

Business Design: The Case of a Digital Art Studio

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Business Design: The Case of a Digital Art Studio

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Abstract

This paper presents the authors' tetrahedral business design framework, situates it in relation to other frameworks found in the literature, and updates it following a twenty-one month action research conducted in a start-up digital art studio. The framework's four poles (Character, Creation, Offer, Stakeholder), twelve flows (Alignment, Bundling, Contribution, Defense, Engagement, Feedback, Gain, Learning, Network, Orchestration, Role, and Threat), six dyads (Competition, Cooperation, Exchange, Trust, Value, and Web) and four faces (Community, Craft, Prosperity, and Team) are used to explore Studio Grafiksismik's design, from core ideas to trade-offs and opportunities. The framework does not favor any element or relation between elements, which allows peers and practitioners to formulate their own design preferences.

Keywords

Business Design, Business Model, Fiction Storytelling, Comic Books

1. Introduction

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). Our business design framework presents these relations in the form of a tetrahedron. This shape allows design to be formulated in numerous ways, such as the main interrelated concepts founds in poles, flows, dyads and triads. The objective is to obtain improved conceptual breadth and depth over classic frameworks, as well as enhanced usability.

We presented the tetrahedral framework's conceptual anchors at eBRF 2002 (Caisse & Montreuil, 2003). At eBRF 2003, we used the framework to explore the fiction storytelling industry (Caisse & Montreuil, 2004). In this paper, we use the framework to reveal the design of a single enterprise: Studio Grafiksismik Inc., a comic book art studio located in Québec City. The studio was crucial in allowing the first co-author to enhance his understanding of business design through practice. Action research was conducted from the studio's start-up, with the first co-author acting as president. This paper starts with a short introduction to business design frameworks and methodological considerations, followed by the design of Studio Grafiksismik. We conclude with gained insights and avenues for future research.

2. Business Design Frameworks

Most business design frameworks found in the literature suffer from biased concept linkages. They favor design around a given logic, like causal over effectual thinking, thus losing framework depth, or certain types of stakeholders over others, like customers at the expense of other stakeholders, thus sacrificing framework breadth.

Causation centers on given goals, such as achieving certain market shares within certain industries. The challenge becomes 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. Both logics are discussed in greater detail at www.effectuation.org by 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 Jaworski (2003, 11) propose a framework based on four distinct infrastructures (technology, media, capital and policy) pointing to a central business strategy of six interrelated and sequential parts (market opportunity analysis, business models, customer interface, market communications and branding, implementation, and metrics). Such a sequential design approach leaves little room for effectuation.

Incomplete conceptual linkages are the main flaw of most frameworks available in the business literature today. Customer centricity is a case in point (Slywotzky & Morrison, 1997, 17-33). While we do agree that customers are important, we argue that other stakeholders are also crucial to good business design. We have no quarrel with customer centricity itself, but the objective of this article is to present a framework which does not force any type of centricity on peers and practitioners. Another example is the value chain, which emphasizes a one-way view of design, as a flow of products and services from suppliers to clients (Porter, 2001). This intuitively makes sense, but it does so at the expense of feedback flows and multidirectional relations between various stakeholders. Again, it is not that such a framework precludes such linkages, but rather that it inevitably emphasizes certain linkages at the expense of others. The objective of this article is to present a framework which does not favor specific linkages over others, and which leaves peers and practitioners to formulate their own design preferences.

Hamel (2001) started to address the issue through the elaboration of his business modeling framework which uses four main components, linked by three bridge components. These bridges force no direction on the business designer. The four major components have no "order" and do not "point" in any direction. However, the linear disposition of the four major components leaves no room for bridge components between them all. In other words, between major components A, B, C and D, one only finds bridges A to B, B to C, and C to D, with no bridge between A to C, A to D and B to D. The geometry of the framework itself favors certain bridges at the expense of others.

With these considerations in mind, we turn to our tetrahedral business design framework. It is composed of four poles linked by twelve flows, geometrically forming a tetrahedron as shown in Figure 1. Each pole is thus related to the other by a pair of flows running in opposite directions. The poles are respectively Character, Creation, Offer and Stakeholder. They represent four basic ideas. Stakeholders are the business' individual actors, like clients, employees, investors,

suppliers, and etcetera. Character is the collective actor and his 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. Each flow represents what a pole conceptually contributes to another.

