**Managing versus Designing:**

**Newly Discovered Romance or Long-Lost Cousins?**

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**ABSTRACT**

Business schools have begun to incorporate design courses into their curricula. Organizational scholars are urged to seek insights from designers. Guided by Simon’s (1977) decision-making framework, we argue that there is at least as much conceptual overlap between management and design, if not more, as there appear to be differences. By clarifying dialectical versus conceptual distinctions between the two schools of thought, our work has the potential to move the field forward by minimizing the risk of discourses being lost in translation, and providing a practical framework for educators searching for ways to incorporate design thinking into the business curricula.

**INTRODUCTION**

Recent years have witnessed a growing trend in management to learn from the designers. Top business schools have begun to incorporate design courses into their MBA or EMBA curricula. Organizational scholars are urged to seek insights from designers. It has not always been clear, nevertheless, how management and design are conceptualized and theoretically distinguished in these discussions. Similarly, it is unclear whether the perceived differences are conceptual, linguistic, or stylistic.

The organizational literature’s interest in learning from designers is discussed comprehensively in Boland and Collopy’s edited volume *Managing as Designing* (2004). Showcasing Frank Gehry as a prototypical designer, Boland and Collopy inspired much intellectual exploration of design principles that could benefit management practice and education. Most notably, Boland and Collopy suggest that managers give up a decision attitude in favor of a design attitude. They define the decision attitude as “solv[ing] problems by making rational choices among alternatives and us[ing] tools such as economic analysis, risk assessment, multiple criteria decision making, simulation, and the time value of money” (Boland & Collopy, 2004, p. 6). Criticizing this decision attitude as narrowly focused on evaluating existing solutions as opposed to creating new solutions, Boland and Collopy urge managers to adopt a design attitude instead. They define design attitude as the view that “each project [is] an opportunity for invention that includes a questioning of basic assumptions and a resolve to leave the world a better place than we found it” (Boland & Collopy, 2004, p. 9). The design attitude is “concerned with finding the best answer possible, given the skills, time, and resources of the team, and takes for granted that it will require the invention of new alternatives” (Boland & Collopy, 2004, p. 6). The crucial difference between these two attitudes is characterized as the following: “the decision attitude is in the unrealistic position of assuming that good design work has already taken places, even though that is not usually the case” (Boland & Collopy, 2004, p. 6).

However, despite the impressive stories about Frank Gehry’s work, it is not clear if Gehry is a representative case of designers in general across various fields. Design as a broad discipline (Lyytinen, 2004) ranges from rational (e.g., engineering, mechanical) to emotional domains (e.g., artistic, music). Design domains also range from the routine (e.g., a slightly improved doorstop) to the highly risky (e.g., a Frank Gehry building). Focusing the managing-as-designing discussion on Frank Gehry examples runs into the problem of induction: Can we develop generalizable principles from examining the single case of Frank Gehry design?

Imagine if designers decided to obtain valuable insights from the management discipline after they have “discovered” Jack Welch, the former [Chairman](http://en.wikipedia.org/wiki/Chairman) and [CEO](http://en.wikipedia.org/wiki/Chief_Executive_Officer) of [General Electric](http://en.wikipedia.org/wiki/General_Electric) from 1981 to 2001. The designers may admire Welch’s managerial innovations and unique leadership strategies, and decide to study Jack Welch as a way to learn from management. While it is true that Jack Welch’s creative strategies and policy innovations could no doubt provide many valuable lessons, Welch’s practices are by no means representative of managers in general. Like Welch, Frank Gehry is a “superstar” in the field of architectural design, or design in general, and may not be representative of designers in general (Boland, Lyytinen, & Yoo, 2007).

