product endorsements or missed cultural cues (Silverstone, 1981). For example, Disney has a demanding process that must be followed by licensees in the development of offers, with veto power at every stage (Wasko, 2001). Rating systems are examples of explicit cultural cues, indicating that certain offers like X-rated movies may be appropriate for some stakeholders, and inappropriate for others. Implicit cultural cues are more subtle and include how a medium is perceived by stakeholders (ex.: the perception of violence in video games).
Figure 3.5 presents this face's access gateway metaphor. Triangles represent types of gateways to fictional worlds. As time progresses, the business may stay in, spread to or retreat from various types of gateways. This does not imply that all success should be followed upon, adapted, or merchandized. These are design decisions better left to entrepreneurs. While acknowledging that not all growth is good, Figure 3.5 does suggest that prosperity for the industry lies in developing more gateways, which is the underlying strategy of many media giants (Holson & Lyman, 2002). Success in one medium may spread to other evocations of the fictional world, thus increasing demand for access through all gateways. This potential spread of cross-media synergy is represented by a white halo effect in Figure 3.5 (Hirschman & Solomon, 1982; Rafi et al., 2001; Wasko, 1994 and 2001;).
The incubation medium shown in Figure 3.5 is the initial medium through which a fictional world is accessed. It is the nucleus around which future stories, adaptations and merchandizing opportunities develop. The choice of an incubation medium may be influenced by a number of factors, like artistic preferences, economical feasibility, or cultural biases for or against a medium. Cheaper incubation media can be used as research or marketing for more expensive, and usually more immersive, projects. For example, Time Warner uses DC Comics as an R&D division for its movie business⁹ (Powers, 2001). Follow-ups are prequels, sequels, and side-stories that expand the narrative through the same medium. Adaptations expand or re-tell the narrative in other media. Merchandizing creates objects based on the fictional world, such as collectibles and apparel. Follow-up, adaptations and merchandizing opportunities may sprout from previous follow-ups, adaptations and merchandises, and so on. For example, a Spider-Man 2 toy is licensed merchandise based on the follow-up sequel of a popular movie adapted from a comic book series where the property was first incubated by Marvel in the early 1960s.

All gateways are not created equal, and leaving one gateway freely accessible to attract stakeholders to other gateways may be a sensible design choice. In fact, publicity can be seen as a toll-free gateway designed to induce a halo effect. In other words, an offer needs not be profitable by itself if it strengthens the demand for access through the broader portfolio of offers. This is particularly true when Internet offerings are thrown into the equation. These offers need not generate profit, as long as they increase the attractiveness of offline offers, or premium online offers, so as to make the whole portfolio more profitable (Shapiro & Varian, 1999). This raises an interesting point about piracy, which could potentially be designed as a potent force to make a broader portfolio more attractive, as long as the toll-enforced gateways provide aesthetic experiences which are distinct from pirated gateways.

The Prosperity face allows us to look at the rationale behind the creation, and granting of access to, fictional worlds, characters and events. Understanding threats, such as piracy, defences, such as intellectual property rights, orchestration, such as managing the creation of new gateways, learning, such as testing new ideas in cheaper formats, bundling, such as creating many versions of an access gateway, and feedback, such as the configuration of revenue and profit flows in a multiple gateway portfolio, requires an acute awareness of the design challenges posed by the access gateway metaphor. For the comics industry, it boils down to this: is the industry doing what needs to be done to design itself at the center of Figure 3.5, at the heart of popular culture, at the source of intellectual property ownership?


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Or is it content to design itself as a collectibles industry serving other media through licenses, with the notable exception of the super-hero sub-genre?

3.2.11 The Tetrahedron

The comics industry has been, and collectively remains, a fiction storyteller. It has learned to create its own direct market, a hospitable place for super-hero continuities. It has also grown better at adding collectible value to its offers. It has attracted important stakeholders from other media, creating outlets for its iconic worlds, characters and events. Unfortunately, it has forgotten how to transform children, girls, and women into enthusiastic stakeholders. There are exceptions, of course, but the problem is that they are exceptions rather than the norm. Figure 3.6 provides a highly aggregated and holistic view of the key design features presented in this chapter.

![Figure 3.6 Fiction comic book industry design thumbnail](image)

When one compares comics’ 400 million US $ direct market with mangat’s 5 billion US $ market, the lost opportunities are clearer to see. When one realizes that the vast majority of the industry’s most profitable characters were created prior to the 1970s, one realizes that
the icon making machine isn’t as well oiled as it once was. The industry must be careful to understand what is at stake and where its real design strengths, weaknesses, challenges and opportunities lie. A better understanding of its own holistic complexity is an important first step if the industry wants to achieve sustainable and profitable business design transformation and innovation.

On a final note, it should be understood that many of the conditions and circumstances which have allowed manga to grow into a multi-billion dollar industry are still present in emerging economies: low but rising family incomes, millions of children eager to find inexpensive gateways to exciting worlds and adventures, and so forth. Like many other industries, the future of comics might be tied to the mastery of global markets. While its iconic characters travel well abroad, the direct market is a much less exportable creature. It is this author’s opinion that Marvel and DC’s reliance on a super-hero dominated direct market does a disservice to most industry stakeholders, including their own shareholders.
4 Business Analysis: Studio Grafiksismik Inc.

Everything said at the start of Chapter 3 is relevant here, from my own personal methodological remarks in the opening section to the analysis as context for Grafiksismik. What follows is a retrospective sense making reconstruction of the design of my own business endeavour: Studio Grafiksismik Inc. (hereafter Grafiksismik), a comic book art studio located in Quebec City.

What do I mean by retrospective sense making? This has to do with writing as a method of inquiry. Throughout the life of the studio, I’ve written countless artefacts: business plans, private comments in my grimoire, course material, Powerpoint presentations, short analyses intended solely for my co-entrepreneurs, and so forth. These have evolved through numerous rewrites, edits, remixes and syntheses. This analysis feeds on them all, benefiting from two years of hindsight.

Grafiksismik was instrumental in allowing me to enhance my understanding of business design through practice. The idea was not to force the use of the Tetrahedron upon my business design activities, but rather to see if the framework actually made sense in practice. Through near daily use of the framework in back and forth between the studio and the university, I came to appreciate the framework as a sense making construct, making it easier to verbalize the design saga of the studio, most notably through the four poles. I acted as president throughout the studio’s life, from start-up in February 2003, two months after my doctoral examination, to the studio’s demise in December 2005, two months prior to my thesis project examination.

This chapter first examines the design of Grafiksismik through its poles, then presents its dyads and flows, followed by its faces, and concludes with the Tetrahedron synthesis. As with the previous chapter, I will tone down my voice during the analysis so that it can be more easily extracted from the thesis and forwarded to various industry stakeholders for feedback.

4.1 Design Poles: Character, Stakeholders, Offers and Creation

Grafiksismik was a comic book art subcontractor aimed at the North American fiction comic book market. This chapter assumes that the reader is already familiar with the industry and has read Chapter 3, so as to limit redundant explanations of industry jargon and key design issues. The presentation of the poles covers the entire lifespan of the studio,
from 2003 to 2005, and relevant figures are structured around the pole templates presented in Chapter 2.

4.1.1 Business Character: Who was Grafiksismik?

Grafiksismik’s character was that of a graphic storyteller for the American comic book industry, aiming to distil American, French and Japanese sequential art influences into a new artistic formula for adult and teenage fiction readers. It was not an animation studio, nor was it a graphic design firm. It did not publish, distribute, or retail its creations. It created comics for various publishers, sometimes branching out into video game character design, book illustrations, and various other projects related to the illustration of fantasy through digital painting, but always remained focused on the North American comic book market. Such focus was a direct offspring of the core entrepreneurial group’s hopes for self-realization in life as comic book artists. In all likelihood, changes made within the core group, such as the introduction of a venture capitalist or a stakeholder with little love for comics would have substantially changed the design of the character pole and the studio as a whole. Fusion and alliance proposals from two different entities made in 2004 and 2005 were evaluated in terms of such character compatibility. Figure 4.1 presents Grafiksismik’s character throughout its lifespan in greater detail:

<table>
<thead>
<tr>
<th>Inherited Past (2002):</th>
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<tbody>
<tr>
<td>-Trio of young, inexperienced entrepreneurs</td>
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<tr>
<td>-One of the entrepreneurs has had weekly contracts in 2002 to ink toy packaging art from Hasbro as well as some monthly comic book inking contracts from Marvel and Dark Horse Comics (more than he can handle alone)</td>
</tr>
<tr>
<td>-7 years' worth of professional contacts in the comics industry</td>
</tr>
<tr>
<td>-Bootstrapping investment money from all three entrepreneurs</td>
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<tr>
<td>-Access to tax credit program (reimburses 40% of employee salaries)</td>
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<tr>
<td>-75 000 CAD $ loan from Development Bank of Canada</td>
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<tr>
<th>Strategic Conceptualisation</th>
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</thead>
<tbody>
<tr>
<td>-Passion for comics; existing contracts &amp; craftsmanship; knowledge about client needs &amp; profitability</td>
</tr>
<tr>
<td>-Hasbro restructures internally and stops outsourcing art production the same month during which the studio starts-up; loss of most important client, revenue and profit streams</td>
</tr>
<tr>
<td>-US market focus;</td>
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<tr>
<td>-Growth from 80 000 CAD $ to over 200 000 CAD $ with first profitable months appearing in 2005;</td>
</tr>
<tr>
<td>-Become the best collective comic book storyteller worldwide, in outsourced work and original properties creation</td>
</tr>
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| Preserve |
| Change |

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<tr>
<th>Envisioned future prior to closing</th>
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<tr>
<td>-Number of employees grew from 6 to 11 and shrank to 5 in favour of freelance talent</td>
</tr>
<tr>
<td>-Number of freelancers in talent network grew from half a dozen to many dozens</td>
</tr>
<tr>
<td>-Master and improve tools, processes &amp; estimates (time &amp; profitability);</td>
</tr>
<tr>
<td>-Find, retain and nurture great talent and clients;</td>
</tr>
<tr>
<td>-Favour contracts with shared property ownership</td>
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<table>
<thead>
<tr>
<th>Tactical Conceptualisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Portfolio of comic book production services, offered alone or together: scripts, designs, pencils, inks, and colors</td>
</tr>
<tr>
<td>-With the loss of Hasbro, the studio's design shifted from partly existing business to nearly clientless start-up</td>
</tr>
<tr>
<td>-Network into complementary industries to master licensing strategies</td>
</tr>
<tr>
<td>-Develop original properties</td>
</tr>
</tbody>
</table>

Figure 4.1 Grafiksismik’s Character Pole
Inherited Past: S. Caisse, P.-A. Déry and J.-S. Duberger’s paths had crossed a few times since 1994, mostly in and around the local Québec City comic book scene. In December 2002, the trio met again for the first time in quite some time and was faced with whether or not to go forward with a business opportunity. Déry, a professional comic book inker, had been inking toy packaging art for Hasbro for over a year and a half. This took the form of one contractual engagement framing various jobs that could be sent to the artist according to the project manager’s needs. And such needs had so far translated in a stable weekly workload, growing into more than Déry could handle alone, not counting his growing comic book inking workload. Duberger had left his job at Sarbakan, a Québec City-based video game company, and had become Déry’s assistant. This was viewed as a short term solution, since Duberger was an outstanding penciller, a talent which usually fetched a higher page rate than an inker’s (see Figure 3.4).

In essence, Déry already had enough clients to hire a few inking assistants, and most of these clients also had need of pencillers and colorists. To bundle these opportunities together, assistants could be hired to provide pencils and colors as well as inks. A small comic book art production studio could be grown from this, and eventually be turned into an intellectual property developer once the craft had truly been mastered. Caisse would come in as a writer and business developer, dividing his time between the studio and the university.

At this point, the opportunity was understood as a modest endeavour, merely requiring investments from the entrepreneur’s pockets, the hiring of one colorist who could double as secretary and the renting of a small office. Things changed when the trio realized that it could obtain Centre national des nouvelles technologies de Québec (hereafter CNNTQ) tax measure qualification from the provincial government’s Investissement Québec: in short, there was a 40% tax credit available on the salaries of CNNTQ certified employees for ten years after start-up. This meant that the studio could try to outdo the freelance market, and hire its staff as employees rather than freelancers. However, hiring employees would require larger offices to be rented and equipment to be bought. A loan would have to be secured. The risk was higher, but this was offset by an already available stream of profitable weekly jobs thanks to Déry’s established contacts. Offices were found, the CNNTQ certification was obtained, the Development Bank of Canada loaned 75 000 CAD $ to Grafiksismik, equipment was bought, and artists were hired. And then the weekly workloads from Hasbro vanished.
Strategic Conceptualization at Start-Up: The studio was meant to be an instrument of self-realization for its entrepreneurial core. As such, it embodied a passion for comics, a wealth of knowledge about the industry’s design, and existing contracts and craftsmanship to build the business upon. Strategic approaches and timeframes to move from art production services to intellectual property development were formulated, but were kept open handed. The trio felt it still had much to learn and that many opportunities would emerge from engaging in the craft. Whenever spin-off entities, financing rounds or fusions were considered, the strategic pay-offs had to include passion fit, knowledge acquisition and refinement, as well as advances in client and craftsmanship quality.

Tactical Conceptualization at Start-Up: The strategic conceptualization presented above was first instantiated as a complementary portfolio of comic book art production services. These were aimed at the same clients – comic book editors working as project managers for comic book publishers – as stand alone services or complete packages of scripts, designs, pencils, inks and colors. Some services which overlapped other industries were also offered, such as packaging art, video game assets design, and so forth.

The Hasbro Account Vanishes: This account was planned to be the main cash flow source underpinning the studio’s early design. Two secondary sources – the entrepreneurial trio’s personal accounts and the Development Bank of Canada’s loan – were accessible as failsafe. As the trio later learned from industry peers, Hasbro globally stopped outsourcing art packaging at around the same time during which the studio was starting up. The studio’s primary revenue and profit streams had run dry, transforming the studio’s design from partly existing business to nearly clientless start-up. In essence, Grafsismik had become an under funded start-up with negligible revenues. And it had over a year to go before gaining access to its tax credits on employee salaries, which meant that wages would have to be paid in full for a over a year with very limited financial freedom and a blurry revenue outlook. The entrepreneurial trio decided to stay the course.

Strategic Conceptualization (2003-2005): For nearly three years, Grafsismik was a full service North American comic book production studio mainly active in the U.S. market, trying to become the best outsourced comic book art collective available worldwide. During that time, the studio’s revenues grew from 80 000 CAD $ to over 200 000 CAD $ with its first profitable months appearing in summer 2005. Default on payments from 2005’s most important client hit the studio from August 2005 onward; revenues dropped and Grafsismik ceased its activities on December 31st, 2005. A noteworthy strategic conceptualization transformation occurred over the years: it became clear that the costs associated with paying full salaries to most artists, even with a 40 % CNNTQ tax break on
salaries, were more costly than those associated with doing business with the freelance market. It also became clear that a small core of talented artists could provide the art direction sought to grow Grafiksismik’s distinctive character through a wide freelancer network.

**Tactical Conceptualization (2003-2005):** To become the best outsourced comic book art collective available worldwide, Grafiksismik had to master and improve its tools: new computers and drawing tablets were bought; software was updated, and so forth. It had to do the same with its processes: new asset protocols were put in place to track workflow better and a project manager was hired. It also had to improve its estimations about stakeholder reliability, work length and project complexity. Finding, retaining and nurturing great talent and clients was also a substantial undertaking. While the list of clients and freelancers grew steadily, the number of employees fell after rising: it grew from 6 in 2003 to 11 in 2004 and shrank back to 5 in 2005 in favor of freelance talent which grew from half a dozen North American artists to many dozen artists in North America, Europe and South East Asia.

