

# Turning Design Thinking



*into*

# *Design Doing*

The principles of design can be applied to generate breakthrough thinking over incremental thinking. Here's how to get started.



*by Heather Fraser*

Design is one of the hottest topics in the business arena today, dubbed the new driver of innovation and the new competitive weapon. This year, it even got its due at Davos, where the **World Economic Forum** featured a roster of programs on new thinking about innovation and the value of design as a means of unlocking breakthrough ideas [including three sessions led by Rotman Dean **Roger Martin**.]

Imagine if everyone could get in on what the world's leading innovators are discovering; we'd see more value and less waste – of energy (human and otherwise), time and money. But before design can impact human and economic value to its fullest potential, it must be translated into an accessible, 'doable' program. Those who are intrigued by design need to be able to grasp its core notions and begin to put its principles and practices into play, with a long-term conviction to shifting their culture by driving the philosophy throughout the entire organization.

Whether your goal is to develop new products or services, a new way of marketing to your customer, or to reinvent your entire business model, 'design thinking' holds valuable clues as to how to get to bigger ideas, faster and more efficiently. And while there are many methods for fueling innovation, the principles and practices behind design are so intuitive and have such a pedigree of success, it is hard to question their value.

The purpose of this article is to translate inspiration into implementation by highlighting the learning and practices of those who have discovered how to turn *design thinking* into *design doing*.

### Design vs. Design Thinking

Most people associate the word 'design' with a physical manifestation of form and function – an aesthetic that appeals to the discerning user, a form that creates a satisfying user experience, a physical and emotional 'journey' for the user in spatial terms, or an engineering accomplishment that makes the concept viable, technically and economically. All of these are valid and valuable interpretations of design, relating to the craft and technical expertise of the design field that helps to create human and economic value for the world.

But beyond these dimensions, the core principles and practices behind all great design can be more broadly leveraged into general problem-solving and, most importantly, the reframing of opportunities in a strategic sense. This is what is often referred to as 'design thinking'.

Design disciplines of all kinds (engineering, architecture, graphics, industrial design and others) teach things not typically taught in business and management schools. When we study the ways the 'design world' thinks and makes things, there are patterns that emerge in terms of mindset and method that are just as valuable to business and not-for profit endeavors as they are in the design realm.

In fact, any organization on a mission to create economic and human value – be it a federal government agency or a well-established commercial enterprise – can harness the power of design thinking to drive true innovations.

Is it all about creativity? No. Creativity is technically the *ability* to create something new. Design is about the process of making or *doing* something new. And that's where design is more aligned with innovation on a grand scale – it is not an *attribute*, it is fundamentally about *action*.

## Design is about the process of making or doing something new. It is not an *attribute*, it is fundamentally about *action*.

Finally, the process of 'design doing' is not about establishing a new set of rules – it is about a fundamental shift in culture – a reframing of the collective mindset and methods of working that infuses your culture with the spirit of innovation in a way that is consistent and sustained.

### The Mindset Defines the Conditions

The first step is to extract the 'attitude' behind design. There have been scores of great articles written about the mindset of those who design, all pointing to some inspiring characteristics that most of us admire and would willingly embrace under the right conditions. The most notable themes fall into three general

traits: open-minded collaboration, courage, and conviction.

**Open Up:** Design doing is a non-starter without open-minded collaboration. This means everyone on the team needs to be receptive to everyone and everything in order to achieve something worthwhile. Openness requires not only a commitment to 'working together', but also an earnest receptiveness to new ideas (good and bad), an interest in every new insight – whether it fits your preconceived paradigm or not, and an allowance to imagine the possibilities of what could be, no matter how unreasonable or infeasible ideas may seem. Designers get a charge out of new ideas, new partners and new possibilities. They feed off of new insights and effectively build off the ideas of others, embracing both the friction and fusion that comes with intense collaboration.