To the extent that Jack Welch may be touted as a prototypical manager,, and that Gehry touted as a prototypical designer, Welch and Gehry can be considered as “long-lost cousins.” Welch and Gehry are similar in several ways. While both are tremendously successful in their own fields, neither are prototypical of these fields. They are more likely to represent the exception rather than the norm. For every Jack Welch in the corporate world, there are probably hundreds, if not thousands, of average managers. Likewise, for every Frank Gehry in the design world, there are probably hundreds of average designers.

As such, we feel that the managing-as-designing discussion is incomplete without a more systematic comparison between management and design in general. In order to move the field forward beyond isolated success cases, we seek to conduct a critical analysis of both management and design using Herbert Simon’s (1977) decision making framework, based on the rationale that both management and design activities are instances of more general human decision making processes. Specifically, we would like to consider the possibility that management and design are simply two manifestations of common underlying cognitive activities.

The scientific method of describing problem solving process suggested by Simon (1977) has been applied to various domains. This general high-level cognitive process could describe the human behaviors across various disciplines. To manage is regarded as a problem-solving process and many strategies have been developed to tackle a wide range of management problems. On the other hand, even though the design process might not be as discernible, it is also considered as a problem-solving process (Rittel, 1984).

One could argue that managing and designing share the same underlying process except they are dealing with different problem domains. For example, during the course of problem solving, one needs aids such as “prototyping” to examine potential solutions more easily. An architect could create low-fidelity prototypes (e.g. sketches) or high-fidelity prototypes (e.g. physical 3D models) to visualize design solutions and evaluate them against design criteria. Similarly, a manager could create low-fidelity prototype (e.g. financial forecasting model) or high-fidelity prototype (e.g. small-scale field experiments) to foresee the outcome and assess them against management goals

If we explore the whole range of problems for both domains, there are some open-ended and ill-defined problems, which require extraordinary people like Welch and Gehry to come up with creative solutions. However, it is probably much more common to come across routine tasks with non-negotiable constraints, which only require ordinary designers and managers to carry out. In order to compare across a range of managing and designing activities, we decided to examine one activity, the decision-making, which constitutes the critical part of problem solving process. Our goal is to demonstrate that in the decision making process, designers sometimes show a “decision attitude” as managers display a “design attitude”.

Models of rational human decision making often encompass a series of steps: First, information about the decision task is gathered with the goal to identify and define the problem scope. Next, based on the defined problems, possible alternatives are itemized, and selection criteria are defined and prioritized. During the third phase, the defined criteria are used to evaluate and choose among the alternatives. Finally, a decision is made based on the results from the alternative evaluation process (Simon, 1977).

In the following section, we discuss management and design activities with respect to this general decision making framework.

**Step 1: Collect information and identify problem**

Designers and managers alike must collect relevant information as they begin the decision making process. Contemporary accounts of design often reveal extensively involved processes of data gathering (Boland & Collopy, 2004). Designers such as Frank Gehry are known to conduct in-depth interviews with client representatives, sometimes numbered in the hundreds, before developing initial design sketches. As Boland and Collopy (2004) praise this emphasis on data collection as a desirable feature of the design attitude managers should acquire, their recommendation builds upon two important assumptions: Designers in general (and not just Frank Gehry) spend much time on data collection, and managers in general spend little time on data collection before making decisions.

In fact, it is not clear if designers generally spend as much time on data gathering as Frank Gehry. The recent trend towards a user-centered design philosophy can be considered as a conscious response to the long-standing tradition of “designer-centered design,” where designers were considered to be superior decision makers than users in design issues and thus there existed little need to consult the user. Gehry’s approach can be considered non-conventional and forward thinking even in the world of design.

At the same time, it is not clear if managers generally spend little time on data gathering. The growing investment in data warehousing and data mining techniques illustrates managers’ appreciation of data-driven decision making. Companies such as Wal-Mart base important managerial supply-chain decisions on extensive data collected from their operations, and companies such as Harrah’s Casinos base their marketing decisions on carefully designed field experiments with their customers (Pfeffer & Sutton, 2006). Access to a wealth of customer data allows managers to innovate by discovering new insights from analyzing data trends.