**Envisioned Strategic Future (2006+):** From start-up, Grafiksismik envisioned itself as becoming the best collective comic book storyteller worldwide, in both outsourced work and original properties creation. On the one hand, Grafiksismik would seek to preserve and nurture the growth of its art production services in quantity and quality. On the other hand, the studio would seek to validate the feasibility and profitability of original property development. Publishing, distributing and retailing activities were not on the agenda, although finding the right publishing partner to get original properties into readers’ hands definitely was. As a result, the strategic focus was placed on finding a publisher which would either grant Grafiksismik partial intellectual property in its outsourced work or would provide the means to finance co-owned intellectual property development.

**Envisioned Tactical Future (2006+):** In mid 2004, the studio came into contact with a start-up Toronto-based publisher named Speakeasy, which offered partial intellectual property in its upcoming outsourced works through Hawke Studios, its production arm. Both entities were owned by the same entrepreneur. Based on this envisioned character fit, Speakeasy/Hawke Studios became Grafiksismik’s most important client for the last quarter of 2004 onward. Unfortunately, Speakeasy/Hawke Studio’s demise proved fatal to Grafiksismik.
4.1.2 Business Stakeholders: Who made up Grafiksismik?

Stakeholders were designed in the sense that the studio always formulated estimates and assumptions about the characteristics and qualities it desired in other people, groups or organizations. Chapter 3 presents a large cast of industry stakeholders, all of which had relevance in Grafiksismik’s design. Figure 4.2 focuses on the stakeholders who had the most impact on the studio, which is to say those for whom estimates and assumptions were the most critical to get right. For example, comic book readers obviously had relevance in the business’ design, but were its clients’ clients’ clients’ clients, making them rather anonymous. Figure 4.2 only presents direct clients. Similarly, only artists and enablers who impacted directly on the studio’s design are presented here.

**EMPLOYEES:**
Stable core made up of S. Caisse (writer), P.-A. Déry (inker & colorist), J.-S. Duberger (penciller) & V. Martineau (color flats); S. Caisse worked for free and P.-A. Déry & J.-S. Duberger often did not receive any pay.

2 to 8 full & part-time employees worked for the studio at any given moment, with hourly wages of 13 CAD $ to 20 CAD $

**FREELANCERS:**
Hired on a project basis and paid by page rates (ex.: 100 US $ per digitally painted page); freelance artists came from around the globe, most from the US, France and South East Asia

**INVESTORS:**
Owners & their families (loans totalling roughly 50 000 CAD $)
Development Bank of Canada (loan 70 000 CAD $);
Canadian Imperial Bank of Commerce (credit line 5 000 CAD $, credit card 5 000 CAD $)

**OWNERS:**
S. Caisse, P.-A. Déry & J.-S. Duberger
All three held 33.33% of voting shares

**GOVERNMENT:**
Investissement Québec’s Centre national des nouvelles technologies de Québec (CNNTQ)

**COUNSEL:**
Finance counsel
Legal counsel

**ARTISTS:**
Artists were the individuals involved in comic book art production, from writer to colorist. They were either employee or freelance, the former based in Grafiksismik’s Quebec City studio, the latter based anywhere around the world. The studio started with five employees: one penciller (Duberger), one inker (Déry) and three colorists. A modest virtual network of freelancers was developed to counterbalance talent scarcity in the Quebec City region. Throughout 2004 and 2005, people were hired, fired or left on their own accord. Caisse acted as writer on a freelance basis in 2004 and 2005. Two freelancers also began sharing the studio’s offices in 2004 for better project coordination. By the end of 2005, the studio had a wide network of freelance talent worldwide, adding new talent
according to project requirements. Many freelancers were also hired repeatedly for different projects.

To understand the balance of employees and freelancers in the studio requires an understanding of the art studio experience and Investissement Québec’s CNNTQ program. The studio experience is a powerful and empowering tool for artistic creativity. It allows talented individuals to share best practices and to stimulate one another. It facilitates the emergence of a house style, a specific blend of artistic preferences and aptitudes. This is made possible by co-location: grouping artists together in the same location so that learning can take place formally and informally through daily practice. Unfortunately, co-location is costly. Not only does it require the renting of offices, but it also requires getting artists to live near said offices. For Grafiksismik, this translated into a limited number of co-located artists setting the tone and pace of a larger freelance talent pool. Note that as far as the studio experience is concerned, artists can be employees or freelancers; the distinction matters little as long as artists share the same workspace. However, this distinction in how the collective actor engages the artist has an effect on his or her alignment and trust regarding the studio.

Investissement Québec’s CNNTQ program had a double impact on the studio experience: first, it made it look like hiring artists as employees rather freelancers was cheaper and more profitable. Second, it made it possible to attract artists living outside Quebec City by offering stable jobs rather than freelance contracts. Based on these assumptions, the studio initially sought to hire talent as employees rather than freelancers whenever possible. Unfortunately, the program’s inner workings turned out to be nightmarish for the studio and ill-suited for start-ups without venture capital funding. Only after this was understood did Grafiksismik shift its hiring focus from employees to freelancers successfully, yielding a stable and talented artistic core of half a dozen employees in synchronization with dozens of freelancers worldwide.

In terms of costs, each employee represented roughly 200 square feet in office space at approximately 18 CAD $ per square feet per year (including taxes and telecommunication costs), one double screen computer workstation, appropriate software and peripherals, one orthopaedic chair and a 40-hour week workload at 13 CAD $ to 20 CAD $ plus social benefits, dependent on talent and experience. Caisse was not an employee and often worked remotely, handling business development and writing for the studio from home. Déry and Dubeger were hired as employees but most often did not receive any salaries in order to spare business cash flow. When they did receive salaries, most of the money was reinvested in the studio. The entrepreneurial trio’s objective was that every artist, employee or
freelancer, be paid in full and on time. This was done successfully for almost three years, except at the very end when the studio ceased to function and the entrepreneurs had expended all of their personal savings. Freelancers were hired with page rates ranging from 150 US $ to 10 US $, depending on the task to be accomplished. Freelancers provided their own tools and facilities.

Enablers: Enablers were the individuals, groups and organizations helping to create and to connect the artists with their clients. Investors, owners, governments and counsellors all fall into this category. The most important investor was the Development Bank of Canada with a 70 000 CAD $ loan, followed by the entrepreneurial trio and their families for various loans totalling roughly 50 000 CAD $ not including unpaid wages which far exceeded a regular employee’s full-time schedule. The Canadian Imperial Bank of Commerce provided a credit line of 5 000 CAD $ and a credit card for 5 000 CAD $. In retrospect, it is clear Grafiksismik should not have based its financial design on the Hasbro account and should have sought one or more venture capitalists to fund its start-up as well as its original intellectual property development, if only to get the most out of the CNNTQ program and buy some time to learn and grow.

Ownership was shared equally between Caisse, Déry and Duberger. Non-voting shares were emitted to compensate for various expenses and wages which were reinvested into the studio. The Québec provincial government was a major stakeholder through its CNNTQ program, managed by Investissement Québec. Finally, crucial counsel was provided by numerous stakeholders, most notably Grafiksismik’s legal counsel as well as an angel capitalist.

Clients: Direct clients were divided into two groups. First: comic book publishers and editors, the latter acting as project managers for the former. These included Aspen, Devil’s Due Publishing, Dark Horse Comics, DC / Wildstorm, Dreamwave, Harris Publishing, Marvel Enterprises, MV Creations, Speakeasy / Hawke Studios, and so forth. Publishers were approached for scripts, pencils, inks and colors, either as stand-alone services or complete comic book production solutions. Second: other media, from television to toys and video games. Clients included Atomik Wave (video game assets design), Bojeu (removable tattoos for kids), Le Soleil (special newspaper inserts illustrations), Loto-Québec (gambling CD-ROM assets), Radio-Canada (illustrations for television show “Les Invincibles”), Safarir (humour strips), Sarbakan (video game assets designs), Wizards of the Coast (role playing game illustrations in various books) and so forth.
The main difference between these two groups is how they fit Grafiksismik’s envisioned character: original properties developed by Grafiksismik would need to be published by someone, and that someone would come from the first group rather than the second. In other words, the first group was a result of the studio’s strategic conceptualization, while the second existed as a complementary fit for whatever tactical instantiation of the strategy existed at any given moment. The most critical client for the studio’s early design (Hasbro) was from the second group. The most critical client for the studio’s late design was Speakeasy / Hawke Studios, and was from the first group. This client was especially attractive because it offered Grafiksismik partial ownership in any property it helped develop and produce. Based on this offer fit relative to character orientation as presented in Figure 4.1, most of the studio’s energies were put in producing comics for Speakeasy / Hawke Studios starting late 2004.

When Speakeasy / Hawke Studios defaulted on already late payments in summer 2005, it became clear that Grafiksismik’s future was seriously compromised. With no solution in sight, the studio closed in December 2005. At no surprise to Grafiksismik, Speakeasy / Hawke Studios closed down in February 2006. In retrospect, Grafiksismik would have been better off servicing established and loyal clients like Devil’s Due Publishing while pursuing intellectual property development on its own rather than in alliance with a client.

4.1.3 Business Offer: Why did people and organizations get involved with Grafiksismik?

Figure 4.3 presents Grafiksismik’s offer pole for the three broad stakeholder groups presented in Figure 4.2 and uses the commodities / goods / services / experiences / transformations scale presented in Chapter 2.

Commodities level: At the most basic and undifferentiated level, Grafiksismik offered page rates to freelancers, it offered art and stories to clients and it offered payments to enablers. Page rates were dependent on what publishers were willing to pay, the studio acting as an agent and project manager in such cases. The offer was not attractive to established and well connected freelancers, but was good for new talent or freelancers who lacked connections in the US market. Art and stories were strong offers which attracted a growing clientele. Payments to enablers were basic offers which followed standard Canadian business practices but grew problematic as time went on. The studio provided no worry billing for 2003 but quickly faced cash flow problems. It had difficulty making payments in full and on time. The owners were the hardest hit enablers, followed by investors and various suppliers (landlord, service providers, and so forth). For these stakeholders, doing business with Grafiksismik was not a pleasant and worry-free experience. Unable to work
out its cash flow problems, Grafiksismik sought legal protection in early 2005 and made a proposal to its creditors, which was accepted and respected until Speakeasy / Hawke defaulted on payments, withering an already thin cash flow, and resulting in the studio’s shutdown in December 2005.

Figure 4.3 Grafiksismik’s Offer Pole

Goods level: Moving one step higher on the personalization and differentiation ladder, the studio offered artists employment, it offered enablers stable revenues, and it offered clients artistic style and quality within preset deadlines. Stable salaries and social advantages were not unheard of in video game production companies located in Québec, but were almost unheard of in comics in Québec and North America, with the exception of Crossgen, a Florida-based comic books producer and publisher which went bankrupt shortly before Grafiksismik started. This offer was thus locally differentiated in terms of the media in which the employment was to take place when compared to other jobs in Quebec City, and differentiated in terms of stability when compared to the comic book freelance market worldwide. The offers made to clients were good in terms of stylistic uniqueness and
quality, but weak on timeliness. The overall result was a defective offer, sometimes
deferring to the artist’s perfectionism at the expense of the editor’s deadlines, or offers
which were based on overestimated studio output capacity. Compounding the problem was
the fact that the entrepreneurial trio was in charge of project management, which took away
comic book art production time from Déry and Duberger. A project manager was hired in
June 2005. Timeliness and productivity were much improved, although much too late in the
studio’s life. Stable revenues for enablers existed for a short period, essentially covering the
studio’s first year of existence. From 2004 onward, the studio merely offered
undifferentiated payments when it could.

**Services level:** Moving one more step higher on the personalization and differentiation
ladder, the studio offered artists a chance to enact their craft with the best tools available
and offered clients personalized project-tailored creative teams. No offer was designed for
enablers. For artists, this meant continuous skill improvements as the entrepreneurial trio
scanned the industry for best tools and practices. For clients, it meant access to complete or
piecemeal solutions tailored to their needs. Examples of offers which could have existed for
enablers at this stage are various types of shares which could have been sold to investors
had the studio grown profitably.

**Experiences level:** Only artists benefited from an experiential offer: earning a comfortable
living in comics inside a stimulating environment shared with talented peers. No
experiential offers were designed for enablers or clients. Examples of experiential offers
which were not made to clients include studio, artist or character brand name recognition
which lowers business risk and facilitates marketing. In essence, Grafiksismik had not
grown into such a position yet. Examples of experiential offers to enablers include
development of prosperous value networks, such as a company’s substantial local presence,
its various offshoots, and the partners it grants other stakeholders access to. Here again,
Grafiksismik had not had the time to grown into such a position.

**Transformations level:** Only some artists benefited from a transformational offer: self-
realization through original property creation and ownership. This was the promise of
prosperity through one’s own creations. This offer was exclusive to the entrepreneurial trio,
since any properties developed within the studio as part of an employment or work-for-hire
contract were to be owned by the studio. No such properties were developed, except for
those created with Speakeasy / Hawke Studios. Examples of transformational offers which
were not made to clients include established icon-making successes and the growth and
renewal of a library of properties. Grafiksismik had no blockbuster hit under its belt and no
star artist to bring to the project table. In other words, it had not transformed the fortunes of
any client yet, nor had it mustered the resources to hire talent with a track record of transforming moribund characters into fan favourites. Examples of transformational offers to enablers include prosperity through long term win-win survival and growth. Grafiksismik never grew into such a position.

Grafiksismik’s offers were designed as an extension of the entrepreneurial trio. They needed to offer a lot to artists, or Caisse, Dery and Duberger would not have formed the studio. The offers didn’t do much for enablers, as the trio felt they could do most of the work themselves. And they did not offer brand names to publishers, since that is a position the trio hoped to be able to grow into. The costs of extending employee status to freelancers was not offset by the CNNTQ program, notably by virtue of unavailable financing for the tax credits given the studio’s losses, and most notably by virtue of lack of scale. The cost structure associated with expanding the number of employees only made sense for a small or medium enterprise, not a micro enterprise like Grafiksismik. Put simply, these offers were far too costly to sustain compared to the revenues they generated. For enablers, the offers would have made sense had the Hasbro account not vanished and the tax credit mirage not embraced. As designed, the studio had little to offer to investors, and was unable to find a way to restructure itself attractively before the Speakeasy / Hawke studios debacle. Finally, for clients, timeliness hurt an otherwise functional portfolio of offers. Whether Grafiksismik, its artists, or any of its future creations would have become brand names is speculative.

4.1.4 Business Creation: What did Grafiksismik do?

Grafiksismik did many things common to most businesses: create stakeholders, create offers and create its own unique character, not forgetting creating its own creation processes and processors. While creating knowledge, accounts, contacts and so forth are crucial endeavours, the ones which provided the most significant insights into Grafiksismik’s design revolved around the production of comic book art, which could include scripts, designs, layouts, pencils, inks, color flats, digital colors, letters, as well as more exotic steps, finalized as printable digital files and as original artwork.

