

# ELEGANT SOLUTIONS

## Design Thinking for Managers

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*Simplicity has a clear role in design. What does it mean for managers?*



Design Thinking has rapidly moved to the forefront of the current management zeitgeist as a fresh take not just on about rethinking key products and services but also about reframing everyday processes and projects. In an effort to create a cross-company culture of innovation and collaboration, businesses all over the world are taking a page from design firms, and realizing the rewards.

What is Design Thinking? Citing a 1969 book by Herbert Simon called *The Sciences of the Artificial*, Wikipedia defines it this way:

Design thinking is a process for practical, creative resolution of problems or issues that looks for an improved future result. It is the essential ability to combine empathy, creativity, and rationality to meet user needs and drive business success. Unlike analytical thinking, design thinking is a creative process based around the “building up” of ideas.

Given this definition, it’s clear that design thinking isn’t about “making pretty.” It’s about embedding a disciplined approach to blending creativity and logic in order to solve real business problems, with the intent of turning everyone, regardless of function or title, into a designer of sorts. That intent is focused on creating an elegant solution for whoever is on the receiving end of your work product.

The goal of elegance is to maximize effect with minimum means. It’s an elusive target, which explains why it’s so rare and in turn so desirable. Scientists, mathematicians, and engineers search for theories that explain highly complex phenomena in stunningly simple ways. Artists use white, or “negative,” space to convey visual power. Musicians and composers use pauses in the music—silence—to create dramatic tension. In Japan, architects and martial artists pursue shibumi, a word appropriately without definition but meaning, very loosely translated, “effortless effectiveness.” Physicians draw on the Occam’s razor principle in an effort to find a single diagnosis to explain the entirety of a patient’s symptoms, shaving the analysis down to the simplest explanation.

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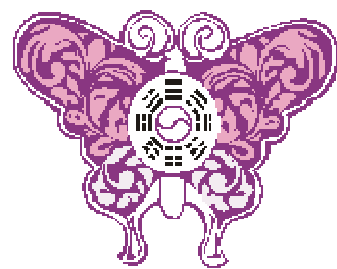
And for today's manager, the key to understanding its relevance lies in realizing that value, for customers and employees alike, may best be added, paradoxically, through a primarily subtractive process. As Jim Collins wrote in a 2003 USA Today essay: "A great piece of art is composed not just of what is in the final piece, but equally what is not. It is the discipline to discard what does not fit—to cut out what might have already cost days or even years of effort—that distinguishes the truly exceptional artist and marks the ideal piece of work, be it a symphony, a novel, a painting, a company, or most important of all a life."

What helps is to have a framework for applying three important design principles—symmetry, seduction, and subtraction—for these are critical elements of elegance.

### **SYMMETRY: Simple rules create effective order**

Most people think about symmetry in terms of a mirror reflection, which is a visual left-right balance. But that's just one example of a kind of symmetry, of which there are many. In fact, most of the natural world is symmetrical, characterized by infinitely repeating patterns. So the best way to think about symmetry is the way Hermann Weyl defined it in his seminal 1952 book *Symmetry*: "A thing is symmetrical if there is something you can do to it so that after you have finished doing it, it looks the same as before." What Weyl's definition really says is that symmetry is about dynamic properties of ordering, organizing, and operating. And that places the concept squarely in the manager's world.

When we construct hierarchical organizational charts, we are unwittingly trying to achieve a certain intuitive symmetry, a fractal. The term fractal was coined in 1975 by Benoit Mandelbrot, who was at the time working for the IBM Thomas J. Watson Research Center in New York, applying mathematics to problems of economics, finance, and information technology. Fractals are known as the "fingerprint of nature" and are a special type of symmetry: repetitive patterns nested within each other that remain the same at differing scale of magnification, so that the overall structure is similar to a single smaller structure. The most important thing for a manager to realize is that fractals occur naturally and arise out of extremely simple rules that when fed back on each other create beautifully organized and highly complex designs.



The implications for a manager are important. For example, many large corporations

approach high rates of absenteeism by drafting strict penalty policies. Some have gone so far as to hire “absentee coordinators” to shadow employees in the belief that employees will show up if policed well. Toyota Motor Corporation took the opposite approach when it partnered with General Motors in 1983 to reopen a shuttered plant, one that had been plagued with 20% absenteeism and the lowest quality and productivity of all GM’s plants at the time. Inheriting the same union workforce, Toyota embedded in the culture two crucial, non-negotiable agreements that represent the heart and soul of the Toyota philosophy: respect for people and continuous improvement. Workers were placed in charge of their own work and encouraged to interpret these ideals in their own way. Within two years, absenteeism dropped to 3%, quality and productivity rose to record highs, and the 5,000 union grievances on file were replaced by more than 15,000 employee-led improvements.

### **SEDUCTION: Limiting information creates intrigue**

The power of suggestion is often stronger than that of full disclosure. Leaving something to the imagination, open to interpretation, creates an irresistible aura of mystery, and we are compelled to find answers. The seduction is in what we don’t know. What we don’t know far outweighs what we do, and we are naturally curious; we are easily drawn to the unknown, precisely because it is unknown. What isn’t there drives us to resolve our curiosity, and we will fill in the information we deem missing in order to do so.

Apple’s original iPhone strategy is a good example. In the months leading up to its launch, the iPhone was hailed as one of the most-hyped products ever to hit the market. But to hype something means to push it heavily through the use of various sales and media tactics—and that’s exactly the opposite of what Apple did.

There was no multichannel, multimillion dollar campaign. Steve Jobs’s simple 2007 MacWorld demonstration was essentially it. So the spare design was coupled with an equally spare strategy: announce once and do nothing. By the time the iPhone finally went on sale, 20 million Americans had expressed interest in buying one, regardless of the price or potential wait time.

**Subtraction: restraint and removal creates value.** When neuroscientists examine brain activity using functional magnetic resonance imaging (fMRI), they notice that activities involving subtraction light up an entirely different part of the brain than those involving addition. Subtraction is indeed a different way of thinking. But the positive impact of a manager asking and answering questions like these is undeniable: What would my customers love for me to eliminate or reduce or stop adding? What is it that my competition would struggle with if I were to cease? What would my most highly

valued people love for me to stop doing?

The trick about subtraction, of course, is in understanding what to eliminate, and exactly how to go about it. But that is another discussion entirely.

*Matthew E. May is the author of [In Pursuit of Elegance: Why the Best Ideas Have Something Missing](#) (Broadway Business, 2009) and the critically acclaimed [The Elegant Solution: Toyota's Formula for Mastering Innovation](#) (Free Press, 2006), which won the Shingo Research Prize for Excellence. A popular speaker, May lectures to corporations, governments, and universities around the world, and works with creative teams and senior leaders at a number of top FORTUNE-listed companies.*