Contrary to Boland and Collopy’s (2004) observation that designers and managers differ significantly in their attitudes and approaches to work, we have observed a number of similarities between these two communities of practice with respect to the data collection stage of decision making. Both fields are represented by outstanding achievers that appreciate the value of data-driven approaches to decision making. At the same time, both fields have evolved over time to appreciate the value of data collection. Designers’ focus on users and managers’ focus on evidence are by no means long-standing traditions. Rather, both are recent awakenings after realizing the limitations of decisions made based on the designer’s or the manager’s hunches alone.

**Step 2: Conceive Alternatives and Select Criteria**

Data collected during the initial stage of decision making processes is then used to conceive potential alternatives, and select the criteria to be used for evaluating the alternatives. A designer, for example, would develop initial sketches and a set of selection criteria to evaluate and prioritize these sketches. A manager, similarly, would develop several action plans – insourcing vs. outsourcing, three potential companies for acquisition, etc. – and clearly defined selection criteria.

When discussing design versus decision attitudes, Boland and Collopy’s (2004) characterize this step of alternative development as easy for manager but complex and difficult for designers. Frank Gehry’s exhaustive search for the ideal design alternative was used to contrast managers’ general tendency to examine readily available alternatives. However, it is again not clear if the observed behavior is representative of designers in general or simply characterizes unique features of Frank Gehry’s work style. It is unlikely that most designers spend as much time as Frank Gehry on searching for the ideal design for several reasons. First, many designers work within much more well-defined confines and must navigate within a relatively limited space when creating the design. Moreover, Frank Gehry’s approach, while desirable in many ways, may not be practical for all types of problems. For instance, cellular phone designers are usually given a well-understood and fully-specified environment, and are expected to develop incremental as opposed to radical changes to existing designs. In such cases, designers would come up with a number of quick modifications as alternatives, similar to what Boland and Collopy’s (2004) characterize as the managers’ approach to conceiving alternatives.

Managers, on the other hand, are known to occasionally shake things up and develop radically innovative practices that are comparable to the magnitude of Frank Gehry’s work. For instance, Jack Welch, former CEO of General Electric, conceived a number of innovative managerial practices, such as differentiation, or sometimes called forced curve ranking, among employees (Welch & Welch, 2005), that set the tone for contemporary managerial approaches. Like Frank Gehry, however, Jack Welch is by no means representative of the majority of corporate managers. His radical approach has brought him critical acclaim (“Manager of the Century” by Fortune Magazine). Recognition of Jack Welch’s work, at the same time, is indicative that his exceptional status is by no means common to most managers.

The way criteria are selected predominantly affects the outcome of the decision making process. Typically managers are said to select criteria based on utility, whereas designers are said to favor aesthetic appearance in criteria selection. We argue that, it is less important to figure out how one criterion used by a manager differs from another criterion used by a designer. Instead, we should emphasize the similar debate on the strategy of selecting different criteria that happens both in design and management.

The notion of “Form vs. Function” has been a long on-going discussion for design. Designers are said to focus on more visual appearance (i.e., form), such as Frank Gehry. However, one can easily find famous designers who put utilitarian (i.e., function) at higher priority than the visual appearance (i.e. Louis Sullivan’s form-follows-function). On the other hand, one may argue it is mostly “form follows function” in the management world. Similarity, one could also find managers who see form (e.g. organizational hierarchy) more important than functions.

To summarize, many design alternatives are incremental rather than radical, and many managerial innovations are unconventional. Both design and decision attitudes, therefore, can exist in both professions. The nature of the decision often dictates different strategies for selecting criteria for evaluation. These criteria tend to focus more on form in design and function in management, although the reverse is not uncommon.