As a rule of thumb, one page of pencils, inks and colors should have required one day-person of work at every stage, due to comic book publishing schedules in the North America, except for scripts, designs, layouts, flats and letters which could be done much faster. From a business standpoint, the cycle of portfolio solicitation, project development, layouts, corrections, pencils, inks, flats, colors and final corrections had no beginning and no end. Each of these steps could be subdivided to blend into the other, and each could feed the other from one project to the other. For example, art produced at any step could be used
for solicitation in the broader studio portfolio, and talent freed up from a given step and project might have been called upon to work on a different production step in another project. From a project standpoint, things were different. Projects began with solicitation, usually through emailed portfolio samples, followed by relevant art production services. A studio book, meaning a comic book entirely done at Grafiksismik, usually followed these steps:

- **Project development**: This step included designs and documentation, such as creating new characters and making sure that a certain real world locale was portrayed accurately. It also included negotiations on project-specific items such as promotional art and procedures which needed to be put into place, such as relevant FTPs and payment schemes.
- **Script**: This step was not included in Figure 4.4 since this service was never retained at Grafiksismik. Caisse wrote *The Grimoire* as a freelancer for Speakeasy / Hawke Studio due to project development specificities.
- **Layouts**: At this step, an artist sketched the page according to the writer’s script. The main objective was to tell the story visually, to facilitate eye movement and emphasize certain panels over others. Layouts were added as a correction facilitating tool in 2005.
- **Layout Corrections**: At this step, the editor and the writer could provide feedback for cheap and easy corrections.
- **Pencils**: This step cleaned the final layouts and added the necessary breadth and depth needed to facilitate inks and colors.
- **Inks**: This step, once necessary due to printing inadequacies, was a stylistic choice. The aim was to strengthen the pencils, an art close to calligraphy but applied over the penciller’s line art. Inks were excluded from solicitation in 2005 and all but abandoned unless specified on a given project.
- **Flats**: This step was meant to get the most out of programs like Photoshop and Painter. Much like a color-by-numbers drawing, flats isolated portions of line art which could be more easily manipulated for later adjustments, such as lighting, filtering effects, saturation, and so forth.
- **Colors**: This step added the final colors which enhanced the line art’s storytelling potency.
- **Final Corrections**: At this step, the editor and the penciller could ask for minor corrections and adjustments. Final accepted files were sent to the appropriate FTP folder, with its log often used for billing purposes.
Figure 4.4 presents these steps with an example from *The Grimoire’s* fourth issue. Comic book projects happened to be extremely well suited for experimentation. Covers and short stories, for example, were short, low cost, low loss projects well-suited to try out new tools and techniques, or to bring in new styles and influences.

In contrast, monthlies required some well-oiled processes to be put into place in order to meet deadlines and client expectations. As a result, the implicit and explicit processes inherent to the formulation of estimates about talent fit and allocation, resource time consumption, costs and profits were halfway between stable and dynamic. Processors such as artists, however, often varied in terms of identity and allocated production tasks from project to project and were thus very dynamic in terms of project team configuration. The result was a hybrid mode of mass personalization for lengthier projects and invention for shorter ones.
One of the key design issues faced by Grafiksismik in its creation pole was making art production fit with payroll. For freelancers, time spent on a page was not an issue, unless deadlines were compromised. Whether a freelancer worked half a day, one day or two days had no incidence on page rates paid by the studio. For employees, making sure that various steps of production were coming out at the appropriate pace was not so obvious. The solution which most minimized project management supervision – to make each art production step or asset correspond to a fixed number of hours of work for a given project – was only devised in 2005.

4.2 Dyads, flows and faces: design choices and trade-offs

This section builds on the strength and weaknesses identified throughout the presentation of Grafiksismik’s poles and goes one step further by presenting various challenges, opportunities and trade-offs which emerged from these characteristics during the studio’s life. The six polar dyads and their associated flows are presented first, followed by the Tetrahedron’s four faces.

4.2.1 Character-Stakeholder dyad: Trust and its Alignment and Engagement flows

Stakeholders share alignment to build character and character relies on engagement to bind stakeholders. The key concept here is trust: trust that fellow founders will stick together through good and bad times; trust that individual artists will truly work in the best interest of the team; trust that the team will truly care about each member; trust that client-editors will pay in a timely manner; trust that the studio will deliver its artwork on time; and so forth. The first challenge was to translate trust between the three entrepreneurs into a coherent legal instrument. A shareholder agreement granting one third of the voting shares to each entrepreneur was signed. This ratio for voting shares would not change, whatever amount of time the individuals would actually work, and whatever function they would occupy. Lack of exactitude in quantifying what value the entrepreneurs brought into the studio was made up by qualitative peace of mind that this was a three way marriage from start to finish. In retrospect, this was one of the best decisions made at Grafiksismik. Through three hard years of struggling for prosperity, the trio held without bickering and maintained its trust even after the business endeavour ended.

The second challenge was in fostering trust in artists. Employment contracts were designed as trust promotion tools; exclusivity was asked only for the duration of employment, allowing the artist to go back to freelancing right after leaving Grafiksismik. Every employee benefited from an agency bonus if he or she found a contract which the studio ultimately decided to pursue. Nevertheless, talented artists came in two flavours: team
players or lone wolves. Lone wolves only had short term alignment with the studio and were ready to leave as soon as a client-editor came in with a better money offer. The initial design accepted such lone wolves as employees or freelancers. The core entrepreneurs believed they could enhance Grafiksismik’s overall portfolio by hiring such people, but changed this design decision in mid-2004 after an employee unilaterally broke his contract at great loss to the studio. Loners had little initiative in helping team members to learn, and emphasized an instrumental aspect of character (i.e. the studio as a haven between high paying contracts) over collective excellence and self-realization. The later design called for early lone wolf versus team player identification of artists, and lone wolves were kept at a safe distance through the studio’s freelancer network.

The last big challenge was with the studio’s clients. Based on previous experience with competing studios, many publishers feared that portfolio solicitation samples would not reflect actual results if their editors did not gain control over who provided the artwork within the studio. Grafiksismik kept a transparent approach which allowed editors to pick and choose talent within the studio if they wanted to. By the end of 2005, many editors had taken advantage of this offer, but a few publishers still had strong reservations about doing business with a studio.

4.2.2 Offer-creation dyad: Value and its Bundling and Feedback flows

Creation uses bundling to generate offers which transmit feedback to validate creation. The key concept here is that of value. Bundling can be conceptualized as a reflection of what a set of stakeholders assumes to be valuable to another set of stakeholders. What a set of stakeholders actually perceives to be valuable can be conceptualized as feedback, insofar as perceptions are expressed in some meaningful way, such as paying for art services or reviewing the studio’s portfolio. Assumptions and perceptions can be changed, and Grafiksismik used personalization as its principal value design tool. The prime example was the “studio book” formula which bundled pencils, inks and colors as one finished art offer. Since all steps were orchestrated by Grafiksismik artists, each creation step could be tweaked to best fit the project. Pencils could include colors; colors could replace some pencils; inks could be used for certain elements only, and so forth, all yielding pages with panache at a faster pace. The trade-off was that these mixed pencils, inks and colors did not match what was sought by clients who came to the studio only for traditional pencils, or inks, or colors. Grafiksismik could do these separate steps as clients required, but the studio’s portfolio didn’t reflect it very well. It took some time for the studio to realize that its innovative bundling formulae came at the expense of standard industry feedback tools, such as a portfolio rich with classic pencils, inks and colors with clearly defined steps.
Feedback, like any form of communication, depends very much on what filters one uses to listen. Culture, assumptions, preconceived ideas, and etcetera, shape what feedback actually reaches the business. A key challenge was to decipher what feedback really mattered, understanding how explicit comments stacked against implicit cues, and so forth. This was true for feedback from all stakeholders. The entrepreneurial trio had no prior business experience and no industry experience except for Déry. A clear opportunity to gain such experience was to acquire it by signing a seasoned veteran through an employment contract, or hiring an experienced consultant, or by sharing equity with a senior businessman and thus growing the trio into quartet. With limited cash flow, the last option seemed the only sensible one. But the trade-off was too costly: none of the three entrepreneurs was inclined to toy with the studio’s strong character and risk upsetting the balance. In the end, the studio decided to learn to balance bundling and feedback on its own in a bid to uncover the true meaning of value for its stakeholders.

With time, a crucial design flaw became clear: Grafiksismik lacked the scope it needed to generate enough value for its enablers. Getting financing for the CNNTQ tax credits exacted accounting, banking and legal fees, minimal when compared to a six figure loan, but substantial for a low five figure amount. There was a basic cost to doing business as a corporation rather than as a bunch of freelancers developing their craft together. Looking for investors was a time consuming endeavour, and getting loans involved more accounting, banking and legal fees. For a micro business which generated low revenues per employees, the cost of being in business was too high given the design contemplated. Yet much of these fees and energies spent would have been similar had the studio been much larger. This was perhaps the most valuable lesson learned at Grafiksismik: to understand the scope of value necessary to sustain all the stakeholders needed to make a given system work. In Grafiksismik’s case, there had been a basic misconception about the scope of the business which had to be put into place to play the CNNTQ game, which required employees rather than freelancers, and also required offices to be rented in a specific, high-priced location within Quebec City.

4.2.3 Stakeholder-Creation dyad:  
Web and its Role and Network flows

Creation articulates networks to structure stakeholders, and stakeholders assume roles to engage in creation. The key concept here is weaving and nurturing a web – a network of networks. The studio gave networking responsibilities to various stakeholders, tapping into existing contact networks and affinities. The busiest spiders in the studio were two of its founders. Caisse was in charge of networking with business enablers, most of which
resided in the local hub around Quebec City. Caisse was also in charge of networking the editorial community spread throughout North America, with the two largest publishers located in New York. Déry was in charge of networking with eBusiness enablers and the artist community. Both were part of a virtual network which knew no boundaries; the studio’s servers were in Australia and its freelancers came from many countries. The entrepreneurial trio also had access to family enablers — family members ready to help out when needed — and traveled annually for a week at the San Diego Comic Con, an event which brought together a large portion of the comics industry. All Quebec City studio members also networked the local artist community as a natural outgrowth of their employment. This was sometimes done by design, such as weekly comic aficionado meetings at a local pub, or by accident, such as when a new artist was encountered by chance at a local comic retailer.

Choosing Quebec City as the studio’s main hub had advantages and disadvantages. Advantages included relatively low fixed costs; excellent quality of life; broad graphic storytelling exposure from French and American traditions; taxes breaks; and so forth. Disadvantages included distance from clients; currency price fluctuations; and venture capital scarcity. Distance was the biggest design concern. One could always travel to meet clients, but some casual creative synergies remained elusive. Most of the studio’s artists would have jumped at the chance to go out for drinks with peers from outside Quebec City, for fun, inspiration and knowledge about industry trends and practices. Note that even though Grafiksismik closed shop, this trade-off was a good one.

4.2.4 Stakeholder-Offer dyad: Exchange and its Contribution and Gain flows

Offers provide gain to attract stakeholders, and stakeholders provide contributions to satisfy offers. The key concept here is that of an exchange between stakeholders or sets of stakeholders, between themselves or the studio. One type of exchange stood out in terms of design, mainly because it defined the studio’s cash flow and logistics: the studio-publisher exchange, where finished art was traded for money. In most cases, the business relationship began with a direct meeting at the San Diego Comic-Con, followed by email and phone conversations. One initial contract covered all future projects, setting the pace for the studio-publisher relationship. Such agreements covered intellectual property ownership, work-for-hire conditions, non-disclosure arrangements, and so forth. Page rates and deadlines depended on the project under consideration. Art files were sent electronically and approved after one round of corrections. Finished art took the form of digital files, which the studio uploaded to its server and grant the editor access to, or to the publisher’s server if it had been granted access to it. Payments were made every half-comic (11 pages)
for each production step (pencils, inks, and colors, each with their own page rates). Most payments were made by checks or wire transfer in American funds, while studio employees were paid in Canadian funds. This meant that U.S. and Canadian currency accounts were needed, with a watchful eye on exchange rates and transaction fees.

The main design challenges were maintaining cash flow (keeping contribution flows open and stable) and providing satisfactory artwork on time (keeping gain flows open and stable). Neither flow was easily mastered. Cash flow problems often hurt art quality and timeliness, which sometimes worsened delays in receiving payments from clients. While employees did not suffer from this situation, Caisse, Déry and Duberger spent too much time troubleshooting the studio-publisher exchange and too little time producing art. Some freelancers also suffered from late or partial payments. The studio postponed the decision to hire because it felt that the expense was not worth it, since a project manager’s salary was not admissible to the CNNTQ tax break. Yet it steadily grew clearer that the studio-publisher exchange required someone fully dedicated to bill collection and project management. A project manager was hired in the summer of 2005.

4.2.5 Character-Creation dyad: Cooperation and its Orchestration and Learning flows

Creation allows learning to forge character, and character relies on orchestration to guide creation. The key concept here is cooperation – the studio learns as a collective actor when stakeholders share insights, and orchestration requires cooperation from stakeholders for the sum to exceed its parts. Cooperation goes beyond the simple mechanics of doing things together – it implies a genuine will to understand why people want to create collectively. Designing co-location for core storytellers took root in this rationale; understanding why and how people create the way they do was often much easier to decipher through daily life’s implicit cues.

The studio was always looking for small projects as a mean of enhancing cooperation. Since different people cooperated differently depending on who was involved, short projects were designed as learning experiments to locate dream teams. Such shorter projects usually represented an affordable loss in case something went wrong. Some client-editors might also have regarded short projects as an experiment, thus providing even more room for artistic freedom and novelty. The trade-off was that such experiments were conducted in the open, with results for all to see. If the final art was less than stellar, the studio might have lost a client or tainted its brand. With hindsight, this proved to be a good trade-off, indeed much cheaper and attractive than conducting experimentation on a large project or on unpublished and unpaid work. Many innovations tested in small projects later
found their way into larger ones, from new talent and tools like digital brushes to processes like painting over digitally re-balanced pencils.

4.2.6 Character-Offer dyad: Competition and its Defence and Threat flows

Offers open the door to threats which challenge character, and character erects defences to protect offers. The key concept here is competition – designing how the business faces off other studios and freelancers vying for publishers (competition in the art creation market), other businesses seeking investment (competition in the capital market), and other studios in related media seeking similar talent (competition in the human resources market). In essence, every stakeholder can chose offers from other businesses, which means that competition exists at all these levels, from the North American comic book industry as well as the broader global sequential art industry, and from various complementary industries in Québec and elsewhere.

The harshest competition challenge came from freelancers better connected with Marvel and DC Comics and with strong name recognition. By 2005, Grafiksismik had still not cracked DC Comics and Marvel. The best it got were small piecemeal service contracts and there was no book on the horizon from these two when the studio closed. While Grafiksismik was on par with freelancers when it came to smaller publishers, it needed more time to gain Marvel and DC Comics’ confidence. Some have suggested that DC Comics would never hire a studio as a matter of internal policy, though no document confirming this has been found. The challenge was to patiently build a strong defence: the studio’s brand name. A popular brand would probably have allowed the studio to service Marvel and DC Comics, and would have allowed the studio to promote its own original creations to major publishers more easily. The trade-off was the time required to achieve break-through recognition. Had the studio been profitable, it would likely have been a matter of time. Unfortunately, time was against the studio.

4.2.7 Craft: The Stakeholder-Creation-Offer face

The craft of making comics is evolving under the impetus of technological change and cultural cross-pollination. New software and new interfaces such as graphic tablets are transforming how stakeholders create offers to one another. Color is increasingly outsourced to low-wage countries, while ink is sometimes foregone in favour of digitally enhanced penciled pages. In addition, cultural cues and practices are traveling and inspiring new ways of doing. Monthly comics, manga anthologies and compilations, graphic novels and albums, all these forms of printed comics are mutating. This presented two opportunities for Grafiksismik, neither of which the studio had time to develop.
First, Scandinavian publishers can successfully market high quality trade paperback translations of American comics with relatively low print runs in German, Danish, Norwegian, Swedish and Suomi by printing various translations in a single print run, changing only the black color separation film for word balloons. This raised interesting prospects for French Canada which has no access to translated comics outside of what European publishers decide to translate and distribute overseas. Grafiksismik would not only have taken pride in seeing its work available simultaneously in English and French in Canada in the same print run, it would also have gained a lot of visibility amongst its main human resource pool and enabler hub. Pushing this idea forward would have made translation a part of the craft for any client interested in such a deal.

Second, the manga compilation (approximately the size of a small pocket novel) is an increasingly popular format in America. These black and white publications are first published in Japan on very low quality paper, which places strong limitations on the art which can viably see print. The manga compilations printed in America suffer from no such limitation. If given the chance, Grafiksismik could have provided digitally painted greyscale artwork which Japanese mangaka must forego because of the way manga are printed in Japan. Unfortunately, this format usually counts well over a hundred pages, which means the studio could not afford to develop it on its own. Although it tried, the studio was unable to convince a publisher to take the chance at reasonable cost.