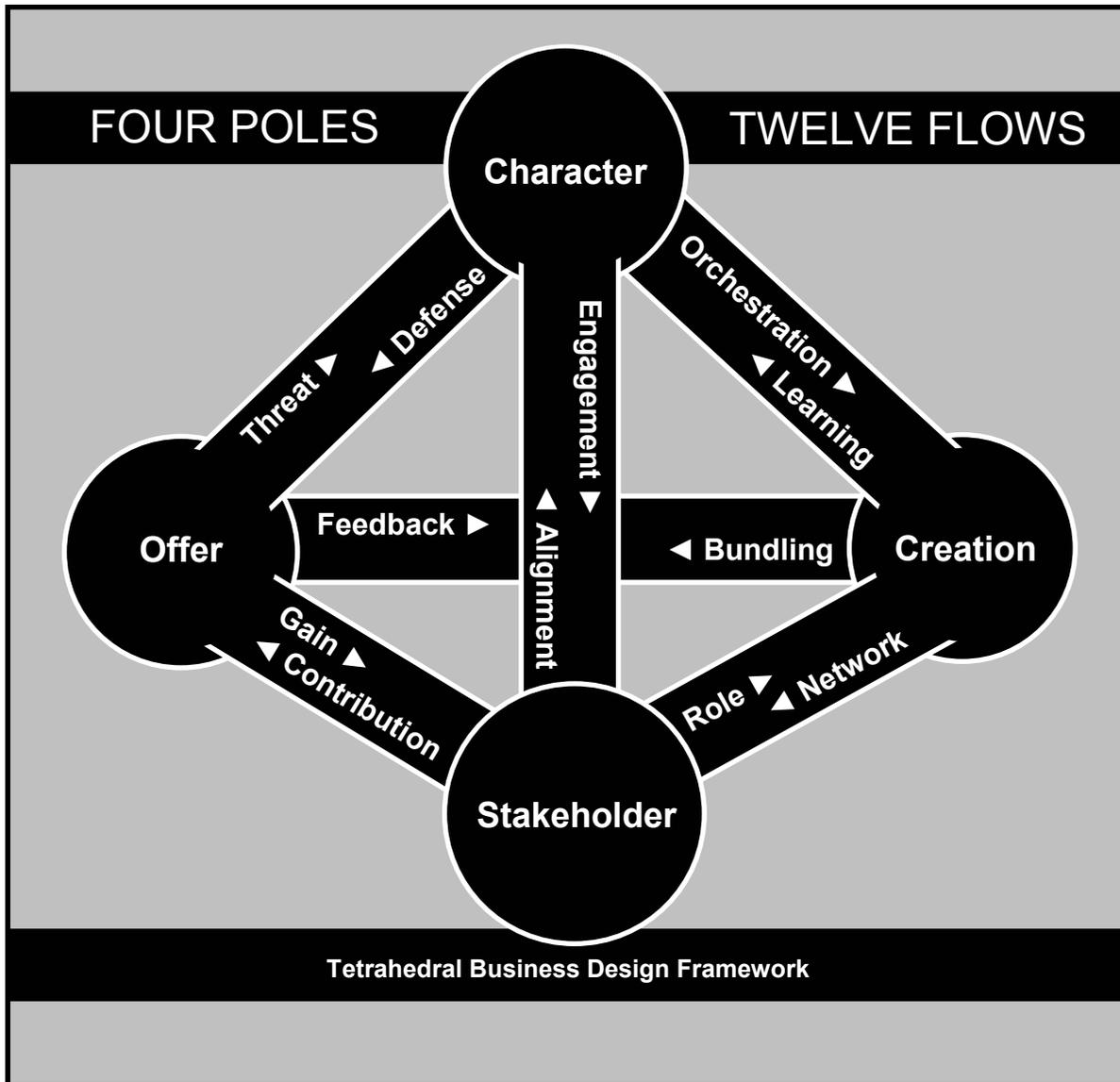


Figure 1: Framework Poles and Flows

The twelve flows are Gain, Contribution, Role, Network, Bundling, Feedback, Threat, Defense, Orchestration, Learning, Alignment, and Engagement. Each is defined as follows:

- 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.

- Gain, flowing from the Offer pole to the Stakeholder pole, is enabling or relieving stakeholder value creation (ex.: by acquiring an encyclopedia, one is relieved from gathering the knowledge himself). 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.
- Bundling, flowing from the Creation pole to the Offer pole, is the aggregation of gain potential in coherent forms through offers that can readily be turned into value by stakeholders.
- Feedback, flowing from the Offer pole to the Creation pole, is channeled stakeholder response as filtered through offers, enabling the validation or invalidation of creation activities. This is how the creation pole of a business gets to know more about what stakeholders perceive as gain and can consequently improve. For example, profit and insights gained from a client survey are two forms of feedback.
- 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 creation activities.
- 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.
- 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 are 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.
- Engagement, flowing from the Character pole to the Stakeholder pole, is how the collective actor binds stakeholders together, from informal trust to formal contracts.
- Threat, flowing from the Offer pole to the Character pole, is the potential for future damage; since offers are the interface between businesses and stakeholders, they are the instrument through which the threat of competition is felt.
- Defenses, flowing from the Character pole to the Offer pole, are counter measures erected to protect past, current and future offers, like copyrights and trademarks.
- Learning, flowing from the Creation pole to the Character pole, is creating better ways to create; it prevents stagnation and provides flexibility.
- Orchestration, flowing from the Character pole to the Creation pole, is setting a context for creation, for example through a vision, a mission, or a goal; it prevents chaos and provides order.

The overall can be represented as a tetrahedron. The sixteen elements, composed of the poles and flows, are a design vocabulary which allows one to navigate from paralyzing confusion to actionable intention in a sea of complexity. Dyads and faces can be used to reduce the number of core elements one has to juggle with at any given moment. Dyads combine two poles and two flows, while faces combine three poles and six flows. Each face or dyad can be summed up as a broader concept, as presented in Figure 2.

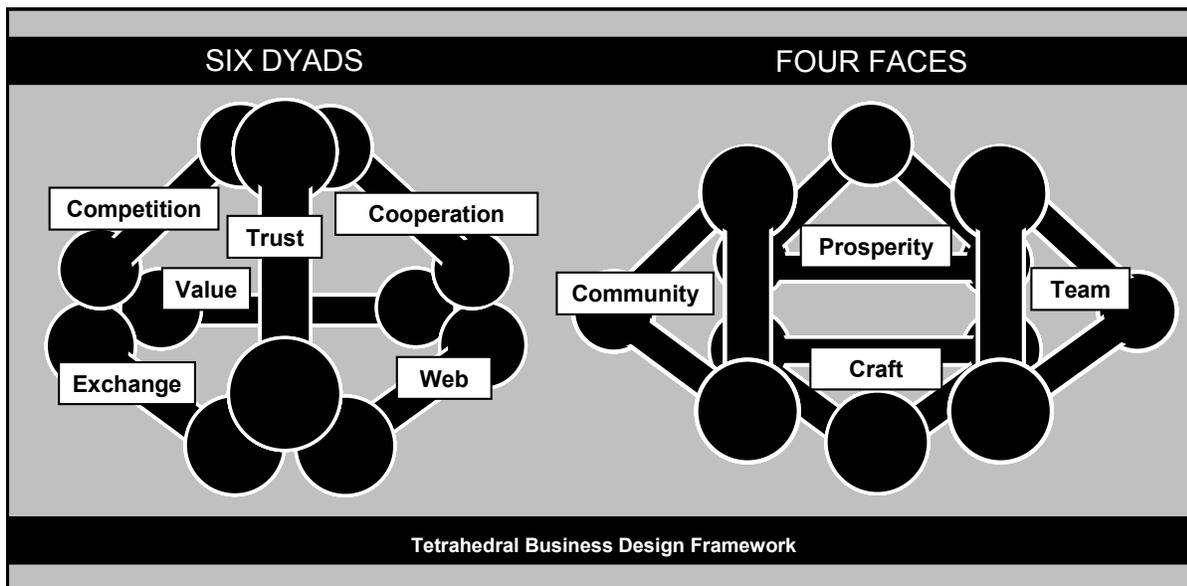


Figure 2. Framework Dyads and Faces

The six dyads are Trust, Value, Web, Exchange, Cooperation, and Competition. Each is explored in more detail section 5. In essence, **trust** is a covenant between stakeholders, which involves delayed gains or contributions with expectations of reciprocity through alignment and engagement. **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). **Web** is the network of networks which evolves through time, as networks dissolve and mesh with each other and stakeholder roles are redefined and transformed. **Exchange** is the arrangement of the ubiquitous flows of contributions and gains which permeate the business. **Cooperation** is collective creation, both in terms of orchestrating projects at the creation level, and in terms of self-enactment and learning at the character level. **Competition** is the array of offers out there which may tempt stakeholders, thus threatening character and calling for proper defense.

