Thinking-through-making: physical model-making as a business model education strategy

FRY Aaron
The New School, USA
frya@newschool.edu

Outline

Design thinking currently enjoys public recognition and is increasingly utilized in business consulting and strategic decision-making. It has given rise to university programs while opening up varied careers for design strategists. As design enters mainstream management consulting practice, a critical question being asked of educators, designers and businesses is what kind of design is privileged within design thinking-as-business strategy. Moreover, has this version of design thinking delivered additional creativity to business environments centred on process efficiency? Nussbaum (2011) argues that business has embraced a brand of design thinking that is recognizably process-oriented, and this has limited its capacity to deliver on its mission of enhancing business creativity.

This study examines a project delivered in the first semester of Parsons’ Master of Science in Strategic Design and Management program, it is called Understanding-through-making: building new dimensions in the new economy. This practical studio-based project requires students to physically build a model that exemplifies their understanding of the dynamics defining and driving business in the 21st Century. This project attempts to counter a scientific, process-oriented design thinking with a more beaux arts, craft-oriented, thinking-through-making approach. Currently student outcomes are varied; some exist as pedagogic devices while others are recognizable as tools (e.g., navigators and compasses).

The study analyses these current outcomes, highlights the shortcomings of both the current project and its outcomes and proposes possibilities for future iterations that promise to explore other paradigms in the application of design thinking to business.

Background and context

In recent decades, Parsons School of Design has gained renown for its fashion design program, however, the past few years have seen its BBA (Bachelor of Business Administration) in Strategic Design and Management grow to become its second largest program by volume. In 2004 what was then Design and Management was reimagined (from a program with identifiable origins in fashion merchandizing) into a design thinking/business hybrid. In response to the BBA’s growth and profile, and also due to current student demand, the School of Design Strategies (the “school,” or sub-faculty in which the BBA is housed), was charged by the Provost of The New School, and the Dean of Parsons, with creating a post graduate-level program with the same strategic business design focus as the BBA. From its inception in 2012, the Master of Science, Strategic Design and Management (MS-SDM), a two-year, 36 credit program, has experienced a rate of growth from a 70 student intake, at the program’s inception in 2013, to a peak 110 student intake in 2016 and 17.

The Chase School was founded in 1896 by William Merritt Chase a renowned Impressionist painter, however it was Frank Alvah Parsons, a teacher and subsequent head of school (in 1911), who led the school’s transition toward instruction based around art in the service of industry. In 1909, it was renamed The New York School of
Fine and Applied Art to reflect new course offerings such as fashion design, interior design, advertising, and graphic design; the first of their kind in the U.S. It was eventually renamed Parsons in 1940. Even following Parsons’ absorption by The New School for Social Research, in 1970, its design DNA retained its origins in a European fine art (or beaux arts) tradition extending from the late 19th Century to the present.

Today, fashion, interior, product, graphic design and architecture are all well-understood and defined as sub-fields within the broader scope of design. In contrast, strategic design and management is less broadly-understood externally, and is an emerging field situated between the domains of design and business. It is currently undergoing further definitional challenges as it is simultaneously developed in more or less different ways by varying institutions all of which have different origin stories. In North America, Stanford University launched their ‘D-School’ in 2005, while in 2006, the Institute of Design at the Illinois Institute of Technology (IIT) launched a nine-month executive master’s program in Design Methods, both were roughly concurrent with Parsons BBA. In 2008 California College of Art (CAA) launched its MBA in Design Strategy and New York’s School of the Visual Arts (SVA) launched its MFA in Design for Social Innovation program, graduating their first class in 2014 concurrently Parsons’ MS-SDM. My current understanding is that CCA, SVA and Parsons all share beaux arts origins, while strategic design at IIT and Stanford have stronger scientific affinities related to definitions of user research derived from computer science, engineering and product design. This distinction is useful in relation to the status of what we, at Parsons, describe as “studio-based learning.”