4.2.8 Team: The Character-Creation-Stakeholder face

When stakeholders come together to create as a team, they need a place to do so. Workspaces were implied in the business’s name itself: Studio Grafiksismik Inc. Teams of employees and freelancers acted through a physical, material studio located in Québec City, as well as various computer mediated environments, such as web sites, forums, and FTPs. Workspaces played a critical role in the creation process. They could inspire or block an artist. The studio designed workspaces to enhance storytelling synergies. The physical, material studio played host to artists exclusively and was located in an inspiring city rich with American and European influences. The virtual studio (i.e. the combination of its website, FTPs, forum, etc.) made it possible to work with freelancers and clients worldwide. Such a virtual workplace presented some strong design limitations, too. For example, the implicit cues of body language were lost. Industry trade shows presented a way to solve the problem in a temporary fashion. The San Diego Comic Con, for example, was as essential to the studio’s workspace design as the physical studio itself. The Comic Con brought all industry players together in a four-day event counting over a hundred
thousand visitors. This was Grafiksismik’s most intense workspace, where seeds of future virtual collaborations were planted throughout its life.

A potent design opportunity lay in finding or seeding other strong teams in other hubs, around which could be grown a virtual freelance network building on Grafiksismik’s already existing workspace protocols and practices. Ideally, such studios would exist where vast untapped talent and artistic styles could be brought to the attention of US publishers. Examples included South East Asia and Eastern Europe. A string of complementary studios providing workplaces for strongly united local teams could thus tap more efficiently into talent, capital and clients worldwide thanks to a shared virtual workspace. In fact, negotiations were undertaken in this direction with a South East Asian studio quite similar in design to Grafiksismik shortly before it became clear that Grafiksismik would soon close down.

4.2.9 Community: The Character-Offer-Stakeholder face

Community is something that stakeholders can only collectively offer to one another. One business alone cannot offer this. Communities operate on the backdrop of exchange, trust, and competition. The foremost comic book community event during Grafiksismik’s life was the San Diego Comic Con, which brought almost all major North American comic book industry players together for four days, including over one hundred thousand eager fans. Another important community of which the studio was a member was the Comic Book Legal Defense Fund (CBLDF), a community fighting for comics as an art form and a media worth defending from censorship and other threats.

Community offered intriguing design opportunities, such as creating a foundation to award grants to promising local artists, which would allow the studio a first look at any up-and-coming talent; helping set up a Quebec City-based comic book festival, which could be used to network industry players as well as develop a local fan base; or participating in academic conferences on the subject of graphic storytelling through the studio’s president. However, the most far-reaching design opportunity came from the wider Québec province graphic storytellers’ community. The province was, and still is, rich with talented animation artists with a passion for comics, and many of these people came to the studio founders to express their dismay at the absence of any Québec-based animation project as motivating as what Grafiksismik seemed to be doing in comics. In other words, based on what they had seen the studio do in comics, many talented individuals wanted Grafiksismik to enter the animation industry and network them around a motivating project. Various scenarios on how this might have been achieved were being investigated shortly before Speakeasy / Hawke studio defaulted on its payments.
4.2.10 Prosperity: The Character-Creation-Offer face

Prosperity represents the sustained creation of offers which enacts character through time. It is achieved by understanding value and by acting wisely upon such knowledge. This means understanding what value the competition provides, and understanding where, when and how cooperation adds the most. In other words, prosperity comes from an understanding of what value is best provided by the business, by its allies, and by its competitors. As stated earlier, original intellectual properties were potentially the most powerful drivers of profit in comics and fiction storytelling in general – provided that stories could find their audience. Name recognition allowed artists to reach their audience much more easily, but this was not the studio’s strength. In fact, it was one of the competition’s advantages. Grafiksismik’s design called for name recognition to be grown by working on famous comic book characters with large audiences, and being good at it over a long period. This was a challenge which either required patience or a boost from cooperation: a brand could also be grown by cooperating in projects which involved well known artists who had their own fan base, from which the studio benefited by association. The studio was able to ally itself informally with one experienced writer in 2004 and 2005 but that cooperation effort did not bear its fruits in time.

The best opportunities for cooperation were with competitors from parallel industries, such as animation and video game studios, which competed for similar talent and investment, but did not compete for the same finished art offer. For all these studios, original intellectual property deployment through licensing was the true profit driver if success with an original story or character could be achieved. An interesting cooperation opportunity could be found in packaging original “pitches” with businesses specialized in other media. All media had their own networks of contacts and their own way of packaging intellectual properties into “pitches”: world, story and character development proposals to investors, publishers, distributors or production studios. The result was that each business was a master at preparing intellectual property pitches in its own industry. In essence, intellectual properties could have been pooled in a new corporate structure and pitch execution outsourced to the various studios, each mastering a different craft and a different network of contacts. Grafiksismik could thus have adapted its allies’ properties for client pitches in comics, while its own properties were adapted for client pitches in other media. Many other design variations were considered. Pooling resources was nothing new, but the key was to preserve the studio’s character while broadening its offers and capitalizing on what Grafiksismik already knew in terms of creation.
4.3 The Tetrahedron

Business design through the framework is holistic. Pôles, flows, dyads and faces are conceptually distinct for analytical purposes. Yet their usefulness can only be appreciated in how they inform the whole. That precision be lost in synthesis is unavoidable. What needs to shine through is meaning: purposeful complexity. Studio Grafiksismik, a three-year long CNNTQ certified endeavour initiated by three young entrepreneurs, created and offered comic book art production services to publishers and various other consumers of fantasy illustrations through virtual and global artistic teams of employees and freelancers as a stepping stone to the creation of original fictional worlds and characters, itself a step towards intellectual property deployment in various media.

Figure 4.5 presents this synthesis visually using the comic book industry gateway metaphor presented in Figure 3.5. The resulting revenue model sums up how the studio designed itself within the Prosperity face of its focal industry, as presented in Chapter 3.
substantial artist rates in a stable manner. Whereas numerous movie and video game studios can afford and sustain daily artist rates above 600 US $, most comic book publishers have trouble with a 150 US $ daily rate, except for Marvel and DC. In other words, by trying to grow its brand through industry servicing, Grafiksismik designed itself into a long journey across the desert, with little start-up capital and much too long feedback mechanisms for obtaining CNNTQ tax credits or judging client reliability. While not doomed from the start, the studio was as resilient as a lottery ticket: an inexpensive, short lived design in need of a comic book hit to propel it to the next level. In absence of that quick brand-defining hit, the studio stumbled and fell with the first few hurdles it faced.

Figure 4.6 presents this synthesis visually through a highly aggregated and holistic view of the key design features presented in this chapter. Character was defined by vocation; the founding entrepreneurs wanted to make a living out of comics. On one hand, had the entrepreneurs wanted to make a living out of their properties without being picky about the incubation media, other industries could have been targeted. On the other hand, with comics set in their sights, only Marvel and DC could be expected to pay rates substantial enough to support the costs inherent to doing business as a corporation rather than a loose band of freelancers.

Creation was a balancing act between costs incurred and results obtained from employees and freelancers. Finding the right balance came too late, in the summer of 2005: a core team of artists and project managers backed by a 1:6 freelancer ratio (1 core team member for every 6 freelancer). Offers were quite simply too costly to create for the contributions they reaped, and the desired hit never materialized to compensate losses. Financially reliable and healthy potential stakeholders were too few, and Grafiksismik never truly devoted the efforts needed to transform these into stakeholders. The entrepreneurial trio was not too fond of the super-hero sub-genre, which happens to be the industry’s main output, most notably coming out from Marvel and DC. By trying to find stakeholders with similar artistic affinities, Grafiksismik prevented itself from doing business with the only two stakeholders that were a fit for the incubation media it had chosen for itself.
Grafiksismik was a fiction storyteller servicing the comic book industry and planning to rely on comics as incubation media for its own properties. Grafiksismik offered fantasy line art and colors at costs too high compared to the contributions which industry stakeholders were able or willing to provide. Grafiksismik created comic book art through employees and freelancers whose costs differed substantially compared to relatively similar artistic outputs. Grafiksismik’s key target stakeholders included comic book publishers whose page rates were incompatible with the studio’s design.

**Figure 4.6 Grafiksismik Tetrahedron**

With hindsight, each pole held a potential solution hinting at radically different designs. Character could have been about fiction storytelling, whatever the media. In all likelihood, finding the wealthiest incubation media available would have yielded a sturdier design. Creation could have been conducted through the market rather than through a firm, keeping costs much lower. The studio would have become a virtual agency or a loose networked collective with no tax credits. The offers could have targeted Marvel and DC before all others. The studio would have been super-hero focused above all else, in synchronization with the industry described in Chapter 3. Key stakeholders could have been fundamentally different players, such as large corporations with a strong online presence and a taste for Web comics, charting new territory for comics.

Of course, any of these changes would have impacted on the other poles, resulting in new designs with their own strengths and weaknesses, facing their own threats, opportunities and trade-offs. None can know for sure how these would have fared over the same timeframe. The point is that the studio was far from locked into a single design, although altering key design points such as poles would have been much easier at start-up rather than during the studio’s trek across the revenue desert.
5 Industry Analysis: Québec Lumber

As explained at length in the Introduction and the Methodology, I had no prior stake in this industry or in the firm which are analysed in chapters 5 and 6. I had no significant knowledge in either – I’d even missed the lumber controversy raised in Québec by Richard Desjardins’ documentary, being in Japan at the time – and began research from scratch in spring 2006 as requested by my thesis project committee.

The choice of both industry and firm was methodologically opportunistic: My thesis director knew of two students who wanted to dig deeper into those subjects. On the industry side was a forestry engineer and MBA student who wanted to publish a paper on sawmill business models; on the other was a MBA student who had complete access to a lumber remanufacturer, being the son of its president, and who wanted to write his MBA essay about that remanufacturer. This was fresh out of my thesis project examination, and the industry-firm fit was almost too good to be true considering this was my best scenario in order to mimic the industry-firm structure I had used to talk about comics and Grafiksismik.

Now here’s the best part: these guys had studied the MBA course I was teaching with my thesis director, so the guys knew about business design and had seen the Tetrahedron. I met both and pretty soon we were crafting semantic networks for the poles. Both were writing their knowledge through the Tetrahedron’s poles, flows, dyads and faces.

The first months were thick in dialectics: me teaching about how to best leverage the Tetrahedron, them about what they saw in each element, me about how I understood what I was reading in the references and data they provided me with, them about what I was getting right and wrong, me about further points to clarify, them about experiences and contacts they could leverage, and so forth. Writing artefacts – notes, comments, sketches, semantic networks, paper drafts, and presentation drafts – were going back and forth like crazy, being transformed and improved by this constant shuffle.

My primary concern was getting answers about what made up the poles – who was this industry/firm, who was involved, what were they doing and why? – for both guys, this was a new way to approach their own knowledge and their own insights. When we drilled further down into interrelationships, some insights were new, even to them. And then we began showing that work around to strategic contacts in order to get feedback from knowledgeable experts and lay persons. For the firm analysis, the process ended in November 2007 when I handed in my research for publication in the conference.
proceedings of eBRF 2007. I received high praise from Miradas president and founding entrepreneur R. Grondin for the quality and insightfulness of the analysis. For the industry analysis, the process is still underway, much like my continuing involvement with the comic books industry. The latest attempt at opening dialogue as of this writing was to submit a working paper to the “Sommet sur l’avenir du secteur forestier québécois”, which ended up at the Consolidation roundtable. That paper focuses on sawmills rather than lumber, and discusses five business models along with strengths, weaknesses, opportunities and threats (SWOT) analyses for each. What will come of it is unknown as of this writing.

To say that I am grateful of the dialogue undertaken with these two former students would be an understatement. Chapters 5 and 6 took root in their insights before dialogue moved to other stakeholders. Both chapters are structured as the previous two: poles are examined first, followed by their interrelationships, and this is done in the third person to facilitate extraction from the thesis in order to promote future dialogue.

5.1 Design Pôles: Character, Stakeholders, Offers and Creation

Québec is a province of Canada, where the provincial government owns most of the boreal forest, a vast expense as big as Sweden and Norway combined. The lumber industry has been vital to Québec’s economic vitality for centuries, and its recent troubles have made for frequent headlines in most provincial newspapers: increased competition from abroad; unfavourable exchange rates; massive layoffs for sawmill workers; and whole regional economies threatened by these changes, where lumber is a key economic resource. This analysis limits itself to the province of Québec, which features some unique design characteristics, the main one being public ownership of the forest. The vast majority of Québec’s productive forests are publicly owned, most of which are coniferous and transformed through Timber Supply and Forest Management Agreements (hereafter TSFMAs), known in French as Contrats d’approvisionnement et d’aménagement forestiers (or CAAFs). TSFMAs secure sawmill lumber supplies in exchange of economic rents and sustainable development obligations. Private forests and deciduous forests are mostly found along the St-Lawrence River and the Outaouais River, as well as the Saguenay and Chicoutimi regions. Québec sawmills get their wood from both private and public forests.

10 Many facts relevant to this analysis are taken from the Rapport de la Commission d’étude sur la gestion de la forêt publique québécoise, also known as the Rapport Coulombe, released in 2004 by the Ministère des Ressources naturelles et de la Faune. This report is publicly available at <http://www.commission-foret.qc.ca/rapportfinal.htm> Last visited December 13th, 2007.
5.1.1 Industry Character: What is this industry?

As shown in Figure 5.1, the industry started as a means to transform forests into money. It did so not only for sawmills, but for stakeholders as a whole: government collected economic rents from sawmills, cities were built around shipyards and pulp and paper factories, farmers became lumberjacks for the winter, etc. With a seemingly infinite resource, processes were decidedly oriented downstream and production capacity went up with no ceiling in sight – more capacity equalled more lumber equalled more revenue.

As tools and processes evolved, it became clear that the resource was finite and that making money from the forests would take more than steady growth in transformation capacity. Competition from other provinces and countries pushed lumber into commoditization, with more value-added activities flowing downstream. Other uses for the forests came to vie for economic attention as well. In addition, non-economic uses became new priorities for a number of stakeholders, dislodging economic rents in favour of ecologic rents for some. This research is limited to an industry design encompassing lumber and its use as dimension or engineered wood, as distinct from ligneous fibre used for pulp and paper and lumber by-products like chips used for agglomerates and combustible.

Figure 5.1 Character of Québec’s lumber industry
The industry can currently be characterized as a mostly U.S.-oriented commodity supplier with sawmills sourced through government TSFMAs, but its position as the preferred means of converting forests into money is strongly questioned. Sawmills want to keep making money from the forest, but they are trying to shift from push to pull, improving their tools and processes while starting to compete for downstream added-value activities carried out by their own clients. In addition to vertical integration and downstream migration, horizontal consolidation through mergers, acquisitions and partnerships are deemed inevitable by most.

Looking forward, public forests become the focus of multi-purpose, ecosystemic management practices, where transforming trees into lumber is just one of many ways of making money from the forests, and where making money is just one of many objectives in forest management. Economic endeavours surrounding minerals deposits, hydrologic basins, trees, recreational activities, as well as ecological endeavours in ecosystem preservation, fire control, epidemic containment should be balanced and designed together with synergies in mind. It is within this context that sawmills hope to integrate and lead their value networks worldwide, from forest to end-users. This can only be achieved through new technology-enabled pull-oriented processes, a global mindset, and a thorough understanding of end-user needs. This future is by no means a given; competitors outside Québec may be trying to achieve the same thing; 2nd and 3rd transformation companies may be trying to become leaders of their value-adding networks; and some companies have already transformed themselves and are pushing their industry forward even today.

5.1.2 Industry Stakeholders: Who makes up this industry?

Figure 5.2 presents the individual actors who make up this industry in three broad groups\textsuperscript{11}: lumber manufacturers (“lumberers”), business facilitators (“enablers”) and lumber consumers (“clients”). Note that an individual actor may belong to more than one group depending on the offer or creation process considered. Such stakeholders increasingly use Internet to present themselves, and the growing use of information technologies to research, analyse and match end-user demand to sawmill capacity is represented as a “@” pulley system in Figure 5.2.