The four faces are Craft, Team, Community, and Prosperity. **Craft** deals with what stakeholders create for one another. It is thick with daily action and the timelessness found in losing one's self in what needs to be achieved to satiate the appetite of the *value exchange web* (the three dyads associated with this face). **Team** deals with how stakeholders create as a collective actor. It focuses on human interactions, in terms of a *web of trust and cooperation*. **Community** deals with what stakeholders collectively offer to themselves. It centers on an environment in which it

carries out *exchange*, tries to build *trust*, and faces off *competition*. Finally, **Prosperity** deals with how the collective actor creates offers in a sustainable way. It involves the mastery of *cooperation* and *competition* in order to provide *value* in a sustainable way.

3. Methodology

Before we start examining Grafiksismik's design, let us present the methodology which allowed us to create and use the framework in action. The first co-author is a Ph.D. researcher who studied Law as an undergraduate, with the firm intent of starting his own comic book studio at some later point. The second co-author is a Chair professor with a strong industrial engineering background, possessing years of entrepreneurial and business consulting experience. Both wanted to get at the bottom of what made a business tick. So began a quest for concepts common to all businesses, whatever their industry or epoch (even ubiquitous ideas like money had to be ruled out, since barter could also oil the engines of economic exchange).

Our survey of the literature allowed us to narrow things down to sixteen elements (Caisse & Montreuil, 2002). The next step was to validate our choices in an actual business setting. Studio Grafiksismik was concurrently founded in February 2003, with the first co-author acting as president. The goal was not to force the use of our construct upon business design activities, but rather to see if the framework proved useful enough in daily business life to warrant an existence outside of academia. The framework proved to be a powerful semantic tool one could use in the board room, yet also while sipping coffee or travelling to a business meeting, in order to explain which design trade-off had to be made and why. In short, it made deciphering and explaining patterns easier.

Through near daily use of the framework in back and forth between the studio and the university, we came to appreciate the framework as a sense making device, allowing us to verbalize the design epic of the studio. This paper presents the result of nearly two years of design using the framework; two years of intended complexity viewed and expressed in the framework's terms. MBA students, studio owners and eBRF attendees provided feedback at various stages. This feedback is an integral part of what follows. Note that the studio's industry – fiction storytelling – was explored in Caisse & Montreuil 2004. This paper mainly focuses on the studio rather than the industry.

4. Four Poles: Core Design of Studio Grafiksismik

The four poles are used to represent a business's core design. The character pole asks who the business wants to be (ex.: software provider, comic book artist, or car manufacturer?). The stakeholder pole asks who makes it happen (ex.: commodity traders, venture capitalists, doctors, etc.) The creation pole asks how it happens (ex.: processes, networks, infrastructures, technology, etc.). The offer pole asks what makes it happens (ex.: customer interfaces, self-realization, profit, etc.).

4.1 Character Design : Who does the business want to be?

Studio Grafiksismik's **character** is that of a graphic storyteller for the American comic book industry, aiming to distill American, French and Japanese sequential art influences into a new artistic formula for adult and teenage fiction readers. It is not an animation studio, nor is it a

graphic design firm. It does not publish, distribute, or retail its creations. It creates comics, stories and/or visuals, as a subcontractor for various publishers, as well as for its own portfolio of properties. The studio expands and grows through contingencies brought upon by the exercise of this craft and may develop other crafts, such as illustrating books for the gaming industry. Nevertheless, the studio's design is centered on creating the artwork and the stories found in monthly comics.

The studio's character is a direct offspring of the core entrepreneurial group's hopes for self-realization in life as comic book artists. The studio could go into humor or kid literature, just as it could enter graphic design or commercial illustration. It simply chooses not to, because doing so would undermine core stakeholder alignment with the business. In other words, character, in the studio's case, is a direct result of the entrepreneurial trio's will of doing comics as a vocational calling. In all likelihood, changes within the core group, such as the introduction of a venture capitalist or a stakeholder with little love for comics would substantially change the design of the character pole. Fusions and alliances are evaluated in terms of such character instrumentality. This is a design challenge that is being experienced first-hand as of this writing, since the studio has been approached by a larger entity and is examining its options. If the studio joins a larger entity, will its founders still be able to achieve what they sought to do as a collective actor through the studio's character? The character pole's design acts as a test which the new envisioned entity needs to pass in order to seduce the core entrepreneurial group.

Various contracts and opportunities have been turned down or redirected with an agency fee to other businesses because they did not fit the studio's character. This, of course, begs the question: "Has the studio correctly framed its market opportunity?" The answer depends on how one evaluates what is a "correct" assessment. In terms of short term profitability, such character stubbornness makes little sense. However, if the studio did go after less creative and motivating work, it would lose its core group, as well as its core talent, resulting in a complete transformation of character. It would lose its appeal as a talent magnet for artists who are willing to forego higher paychecks in favor of artistic self-realization. In terms of long term profitability, such character focus makes more sense: by running on passion, the studio creates unique artwork and stories that slowly grow into a signature brand. Readers can get to know Grafiksismik because its character is not in flux. This becomes a springboard from which original properties can be launched, which is where the real profit lies for a studio.

4.2 Stakeholders Design : Who makes it happen?

Studio Grafiksismik's **stakeholders** can be grouped as storytellers, readers, and business enablers. Storytellers include employees and freelancers like writers and colorists, as well as clients like editors and publishers. Storytellers are all the team members involved in telling the story, from the editor-as-project-manager to the colorist's assistant. A typical comic goes through the following stages before seeing print, and a specialist can usually be found at every stage under the editor's watchful eye: writing, penciling, inking, coloring, and lettering. Readers – the studio's client's clients – are all those who buy the final product: the comic book or graphic novel itself. Studio Grafiksismik's reader is the average American college or university student, male or female, who likes to read fiction. This readership segment happens to be the largest worldwide. Business enablers bridge the gap between storytellers and readers. They include

distributors, retailers, printers, investors, regulators, and etcetera. Enablers provide the necessary creation infrastructures, like technology, media, capital and policy.

