



The Design of Business

Why Design Thinking Is the Next Competitive Advantage

by Roger Martin

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256 pages

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Take-Aways

- Business leaders often believe they must choose between analysis and intuition. “Design thinking” offers a third path.
- Design thinkers observe the world, imagine alternatives and bring them into being.
- Innovations start as intriguing “mysteries.” To unfold them, first develop workable “heuristics” and then derive predictable “algorithms.”
- Think of the learning and discovery process as moving through a “knowledge funnel.”
- People need analysis and creative thinking at different points in that funnel.
- New firms emphasize “exploration.” As they mature, they shift to exploiting known ideas, but if they stop at that point, other innovators will surpass them.
- Your organization must balance predictable or “reliable” production with “validity,” experimentation that leads to new ideas and commercial success.
- To protect a company, leaders must protect the exploration that leads to its validity. However, over time, organizations tend to emphasize reliability instead.
- To develop your design mind, broaden your “personal knowledge system.”
- Cultivate the “stance, tools and experiences” that build enhanced “sensitivities and skills.”

Rating (10 is best)

Overall

9

Applicability

8

Innovation

9

Style

9

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Relevance

What You Will Learn

In this Abstract, you will learn: 1) What “design thinking” is, 2) How business design works, 3) How to apply design thinking in your organization and 4) How to build design knowledge.

Recommendation

Roger Martin’s book on business design is subtle yet profound. He guides you to rethink the way you conceptualize business decisions so you can shift to “design thinking.” Using an approach rooted in both practice and theory, Martin cites examples ranging from Cirque du Soleil to McDonald’s. He urges you to reconsider your leadership model and organizational structures, and to exercise “abductive logic,” thinking that moves through “logical leaps of the mind.” Martin’s call for action is bold and enjoyable. He offers innovation and regeneration as the rewards for accepting his challenge to balance validity and reliability. *getAbstract* recommends his book to designers, those who work with them, and anyone charged with managing innovation or organizational redesign.

Abstract

“The design thinker therefore enables the organization to balance exploration and exploitation, invention of business and administration of business, and originality and mastery.”

“Without committed leadership, no business can realize the structural, process and cultural adjustments needed to become a design-thinking organization.”

“Design Thinking” and the “Knowledge Funnel”

Two common perspectives prevail on how to create value in business. One side attaches importance to “analytical thinking,” logic and certainty. The other side emphasizes “intuitive thinking” and raw creativity. On the surface, the two seem irreconcilable. The solution is a third option using a “dynamic interplay” between these two worldviews to create design thinking. To understand design thinking – and to see why neither analytical nor intuitive thinking is sufficient alone – consider the metaphor of a new idea moving through a knowledge funnel. This is one method for visualizing how a problem is solved in ways that create value, profit and greater ease of application.

The knowledge funnel begins with a “mystery,” since mysteries large and small can emerge in all fields. The mystery begins when you notice something, like an apple falling to the ground, and wonder about it. People who study why the apple fell move into the second stage, developing “heuristics.” A heuristic articulates an “incomplete yet distinctly advanced understanding” of a problem. Someone like Isaac Newton can use a heuristic to explain that gravity made the apple fall. In this case, Newton carried his deduction forward into the third stage, the “algorithm.” Algorithms provide “step-by-step” guidance for solving problems. In the mystery stage, no one can solve the problem and competing explanations abound. In the heuristic stage, though some people still don’t understand the problem, experts can use heuristics to begin to derive powerful solutions. Once you push a problem through the knowledge funnel to the algorithm stage, anyone can address it. Traditionally, this meant recipes, formulas, and so on. Now, the most extreme kind of algorithm is computer code, which may not even need human involvement to do a task.

When visionary individuals or corporations derive an algorithm from a heuristic, they create tremendous value. For instance, a new algorithm can eliminate waste by allowing workers to focus on executing precisely the steps they need, and no more. Take McDonald’s. The McDonald brothers successfully addressed a mystery: how to prepare good food the way that people want it. Ray Kroc took their heuristic and pushed it to an

“To advance knowledge, we must turn away from our standard definition of proof – and from the false certainty of the past – and instead stare into a mystery to ask what could be.”

“A business that is overweighted toward reliability will erect organizational structures, processes and norms that drive out the pursuit of valid answers to new questions.”

“The design-thinking organization applies the designer’s most crucial tool to the problems of business. That tool is abductive reasoning.”