**Go out on a limb:** The right emotional circumstances will inspire courage to experiment and play with new ideas. Great design does not come without risk-taking and trying new things, with the very strong possibility of failure. **IDEO**, one of the world's greatest innovation labs, has count-

less stories of where a really 'bad' or 'crazy' idea became the germ of a brilliant concept. How often have we heard someone ask, "What if it doesn't work?" or claim, "If I do that I may get fired." Creating a culture of courage is not just about making people brave enough to go out on a limb, it is about creating the right conditions in which brave and intelligent people can perform – conditions of integrity, trust, and tolerance for risk-taking. All of these are related back to open-minded collaboration, as integrity is the root of trust, which is the fuel for collaboration. If you don't create an open-minded environment, even the most courageous individual will not succeed.

**Don't give up:** No great design is realized without conviction. Conviction is the absolute unwillingness to give into constraints and obstacles. Dean **Roger Martin** states that the single biggest attitudinal driver in breakthrough success is a “no trade-offs” mindset – the attitude of those who dive into ‘wicked problems’ and see constraints as a juicy challenge rather than a reason to give in and settle for less.

While there are many important emotional conditions under which design thinking can flourish, without those outlined above, innovation through the practice of design will never get off the ground. The psychology of the individual and collective is the foundation for success.

### The Methodology – Gearing Up

With the right emotional conditions in place, the next step is to DO something together, focusing on a few core components rather than a litany of rules, process maps and formulas. There are many tools and techniques in design, but for it to become culturally embedded in an organization, three ‘forces’ have to converge: a deep user understanding; multiple prototyping; and strategic business design. In **designworks™**, we call these forces ‘the three gears of design’.

**Figure One: The Three Gears of Design**



What most well-established companies do as a matter of practice is begin by examining their ‘big gear’ – the existing business model. This tried-and-true exercise focuses largely on how to make the most of their current capabilities and capacity – naturally, as this is where their capital and

salaries are invested. Most ‘growth initiatives’ take the form of line extensions and expansions; concepts are developed, and then tested with the consumer they know in a certain way for specific products or cat-

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egories. If research suggests incremental sales with minimal investment risk, it’s ‘all systems go’. This is a very responsible way to stretch more out of your current activity system, with largely incremental results.

Then there’s the ‘breakthrough route’, where innovation really thrives. If you begin with the user and set out on a path to look at the broader context of their lives and activities, you will suddenly see a whole new set of opportunities to be tapped. The Illinois Institute of Technology’s Institute of Design has developed an ethnographic methodology for understanding the user’s ‘activity’ (versus product usage) that reveals a whole new set of opportunities and helps set new criteria for innovation. If you develop a deeper understanding with a broader lens, you open yourself up to new possibilities. Witness athletic performance brands like **Adidas** moving into the fashion arena, and **iPOD**’s redefinition of mobile entertainment.

The next round is to build on those new insights and criteria to develop ‘outside the dots’ concepts – exploring many new and even seemingly crazy ways to deliver bigger, broader user value. The ‘design key’ in the concept development process is to create and consider a variety of ways to deliver against your criteria through multiple-prototype exploration, with an open mind to feedback and reconfiguration along the way. With user feedback, you can continue to narrow your options and create the concept that is most distinctive and creates the most value for your user, perhaps tapping into a need or opportunity that no one (including the user) had even recognized or articulated: that’s breakthrough. The computer

mouse for **Apple** was perfected by IDEO following extensive prototyping and iteration in order to meet the seemingly impossible requirement of increased reliability at 10 per cent of the original cost of its

**Xerox** version. Similarly, concept cars are unveiled at auto shows to generate customer feedback and further refine the design.

With the ‘big idea’ in hand, you then take on lever three, strategic business design, to model a unique system of ‘strategic hubs’ and ‘supporting activities’ that will not only deliver value to the user, but also competitive advantage and profit to you. Pushing the concept through to a point that it is viable and profitable is not easy – this is where the ‘no trade-offs’ attitude pays off. It requires a lot of hard work and many iterations, but every team behind a great breakthrough will tell you that their conviction and collaboration pushed the project through to fruition. **Southwest Airlines’** activity system has allowed it to become one of the most innovative providers of consumer value in a highly-competitive industry, creating a sustainable competitive advantage that other airlines have attempted (in vain) to mimic.