Stakeholders are designed in the sense that the studio always formulates estimates and assumptions about the characteristics and qualities it desires in certain types of stakeholders. For example, talented people want to work with other talented people. It follows that storytellers are sought for their talent and affinities. The ideal storyteller wants to tell the same kind of stories the studio's core group wants to tell, he or she has the talent to do it better than anyone else, and he or she wants to be part of a collective storytelling experience. This is true of employees as well as of editor-clients. The studio started with five storyteller employees: one penciller, one inker and three colorists. A penciller was added in 2004. A wide virtual network of freelancers was developed to counterbalance talent scarcity in the region. This paper's first co-author acted as writer on a freelance basis. The studio has had many client-editors, but only three have been constant collaborators. Three freelancers also began sharing the studio's offices in 2004 for better project coordination.

Comic book readership in North America features some unique characteristics. First, very few people read comics in North America when compared to Japan or France. Comics usually have print runs in the lower tens of thousands of copies. The direct market (i.e. comic shops), through which monthly titles are mainly sold, is dominated by male readers of super-hero or nostalgia fiction. The mass market (i.e. bookstores and retail chains), through which graphic novels are mainly sold, appeals to both genders thanks to more title diversity as a result of a recent influx of translated Japanese manga. Studio Grafiksismik tries to appeal to direct *and* mass market audiences by blending American, Japanese and French storytelling influences.

The studio's enablers are designed around a different characteristic: initiative. Enablers should be experts in crafts which storytellers need in order to reach their readers but do not master themselves, such as legal counsel, web hosting, financing, distributing, retailing, and etcetera. The core entrepreneurial group, exclusively made up of storytellers, is fully aware that it doesn't know what it doesn't know. What it seeks are enablers with enough initiative to sense these blind spots and provide creative solutions which the core group often had no clue existed. Such initiative necessitates some knowledge of our activities. Ideally, enablers should have strong affinities for comics or fiction storytelling in general, so that interest in the studio's activities and culture comes naturally. Success stories include the studio's legal counselor, strategic adviser and banker, who have all shown genuine interest and great initiative in pushing the studio forward.

4.3 Creation Design : How does it happen?

Studio Grafiksismik's **creation** pole is designed around art, workspaces and estimates. Art includes stories, sketches, designs, sequential pages, inks, and colors, as printable digital files and as original artwork. As a rule of thumb, one page requires one day-person to create at every stage, due to comic book publishing schedules in the North America. Workspaces are implied in the business's name itself. There is a physical, material studio located in Québec City, as well as various computer mediated environments, such as web sites, forums, and FTPs. Estimates are assumptions and educated guesses about competitors, clients, and all things relating to our

evolution through time, as individuals, groups, and larger collectivities. These include schedules, forecasts, calculated risks and affordable losses.

Art inevitably lies in the eye of the beholder. The studio designs its art creation endeavors in very restrictive terms, which are bound to appeal or repel some storytellers and readers. The main question is: does this represent what the core group wants to associate the studio's name with? On one hand, art needs to serve storytelling in the North American "mainstream" comic book context. This implies knowledge of many implicit cultural cues which relate to the industry, the media and the wider world at large. On the other hand, Grafiksismik is meant to become the best storyteller out there, which means that constant exploration should be undertaken to improve the studio's collective skills. Comic book projects happen to be extremely well suited for experimentation. Covers and short stories, for example, are short, low cost, low loss projects ideally suited to try out new tools and techniques, or to bring in new styles and influences.

Workspaces play a critical role in the creation process. They can inspire or block an artist. The studio designs workspaces to enhance storytelling synergies. The physical, material studio hosts only storytellers and is in constant reshuffling. It is located in an inspiring city rich with American and European influences. That city is the hub in which the studio has found most of its enablers. The virtual studio (i.e. the combination of its website, FTPs, forum, etc.) makes it possible to work with freelancers and client-storytellers worldwide. Such a virtual workplace presents some strong design limitations, too. For example, the implicit cues of body language are lost. Conventions present a way to solve the problem in a temporary fashion. The San Diego Comic Con, for example, is as essential to the studio's workspace design as the physical studio itself. The Comic Con brings all industry players together in a four-day event counting over a hundred thousand visitors. This is Grafiksismik's most intense workspace, where seeds of future virtual collaborations are planted for the year to come.

Estimates are designed as temporary. This is possible because the studio is small and the core entrepreneurial group meets informally on an almost daily basis. Since all three entrepreneurs have limited business experience, their estimates are expected to change or be proven wrong as they learn how the industry works and what other opportunities lay out there. Estimates are designed in terms of affordable losses which leave room for adaptation and evolution if losses do occur. Rather than avoid risk, this design calls for taking many small risks which will not cripple the business, unless all risks crystallize into failures. At this point in the studio's existence, the organizational structure is itself an estimate of what seems to work out best. Such a chaotic design is bound to change as the business learns from experience and brings more order to its creation endeavors. It should be noted that this chaos is voluntary and is meant to eventually balance with order that is designed to emerge from experience, rather than estimated and imposed at start-up.

4.4 Offer Design : What makes it happens?

Studio Grafiksismik's **offer** pole is designed around art orders, finished art, and money. Art orders are creative jobs and projects for employees and the studio's larger network of freelancers. These include comic book covers, one-time illustrations, and monthly 22-pagers (the standard monthly comic book page count) in individual or story arc formats. Finished art takes the form of digital files corrected and formatted according to client specifications. These files

may bundle pencils, inks and/or colors, depending on the project being created. Money takes the form of salaries, payments to suppliers, dividends to shareowners, and etcetera. A crucial aspect of offers is timeliness – when art orders can be handed out, when finished art can be sent and when money can be delivered. Art orders can be kept in limbo because a writer fails to deliver a script or an editor fails to review and approve art quickly enough. Such bottlenecks propagate and can translate in late finished art. This, in turn, can translate into late payments, hurting the studio's timeliness in providing its paychecks, its rent, and etcetera. Offers which bundle all comic production steps inside the studio provide greater flexibility.

Art orders – the bread and butter of a career or freelance life with the studio – are designed with fit in mind. Projects need to challenge, inspire and seduce the storyteller. They must also allow them to shine. To challenge and inspire, art orders are often presented as short projects. The storyteller may thus explore different themes and styles for various publishers, and fresh talent can be brought to a monthly series on a regular basis. Projects which fail to seduce the artist hurt morale, and may result in a loss of trust, productivity, or worse. The studio's art orders have to compete with offers from other media, such as video game developers and animation studios, so the danger of losing an artist is very real in the studio's business context. Some art orders come with a very tight deadline. If this prevents our employee storyteller to shine, the studio may be better off passing the offer to a freelancer willing to take the risk.