**Step 3: Use Criteria to Evaluate and Choose among Alternatives**

When alternatives and evaluation criteria are well established, the next critical step in decision making is to apply the evaluation criteria to the alternatives and use the evaluation results to choose the best alternative as the decision. Boland and Collopy’s (2004) characterize this step to be difficult for the manager but easy for the designer. The rationale is that, as the designer spends much time on crafting an ideal alternative, evaluating the alternative becomes a trivial task because the designer is now working with the best alternative and so the choice is rather obvious. Managers, on the other hand, much apply careful and lengthy analyses to a number of alternatives they quickly chose.

Rigorous research methodologies are sometimes, but not always, applied to evaluate business practices empirically. Correlational studies are much more common than experiments (Pfeffer & Sutton, 2006), although experiments are gaining increasing popularity recently. Gary Loveman commented that “there were three ways to get fired at Harrah’s: steal, harass women, or institute a program or policy without first running an experiment” when he served as the CEO of Harrah’s casinos (Pfeffer & Sutton, 2006). One major challenge to alternative evaluation using rigorous methods such as experiments is that companies often implement policies or practices in an all or nothing fashion (Pfeffer & Sutton, 2006), making it difficult to evaluate program effectiveness in different contexts, with different parameters, etc.

The degree to which alternatives can be easily assessed, again, depends much on the nature of the problem domain. Certain domains, such as financial profitability or engineering integrity, can be evaluated more objectively than other domains, such as art or culture. Managers face decisions that are easier to evaluate than others – financial forecasting can be evaluated much more objectively than the organizational culture of potential acquisition targets. Similarly, some design decisions can be made much more objectively than others – computer chip designers can quantify the quality of design alternatives much more objectively than architects can with their design choices.

To summarize, the degree to which alternatives are carefully evaluated against selection criteria varies depending on the decision task in both design and management. Some decisions lend themselves to quantitative assessments whereas other decisions are determined much more subjectively.

**CONCLUSION**

We have illustrated that, with Simon’s (1977) decision-making framework, design and decision attitudes are simply two different versions of human decision making processes. The strengths and weaknesses of each approach are manifestations of strengths and weaknesses of various decision-making stages, as well as the nature of the decision being made.

Despite the exciting promises of a design attitude, it comes with hidden risks, just like any other decision making processes. The field of management has a reputation for being obsessive with glorified new ideas and breakthroughs (Pfeffer & Sutton, 2006). The not-invented-here syndrome encourages managers to constantly invent new ideas with little evidence to support their viability. As documented in Pfeffer and Sutton (2006), executives like those working for Southland Corporation can become infatuated with their innovative process design idea – in this case a multi-million dollar program, including a million-dollar drawing and a high-profile media event, to improve customer service in 7-Eleven stores. The goal of the program was to get every store clerk “to offer a greeting, smile, eye contact, and a *thanks* to every customer” (Pfeffer & Sutton, 2006, p. 38). This managerial innovation *designed* outside the box, however, was later proven to be of little value in terms of increasing sales, after careful field research was conducted. The design attitude encourages managers to seek breakthrough ideas beyond conventional practices. The danger of this approach, however, is pursuing new designs without careful and thorough evaluation.

To conclude, our conceptual analysis of the newly discovered romance between design and management suggests that they are likely to be long-lost cousins. Design is a process in which design problems and requirements are studied and solved. The process is often defined as “the management of constraints” (Darses, 1991; Day, 1993; Moretti, 2002; Ronkko, 2005). Sometimes people are amazed by the way designers create the final products in a creative way. However, most of the time, designers “manage” their design process in a routine way. In contrast, managing is a process in which resources are allocated and manipulated in order to achieve certain goal for the organization. The process might be tedious, but from time to time, brilliant managers “design” innovative ways of management. By clarifying dialectical versus conceptual distinctions between these two schools of thought, our work has the potential to move the field forward by minimizing the risk of discourses being lost in translation, and a practical framework for educators searching for ways to incorporate design thinking into the business curricula.

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