For each of the three gears, there are many tools and techniques that are used by great design teams, but the depth and rigour behind each gear cannot be compromised. Moreover, it is never a clean and linear pass-through process; it is extremely iterative. It’s not about using a restrictive set of rules – but instead creating the right conditions under which some core pillars (user – idea – business model) serve as the touch points throughout an iterative development process. It is about liberating oneself and the team from the constraints of early perfection and not being preoccupied with getting it right too early, so that you limit your possibilities. What companies find when they practice iterative

prototyping – be it a product concept or a business model – is that they work their ideas through earlier and faster, leveraging the experience and perspective of senior management – rather than waiting until all of the I’s are dotted and T’s crossed to get their approval.

### Design Principles Pay Off

When the conditions are ripe for innovation and the general principles and methodology of design are put into play, it is remarkable how big and broad the impact can be.

Following are some wide-ranging examples that demonstrate how ‘design doing’ can deliver breakthrough results in any field, on every level. The methods behind these successes are reflective of the principles of design and showcase the wide-spread impact of design in diverse fields.

### 1. Life-Saving Packaging: Target’s New Prescription Bottle

In 2004, insightful designer **Deborah Adler** [see coverage of her talk at Rotman on page 87] set out to completely overhaul the standard decades-old prescription bottle which created no end of problems with patient compliance and health risks due to medication mistakes. With a deep understanding of who took medications and how, she designed a remarkable new package to take the anxiety and risks out of medicating. **Target Pharmacies** embraced her design and took on the challenge of working to refine the concept into a viable reality. The U.S. Surgeon General wrote that this may very well be the single biggest breakthrough in prescription care in decades. This is a fantastic example of how something ‘generic’ and functional can create both competitive advantage and offer

immeasurable user value – from holding pills to saving lives.

### 2. Operational Transformation: Boeing

Fraught with operational issues and the need to build a new manufacturing plant with an eye to improving the operational and organizational challenges of its past, **Boeing** and its architectural firm **NBBJ** decided to put design thinking to work in its broadest sense and create a ‘democratic’ workplace where blue-collar workers and white-collar engineers, sales, and corporate people work side by side, with the product (Boeing 737) at the core. The new workplace, opened in 2004, was infused with the design message of collaboration and the idea that every individual was important, with the focus on the product rather than the process. Real and quantifiable improvements were noted: plane unit

# Introducing: the Rotman Business Design Initiative

### Karen Christensen: What is the Rotman Business Design Initiative?

**Heather Fraser:** The Business Design Initiative is an important component of the research and development program of the Desautels Centre for Integrative Thinking. Whereas the broader notion of integrative thinking includes all aspects of the cognitive development relating to holistic, ‘connective’ thinking, the design initiative specifically applies principles and practices from the discipline of design to produce tangible outputs and solutions.


### KC: Talk a bit about the School’s partners on this initiative.

**HF:** The relationship Rotman has with the Institute of Design at Stanford [headed up by IDEO founder **David Kelley**] and the Illinois Institute of Technology’s Institute of Design [headed by **Patrick Whitney**] is best described as a collaboration – a working relationship that is not one of a formal or

exclusive nature, but represents an open exchange of thinking that brings together complimentary areas of expertise in design and business. The collaboration has emerged out of a shared interest in fusing the best practices of design and business to foster innovation. The goal of this collaboration is to link ‘design methodologies’ around human insight, physical invention and business design in a way which will complete the innovation cycle, from inspiration through to the creation of a viable concept and supporting business model. Our first collaboration, **designworks™**, fuses the learning of all three academic institutions into a working model for inspiring innovation across all functional disciplines. Our pilot sponsor is **Procter & Gamble**, a leader in design thinking in industry. Beyond this workshop initiative, we have also shared research interests relating to the impact of design methodologies on the innovation process and cultural transformation.

### HF: What are you hoping to achieve over the next five years?

**KC:** The overall goal is to develop a learning stream for both the MBA program and industry that will integrate the best practices from a wide range of design-related disciplines. This will include the development of the following elements:

- a working methodology for applying design principles and practices to create economic and human value, with outputs to include both research and learning programs;
- a curriculum stream that will offer MBA students the opportunity to develop a deeper set of skills and methodologies relating to ‘design doing’, culminating in a design major;
- a design module integrated into the Executive MBA program;
- a customized education program for corporations and industry at large which can enhance the innovation capabilities and culture of a wide range of organizations. 

costs were decreased, resolution times shortened, and the number of 'flow days' in the factory for final assembly was reduced by 50 per cent. Results demonstrate that you can improve operational effectiveness by understanding your employees as customers and designing space for both operational and cultural transformation.