Finished art – the studio's main offer to its client-editors – is designed to be available in steps or as a turn-key “studio book” solution. On one hand, the studio offers penciled, inked or colored pages and illustrations as distinct offers. On the other hand, the studio can provide all artwork for a monthly comic as a turn-key offer. This offer is called a “studio book” at Grafiksismik, because it takes advantage of all available synergies. The studio book, which is meant to simplify project management complexities, to save time, to enhance synergies, and to result in better artwork, all at the same cost to clients, is the studio's most distinctive offer. Estimates about when the studio would obtain its first studio book were off the mark by over a year. The main flaw in the studio book design was that it asked client editors to take a chance on an entire unproven team. This innovation also flew in the face of conventional industry practices and conflicted with various contracts and quotas binding publishers to freelancers and competing studio. It also suffered from negative perceptions associated with the word “studio”; the industry counted, and still counts, studios which obtained contracts through the artwork of very talented individuals, only to see less talented freelancers actually illustrate the project. This perception is only starting to change as of this writing.

Money – which is the common language of most business enablers – usually takes the form of paychecks to employees and freelancers, payments to suppliers and consultants (ex.: bankers, lawyers, accountants, etc.), rent (landlord), taxes (various levels of government), dividends (shareholders) and etcetera. Design mostly revolves around two issues: maintain cash flows and list priorities in case cash doesn't flow as it is intended to. In the studio's case, no venture capital was sought at start-up. Cash came in from one of the entrepreneur's ongoing contracts, bootstrapping from all three founders, and a bank loan. This design provided very little maneuvering room in terms of fungible offers – cash – and proved problematic when the studio sought to grow. In essence, the studio could offer artists enticing art orders, it could offer client-editors splendid finished art, but it lacked room to grow its payroll significantly and acquire the

relevant tools to equip and promote them. This aspect of the Offer pole is currently under redesign as a result.

5. Dyads and Flows: Studio Grafiksismik's Design and Trade-offs

With the core design exposed, we turn to the framework's six dyads: Trust, Value, Webs, Exchange, Cooperation, and Competition. Each dyad features two flows, which are used here to present salient design trade-offs and opportunities. The objective is not to be exhaustive given the length of this paper, but to go at the heart of the most crucial design aspects of the business. These change over time, and what is presented here reflects a period spanning the studio's start-up (February 2003) to the publication of its first "studio book" – a monthly comic book title for which it provided all artwork (November 2004).

5.1 Trust Design : The Character-Stakeholder dyad

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; etcetera. Trust-centric design doesn't mean that the studio foregoes written contractual agreements. It means that contracts are designed as trust promotion tools. For example, the studio's employee contract has no penal clause. The founders have judged these to be fear-inducing instruments that do not yield the desired effect. Every employee also benefits from an agency bonus if he or she finds a contract the studio ultimately decides to pursue. Another example involves the studio's client-editors. Based on previous experience with competing studios, many fear that artwork samples will not reflect actual results, if they do not have control over who provides the artwork within the studio. The founders have kept a transparent approach which allows client-editors to pick and choose talent within the studio if they want to.

5.1.1 Engagement Design trade-offs

An important aspect of the studio's design is a tax break on the salaries of certified information-technology employees until 2013. To have access to this tax break, the studio needs to engage its storytellers as employees rather than as freelancers. Engaging storytellers as employees goes against the grain of the comic book industry culture and reduces flexibility in terms of project planning and resource allocation – the orchestration and network flows to name but these. The trade-off is clear: Grafiksismik can afford better talent and provide a stable signature style by binding talent to itself for longer periods. The studio relied mostly on employees in 2003 and began expanding its freelancer network in 2004. The current design seeks to strike a balance between the two, using freelance work as a first-engagement test for eventual job offers.

5.1.2 Alignment Design trade-offs

Talented storytellers come in two flavors: team players and lone wolves. The problem comes from loners who only have short term alignment with the studio – freelancers who, between contracts, seek a job but are ready to leave as soon as a client-editor comes with a better money offer. The initial design accepted such lone wolves. The core entrepreneurs believed they could

enhance the studio's portfolio by hiring such stakeholders, but changed this design decision in mid-2004. Loners had little initiative in helping team members to learn, and emphasized an instrumental aspect of character (i.e. character as a haven between high paying contracts) over collective excellence and self-realization. The current design calls for early lone wolf vs. team player identification of artists, and lone wolves are kept at a safe distance through the studio's freelancer network.

5.2 Value Design: The Creation-Offers dyad

Creation uses **bundling** to generate offers and offers 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 way. Assumptions and perceptions can be changed, and Studio Grafiksismik uses personalization as its principal value design tool. Personalization is achieved through the bundling of five value currencies and their constant review. These five value currencies are:

- *Self-realization*: value for the entrepreneurial core group as the enactment of a dream, for graphic storytellers learning to become master craftsmen, and for readers seeking to learn something from graphic stories
- *Graphic storytelling*: value for storytellers who want to imbed us in their own creation networks (such as client editors) and readers seeking narratives and aesthetic experiences
- *Contacts*: value for stakeholders who want to expand their networks
- *Fungibles*: value which can be easily converted into other currencies for all stakeholders, like money and shares
- *Timeliness*: value for all stakeholders which expresses access time to other value currencies

An instrument bundling value for the main purpose of gathering feedback is the studio portfolio, which the business uses to greet client-editors. Its pages advertise what the studio's storytellers assume to be most valuable to editors, and feedback is requested in formal or informal "portfolio reviews". The portfolio is in constant redesign, reflecting changing self-realization objectives, improving graphic storytelling skills, and expanding contact networks.

5.2.1 Bundling Design trade-offs

Innovation in creation processes puts the studio at odds with current industry practices. This provides new value, but also poses some project compatibility problems. The prime example is the "studio book" formula presented in the offer pole. Combining pencil, ink and color art orders as one finished art offer provides new synergies. Grafiksismik storytellers can change the steps of creation to best suit the project. Pencils can include colors; colors can replace some pencils; inks can be used for certain elements only, and etcetera, all yielding pages with panache at a faster pace. The problem is that these mixed pencils, inks and colors do not match what is sought by clients who seek us out to do only pencils, or inks, or colors. Of course, the studio can do these separate steps as clients require, but the studio's portfolio doesn't show it very well. In bundling art creation steps in an innovative way, the studio has undermined its ability to do classic servicing for many potential clients. As of November 2004, most Grafiksismik projects are studio books, with the exception of two contracts.