At Parsons, the MS-SDM program is currently grappling with what “studio-based learning” means in relation to strategic design, specifically what knowledge (or ways of coming-to-know) are integral to studio practices of the “plastic arts:” fine art and design. In their chapter “Design Matters for Management,” from Managing as Designing (2004), Boland and Collopy characterized [then recent] management failures (e.g. Enron, Global Crossing, First Capital) as attributable to a ‘famine of good ideas,’ which were largely the result of managers trained to make choices from among alternatives presented to them, rather than from a training in the design of new alternatives resulting from the generation of new business ideas. Boland and Collopy quote Herbert Simon in making a case for what they arguing was “the manager’s professional responsibility [which] is not to discover the laws of the universe but to act responsibly in the world to transform existing situations into more preferred ones,” in their quote from Simon, he states, “Engineering, medicine, business, architecture, and painting are concerned not with the necessary but with the contingent — not how things are but how they might be — in short, with design. (Simon, 1996, p. xii).

It is instructive that the Boland and Collopy wrote these words very slightly before the first programs of the kind I described here emerged in North America. Their words are more prescient today as we see “design thinking tools” packaged and utilized in ways that industry voices such as business journalist Bruce Nussbaum summarize in the following way:

*Design Thinking originally offered the world of big business—which is defined by a culture of process efficiency—a whole new process that promised to deliver creativity. By packaging creativity within a process format, designers were able to expand their engagement, impact, and sales inside the corporate world. Companies were comfortable and welcoming to Design Thinking because it was packaged as a process. There were many successes, but far too many more failures in this endeavor. Why? Companies absorbed the process of Design Thinking all too well, turning it into a linear, gated, by-the-book methodology that delivered, at best, incremental change and innovation.*

(Nussbaum, 2011)

The project I co-created seeks to address the problem of a studio-based experience within a design-business degree in the following section through describing an attempt to both redress a perceived process-bias in design thinking while grappling with the question of what value a beaux arts tradition in design might offer business strategy in the early 21st Century.

**Project 2, Understanding-through-making: building new dimensions in the new economy**

Because strategic design is an emerging field and is inherently dynamic (evolving with changes in business conditions), the MS curriculum is re-evaluated and modified on an annual basis. In the late summer of 2017, I was tasked with leading a substantive re-write of three projects, designed to anchor three modules in a course called Strategic Design and Management (SDM) in New Economies. My instructions from former director Rhea Alexander, my co-author on this task, for was to retain and bolster the physical “making” components of the
three projects, keeping in mind that one of the unique (or at least distinctive) value propositions in MS-SDM was the engagement with a Parsons’ perspective on studio-based [design] learning.

SDM New Economies is important in establishing the contextual and methodological basis for the subsequent three semester applied strategy and innovation work which is often, (though not exclusively), manifested, by students, within their “studios.” Fig 1. shows this course in the context of the four-semester, two-year program, occurring as it does, in the first semester of the first year:

![MS-SDM Curriculum](https://www.newschool.edu/parsons/masters-design-management/?show=program-curriculum)

My response to this brief was to build upon an existing three-project arc, the emphasis of these three projects are summarized in the following table:

**Table 1: The three-project structure in SDM New Economies, redesigned for fall semester, 2017**

<table>
<thead>
<tr>
<th>Title</th>
<th>Table heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1: Mapping New Economies</td>
<td>Mapping in two-dimensions, using information visualization to communicate complex systems with interdependencies</td>
</tr>
<tr>
<td>Project 2: Understanding-through-making: building new dimensions in the new economy</td>
<td>Building models (for business and strategy) in physical three-dimensional form. Figuring out and testing these models using iterative making-thinking-interacting</td>
</tr>
<tr>
<td>Project 3: Design Frames and Heuristics</td>
<td>Written reflection on readings and how design tools might be used to address some of the issues raised in the readings. Generate your own game-based tool</td>
</tr>
</tbody>
</table>