“Remember, computers don’t exercise judgment. They are fast because they don’t think.”

algorithm, standardizing portion sizes, cooking times, processes, restaurant design, and so on, for maximum effect. When you look at the knowledge funnel, you can see that the battle between analytical thinking and creative thinking is somewhat misguided. There’s no war: People need to use both kinds of thought, but at different points in the knowledge funnel. Both are valuable, and both can disrupt the process if applied incorrectly. If you use analytical thinking without foundational knowledge, you’ll kill discovery. But if you work with a well-established algorithm, you don’t want people to seek intuitive breakthroughs in that area, because it might disrupt your predictable flow of work and profits.

Moving Beyond Existing Binaries

Generally, businesses emphasize either “exploration,” that is, seeking, creating and generating something new, or they focus on “exploitation,” making all the money they can from what they already know. Both are legitimate ways to generate value, but each carries risks. If you overemphasize exploration, your firm won’t be stable, because breakthroughs don’t happen on a timeline. On the other hand, emphasizing exploitation, which at first increases efficiency and cuts costs, eventually reaches a point of diminishing returns. Someone else will create a new product and displace you. Businesses often begin by exploring, making a breakthrough and exploiting it. A few firms avoid this path, so they don’t have to choose between exploration or exploitation. Instead, they make a “second intuitive breakthrough,” regenerating themselves as innovators.

Exploration emphasizes intuitive thinking, while exploitation relies on analytical thinking. A third approach also exists: “abductive logic,” the key to design thinking. American philosopher Charles Sanders Peirce, a pragmatist, articulated the case for abductive thinking. He said that pragmatic thought moves beyond inductive reasoning (from specific examples to general principles) and deductive reasoning (from general precepts to specific truths), and focuses on how people generate new ideas, how they “come to know and understand” fresh concepts. Peirce argued that neither inductive nor deductive logic could generate anything truly new, because both depend on the past. Instead, he offered abductive reasoning, which moves ahead through “logical leaps of the mind.”

You don’t use abductive logic to determine if something is true or false; you employ it to indicate a new path to a possible truth. Once you make a leap of abductive logic, you look for data that test your hypothesis and, perhaps, spur original ideas that still make business sense. Mike Lazaridis, founder of Research in Motion (RIM), exemplifies this sort of thinking. When other phone companies were focused on analog phones, he came to realize that the future lay in “digital processing.” He couldn’t prove that idea with traditional logic, since his concept was new, so his stance was risky. Yet he believed that to lead the market, he had to go beyond what seemed possible. So RIM plunged into digital, but not blindly. Its researchers studied the pager market, looked at e-mail’s growth and conceptualized the “personal digital assistant”: the BlackBerry.

Businesses face another decision they may not even recognize: the choice between “reliability” and “validity.” A reliable process is predictable, the realm of algorithms and binary code. Such a process replicates itself every time. Conversely, validity means producing the results you want. If you seek a medical breakthrough, the path to validity calls for gathering data and doing analyses that can lead to discovery. You can’t make validity predictable, because you’re trying something new. Leaders say they value innovation, but most firms are biased toward reliability. Reliable systems let them apply lessons from the past, prove that their ideas work, move quickly and defeat time pressure. Since systems such as Six Sigma depend on known steps, you can apply them to strip away

“Delving into mysteries is the most expensive activity along the knowledge funnel, because you literally don’t know what you are doing.”

“That is why most executives prefer the known to the unknown. It is much easier, safer and rewarding to run a billion-dollar business than it is to invent one.”

“Design thinking can create value in areas of the corporation far removed from marketing and product development.”

“Generally, the larger the company, the less likely it will be receptive to design thinking.”

fat and clarify processes. Reliability is attractive, but it is not enough by itself. Without validity, the flow of new products via your knowledge funnel will trickle to a halt.

The Leader’s Role

As businesses grow, they become more complicated. Leaders, who once dealt with everything firsthand, have to work at a distance. Lacking a direct view of every detail, they use organizing systems grounded in “analytical reasoning” and plan for the future based on the past. This pushes growing companies toward reliability and away from validity. Outside forces, like investors, also push firms toward reliability. Various areas of the company feel this “inclination toward reliability” with different levels of intensity. Sales and other departments that deal directly with customers and markets strongly favor validity, since they must stick with effective, current methods. Human resources, finance and other areas that don’t have to please outside markets push strongly for reliability. As your company grows, lead it to balance reliability with validity. Consciously resist the slide toward reliability, correct for everyone’s bias in that direction and help the company emphasize validity to protect its “long-run sustainability.”