5.2.2 Feedback Design trade-offs

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. In the character pole, we presented the entrepreneurial core group as passionate storytellers. On one side, this has provided a clear and consistent praxis which has so far proved successful. On the other side, only one entrepreneur has reached his thirties and the group can easily be characterized as inexperienced. Deciphering what feedback really matters, understanding how explicit comments stack against implicit cues, and etcetera, is an ongoing learning experience. Inexperience at the core group level could be corrected by adding a new more senior member, but at what cost? Would this blur or transform the business praxis in undesired ways? This design issue is still being debated. Note that this issue is most salient when dealing with enablers, whose business culture the core triumvirate knows minimally.

5.3 Web Design: The Creation-Stakeholders dyad

Creation articulates **networks** to structure stakeholders, and stakeholders assume **roles** to engage in creation. The key concept here is the weaving of a **web** – a network of networks. The studio has given networking responsibilities to various stakeholders, tapping into existing contact networks and affinities. The busiest spiders in the studio are two of its founders. The first is in charge of networking with business enablers and editors. Most business enablers needed so far, from legal counselors to investors, reside in the local hub network around Québec City. The editorial community is spread throughout North America, with the two largest publishers located in New York. The second founder is in charge of networking with eBusiness enablers and the artist community. Both are part of a virtual network that knows no boundaries. The studio's servers are in Australia and its freelancers come from many countries. All core network members also have access to family enablers – family members ready to help out when needed – and travel annually for a week at the San Diego Comic Con, an event which brings together a large portion of the comics industry. An employee who moved to the studio from Toronto is charged with networking the Canadian metropolis's artist community. All employees are empowered to hunt for opportunities and gain a share in the bounty. All physical studio members also network the local artist community as a natural outgrowth of their employment. This is done by design, such as weekly comic aficionado meetings at a local pub, or by accident, such as when a new artist is encountered by chance at a local comic retailer.

5.3.1 Network Design trade-offs

Choosing Québec City as the studio's main hub has advantages and disadvantages. Advantages include low fixed costs; excellent quality of life; broad graphic storytelling exposure from French and American traditions; tax breaks; and etcetera. Disadvantages include distance from client-editors; currency price fluctuations; and venture capital scarcity. Distance is the biggest design concern. One can always travel to meet clients, but some casual creative synergies remain elusive. Most of the studio's artists would jump at the chance to go out for drinks with peers. These encounters can be simple fun, but can also inspire and inform about industry trends and practices.

5.3.2 Role Design trade-offs

The three founders act as storytellers and administrators. Its members have discovered that stereotypes die hard. Some employees seem intent on not seeing the core entrepreneurs as fellow

storytellers. The simple fact that titles such as president and vice-president exist in the corporate structure conjures up counterproductive images of a rich elite exploiting poor artists. Still, the current “.inc” design remains preferable to the cooperative one. In fact, Grafiksismik existed – and failed – as a loose band of Montréal artists in 2002. When it disbanded, one of the studio’s current core entrepreneurs came back to Quebec City with dashed hopes and the Grafiksismik name, which he still owned. Dreams also die hard. A new studio was born. This time, incorporation and formal roles seemed preferable in order to crystallize the Grafiksismik praxis.

5.4 Exchange Design: The Offers-Stakeholders dyad

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 stands out in terms of design, mainly because it defines the studio’s cash flow and logistics: the studio-publisher exchange, where finished art is traded for money. Finished art takes the form of digital files, which the studio uploads to its server and grants the editor access to, or to the editor’s server if we have been granted access to it. Payments are made every half-comic (11 pages) for each production step (pencils, inks, and colors, each with their own page rates). Other payments are made after publication when sales reach certain thresholds. Other payment contingencies may also arise. Most payments are made in American funds, while studio employees are paid in Canadian funds. Given the offered options from the banker, this means that US and Canadian accounts are needed, with a watchful eye on exchange rates and transaction fees.

5.4.1 Gain Design trade-offs

Trends and fashions represent a dangerous challenge. At start-up, the studio’s portfolio was rather thin. It featured cartoony artwork typical of the animation industry and reflected past employee occupations. As a result, the studio’s offers got pigeon-holed as “animated”, and when the “animated” look phased out as a minor trend in the comics industry, the studio had to look for new client-editors. Fortunately, the “animated” look was not what the core group wanted to do in the medium and long terms. This was a legacy effect from old portfolios, and a unique studio look combining comics, manga and European albums was already in development. The lesson is this: if one can stay in touch with trends, his or her visuals will always be in high demand. Lose track of the trend, go out of fashion, and the contracts vanish. Following trends is a high risk business, but there is a lot to gain. Another option is to steer clear of trends, which is the studio’s current design decision. While the resulting short term gain may not be as high, the core triumvirate believes it will have more to gain in the long run, in financial and self-realization terms.

5.4.2 Contribution Design trade-offs

As presented in section 5.1.1, an important contribution impacting the studio’s design is a tax credit on salaries provided by the provincial government. The trick is that these credits are paid out eight months after the end of the fiscal year, meaning that the studio needs to support the full weight of its payroll for over twenty months before seeing this government stakeholder contribute its highly anticipated check. The tax credit is also conditional to the studio’s acceptance to locate its hub in a high-visibility building in a designated IT-focused Québec City district. Location within this district entails a higher rent than in other districts. With no venture capital to compensate for tax credit payment delays, this situation has proved to be more of a

flaw than a trade-off, at least in the start-up phase. Recent business design revisions currently call for venture capital in early 2005.

5.5 Cooperation Design: The Creation-Character dyad

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 collocation for core storytellers takes root in this rationale; understanding why and how people create the way they do is much easier to decipher through daily life's implicit cues. Cooperation takes many forms. Examples include business development contracts provided to all employees, who can partake in the studio's growth and benefit from a share of revenues, and servicing projects which provide the studio with a share of intellectual property in return for the acceptance of higher risks. Sharing intellectual property with a client-editor is uncommon in the comic book industry and has only been offered to the studio once. This relationship is ongoing and growing into new projects as of this writing.

5.5.1 Learning Design trade-offs

The studio favors learning by doing. Since different people cooperate differently depending on who is involved, short projects are designed as learning experiments to locate dream teams. Such shorter projects usually represent an affordable loss in case something goes wrong. Client-editors may also regard a short project as an experiment, thus providing more room for artistic freedom and novelty. Grafiksismik storytellers can try new techniques and push their limits. The trade-off is that such experiments are conducted in the open, with results for all to see. If the final art is less than stellar, the studio may have lost a client or tainted its brand. Still, up to now, this design seems to the studio leaders more attractive than conducting experimentation on a large project or on unpublished and unpaid work.