Lumber manufacturers include business owners, managers and employees, large, medium and small sawmills, and remanufacturers. Sawmills can carry out various tasks such as

\textsuperscript{11} All size groupings from Figure 5.1 are taken from \textit{Ressources et industries forestières: Portrait statistique Mars 2006, Ministère des Ressources naturelles et de la Faune, Direction du développement de l’industrie des produits forestiers}, a document which is regularly updated and publicly available at http://www.mrnfp.gouv.qc.ca/forets/connaissances/connaissances-statistiques.jsp, last visited December 13th, 2007.
collecting, sawing, classifying, drying and finishing lumber in accordance to various environmental forest management standards. Remanufacturers buy lumber from sawmills and add value through new cuts, grades, packaging, and so forth.

Enablers include forest owners, groups of owners, forestry service providers, local and native populations, lobbies, unions and non governmental organizations, knowledge and expertise networks, business service providers, 3rd party logistics, certifiers, and investors.

Figure 5.2 Stakeholders of Québec’s lumber industry

The Québec government is the largest forest owner of productive lands and provides leadership for most other enablers, initiating, funding and coordinating multiple initiatives, such as open industry tools and software, specific training programs, and various efforts aimed at resources valorization. Agencies and cooperatives offer various forestry services to government and private owners. Local populations are represented by regional county municipalities and regional conferences of elected representatives. Lobbies, unions and NGOs abound, notably where the environment is concerned. Knowledge and expertise networks include academia and non-academia experts from various fields. Business service providers include eBusiness solutions suppliers, legal counsel, accounting services and so forth. Third party logistics include overland and overseas transport, as well as complementary services such as just-in-time inventory management. Certifiers are
organizations which certify lumber or sawmills for various purposes. Investors include entrepreneurs, bankers, investment funds and various other organizations ready to loan or invest in the industry.

Lumber clients include brokers, retail distributors, builders, 2nd and 3rd transformation manufacturers and end users. Agents and brokers aggregate sawmill offer and lumber client demand, thus acting as information intermediaries in the absence of a commodity exchange to support the lumber trade within Québec. Some remanufacture lumber which they acquire and stock for later trade. Some online business directories offer information about industry stakeholders, while others act as agents for sawmill networks, locating clients, organizing transport and preparing market studies. Retail distributors usually have warehouses located near urban areas and ports, with retail outlets located closer to consumers. Retail distributors are not the only outlet for sawmills; some may sell directly to builders, given orders ranging in thousands of cubic meters. Builders use lumber and prefabricated systems such as roof trusses, floor systems and wall panels for construction work. Builders are increasingly interested in prefabricated systems mainly because they require less costly specialized labour in the face of growing expertise scarcity (Schuler & Adair, 2003). In addition, large American builders tend to seek as few suppliers as possible to minimize transaction costs and complexity; such suppliers may supply lumber and prefabricated systems as well as other complementary offers such as windows, doors, plumbing and so forth, making it more attractive to think of distribution channels in terms of intricate webs rather than simple chains. Second and third transformation includes roof trusses, wall panels, flooring systems, doors, windows, patios, fences, pallets, furniture and so forth, many of which are complementary to the housing market.

5.1.3 Industry Offer: Why do people and organizations get involved in this industry?

Figure 5.3 groups the industry’s key offers along stakeholder lines drawn in Figure 5.2: what the industry offers to lumberers, what it offers to enablers, and what it offers to clients. These broad offer types are subdivided in five strata. At the core are undifferentiated offers – the basics of the trade (commodity lumber, wages to workers, moneys owed to suppliers). Each layer adds a new type of value, which is intended to generate an added gain premium, either in economic or non-economic terms.

One of the key design aspects of Québec’s lumber industry is what it offers to business facilitators in general and the provincial government in particular. At its most basic level, the industry generates economic activity like any other. Unlike other industries, it generates a direct economic rent for the government through TSFMAs: the more wood is cut, the more moneys are collected. As a renewable resource, its preservation represents an
investment for future revenues. Balancing this long-term gain against short term revenues has been the object of much debate (for a recent example, see Coulombe, 2004). Beyond these opportunities for gathering economic rents lies a more potent form of gain for the government: economic development. Forestry creates jobs on scales large enough to warrant the development of remote regions. These political, social and economic gains can be counterbalanced by unsustainable harvesting practices; closing down sawmills and villages where short term gain has overshadowed long term benefits is not good news for the government. The highest form of gain is true transformation for a given region: from basic economic activity to continued prosperity reaped from a renewable resource and its various derivatives.

![diagram]

Figure 5.3 Offers from Québec’s lumber industry

The industry’s past design allowed for the development of remote regions, but fell short of sustaining their prosperity. The fact that the industry’s current design cannot reach this level of transformative offers – from momentary wealth to sustained prosperity – is a crucial point. In a nutshell, rising supply costs in getting lumber from ever farther regions in compliance to ecosystemic imperatives which imply the creation and maintenance of
road infrastructures is pushing commodity prices up. In addition, rising exchange rates with the USA, the main market on which the commodity focus was enacted, is also pushing commodity prices up. As the commodity offer no longer generates the profits it once did, sawmills start to close down. This, in itself, is not a problem if an industry has alternative jobs to offer in order to sustain the prosperity of a region. Unfortunately, this is not the case of the lumber industry. As a result, the government, a key stakeholder in the design under review, may turn to other industries which can offer sustained prosperity. This means legislative and executive attention turning away from lumber for forest valorization. In this sense, what the industry offers to end clients is the foundation upon which broader transformative offers can be built.

Another crucial design aspect is what the industry offers to lumberers after so much time and energy spent focusing on the US lumber commodity market. The current design provides salaries, jobs and careers characterized by the mastery of rules, guidelines and practices aimed at the delivery of a standard commodity (note that investors are considered to be facilitators rather than transformers). It offers little in terms of peer recognition, and that will likely remain so as long as public perception of the industry remains negative. The number of forestry graduates has been declining for some time and there is no indication that the trend is buckling based on Rapport Coulombe (2004). Offers of self-realization are even more remote, although some may exist for entrepreneurs.

From the clients' point of view, the industry traditionally offered what it was best at pushing through its value chain: undifferentiated lumber. This commodity offer has been enhanced by modest levels of differentiation, such as certified product or logistic services. The service level is the one receiving the most attention nowadays, as industry majors strive to move from push to pull by using new technologies. On one hand, the Web has so far proven to be a poor platform for the sale of traditional lumber commodities, with most transactions still conducted through phone and fax. B2C and B2B web sales which include e-payment options and shipment details for clients are limited to 2nd and 3rd transformation products like wooden toys and furniture. On the other hand, the Web has proven to be a better interface to prepare a transaction, most notably in monitoring lumber stock and availability, as well as providing a virtual workspace where businesses can potentially co-develop an offer with its clients (ex.: the online design of a pre-fabricated house, followed by a phone order). Experiential offers which, for example, could enable a family to witness the creation of its chosen prefabricated house, or transformational offers which, for example, could turn end users into advocates of the environmental benefits of lumber usage in housing construction, are still in their infancy.
5.1.4 Industry Creation: What does the industry do?

Figure 5.4 presents the industry in its wider creation context: the forest considered as a source of ligneous fibre, in abstraction of other uses such as hunting and tourism, is subject to multiple uses such as pulp, chips, panels, lumber and treated logs production. Sawmills transform logs into lumber, which may be further transformed, or used in construction by framers, builders or consumers. This value chain can operate as a push mechanism, or as a feedback pulling interface. Push is increasingly giving way to pull, as companies seek to improve production and sales through intranets and pool their tools such as resource planning and sorting machines in an attempt to plan demand and react more quickly to changes.

Most sawmills are certified to insure that the wood they transform conforms to environmental standards. Certifications found in Québec include ISO 14001, FSC, and CSA, which include rules for native population participation in strategic forest management, pristine forest conservation, etc. Sawmills are also certified to insure that the lumber they produce conforms to various qualitative and quantitative measures.
The development of a feedback pulling interface is an essential trait of the industry's envisioned design. For example, builders face increasing worker unavailability, translated into higher wages and longer delays. Prefabricated housing or prefabricated frame components constitute an increasingly attractive proposition, creating new types of demand for lumber: common dimension wood is thus transformed into ready-to-assemble jointed frames, roof trusses, wall panels, etc. These value-added products must then be moved by trucks or ships to their destination – either retail distributors or builders. Most of these value-adding transformations are currently carried out by framers who specialize in prefabricated house sub-components such as roof trusses and flooring systems.

The current design allows many intermediaries to add value and coexist. Large sawmill groups create lumber and can sell to intermediaries or builders directly. Large sawmills also create specialized lumber, sometimes in direct response to online demands. Wholesalers match sawmill inventory and capacity with downstream demand (some using past data and information systems to anticipate offer and demand), usually by phone or internet. Information intermediaries and brokers communicate lumber and sawmill availability through the Web, potentially at the expense of wholesalers and retailers, though most retailers rely on geographical proximity to reach their clients. Consolidation of capacity for sawmills, as well as consolidation of offer and demand aggregation for wholesalers, brokers and information intermediaries seems likely.

5.2 Dyads, flows and faces: design opportunities and challenges

This section looks at the interrelations between the four poles in terms of their impact on the industry's holistic design. The Tetrahedron's six dyads and their constituent flows are presented first, followed by the four faces.

5.2.1 Character-Creation dyad:
Cooperation and its Orchestration and Learning flows

The industry is currently experiencing a wave of consolidation as sawmills try to reduce costs through volume. However, upstream and/or downstream integration without horizontal network building is also possible. For example, a single sawmill can cooperate with downstream manufacturers through joint-ventures, which can be thought of as learning experiments that lower the potential costs of failure through joint orchestration. If the experiment works and develops into further cooperation endeavours downstream, a lone sawmill could potentially grow into a small, fully integrated value web. The trick is who controls orchestration in a series of interlocked organizations.
5.2.2 Character-Offer dyad: 
Competition and its Defence and Threat flows

While the province is rich with natural resources, most are transformed elsewhere. Other nations have found a better way to integrate lumber into value-added end-user offers, directly tying forests to clients – Finland is an example, as was witnessed firsthand by visits made to two Jyväskylä sawmills in September 2007. Put another way, Québec’s industry competes mostly at the commodity or goods level, with few stakeholders at the services or experiential levels. As long as it does so, Québec’s industry is prone to competition from developing countries where labour is cheap and resources plentiful, such as Argentina and Brazil. It is also prone to commercial disputes about commodity prices and subsidies such as the U.S.-Canada lumber trade row.

One possible defence is to go from offering commodities, goods and services, to offering client experiences and transformations like the Finns do. This defence strategy can be instantiated in multiple ways, most of the following being already under development: new types of certifications which promote the use of lumber as green resources; tools which facilitate the use of lumber in project management, costing and CAD; specialist training offered in major university programs. The question is how quickly this can be achieved efficiently. The race is on against foreign competitors and against commoditization of what is currently perceived as a value-added goods or products.

5.2.3 Character-Stakeholder dyad: 
Trust and its Alignment and Engagement flows

Most of Québec’s forests are owned by the provincial government on behalf of its population. TSFMAs allow sawmills to collect wood, but they also bestow sawmills with many obligations regarding forest management. Unfortunately, mistakes were made. In 1998, Québec artist Richard Desjardins produced a movie criticizing the industry and calling into question the sustainability of its forestry practices. Public outcry was strong and vocal, and the population’s trust in the industry as the preferred way to generate sustainable wealth from the forest was diminished as a result. This has had various consequences on many levels, leaving no business model untainted. Not many students want to pursue a career in unsustainable harvesting practices and public wealth ransacking, if this is the public’s perception of their activities. Industries making use of the same resources benefit from increased media coverage and public attention, making their time easier when lobbying government for favourable policies. For the lumber industry, the challenge is to show genuine alignment with the public when it comes to multi-resource eco-systemic forest management, and to engage that public in other ways than the economic. In this
sense, public relations and communications remain a major design challenge for this industry.

5.2.4 Offer-creation dyad:
Value and its Bundling and Feedback flows
Québec’s lumber industry is experiencing a wave of consolidation based on the assumption that commodity offers will yield more revenues through the bundling of more production capacity and ensuing economies of scale. Scale provides more leverage in financing certification programs, which allows lumber offers to move one step up in Figure 5.3, from commodities to goods. It also provides similar leverage in acquiring, outsourcing or developing the necessary means of bundling services with goods and products, such as financing a fleet of trucks for shipping or installing a RFID system for client inventory management.

Horizontal integration, however, does not necessarily promote innovation in the way a business operates. A network of sawmills may grow in numbers and still reap the same qualitative feedback it did before, the main change being quantitative. Without such qualitative change, sawmills aren’t tracking the evolving nature of value for their clients. The understanding of what constitutes an exceptional experience or what can actually transform a client is tied to a willingness to transform offers not only in terms of scale but also in terms of what they are. In sum, horizontal integration can enrich existing offers, but does little to help the business create new offers, unless the economies of scale it reaps are used as levers to finance business design innovation.

5.2.5 Stakeholder-Offer dyad:
Exchange and its Contribution and Gain flows
The offer’s promise of gain in return of a stakeholder contribution involves an exchange mechanism, both in material and symbolic terms. Lumber shipped outside the country must go through customs. Foreign currencies must be converted into Canadian dollars. These mechanisms are anything but simple or predictable. For example, Québec’s lumber industry is part of the larger Canadian industry, which has been stunted for many years over the U.S.-Canada trade row. The industry could have designed itself to source other countries or to offer value-added lumber not subject to U.S. anti-dumping fees, but it has instead invested its time and efforts in designing a lobbying instrument which pressured the Canadian government into fighting the U.S. rules in court battles. The trade row ended in a political settlement in spring 2006.
The point is not that the industry was right or wrong in doing what it did, but that it had design alternatives in how to use its time and money. By definition, commodities differentiate on price. If the industry is designed around a single major foreign market, it cannot offset upward tendencies in one market with downward pressures in another. Since Québec’s industry is strongly dependent on the U.S. market, U.S.-Canadian dollars fluctuations become even more important. Currency fluctuations will be a major concern as long as the industry’s design remains U.S. centric, or commodity-oriented.

Note that unlike other commodity markets, there is no lumber commodity exchange in Canada. A commodity exchange would require established norms of quantity and quality for undifferentiated lumber, with preset buyer and seller obligations to simplify and speed up exchanges. Buyers and sellers would transact through the Web, with a central compensation chamber compiling and processing exchange information before sending it back.

5.2.6 Stakeholder-Creation dyad: Web and its Role and Network flows

Information technologies were represented through a pulley metaphor in the Stakeholder pole. They have two strong design implications: how they enable information to flow upstream and downstream, and how such information can propel a local business in the global arena. First, the industry as a whole constantly creates information. The trick is to gather it and transform it into knowledge and intelligence. The Web and various other information and communication networks are tools to do just that. Sawmills and networks of sawmills which seek to design their businesses around more advanced business models will inevitably find themselves faced with Internet integration issues, which implies that industry stakeholders need to be trained to use and master this enabling technology. Québec sawmills are currently making little use of the Web beyond the eBrochure, which advertises sawmill offers but fails to provide any exchange mechanism. In a nutshell, the transition from pushing sawmill output downstream to pulling client information upstream is still in its infancy.

Second, networking on a global scale has also been slow, perhaps due to the lure of the neighbouring U.S. market. Still, Québec’s lumber industry has strong built-in design advantages: many stakeholders speak French and English and are Web savvy, and the horizontal integration currently underway may yield better tools for the conquest of global markets. It remains to be seen if such networking will be made in regard to a commodity lumber offer, or for value-added offers.
5.2.7 Craft: The Stakeholder-Creation-Offer face

Emerging trends in construction and architecture have an impact on the way lumber industry stakeholders create offers. The public’s growing ecological awareness makes environmentally friendly solutions increasingly attractive. Green housing is a growing market which could benefit all business models and alter the way the industry approaches its craft. An early indicator of this trend in the industry is lumber certification regarding sustainable forestry practices.