### 3. Communications Design: Viagra

In 2001, Viagra held the leadership share in its category. The challenge was that the market was 'contained', for the simple reason that men were not consulting their doctors about their condition. By understanding the holistic experience of the sufferer from the stage of 'denial through to revival', Pfizer

**2. Build it into your corporate/organizational strategy.** Design is not just a 'tactic'; in order to succeed, it needs to be part of your organizational strategy – from top to bottom, across all areas of expertise. Samsung's embrace of design at all organizational levels has allowed it to move from a commodity producer to a brand leader: in the U.S., it now regularly trounces Sony and Panasonic in sales.

**3. Assign a leader, but don't limit it to a function.** Innovation through 'design doing' involves everyone. It is not just the 'design department' or the 'innovation team' or the 'marketing function' – it should inspire and impact every corner of the organization.

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implemented a program that connected to and guided the sufferer through every stage of their journey, using a multitude of channels and tactics to empathetically transform a passive patient into an active patient. The results – an unleashing of patient/doctor dialogue and a surge in prescriptions – demonstrate that these same principles can also be applied to breakthrough market development and communications planning.

### Seven Steps to Successful Design-Doing

Following are some tips to consider upon committing to 'design' as a means of dialing up innovation and increasing the odds of sustained success:

#### 1. Make a long-term commitment.

Design is not a one-shot vaccine; it's an 'innovation fitness program' that puts an organization on top of its game. It is not an 'event', it is a way of thinking, communicating and doing every day. GE's strong track record of investing in management practices that push for continuous product and business model improvement have made this organization an innovation behemoth.

Teams need to be singing from the same song sheet. Claudia Kotchka's appointment as head of design strategy at Procter & Gamble has served to inspire and institutionalize design across the 100,000-strong organization, making it one of the most innovative and consumer-centric corporations in the world.

**4. Collaborate and internalize it.** Don't hire someone to do it for you, collaborate with experts who will do it *with* you and inspire/teach you along the way. As with physical training, consider hiring a 'design trainer' or 'coach'. Witness Monitor University, IDEO's relationship with its clients, and Rotman's designworks™ initiative [see sidebar for details].

**5. Inspire, don't legislate.** It's not about establishing a new set of rules. It's about a cultural shift toward fewer rules, deeper values, and stronger principles. It's a new way to think, not just about projects but the way you work together day-to-day to solve problems and create breakthrough opportunities. One only has to see the power of

inspiration in fueling corporate 'brand' cultures like Clearnet (now Telus), Apple and Medtronic. Design thinking can inspire in much the same way.

**6. Feed it and reward it.** Once all of the above conditions are met and 'design doing' is set in motion, the organization will make design a way of life and build its own momentum. Much as design is part of an organization's innovation strategy, it also needs to be part of an its cultural development program and reward system in order to be validated. 3M's strong 'culture of innovation' that rewards creativity at every organizational level has made the company a leader in delivering breakthrough solutions throughout much of its history.

**7. The future starts today.** While a sustained shift in culture takes time to gain traction, it is important to get started, think big about the future, and implement what you can today.

### In Closing

Organizations can no longer count on quality, performance or price alone to sustain leadership in the global marketplace. Design has clearly emerged as a new competitive weapon and key driver of innovation. Leveraging the power of design across all aspects of a business can establish and sustain an organization's unique competitive advantage.

By consciously fostering the right kind of emotional environment and following the seven guidelines outlined here, your organization will be well equipped to translate inspiration into implementation. ■

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Heather Fraser is director of Business Design Initiatives in the Desautels Centre for Integrative Thinking at the Rotman School. She is the creator of Rotman designworks™, a pilot program currently being tested in organizations that will become part of the Rotman curriculum in the near future.