5.5.2 Orchestration Design trade-offs in

Orchestration is mainly conducted by the core entrepreneurial group. Such orchestration is vital to the business. The core group has to find a solution between exploiting their highly valued storytelling capabilities and spending time orchestrating the entire business. This is a major concern since all three core entrepreneurs define themselves as art creators who have become entrepreneurs in order to bring the dream of a new type of studio to fruition – they see themselves as artists first, businessmen second. As the studio grows and the number of projects increases, the need for orchestration translates in terms of higher energy and time requirements. Will all or some of the founders move away from art creation in favor of orchestration? This design question begs the answer to many other questions. Do any of the founders have the appropriate knowledge to fill the role of orchestrator (project management, administration, etc.)? If not, are they willing to invest themselves to bridge this gap? Are they willing to orchestrate art creation while not actually creating with their own hands? Do they have the capability to bring on board bright managers? Can they do so while avoiding a character crisis with power and orientation struggles between hired managers, entrepreneurs and artists? In the short term, do they have the resources required to pay for such new stakeholders? As of now, the entrepreneurs have postponed hiring such new stakeholders because they believe they are avoiding added costs

– administrative personnel which is not entitled to the aforementioned tax break, which is perceived as an important saving. As with many other art and technology centric businesses, this overall internal struggle at the core entrepreneurial group level is probably the most critical relative to the studio’s existence and prosperity in future years.

5.6 Competition Design: The Offers-Character dyad

Offers open the door to **threats** which challenge character, and character erects **defenses** to protect offers. The key concept here is **competition** – designing how the business faces off other studios and freelancers (competition in the art creation market), other businesses seeking investment (competition in the capital market), and other studios in related media seeking similar art creation talent (competition in the human resources market). In essence, every stakeholder can choose offers from other businesses, which means that competition exists at all these levels. In Grafiksismik’s case, a “small is beautiful” philosophy has been guiding business design since start-up: the studio does comic book art but does not publish its creations (it only competes with art studios and freelancers); it has chosen to offer a distinctive style that does not depend on fickle trends and fashions (for example, it does not compete with American manga artists); it has started with a modest team of storytellers and grown slowly (it competes on quality rather than quantity); and etcetera. In other words, Grafiksismik has sought to stay within a relatively small competition arena at first as far as the art creation market is concerned. This has proven problematic when competing on the capital market. Most venture capitalists have turned the studio down due to its low revenue stream history. The obvious solution – hire more and get more contracts to increase revenues – would compound the orchestration problem presented in section 5.5.2. Angel money would be an alternative, but is very rare in Québec. Competition in the human resource market is mixed; the studio’s character has seduced many storytellers, but Quebec City is too remote (and French speaking) for many North American artists.

5.6.1 Threat Design trade-offs

Delays in production, flawed project duration estimates, and time differentials between salaries, client payments and tax credits are the biggest design challenges relative to competitive threats, potentially deteriorating the relative position of the studio in the mindshare of key stakeholders and opening the door for damage by competitors. The key threats are thus internally generated through business design decisions and constraints, and their repercussions felt on day-to-day operations. These threats are imbedded in the current design. The trade-off is to be found at start-up, in the threats which the founders were willing to face: the studio was designed to be small and stay small for a significant time, so that the founders could create art as well as orchestrate their business with minimal help. These threats have gained saliency mainly because orchestration concerns (paperwork, cash flow management, etc.) have grown beyond early estimates. The core entrepreneurs perceive this trade-off as the best course of action so far, although alternative designs which pool creative resources with other businesses while sharing common administrative staff and resources are being considered. All these alternatives present their own sets of trade-offs on business character and studio offers.

5.6.2 Defense Design trade-offs

The studio’s main defense is its brand name. As stated before, original intellectual properties are potentially the most powerful drivers of profit in fiction storytelling – if stories can find their audiences. Name recognition allows storytellers to reach audiences they have already won, much

like the names of famous actors and directors attract many moviegoers to the theaters. Grafiksismik's design calls for name recognition to be grown by working on famous comic book characters with large audiences, and being good at it. It can also be grown by outstanding participation on projects which involve well known artists and editors who have their own fan base (readers who buy most of an artist's or an editor's comics because they like his work), from which the studio benefits by association. This design postpones high profit potential (and the risks associated with financing the creation of original intellectual properties) in favor of more regular and modest revenue streams derived from art servicing. Venture capital could provide an alternative design, allowing sheer publicity to speed up name recognition and enabling the studio to carry out internal intellectual property development without expanding all its resources.

6. Faces: Studio Grafiksismik's Design Opportunities

The faces are Craft, Team, Community and Prosperity. Faces join three poles, six flows, and three dyads into one aggregate idea. We present these as opportunities; vast topics remote from the detailed analysis of individual poles and flows, but open to myriad contingent designs. Note that the four faces were used to present the fiction storytelling industry in 2004 by Caisse & Montreuil.

6.1 Craft Design Opportunities: New Ways of Doing Comics

Graphic storytelling – a value exchange web of narratives, aesthetics and self-improvement opportunities – is evolving under the impetus of technological change and cultural cross-pollination. New software and new interfaces (such as graphic tablets) are transforming the craft. Color is increasingly outsourced to low-wage countries, while ink is sometimes foregone in favor 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. Here are two examples currently being considered by the studio:

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. How? They do so by printing various translations in a single print run, changing only the black color separation film for word balloons. This raises 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 take pride in seeing its work available simultaneously in English and French in Canada, it would also gain a lot of visibility amongst its main human resource pool and enabler hub. Pushing this idea forward would require translation efforts and some convincing of client-editors.

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 provide digitally painted grayscale 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 cannot afford to develop this product

internally under its current design, and must instead convince a publisher to take the chance at reasonable cost.

6.2 Team Design Opportunities: New Ways of Organizing Work

Grafiksismik currently segments work in accordance with industry practices, so that it can itself come to rely on industry freelance specialists if needed, as well as provide specialization-specific services like coloring. The typical comic book team – a web of cooperation and trust – counts an editor/project manager, a writer, a penciller, an inker, a color flatter, a digital painter, and a letterer. Studio Grafiksismik is mainly focused on penciling, inking and coloring (including flats). Interesting design opportunities may lie in fragmenting and rearranging these specialties. To do so, the studio would have to forego specialty servicing and do only “studio books” as presented before. Collocation means that other work specializations can be considered, such as dividing work by objects, like background modeling, architecture, mechanical design, character design, and etcetera.