Take the lead in redesigning your company’s structure. Rather than keeping people in set positions with specific titles and known tasks – which is reassuring but reliability-driven – consider organizing around projects and functions, as design firms do. Redesign financial systems. Rather than insisting on highly specific (and reliable) budgets, set goals and spending limits, and let people work toward their goals within those constraints. Don’t give the highest performance awards to the biggest departments, but rather to those that solve the most “wicked” problems. In general, establish cultural norms that support validity.

Design Thinking in Action

Design thinking can take many forms. Some mysteries will yield completely to exploration and lead to predictable algorithms. Companies that stop with only one solution will find that competition arises from unexpected directions as others find new paths or the market shifts. That happened to McDonald’s in the 1990s, when consumer demand changed and no longer matched its profitable fast-food algorithm. Market demand for healthier menus and more choices let other restaurants, like Subway, carve away some of McDonald’s customer base.

However, organizations don’t have to fall back on known formulas. When A. G. Lafley became CEO of Procter & Gamble (P&G) in June of 2000, it had spent a decade “restructuring” and still hadn’t regained its former glory. Lafley knew P&G needed innovation to bring consumers back, but innovation balanced by efficiency. That made design thinking crucial. Lafley hired Claudia Kotchka for the new position of vice president for design strategy, because he saw design as central to rejuvenating P&G. Kotchka brought in outside experts, including the famed design firm IDEO, to redesign how P&G worked. They added designers to its business teams, retrained the workforce in design thinking and set out to inject design into Procter & Gamble’s DNA.

Lafley shook up the company’s processes. He changed its formal, predictable annual reviews to active question-and-answer sessions. Disappointed by P&G’s innovation record, he set a bold goal: Rather than developing most innovations in-house, P&G would contract for half of its innovations from outside sources. This “Connect + Develop” program gave P&G access to a global network of innovators, and it used the firm’s existing algorithm-level marketing and distribution skills. The result was growth, with profits that doubled even as research spending fell.

“Sensitivity is the capacity to make distinctions between conditions that are similar but not exactly the same.”

“Skill is the capacity to carry out an activity so as to consistently produce the desired result.”

“The balanced, design-thinking organization picks the style of work that best fits the task.”

Other leaders built design thinking into their organizations from the beginning. Take Guy Laliberté, a “high school dropout, accordion player and fire-breather” who joined a group of Quebec performers in the 1980s. The group staged a successful street festival, but the members wanted to put on a circus as it was meant to be, with all the wonder and no intrusion of “tacky” reality or questionable treatment of animals. The group redesigned the entire idea of a circus, and positioned it to target an upscale market. The result was Cirque du Soleil. Its novelty produced some initial confusion: How do you market something that’s the first of its kind? Once Cirque succeeded, the pressure was to keep repeating itself, to crystallize success. Laliberté and Cirque have avoided stagnation by taking shows to various locales and adding new productions, like one based on the Beatles’ music. Cirque needed strong managers to handle performers in many different places. That strain would push any group to reliability, but Cirque funnels 70% of “profits back into R&D and new shows.” Laliberté is essential to Cirque, not because he’s a design genius, but because he works hard to balance validity with reliability.

Develop Your Design Mind

CEOs may have the most influence over an organization’s direction, but developing your design-thinking skills is valuable and productive, no matter what your role is. First, pay heed to your “personal knowledge system,” which has three interacting components:

1. **“Stance”** – Your stance is the widest, least concrete element of your knowledge. It is your definition of yourself, how you see the world and how you approach it. Your stance determines which tools you use and what actions you take.
2. **“Tools”** – Your tools include the concepts, theories, “analytical frameworks” and heuristics that you use to make sense of the world.
3. **“Experience”** – As you act, you add up experiences, which form your practical knowledge. You also develop tools through your experiences.

As you build experiences, you develop “sensitivities and skills.” Sensitivities help you distinguish between related conditions; skills enable you to do things the way you want. They work together: Being able to see fine gradations in execution helps you develop deeper skills and reach higher. Design thinkers look ahead, eagerly anticipating the next project. They try to balance reliability and validity. The three tools they value most are “observation, imagination and configuration.” That is, they observe the world around them. They look at what people do with products. They watch like anthropologists, taking notes over time in various situations. They imagine how the world might be different and practice configuration, building action systems to make ideas real.

As you consciously strengthen your knowledge system, you can become more adept at working with those who think differently. Practice shifting your conceptual frames, and even play with that as simply another design constraint. Treat your colleagues as the end users of a project you’re designing, and adapt your communication style to their needs. In particular, show how your projects will address both the need for validity and the need for reliability.

About the Author

Roger Martin is dean of the Rotman School of Management at the University of Toronto and author of *The Opposable Mind*, as well as numerous other works.