Although this three-project structure corresponds to a specific learning progression in SDM New Economies, the single case I discuss here is Project 2: *Understanding-through-making: building new dimensions in the new economy* because this project was my clearest effort to engage with studio-based learning as a function of business modelling and design-inflected strategic business planning. The project brief addresses thinking-through-making by asking students “What bearing does an understanding of the dimensions of the physical world have on our ability to think, and act, in creative ways that may open up new insights[?]” The brief invokes Heidegger in his reflection on craft:
A cabinetmaker’s apprentice, someone who is learning to build cabinets and the like, will serve as an example. His learning is not mere practice, to gain facility in the use of tools. Nor does he merely gather knowledge about the customary forms of the things he is to build. If he is to become a true cabinetmaker, he makes himself answer and respond above all to the different kinds of wood and to the shapes slumbering within wood—to wood as it enters into man’s dwelling with all the hidden riches of its nature. In fact, this relatedness to wood is what maintains the whole craft. Without that relatedness, the craft will never be anything but empty busywork, any occupation with it will be determined exclusively by business concerns. (Heidegger, 1976)

In the project brief I note that Heidegger contrasts this intelligent engagement with “empty busywork” that will be determined by “business concerns,” and I speculate here (not in the brief) that lack of what Heidegger describes as “relatedness” may be have a connection to the “famine of good ideas” referred to by Boland and Collopy.

The case: Janet Hoy’s Strategy Clock and Barometer

In fall 2018, Janet Hoy was an online student in my MS-SDM New Economies class, this course is offered in the first semester of the first year of a two-year program making Hoy, then a newly-admitted student. Hoy had spent two decades working since her undergraduate degree making her a more professionally experienced than the majority of her online cohorts. Her company, Janet and Co., currently provides project and design lead consulting on hotel projects internationally. Hoy is based in Sydney, Australia but also works extensively in Europe. For Project 2, it was Hoy’s intention both to utilize her professional knowledge as a season project manager and to develop a model or tool that would help her to integrate—in a practical manner—the two hemispheres of her work as a consultant/project manager across the domains of what she describes as the “known” and the “unknown.”

In Hoy’s words she was “trying to create a tool that gives a framework to think through the challenges presented through having her feet in both more traditional cost/time/quality decision-making while simultaneously managing design teams and therefore engaging with the unknown [the design question] or the not-yet-created.” (J. Hoy, personal communication, March 3, 2019). She used Project 2 to create a model, or tool to reconcile these two very different mental processes: traditional project management and designed/speculative (or abductive) practices. For Hoy, a key reading, and inspiration for this project was Nigel Cross’ book Design Thinking: Understanding How Designers Think and Work of 2011, which, she says, gave her an “ah-ha moment” of recognition that she had always been involved with abductive reasoning but had experienced difficulties in communicating this aspect of her work to clients in a way that made sense in terms of their grasp of the project as-a-whole. Abductive reasoning is the logical process where one chooses a hypothesis that would best fit the given facts. Cross identified it as a process of inference in which “design develops innate abilities in solving real-world, ill-defined problems” (1982), Hoy identifies these in the right hemisphere of the barometer in Figure 2. below:
Hoy stated that abductive and designerly ways of working have frequently put her at odds with traditional project management thinking. In the course of her twenty plus-year career she points to The Project Management Body of Knowledge (PMBOK), a set of terminology and guidelines first published in 1996 by the Project Management Institute, as instigating a mindset she describes as increasingly process-oriented and ever-decreasingly holistic. Hoy’s process for making her barometer began with rough prototypes. Hoy stated that she “started by looking at the barometer an instrument for measuring the outside environmental conditions; an idea that can be applied to a project’s environmental contexts and conditions.” Her barometer has a sliding scale which can be articulated along multiple axes. In her articulation of the known/unknown hemispheres, Hoy’s barometer could be compared to a colour wheel in which complementary pairs (of colour) sit on opposite sides of the wheel. These pairings of oppositions (or complements) can be seen in the table below:

<table>
<thead>
<tr>
<th>“Known” hemisphere</th>
<th>“Unknown” hemisphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgets</td>
<td>Value proposition</td>
</tr>
<tr>
<td>Time (Gantt charts)</td>
<td>Design increments (sprints etc.)</td>
</tr>
<tr>
<td>Management structure</td>
<td>Self-organizing teams (scrum etc.)</td>
</tr>
<tr>
<td>Products and services</td>
<td>Solutions and benefits</td>
</tr>
<tr>
<td>Scientific management</td>
<td>Business problem space</td>
</tr>
<tr>
<td>Business plan</td>
<td>Design strategy research and learning plan</td>
</tr>
</tbody>
</table>