For example, recurrent locations featured in monthly comics could be modeled without much rendering and shot by virtual camera for integration in every panel in which they are featured. Full rendering could then be carried out by a digital painter. Complex mechanical work could similarly be quickened by a mechanical designer with a large library of virtual objects. The idea is not to showcase 3D techniques, but to improve aesthetics while increasing narrative output. For the studio, the ideal result would be that such new techniques remain unseen as distinct parts, but rather improve the whole with substantial aesthetic and narrative benefits.

6.3 Community Design Opportunities: Taking the Initiative

Community is something that stakeholders can only *collectively* offer to one another. The storyteller alone cannot offer this. Communities operate on the backdrop of exchange, trust, and competition. The foremost comic book community event at the time of this research was the San Diego Comic Con, which brings 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 is a member) is the Comic Book Legal Defense Fund (CBLDF), founded upon a shared belief in self-improvement opportunities to be found in comic books, either as creator or reader. In other words, the CBLDF is a community fighting for comics as an art form and media worth defending from censorship and other threats.

Community offers some intriguing design opportunities. The core entrepreneurial group has considered the following ideas: the creating a foundation to award grants to promising local artists, which would allow the studio a first look at any up-and-coming talent; the creation of a Quebec-based comic book festival, which could be used to network industry players as well as develop a local fan base; participation in academic conferences on the subject of graphic storytelling through the studio’s president; and etcetera. However, the most far-reaching design opportunity has come from the wider Quebec province graphic storytellers’ community. The province is rich with talented animation artists with a passion for comics, and many of these people have come to the studio founders to express their dismay at the absence of any Quebec-based animation project as motivating as what Grafiksismik seems to be doing in comics. In other words, based on what they’ve seen the studio do in comics, many talented individuals want

Grafiksismik to enter the animation industry and network them around a motivating project. Various scenarios on how this might be achieved are being investigated as of this writing.

6.4 Prosperity Design Opportunities: Synergies

Prosperity calls for the sustained creation of value through cooperation and competition. The best opportunities for cooperation identified so far have been with competitors from parallel industries, such as animation and video games. Animation and gaming studios compete for similar talent and investment, but do not compete for the same finished art offer. For all these studios, original intellectual property deployment is the true profit driver. Service remains as the bread and butter of these businesses, but achieving success with an original story or character is where the largest profit potential lays.

Service allows mastery of the craft, and all media have their own networks of contacts and their own way of packaging intellectual properties into “pitches” – development proposals made by storytellers to potential investors, like publishers, distributors or production studios. These also change with cultural areas, such as comics, manga and albums in printed graphic storytelling. The result is that each studio is a master at preparing intellectual property pitches in his or her own industry. In essence, intellectual properties could be 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 adapt its allies’ properties for client pitches in comics, while its own properties are adapted for client pitches in other media. Many other design variations exist. Pooling resources is nothing new, but the key is to preserve the studio’s character while broadening offers and capitalizing on what Grafiksismik already masters in terms of creation.

7. Synthesis: The Tetrahedron

Business design through the framework is holistic. Poles, flows, dyads, and faces are all artifacts of the tetrahedral form we propose. Different objects have different strengths; poles are good at bringing fundamental design decisions and concerns forward; dyads and flows are well suited at unearthing trade-offs and flaws; and faces are good at exposing wider industry design opportunities. All of these objects inform each other in the design praxis. For example, Grafiksismik’s character as a fiction storyteller is designed with a clear grasp of various fiction storytelling crafts from around the world, yet the Character pole is not explicitly found in the Craft face we have discussed. Poles, flows, dyads and faces are conceptually distinct for analytical purposes. Yet their usefulness can only be appreciated in how they inform to the whole.

We have laid out the bare elements of Studio Grafiksismik’s design. Let us sum it all up. That precision be lost in this exercise is unavoidable. What needs to shine through is meaning: purposeful complexity. Studio Grafiksismik creates and offers graphic storytelling for fiction audiences through virtual and global teams mastering the various cultural traditions of the craft. The current design starts out modestly, focusing on monthly North American comics. A lot is left open to emerge as the Studio learns about itself, about its stakeholders, about how it can create and what it can offer. What has been planned from the start is that comic book servicing is a stepping stone to the creation of original fictional worlds and characters, itself a step towards intellectual property deployment in various media which open up new gateways to the studio’s

stories. The essence of this design has held steady so far, but is under constant review and evolution.

8. Conclusion

The framework has been used and improved throughout the course of this research, spanning twenty one months from February 2003 to November 2004. Improvements have focused on making the framework easier to use, such as providing single-word key concepts for its six dyads and its four faces. Using the tetrahedron's poles for core design analysis, its dyads and flows for salient design trade-offs, and its faces for design opportunities emerged as a result of this action research.

This paper has provided the literature's first thorough analysis of a digital art studio's design. The authors invite other researchers to use the tetrahedral framework to explore the design of other businesses. In fact, it seems that such complementary research carried out in different industries might reveal better ways of using the framework.

Results have translated into action through daily osmosis, as the first-coauthor switched between his roles as Ph.D. researcher and studio president. This raises the issue of analysis versus action, and what can reasonably be expected of the framework. That it can be used to analyze design has been made clear in this paper. That it provides a clear path for action is another matter. The framework can be used to explore design options because it links all poles, flows, dyads and faces together. The impact of a decision can be explored at many conceptual levels throughout the tetrahedron. However, what constitutes the right design decision is left to business designers to formulate. The point is that the framework does not favor any element, or any relation between elements – it does not advocate any specific type of action. Researchers and practitioners looking for design solution advocacy, such as customer centricity or strategic planning, may turn to the various frameworks presented in section 2.

While we believe the tetrahedral framework provides more breadth and depth than any other framework presented in the business literature so far, other frameworks have their strengths and can be used in conjunction with the tetrahedron. For example, two of Slywotsky and Morrison's profit models, a subset of their three-tiered framework, are very efficient at succinctly describing the appeal of blockbusters and licensing, two very important components of the fiction industry in North America. These profit models were presented by Caisse and Montreuil (2004) to describe the fiction storytelling industry.

As they did in their first eBRF contribution in 2003, the authors encourage researchers to develop new business design frameworks and enhance those that already exist. Business is a complex human activity, and there are many ways of making sense of such complexity. We believe that attempting to describe such intended complexity in business is a goal worthy of further exploration.

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