Through lobbying efforts, houses made entirely of wood could benefit from annual tax deductions. Promoters of this policy could thus create a new environmentally friendly niche for their products, and do a great deal of good for their public image. To boost wooden house adoption, sawmill owners and employees could become early adopters, perhaps through company reward programs. Whichever solution is favoured, the opportunity is in redesigning the craft from beginning to end to match the public’s dream of a green lumber industry. This might be the single most important challenge to tackle if the industry wants to move up its offer to the workforce and attract new talent, as shown in Figure 5.3.

Pushed further, this logic transforms Québec’s cultural outlook on its lumber industry: can it go from environmental compliance to environmental improvements? Can the craft benefit the forest and the environment to an extent which makes alternatives such as concrete and steel less appealing construction alternatives from a sustainable ecosystemic point of view?

5.2.8 Team: The Character-Creation-Stakeholder face

Certain stakeholders have more influence than others when it comes to the ongoing creation of the industry’s character. This core team has profound explicit and implicit clout, and their view of the industry slows and hastens certain changes, sometimes dependent on what other stakeholders believe this group favours (Kleiner, 2003). Who is part of this core team, and how deeply they affect it is in constant flux. The lumber industry’s current head representative was once the minister in charge of Québec’s forests for the provincial government. This means that both the largest forest owner in Québec as well as Québec’s sawmills are represented by people who are or were high ranking public officials. The result is an elite team level of veterans and trend setters which tends to look to government for solutions, at least as portrayed in mass media, from the settlement of the U.S.-Canada lumber dispute to the subsidizing of its costly horizontal integration.

As long as its homogenous team of tenors is portrayed as focusing on lobbying government for financial and legal solutions aimed at the industry’s largest corporate interests, the industry defers to the government’s influence. The result is a dialectic engaged mainly
between government and large corporations. Yet nothing in the current design prevents the industry from taking the lead when it comes to web technologies, to globalization, or to genuine multi-resource eco-systemic forestry. The government could also decentralize its decision making processes to get regional interests involved, and industry lobbies could favour diversity in opportunity valorization by letting new players enter the elite of decision makers. In fact, both these changes were suggested by the Coulombe Report.

5.2.9 Community: The Character-Offer-Stakeholder face

One of the lumber industry’s unique character traits is the geographic scope of its activities. Populations occupying the forest inevitably become stakeholders, with powerful offers like sustainable economic development and healthy environments hanging in the balance. Québec’s First Nations are communities with direct interest in the industry’s design, and this is made all the clearer by signed agreements which include forest management obligations between Québec and aboriginal representatives. Other parties involved in the larger community include environmentalists, young foresters, non-governmental organizations and private citizens like poet Richard Desjardins.

Finding a way to better integrate First Nations in the lumber industry could represent an offer of great value to Québec’s population, setting an example of wealth generated to the benefit of both populations. Certifications which integrate First Nations in forest management as well as specific government contracts granting rights untied to sawmills seem to be a step in this direction. Recent legal battles over Levasseur Island seem to point in the opposite direction. As of 2007, it remains unclear if First Nations integration is part of the industry’s evolving design.

5.2.10 Prosperity: The Character-Creation-Offer face

There seems little doubt that the industry’s sustained and profitable creation of offers stems from innovation through harnessing the potential of globalization and digitization as analysed through the poles. Globalization extends the market not only for lumber commodities, but for a wide variety of value-added offers, from goods to client transformations. Digitization allows businesses to gather information from anywhere around the globe and to react with speed and precision, whether for basic eCommerce transaction like quotes and sales or for more elaborate processes like collaborative product design and solutions development.

However, neither globalization nor digitization appears to be number one priorities. The lumber industry is still U.S. oriented, and time and resources seem to be easier spent on push-focused consolidation rather than pull-enabling technological infrastructures, with a
few exceptions. It is not that sawmills or the Québec government are against value-added offers. Both want those value-added offers to grow. The problem is what ditching the old prosperity model entails in economical and political costs, and who is willing to pay to bridge the gap. It remains unclear if large sawmill networks which have benefited from the prevalent commodity mindset are willing to pay for the industry’s transformation. Their resources might be better spent in moving their operations elsewhere. It also remains unclear how many sawmills shut downs the Québec government is ready to face; there might be more political gain in the short term by helping sawmills in difficulty rather than spending resources on the development of a push enabled infrastructure, or in helping sawmills build that infrastructure. What the analysis does show is that time will be working against most stakeholders’ interests under the current status quo, unless exchange rates plummet, U.S. demand booms and trade disputes do not make a comeback.

5.3 The Tetrahedron

To sum up, the Tetrahedron characterizes the Québec lumber industry as one entrusted with a key collective resource capable of bringing wealth to all of its stakeholders. The industry must find a way to satisfy a significant stakeholder under the guise of the provincial government if it is to preserve most of the key points of its design. Its creation endeavours are shifting from push to pull dynamics, such as improving production and inventory management, using the Web to exchange more meaningful information faster, and connecting key stakeholders in new ways. And its offers are gaining in refinement as it moves from commodities to higher levels of differentiation and personalisation.

Nevertheless, few Québec-based businesses are doing business through the more complex and value-added offers discussed above. On the average, Québec sawmills remain a conservative lot. This is not to say that no prosperity can come outside of the pull enabled design. Push oriented sawmills can thrive, but they have much less control and impact on the industry’s future design. That is because seeing businesses as industry stakeholders is only one side of the coin. If businesses have expectations about the industry, the reverse is also true. The industry can be conceptualized as a stakeholder of each of its constituent businesses, because it shares alignment in the survival and prosperity of each of them. It has its own expectations for each, in terms of character, creation, offers and stakeholders. Which ones lead the pack? Which ones set the benchmarks for creation? Which one can offer industry transformation and renewal? In what has been discussed above, the likeliest candidate is to be found orchestrating a pull enabled value web.
6 Business Analysis: Miradas

This analysis was done in parallel with the one concerning the Québec lumber industry. They informed one another, providing me two complementary standpoints, and it is through doing both at the same time that I learned many of the industry’s specialized vocabulary and key design issues.

Research included the various writing artefacts mentioned in the previous chapter – including interviews, brainstorming sessions and on-site visit reports from March through May 2006. A first draft of Miradas’ complete design was presented to its president Raymond Grondin in June 2006. His feedback and insights were collected, analyzed, and integrated into a new draft, which I presented to him again in July 2006. Though validated in all crucial aspects, new feedback and ideas were collected, analyzed and integrated for the thesis draft. Most of that original chapter was repackaged as my eBRF 2007 contribution. Feedback from prélection, eBRF 2007 and Raymond Grondin was collected, analyzed and integrated one last time to obtain this chapter.

6.1 Design Pôles: Character, Stakeholders, Offers and Creation

Miradas is made up of two distinct corporations: Produits Forestiers Miradas (hereafter PFM) and Miradas Industries (hereafter MI). While this divide may be important for financial and legal reasons, both are so intimately tied in terms of design that PFM and MI are referred together as Miradas in what follows. Miradas is a Québec lumber remanufacturer: it acquires cheap lumber of intermediate grade and cuts it into shorter segments yielding higher and intermediate grade pieces of lumber which can be sold at a profit. The poles presented here are a snapshot analysis of Miradas, from spring-summer 2006.

6.1.1 Business Character: Who is Miradas?

Miradas is an extension of its founding entrepreneur, Mr. R. Grondin, a charismatic businessman intent on seeing his company grow and prosper. There is thus a will to question what Miradas is and what it may become, as portrayed in Figure 6.1.
Inherited Past: Through work as a buyer for one of Québec’s major do-it-yourself renovation retail chains, R. Grondin accumulated knowledge about the industry, its practices and how sawmills offer and client demand influence pricing. Miradas began as an intermediary, buying low cost wood and waiting for the right moment to sell to clients with needs for guaranteed and stable supplies. A key insight was to locate locked value in how sawmills sold their wood: lumber of various grades were often lumped together as commodities and little effort was made to cut lumber according to client grade demand. An opportunity lay in deciphering industry trends and price fluctuations so as to buy cheap, intermediate grade lumber and remanufacture it to shorter lengths, yielding two parts: one at the original’s grade and one of higher grade. Also needed was a keen insight on when to sell such remanufactured goods and to whom.

Past Strategic Conceptualization: PFM started distributing lumber in Eastern Canada in 1990 to clients who needed guaranteed and stable access to supplies. This was followed in 1997 by MI, which remanufactured PFM’s lumber according to demand. Such
remanufacturing was done on an exclusive basis for PFM, with all lumber remaining PFM’s property.

*Past Tactical Instantiation:* MI was put in place to unlock value trapped within sawmill lumber, which PFM acquired while playing the market – essentially trying to speculate on offer and demand fluctuations. Miradas was thus acquiring in a push-oriented logic, filling its lumber transit yard through advantageous upstream deals, remanufacturing some of its inventory, and pushing its goods downstream to clients. Sales rose from 18 millions CAD $ in 2002 by 11% in 2003, 90% in 2004 and fell by 26% in 2005. The drop in sales between 2004 and 2005 reflects a drop in lumber prices rather than a drop in volume, which remained stable from 2004 to 2005.

*Current Strategic Conceptualization:* As of 2006, Miradas is a lumber distributor and remanufacturer for North American markets with a focus on Québec (60% of sales in 2005) and Ontario (25% of sales in 2005). Miradas mainly serves prefabricated house manufacturers, roof truss and wall panel manufacturers, wholesale distributors, wooden pallet manufacturers, and pro-builders and renovation retailer chains. Each of these markets and client types can be conceptualized as a mean to achieve durable prosperity because of the knowledge and contacts already acquired. Many of these markets and client types can also be conceptualized as a business risk because of unfavourable trends and forecasts negatively impacting past investments of time and resources. In Miradas’ case, the most significant industry transformation is that sawmills are getting better at cutting their lumber to reap the most profitable grades and lengths for their clients. Current tactical instantiation reflects which choices were made and how they now play out against these changes, while future strategic conceptualization presents which of these markets and client types Miradas intends to use as leverage for growth and prosperity.

*Current Tactical Instantiation:* PFM is currently located in Quebec City, and MI in Saint-Apollinaire, a small municipality in the Greater Quebec Area. Improvement of value creation processes will likely help Miradas reach nearly 50 millions CAD $ in revenues for 2006. This growth is accompanied by a sense of urgency and a genuine intent to change. Miradas is finding it harder to supply itself in cheap lumber with remanufacturing potential. As a result, distributors which sourced themselves at Miradas may now turn to sawmills directly. Yet distributors represented roughly half of the business’ revenues in 2005, making very clear the need to focus on a closer client relationship with prefabricated house manufacturers, one of the industry’s most promising sectors.
Envisioned Future Character: Miradas seeks to become an integrated, pull-driven value creation bridge between sawmills and builders, thus becoming an essential player in this growth sector. The key strategic issue to make this happen is to understand clients well enough to know when not to do something and stick to distribution of the sawmill’s goods, when to do something through or with someone else in a sub-contracting or joint-venture agreement, and when to do something alone, through PFM, MI or a new Miradas business unit. Put another way, as sawmills integrate parts of the value chain downstream, what should Miradas leave to others, where should it stay, and what should it integrate?

Envisioned Tactical Character: Getting answers to the questions presented above means visiting key clients. This was begun in 2005. Three client visits had taken place by summer 2006. These visits were meant to be the beginning of a larger, more structured effort to be undertaken directly by Raymond Grondin. The best tactical outlook seems to be the understanding and evaluation of complementary offers for and by prefabricated house manufacturers. An example is pre-cut lumber for roof truss assembly.

6.1.2 Business Stakeholders: Who makes up Miradas?

Figure 6.2 presents Miradas’ key stakeholders in three broad categories: staff, enablers and clients. Most crucial to its design is Raymond Grondin, founding entrepreneur, sole owner and president of the business, who has no intention of retiring anytime soon, wields absolute power over business design decisions for both PFM and MI and has a major impact on Miradas’ character. Grondin oversees the work of 10 to 12 employees at PFM and 20 to 25 employees at MI. PFM employees engage in sourcing, sales, logistics, administration and research & development activities under the supervision of a sales manager and a finance controller. MI employees engage in production and logistics activities under the supervision of a production manager. Notably absent is Grondin’s potential replacement. This represents a high risk for the organization’s continued existence should Grondin leave the business for any reason.

Most enablers are well known Québec industry players and can be divided in three broad groups. The most crucial group is made up of lumber suppliers, the vast majority of which are located in Québec, 3 % to 5 % in Ontario and the Maritime provinces, and 1 % to 2 % in Western Canada. The second group in term of design importance is made up of service providers, such as 3rd party logistics providers and transporters to move lumber where and when it matters. The third group is made up of knowledge providers. This group gains importance in Miradas’ envisioned design since it could provide key knowledge about prefabs and pull-enabling tools and processes. Knowledge providers include the Québec Industrial Research Center (CRIQ) for industry data, statistics and information; various
consultants and professors solicited for design improvements; Grondin family members; the Forintek research center for R&D, market studies and industry knowledge; Q-Web for global market trends, outlook and contacts when it comes to export; and the Forac research consortium for learning and hiring qualified recruits in forest-to-client supply chain management. Grondin family members include a professional active in the same industry, as well as Raymond Grondin’s son, a Laval University MBA student who chose Miradas as the object of various works and projects during his studies. He is the key contact who made this research possible, and did not hint at replacing his father anytime soon, if at all.

**Raymond Grondin**, founding entrepreneur, sole owner and president of the business; retirement in 20 years +; key stakeholder with absolute power over design decisions for both Miradas entities; major influence on Miradas character

**Produits Forestiers Miradas Inc.**

Sales Manager | Finance
---|---
Sales Staff | Administrative Staff

**Miradas Industries Inc.**

Production Manager | Production Staff
---|---
10 to 12 employees | 20 to 25 employees
Sourcing, sales, logistics, administration, R&D | Production, logistics

**STAKEHOLDERS**

<table>
<thead>
<tr>
<th>CLIENT type description</th>
<th>Revenue ranking and %</th>
<th>Envisioned design focus ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesalers (lumber, doors, insulation, and various other construction components)</td>
<td>1st (50 %)</td>
<td>4th</td>
</tr>
<tr>
<td>Wall panels and roof trusses manufacturers (walls and roof systems sold to builders)</td>
<td>2nd (20 %)</td>
<td>2nd</td>
</tr>
<tr>
<td>Palette manufacturers (clients for low grade lumber)</td>
<td>3rd (10 %)</td>
<td>5th</td>
</tr>
<tr>
<td>Prefabricated house manufacturers (turn key houses with on-site assembly)</td>
<td>4th (10 %)</td>
<td>1st</td>
</tr>
<tr>
<td>Pro-builders &amp; do-it-yourself renovation retailer chains (buy &amp; ship to local outlet / regional hub)</td>
<td>5th (10 %)</td>
<td>3rd</td>
</tr>
</tbody>
</table>

**Figure 6.2 Miradas Stakeholders Pole**

Miradas’ clients can be divided into five types. Wholesalers distribute lumber, doors, insulation, and various other construction components to manufacturers and retailer chains. Wall panel and roof truss manufacturers sell wall and roof systems to builders. Pallet manufacturers buy low grade lumber for the goods they produce. Prefabricated house manufacturers (or prefabs) produce turnkey houses for on-site assembly. Pro-builder and
do-it-yourself renovation retailer chains buy and ship lumber to local outlets or regional hubs which supply these outlets.

Each of these five client types has its own set of specific expectations. For example, prefabs try to do more stable business with fewer suppliers than other client types, in an effort to lower the sourcing complexity and insure the constant availability of all components required to build their houses. Each of these five client types also has its own importance in terms of revenues, as shown in Figure 6.2. The point is that some clients have more clout than others, accelerating or slowing down envisioned changes. The clearest example is the shift which Miradas hopes to operate with wholesalers and prefabs in terms of revenue generation. While Miradas will not turn away good customers, it will emphasize prefab outreach and business development to guide its future growth. The logic behind this shift is presented in the previous section: wholesalers are likely to become more fickle and source directly with sawmills, while at the same time slowing Miradas’ efforts to develop a pull-enabled value network with stakeholders closer to the end user.