Hoy designed her barometer to be used with Plexiglas sticks, each of these corresponded with one of the six oppositional pairings and these were intended to allow the user to play with and reflect upon and then represent the intensity of each aspect of given project in terms of both domain and intensity along the known-to-unknown axis. Blue is more known while the red end of the spectrum is more unknown (e.g., established business vs. new venture), see Fig 3. below:
Fig 3. demonstrates varied intensity along three axes within a single aspect of a project

As she began real-world testing of the barometer, Hoy realized that her own project management experience made the barometer less useful in her client interactions. She felt it was too complicated and somewhat self-evident (to her). Application of the barometer however, enabled her to develop the Strategy Clock; a simpler schema which allowed her to try to hone in on the broader implications of where the value she is creating is derived from. Key attributes of the clock are the same two hemispheres: known and unknown, Hoy states that a stick is chosen on the scale depending on the characteristic it represents which then is placed on clock relative to the management tool or approach that would best manage that project characteristic. See Fig. 4:

Fig 4. Shows Hoy’s more simplified Strategy Clock, in this configuration, Hoy states that the clock “Keeps it simple. The hands on the clock face indicate current team focus e.g., this clock shows our current focus is on design research and learning which will be done with our design team through quick sprints over the next month. Concurrently our operations team are establishing our delivery capability by looking at our overall organizational structure.”
Hoy elaborates, the face of the clock orients you in relation to the two hemispheres broadly. Then more specifically, it allows you to prioritize your immediate project actions. The clock is your first stop, whereas the barometer is a subtler and more complex tool. As an experienced project manager, Hoy believes that the barometer may be more useful in assisting a junior-level employee, believing it to be overly complex and perhaps of peripheral value (to her) compared with the clock, which, in contrast, “allows the user to locate themselves and then dig deeper in a more focused manner.” Hoy generally uses her model indirectly, that is, she generally interfaces with CEOs and founders, therefore the clock “has not been used to build team consensus but rather to formulate her thoughts and understand and create her consulting value via the framework before communicating it to clients.” For example, if there is an issue with formulating a global team for a specific project, Hoy may use the model to elicit a recommendation. She does however think it may have value in teambuilding and understanding and focusing collective intent and action.

Summary and next steps

I chose Hoy’s Project 2 for this case from a variety of interesting models developed in both this and a concurrent on-campus version of the same course I taught this past fall. I sought out Hoy’s work for this case because she almost immediately began beta-testing her model-as-tool in a consulting context, and, in fact, had used the heuristic of client relevance to develop the clock from the initial barometer design. As a new student in the course, Hoy’s recognition that her model could be immediately deployed was somewhat of a revelation to her but I believe her success in initial implementation and testing was partly due to her prior professional experience and this rapid real-world deployment, is, at the time of writing, the exception rather than the rule with these class cohorts and their projects.

Project 2 helped Hoy in shifting her own mindset about the role of design in her business as much as it provided specific practical guidance; she stated to me that “the design process of learning-by-doing has been huge in her process and has helped to transform her business currently and her future strategy for the direction of the business.”

The case I present here provides one practical example for how one business use of design thinking may evolve and it indicates what a beaux arts pedagogy—fused with a business education—may uniquely offer. Specifically, the case points the way toward achieving two pedagogical objectives that have been partially achieved through Project 2 thus far:

- Encouraging students to be the makers (as well as the users) of strategy tools;
- encouraging students to develop and test models, tools, maps, methodologies etc. using a thinking-through-making heuristic rather than a pre-determined abstract framework that lends itself to a process-understanding of a given business problem.

My next steps as an educator are to better articulate and more deeply embed characteristics of thinking-through-making (from my education and practice in fine art) into projects supporting the creation of new tools, methods and frameworks in business education broadly and specifically in design strategy. I aim to investigate whether, and how, these tools may scale and work in practice, within a variety of applied business and consulting contexts.

References


Parsons historical context (2019, March 4). Retrieved from https://www.newschool.edu/parsons/history/