6.1.3 Business Offer: Why do people and organizations get involved with Miradas?

The Offer pole is presented in Figure 6.3. Miradas lacks the scale to offer investment value through an initial public offering. Similarly, it can neither offer development to research groups of which it is a member (ex.: through a Research Chair) nor can it sustain enabler prosperity on its own. What it can offer is worry free billing and stable revenues for the enablers it does business with. Miradas’ design of offers to employees is nearly as simple. It does not offer any outstanding career opportunity, since most major responsibilities ultimately converge upon the person of R. Grondin., nor does it offer peer recognition, since neither the business nor the industry stand out as community darlings. What is offered are competitive wages and stable jobs in an industry which has low educational requirements. For R. Grondin, it offers wealth and entrepreneurial self-realization.

For clients, the offer design is more nuanced. At the commodity level, Miradas offers dimensional lumber (2x3 to 2x10 square inches at lengths of 2 to 16 feet) of various grades. Lumber measuring under 2 feet as a result of the remanufacturing process is transformed into wood chips. The key business design insight is that this commodity offer faces steep global competition and does not provide Miradas with growth opportunities. In fact, MI’s three production lines currently run below full capacity.

At the products level, Miradas offers a stable portfolio of lumber goods, including premium grades, thanks to its back-to-back transit inventory as well as its remanufacturing
capabilities. Back-to-back transit inventory describes lumber which enters Miradas' lumber yard without going through its remanufacturing mill before being sent out to buyers. Adding distinctive and uncommon custom lumber cuts to the portfolio is currently being considered to help differentiate the offer further.

Figure 6.3 Miradas Offer Pole

At the services level, many options are under consideration such as client inventory management, just-in-time shipping, and custom cuts for roof, wall or floor system assembly. All of these services have the perceived potential to add value to customers and reflect new industry trends, tools and practices. But none of these result from structured and significant client interviews and visits. In essence, creating these offers is possible, but may not fit with the clients Miradas' envisioned strategy is targeting, thus taking away precious resources and mindshare if pursued. In business design terms, Miradas is still in the dark about what to do for this level of client offers and will likely remain so until R. Grondin visits more of his peers.
At the experiential level, Miradas is considering turnkey solutions which would bring more value to clients than their own internal lumber sourcing and cutting processes. Here too, Miradas is planning to get an inside look at clients to better understand them. Critical to the process is for R. Grondin to meet with presidents rather than buyers or production managers who might feel threatened by such an offer. What is already known is that for such experiential offers to succeed, Miradas would need to respond to emergencies faster and better than the manufacturer’s own response mechanism, which has significant design implications for the Creation pole. There is currently no offer at the transformational level, since Miradas is itself engaged in a profound transformation and has yet to figure out which is the best way to go.

6.1.4 Business Creation: What does Miradas do?
As shown in Figure 6.4, Miradas orchestrates creation around PFM and MI.

![Figure 6.4 Miradas Creation Pole](Image)
PFM mainly creates in the intangible: knowledge, contacts, estimates about demand and offer and so forth. MI mainly deals with the tangible: inventories, lumber cuts and grading, packaging and so forth. These are not absolutes; PFM has tangible offices and MI generates intangible knowledge about its craft, but the point is that creation has been purposefully segmented in two distinct approaches for two distinct entities in two different locations so as to insulate one from the other in terms of cost and profit. Both are currently profit centers. There are three ways to trigger the system into action. First, PFM solicits suppliers for quotes in order to invest in cheap lumber which it hopes to later sell at a higher price, either remanufactured or unaltered. Second, PFM solicits suppliers for quotes on a client’s behalf, such as a prefab manufacturer, a distributor or a components manufacturer, either as a result of a sale or a prospective sale. Third, suppliers contact PFM to sell lumber with which they wish to depart. In no case is MI an initiator. It acts solely in response to PFM demands.

Grey boxes in Figure 6.4 represent stakeholders lying outside Miradas’ direct sphere of control. Arrows represent resource flows, such as information, money and lumber. The gist of the creation pole lies in the four vertically aligned white boxes. PFM develops the business, such as acquiring supplies, nurturing sales and orchestrating lumber transport logistics. It administrates itself and creates the appropriate finance mechanisms to insulate the business from currency fluctuations. It also acquires knowledge about its industry, an activity which receives a lot of attention from R. Grondin, who seeks to create the proper knowledge acquisition mechanisms to achieve Miradas’ envisioned strategic future.

Either as a result of client requests or supplier offers, or by its own initiative, PFM asks for supplier quotes, scans foremost industry price listings and puts to good use its supplier contacts in order to locate deals and opportunities. Suppliers ship lumber to MI’s transit yard or to clients directly in a back-to-back deal. Once in MI’s yard, lumber either sits in inventory as an investment for future demand, or is remanufactured to extract more value. MI can transform 2x3 to 2x10 square inches lumber from 16 to 2 feet on three independent production lines. For example, an 8’ long economy grade 2x6 can be cut in a 5-foot stud plus a 3-foot economy grade piece where the weaknesses, damages or imperfections of the original have been isolated on the shorter length of lumber, or completely removed and transformed into wood chips. Two MI remanufacturing lines are presented in Figure 6.4’s zoom box.

These creation processes have been implemented in a push mindset: MI merely responds to PFM, which itself can only try to “guesstimate” future supply and demand. In essence, most tools and processes needed to make the shift from a push to a pull philosophy are yet
to be created within Miradas. The first step currently undertaken is to create the contacts necessary to grow a network of trustworthy partners. Such partners would generate knowledge about what to expect from a pull enabled value network, thus lowering the risks associated with the creation of new tools and processes. As of 2006, the best potential type of partners seems to be prefabs, though much more work needs to be done to grow wise about this industry segment and how to best go forward.

6.2 Dyads, flows and faces: design choices and trade-offs

This section looks at the interrelations between the four poles in terms of their impact on the holistic design of Miradas. The Tetrahedron’s six dyads and their constituent flows are presented first, followed by the four faces.

6.2.1 Character-Stakeholder dyad:
Trust and its Alignment and Engagement flows

A basic challenge posed by the envisioned design is to foster trust between Miradas and one or more prefabs to validate and achieve its envisioned character. Identifying, engaging – and perhaps internalizing – these potential business stakeholders are tasks which only R. Grondin can currently assume. Unfortunately, the current system is already vying for his complete attention. In all likelihood, R. Grondin will need to engage some individual stakeholders at an internal level. How to entice talented personnel to come onboard and how to convince prefabricated housing stakeholders to become key Miradas stakeholders is the corollary to meaningful identification; these potential stakeholders must have faith that Miradas can indeed bridge the gap between its current and envisioned designs.

6.2.2 Offer-Creation dyad:
Value and its Bundling and Feedback flows

Miradas is considering multiple options to identify and engage prefabs, but none is an obvious fit with cheap implementation try out costs. Custom cuts, pre-cut kits for wall, roof and floor systems, client inventory management and just-in-time delivery, and so forth, are products and services which require new tools and training. In addition, value might lie in a specific portfolio of offers rather than a specific service or product, raising the cost and risks of trial by error. This analysis reveals the need for a value discovery process to be put in place – Miradas has yet to learn what constitutes value to the stakeholders it sees as most important to its future. Note that enhanced offers for enablers and employees do not seem to be on the radar, which leaves a question open as to who may come onboard to help R. Grondin internally.
6.2.3 Stakeholder-Creation dyad: 
Web and its Role and Network flows

As stated earlier, sawmills are starting to integrate downstream operations, such as lumber grade optimization and remanufacturing. Miradas is looking to apply the same logic by getting closer to its clients such as prefabs. Miradas hopes to count on MI to provide gain to clients directly instead of doing so behind PFM’s veil. The upcoming design will likely mesh MI and client processes together. Knowing what to do alone, what to do with others, and what to leave to others constitutes valuable insights. Put another way: which web is most important to weave with which stakeholders to shift from push to pull with a prefab client focus? The challenge is to make MI’s downstream integration as seamless as possible. However, prefabs use proprietary software from metallic joints manufacturers to create bill of materials necessary for specific house and truss plans, and Miradas currently has no experience in dealing with such software. In addition, the major joint manufacturers have incompatible standards and wield great control over who can sell their software in which territory. There are strong compatibility issues to be worked out before MI can hope to offer downstream integration to clients in a compelling manner. Other contemplated options in web weaving which do not focus on downstream integration include selling complementary construction materials, acquiring a complementary business, and even upstream integration like acquiring a small sawmill, all of which are contingent to what preferred stakeholders actually value most.

6.2.4 Stakeholder-Offer dyad: 
Exchange and its Contribution and Gain flows

One of Miradas’ strongest design features is its mastery of lumber and monetary exchange flows. In conceptual terms, Miradas converts money into lumber and vice versa as supply and demand make most profitable. This is PFM’s main activity, while MI’s main task is to unlock even more value from PFM’s lumber. Miradas thus treats monetary flows as a productivity asset with its own correctives and defense mechanisms. One problem is that supply is growing scarce as sawmills copy and integrate MI’s activities into their own creation poles. Another problem is a fluctuating exchange rate with the USA. Yet another problem is commodity lumber’s tendency to ignite trading rows at the border. An evolution of offers to higher levels of personalization and differentiation for Québec prefabs solves two of these three problems: the offer is no longer a commodity product, and sourcing no longer requires lumber that holds potential for re-manufacturing activities. The problem of exchange rate fluctuations, while avoided with Canadian clients, remains there since it influences demand for Canadian prefab houses.
6.2.5 Character-Creation dyad:  
Cooperation and its Orchestration and Learning flows

Cooperation between PFM and MI is a basic design feature of Miradas, but it remains a rather simple affair since MI does business exclusively with PFM. Put another way, such cooperation has not necessarily resulted in the development of strong network management competencies. Miradas may have an opportunity to grow into a network, but may not have the expertise to do so.

6.2.6 Character-Offer dyad:  
Competition and its Defence and Threat flows

As stated earlier, sawmills are starting to integrate downstream operations, such as lumber grade optimization and remanufacturing. Miradas’ niche and supplies are vanishing. Miradas is considering a similar downstream integration opportunity with prefabs. In downstream integration, the client’s own lumber transformation unit is Miradas’ main competitor, and its response time in crisis situations is the one to beat – Miradas must do better than the client’s own internal processes. This is one of the main reasons why Grondin seeks to meet with prefab presidents rather than production managers: Miradas’ competitors are the experts who currently serve its potential clients from within.

6.2.7 Craft: The Stakeholder-Creation-Offer face

The craft of lumber production is changing. A big challenge faced by sawmills as well as Miradas is the introduction of information technologies and the resulting potential for pull-enabled value webs. As discussed above, the envisioned strategic future of Miradas calls for prefab production expertise, but it also calls for information technology mastery. The craft of lumber production remains, but a new craft enters the design: that of knowledge producer. Carefully targeted hiring decisions are likely to be necessary sooner than later in order to adapt creation processes to the new offer portfolio being considered.

6.2.8 Team: The Character-Creation-Stakeholder face

Looking inward, a capable core team with the will and talent to pull off the envisioned transformation is perhaps the most glaring missing piece in this design. For all intents and purpose, this is essentially a one-man show in the person of R. Grondin at the strategic level. What might be R. Grondin’s most valuable contribution to Miradas is to grow a small but capable core team of experts for his first local trial-by-error experiment.

Looking outward, both Miradas and the sawmill industry are striving for pull-driven value webs as a mean to emancipate themselves from the commodity trap. Miradas is not going against the grain of industry trends. Nor is it trying to leave the industry; Miradas seeks to
transform itself within Québec, and its focus on prefabricated housing is more a new focus on a different set of stakeholders than a radical shift about which industry it designs its future self. However, tensions with creation issues seem likely. Who will orchestrate these new pull-driven value webs is still uncertain. As much as business and industry character fit seems pregnant with cooperation opportunities, it does little to diminish apprehensions and fears about who will orchestrate creation in the coming years. Miradas’ intent to innovate is adecuated with an intent to be part of the industry’s next core team, which is to say those few stakeholders with enough clout to influence industry character and creation in the future. Miradas is thus faced with a profound dilemma. Who are tomorrow’s best industry stakeholders, and how to team up with them?

6.2.9 Community: The Character-Offer-Stakeholder face

Community is something that stakeholders can only collectively offer to one another, such as events which bring most key industry stakeholders together. Miradas has a potential opportunity in the fact that the entire lumber industry is trying to grow out of the commodity business into more value-added offers, such as prefabricated housing. With the need for change being felt by the entire community, Miradas might find that it can seed initiatives more easily. The timing might be right for Miradas to take an active role in network weaving. Note that no trade show or event was identified as the one key extravaganza which no one in the prefab industry wants to miss.

6.2.10 Prosperity: The Character-Creation-Offer face

PFM and MI are currently both profitable, but MI’s days may be numbered. Miradas could likely endure as a simple distributor, selling or closing MI to preserve PFM as sawmills integrate most of MI’s current activities. This is not the course of action envisioned. The gist of the problem facing Miradas with downstream integration is to understand what value is best provided by whom in a pull-enabled value web operations shuffle; in other words, who would do what best in the new networked organization envisioned. Miradas faces two possibilities. First, it can prosper from its new operational tasks. Second, it can prosper from value web orchestration. Prospering from new operational tasks is a relatively modest undertaking when compared to the latter; it preserves its current scope as one of many industry suppliers to prefabs, albeit a more specialized one than others. Prospering from value web orchestration is fundamentally different.

Value web orchestration would require first a successful local trial-by-error Miradas-prefab integration, then leading to a scale up to provincial, national, and international markets. In essence, an envisioned design would be for Miradas to become the very best prefabricated house manufacturer supplier, initially focused on lumber and Québec, but gradually
opening up to any components likely to figure on a prefab’s bill of materials anywhere worldwide. This seems almost too bold to be considered seriously, but the fact is that most industries do have orchestrators who set the tone for industry practices and prosper substantially from their position within the network. For prefabs, metallic joint manufacturers seem to be in the lead through the proprietary software they distribute to help design house systems such as walls, roofs and floors. This turn of events was not a given, and in fact, metallic joint manufacturers do not hold such a strategic position in Europe’s prefab industry. No one can predict with certainty which businesses will orchestrate tomorrow’s prefab value webs.

6.3 The Tetrahedron

This analytical snapshot of Miradas spanned three months. It reveals a business with enough character to seriously consider a profound overhaul of its offers and creation processes, getting ready to leave commodity remanufacturing to sawmills, and eager to know more about who it views as its most promising stakeholders – prefabricated house manufacturers – in the hope of finding good business opportunities hidden in how they source and transform lumber for their own purposes. In other words, Miradas no longer wishes to conceptualize itself only as part of the lumber industry, but rather also as part of the prefabricated housing industry. In turn, this can only be achieved by understanding how it manages its current dialectic with the lumber industry so as to leverage key interrelationships to bridge the gap to the industry it seeks to engage in the future. Without strong analytical footing about itself and the larger system which currently sustains it, moves to bridge the gap are rooted in intuition, which may or may not be enough to survive and enact the envisioned design.

To this author, the two most salient features are Raymond Grondin’s powerful hold on the Character pole and the ambitiousness of the change considered for the Offers pole, moving from a commodity based lumber offer to an experiential one for prefabs. The amount of change and knowledge required, and the potentialities they unlock if successful, seem almost too great to be properly leveraged by one man. Only Raymond Grondin can know for sure.
Conclusion

In this thesis I’ve set out to do two things: to contribute something original to social scientific discourse and to do so in a way which conforms to what constitutes scientific discourse. The original part is how I answer the research question I posed at the beginning: “how to better represent business endeavours holistically for analytical purposes?” My original answer-meme is the Tetrahedron. The conformist part is how I arrived at the answer. The Tetrahedron is the result of a discourse between lay and expert practices which I have presented through an analytical autoethnography of my life as artist-entrepreneur-researcher. This analytic autoethnography had to fulfill five criteria (Anderson, 2006):

“(1) complete member researcher (CMR), (2) analytic reflexivity, (3) narrative visibility of the researcher’s self, (4) dialogue with informants beyond the self, and (5) commitment to theoretical analysis.”

All of these criteria have been fulfilled through writing as a mode of inquiry: analytic reflexivity through seven years of writing; narrative visibility of the self throughout this thesis, toned down where it makes more sense to switch from first-person to third-person writing to promote further dialogue as stated in such cases; dialogue with informants beyond the self through countless writing artifacts including this thesis as a whole or as modular parts; and commitment to theoretical analysis throughout my writing. Only CMR raised some questions regarding the two chapters which were added as a result of thesis committee feedback in 2006. Those doubts were addressed transparently: I have included those two chapters because I believe they contribute something meaningful to the Tetrahedron. First, the Tetrahedron is independent from the autoethnography which gave it birth. Second, the Tetrahedron’s ability to scope to various levels of analysis is powerful: there is something to be gained by using a common conceptual language to look at systems within systems, and this is shown twice, once as an autoethnography, and once as a pair of case studies, which is the likeliest scenario for other researchers considering the use of the Tetrahedron for business design analysis.

This thesis is the culminating point of my autoethnographic writings. This mode of inquiry has its own set of criteria (Richardson & St. Pierre, 2005):

“1. Substantive contribution. Does this piece contribute to our understanding of social life? Does the writer demonstrate a deeply grounded (if embedded) social scientific perspective? Does this piece seem “true” – a credible account of a cultural, social, individual, or communal sense of the “real”? [...]”

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2. Aesthetic merit. Rather than reducing standards, another standard is added. Does this piece succeed aesthetically? Does the use of creative analytical practices open up the text and invite interpretive responses? Is the text artistically shaped, satisfying, complex, and not boring?

3. Reflexivity. How has the author’s subjectivity been both a producer and a product of this text? Is there adequate self-awareness and self-exposure for the reader to make judgments about the point of view? Does the author hold himself or herself accountable to the standards of knowing and telling of the people he or she has studied?

4. Impact. Does this piece affect me emotionally or intellectually? Does it generate new questions or move me to write? Does it move me to try new research practices or move me to action?”

As stated in the introduction, these are questions only you, the reader, can answer. For readers who may be considering autoethnography for their own research endeavours, here is a summary of my answers as reader of my own writings: This thesis holds many substantive contributions, the top three being the analytic autoethnography as a whole, the Tetrahedron as a business design framework that can hold its own in rough waters, and the comic book / Grafiksismik analyses which answer my passions. I think the thesis does have artistic merit – I’ve never read anything like it in Business School, and it is certainly more inspiring than the dry third person draft it was prior to prélecture. I believe it is as reflexive as I could possibly make it without going into full autobiographical mode. And I believe it has impact, enough to fuel the fires of a fulfilling academic career.

Let me add that analytic autoethnography through writing as method of inquiry is something of an added bonus here, at least for me. I stated in the introduction that I had misgivings about how social science was conducted. Those misgivings translated in an awkward methodology until prélecture feedback in July 2007, during which time I tried to conform to what I perceived to be the main scientific methods of discourse around me (highly quantitative, hypothesis-driven and esoteric) and what I felt I had to do to fulfill my own quest for knowledge and wisdom. When I read about autoethnography and writing in the 2005 SAGE Handbook of Qualitative Research, as well as discursive science in Delanty’s 2005 Social Science in the second half of 2007, I felt liberated.

The Tetrahedron is starting to fulfill the three research objectives I had set out to reach: entice selection in scientific and, eventually, lay circles; prosper through variation; and promote faithful retention. It is beginning because, let’s be honest, the Tetrahedron has had minimal exposure and doesn’t emanate from a renowned business guru. In fact, I don’t think it will truly fulfill the selection criteria before it is made more attractive to lay discourse. Variation has begun through the four analyses provided here and various student works to which I have been privy to: endeavours which are different in size, different in
timescale, and different in intent. But we’re talking about a few dozen analyses at most as of 2007. Retention seems on track, too: students usually have no trouble remembering the four poles faithfully. Flows, dyads and faces are another matter, but most students do retain that all of these are interrelations between the poles, which form a tetrahedron. Again, a more compelling and attractive interface might help.

Before I conclude on what will likely follow this thesis, let me recap what the Tetrahedron can and can’t do. The Tetrahedron can represent knowledge holistically and without hierarchy, centricity and recipe thinking of any kind, although it does not exclude such potential. Why is that good? It is good because it allows the mind’s eye to look at design features which would otherwise fall outside the boundaries of a given hierarchy, centricity or recipe. Whether such knowledge proves to be useful is another question, but it is nice to have the option to discard information rather than to be forced to put up with blind spots. Of course, this always depends on what insight is sought. If someone wants to look at employees or clients or investors exclusively, some blind spots may be tolerable or even warranted for simplicity’s sake.

The Tetrahedron can also represent knowledge by using aesthetics which make the Gestalt of business design easier to grasp and remember. In terms of theory, linking all conceptual insights to four simple poles and their various interrelations is crucial to gain scope without having to resort to multiple frameworks. In terms of action, the four poles provide the analytical foundations from which a deeper exploration may be conducted through concepts represented as flows, dyads, and faces. In sum, the Tetrahedron can:

1- Help to represent granular as well as holistic knowledge about vast or small business systems;
2- Help to unearth implicit knowledge by explicitly representing and conceptually positioning twenty-six design elements;
3- Help to structure and anchor knowledge around four key ideas and the interrelations which they share;
4- Help to contextualize knowledge in terms of dialectics between systems of different scale – between industry and firm, for example;
5- Help to understand, analyze, synthesize and diagnose a past or current endeavour;
6- Help to conceive, plan and design an envisioned endeavour;
7- Help to communicate, share and discuss knowledge about a given design;
8- Help to adjust, improve or transform a business design by thinking holistically;
9- Help to engage in business design innovation.
But, though it can be used to synthesize knowledge and facilitate the sense-making exercise inherent to business design, the Tetrahedron can’t simplify complex systems; it can’t render business risk free. However valuable the knowledge represented, however clever the representation, and however brilliant the design, there will always be some risk. What the Tetrahedron can hopefully do is give a measure of that risk so that people may be better prepared to face it.

The Tetrahedron can serve as the basis for devising tools to create or alter a design, but does not constitute such a tool. For example, the Tetrahedron can be used to inform strategic planning, but should not be confused with strategy itself. The Tetrahedron can be used to represent a conceptual gap between current and future designs, but its core purpose is not to provide the means to bridge the gap; its core purpose is to represent the gap as best as possible, in all its holistic complexity.

The Tetrahedron is also limited by its generic nature. Without the benefit of embedded cultural and industry-specific terminologies and nomenclatures, using the Tetrahedron requires that concepts native to an industry or culture be understood as part of the broader concepts represented here as poles, flows, dyads and faces. This exercise is neither easy nor benign. It requires effort which less complete but more contextualized frameworks may spare. It also runs the risk of misattribution, conceptualizing endeavour specificities under poorly interpreted poles, flows, dyads and faces. Unfortunately, this problem has no solution; one cannot hope to version the Tetrahedron’s twenty-six elements to every culture, industry, firm or business unit that exists. The effort must rest on the shoulders of he or she who elects to use the Tetrahedron.

The Tetrahedron is also limited in intent: it is a business design framework. As such, it is aimed at an audience which cares about business design and holistic systems thinking. My initial intent was to make it as universal as possible when considering the spectrum of endeavours it can tackle, but that doesn’t mean it will appeal to every stakeholder of every endeavour that comes under analysis. This ties into the limits of which informants can provide which types of data to the researcher: who can provide a holistic view of an endeavour’s design? Who has motivation to build such a view? My point is that the researcher aggregates fragmented standpoints, and only a few stakeholders will hold holistic designs as their analytic standpoints. For these few, the Tetrahedron can be conducive to discursive science. For the others, discursive science may hold little interest, and I make no claim that the Tetrahedron will enliven that interest.
Finally, the Tetrahedron is a superior answer-meme to the research question when one considers what has come before, but it is still a dynamic beast, prodded and tested through ongoing dialogues with peers. Hopefully, someone, somewhere, at some point, will come along with a better answer. And hopefully, someone, somewhere, at some point, through these better answers, will be able to bring new insights to big long-standing questions like why a few endeavours succeed phenomenally well above all others, or why we can’t seem to predict or replicate these successes easily.

What next?

Conduct case studies and push the variation envelope? The Tetrahedron can serve as the conceptual foundation of endless case studies, perhaps even outside the domain of business for which it was initially devised. It would be very interesting to see if the Tetrahedron can be used to describe any collective endeavour, and what it lacks if the answer is no. What lies at the root of collective efforts, what overlaps with the business concepts presented in the Tetrahedron, and what does not? One avenue which has appeal to me is academia as a system, since I already have CMR status as student. If I achieve CMR status as a scientist through this thesis, it is a long-term research I am most likely to undertake as a reflexive enterprise on my own practice.

Look for a better way to represent complex business systems and push the selection and retention envelopes? Perhaps simpler frameworks which fit specific cultural or industrial settings might be explored together – perhaps a highly modular solution could be found, such as numerous contextualized frameworks based on a single generic framework. Perhaps this be could be accomplished through the Tetrahedron.

Find alternative uses for the Tetrahedron? For example, client expectations can be mapped over the interrelations linking the stakeholder pole to the other poles to identify key business design innovation opportunities (Montreuil & Caisse, 2007). This could likely be done for numerous other families of concepts, such as processes, with four sub-process categories related to each poles, and so forth. The point would be to see how a given body of knowledge connects to business design in great conceptual depth. Linking the Tetrahedron and business design to business modeling and simulations is another research opportunity which might produce interesting insight. Could scenarios be modeled and simulated to weed out poor designs? How much complexity is too little or too much for such an exercise?

Track and compare framework usage? For example, how do the frameworks presented in Chapter 1 fare in actual use? How do users judge their strength and weaknesses? Why do
they choose one over another? This could provide a documented framework portfolio based on various usage criteria, although such questions are likely related to aesthetics and guru clout, and might have more to do with how frameworks are marketed than how we can improve frameworks. How people use frameworks and represent knowledge, inside and outside business, are other topics of interest.

These are all interesting answers for what might come next, but most feedback I’ve received since 2002, from lay and expert audiences alike, points in the same direction: what could and should be improved first is the Tetrahedron’s usability. Put another way, the Tetrahedron should make the design process more meaningful and easier to conduct, whether it is about design creation, analysis, merger, transfer, improvement, innovation, and so forth. For example, where do design elements proposed by famous business gurus fit in? What about common trade tools, like common business ratios? How does one represent things like cooperation or community? And how does one connect financial scenarios to the Tetrahedron? In essence, couldn’t the Tetrahedron be accompanied by a step-by-step instruction manual filled with semantic network templates and examples to make things easier?

The polar templates provide a glimpse of things to come; there is no doubt that the thesis would have been harder to follow without the benefit of these recurring generic semantic networks. Such templates could be crafted for all flows, dyads and faces, integrating knowledge from more common ones, including trade metrics and ratios, and thus making their use more intuitive. Each template, however, requires a lot of research to come to fruition. The four semantic networks presented here were not arrived at by chance and were reworked many times based on eBRF, executive, entrepreneur and student feedback. These templates are also grounded in theory. For example, the Character template is a meshing of Collins and Porras’ yin-yang metaphor (1994) combined with Normann’s Crane framework (2001). Such conceptual synergies are not always obvious, but they need to be found in order for a template to truly enhance usability.

But usability might refer to something more. Let me break this down into three points: usefulness, validity and operability.

1- Usefulness: It is easier to transform a generic framework into a specialized one. The ontology can be tailor-made to the case and relationships can be simplified. In a nutshell, a lot of the vagueness and complexity essential to the generic can be done away with for the specialized. For someone involved in that specialized arena, such a tailor-made framework takes less of a learning curve to use and is likely easier to
remember. But crafting the generic from the specialized means uncovering vast amounts of implicit assumptions about how systems work. The risk of mislabeling elements and relationships is very important. For the purpose of this thesis, it was important to craft something generic and have free reigns to move into specialized domains, rather than the other way around. Yet doing so arguably makes the Tetrahedron harder to use. To gain in usefulness, the Tetrahedron could potentially benefit from some centricity and specialized vocabulary. This is something to be done on a case by case basis, after the thesis, if needed only. At this point in time, I still do not see why I would want to tweak a generic framework to fit a specific case, simply because I think the risks of ignoring an important insight is too great. For example, replacing “stakeholders” with “customers” certainly simplifies analyses, but probably hurts the analysis too. Still, I can see why some folks would want a more specialized, centric, normative framework for enhanced usefulness, though I’m not one of them.

2- Validity: The Tetrahedron has already been validated through two pairs of firm-industry cases in Chapters 3, 4, 5 and 6. It has also been validated through the criteria presented here: selection, variation and retention. Simply running the Tetrahedron through new cases won’t accomplish much more. Further empirical investigation can add value if conducted under a different light. For example, a graduate from Laval University’s new economy enterprise design course is using the Tetrahedron to design a start-up from scratch. The evolving use and output of that work may yield interesting results. Other means of gaining validity might involve opening up dialogue with experts and gurus of the field.

3- Operability: As shown in Chapters 3, 4, 5 and 6, the Tetrahedron is already operable in broad strokes through the poles and faces as well as in detailed analysis through the more granular views of dyads and flows, and at various depth of analysis for each of these elements. It has been shown to be operable at various scopes, from industry to firms, and in subjects as varied as natural resources and entertainment. I’ve talked about developing twenty-two new templates for the Tetrahedron, to make it easier to learn and fill with insights. But more templates might just bring incremental gains. But what if the Tetrahedron could be layered with knowledge, much like Google Earth’s information-layered Earth? For example, all individual stakeholders could be linked to character, offers and creation activities through data synthesized by color coding and weighted for importance. What if a design could truly be gleaned at a glance from various searchable points of view?
The one thing which still bugs me after working on the Tetrahedron for nearly seven years is the interface. The amount of knowledge created in administrative sciences is staggering. Quantity of knowledge is not an issue. Holistic thinking and synthesis is harder to come by; the problem is how to represent systems. Peter Senge dealt with the subject by proposing circles and arrows as complementary tools to the written form (1990). Ratios and mathematical representations are also part of this. But we’re still bound to reports or Powerpoint presentations. Even the Tetrahedron is trapped on the page.

Let me make this as clear as possible: I love books. I carry a leather and copper bound grimoire around with me most of the time for taking personal notes and doodling sketches. I hope to see the Book of Kells and St-John’s University new illuminated Bible with my own eyes someday. Nothing can replace books. But lots of things can complement them. I keep thinking how video game producers were called on to design cockpit interfaces for the latest U.S. fighter planes. Game makers are at the forefront of getting folks to interact intuitively with complex systems. What can be learned from them?

I think a bunch of great questions and highly relevant answers wait in that direction, in searching for usability as a catalyst for discursive science: usability of what expert systems have to say in response to problems formulated by lay systems. My problem right now is lack of expertise in using the tools which enable the creation of compelling interfaces. As of 2007, it means software like Flash and various 3D tools for the Web. Such knowledge is crucial, because it allows to know what can and cannot be achieved, and at what expense of which resources. Because of that, I think I am probably only seeing the tip of the iceberg in term of issues and relevant questions.

In a nutshell, I think a discursive science owes it to itself to explore as many means of dialogue as possible. This is certainly something I would like to explore further.

Go grab those runes.
Mediagraphy


Useem, J. 2001. And Then, Just When You Thought the “New Economy” Was Dead… *Business 2.0*, vol. 2, n° 7, 68


