# The Design of Business

By Roger L. Martin | October 14, 2009

In his new book, Roger Martin, dean of the Rotman School of Management, says an eye for innovation and efficiency creates a powerful competitive edge

The McDonald brothers had opened their first restaurant in 1940. It attracted throngs of customers, with harried carhops serving up to 125 carloads at a time. Within the decade, though, Mac and Dick realized they had to revamp their restaurant or find a new line of work. Some of their best customers were families giving mom a night off from the kitchen. But now these families were driving right past, turned off by the loitering toughs that drive-ins attracted. Many of the remaining customers complained that the food got cold on the journey from kitchen to car.

So they cut the menu to only 25 items, and standardized the burgers. They replaced carhops with service windows. Productivity enhancers like five-at-a-time milk shake mixers enabled them to turn around food orders quickly.

It wasn't long before the brothers had opened four additional outlets. They could have stopped there, but the man who sold the brothers those five-at-a-time milk shake makers was not about to. Ray Kroc imagined the scene repeated from coast to coast—and around the world. He relentlessly stripped away uncertainty, ambiguity, and judgment from the processes that emerged from the McDonald brothers' original insight. And by fine-tuning the formula, Kroc powered McDonald's (MCD) from a modestly prosperous chain of burger restaurants to a scale previously undreamed of.

The path taken by McDonald's is not just a study in entrepreneurship. It's a model for how businesses of all sorts can advance knowledge and capture value. The McDonald brothers and Ray Kroc took the same route followed by successful business innovators in every domain.

Seeking Reconciliation

The model for value creation that Kroc followed, which can be replicated, requires a balance—or a reconciliation—between two prevailing points of view on business today.

One school of thought holds that the path to value creation lies in driving out the old-fashioned practice of gut feelings and instincts, replacing it with strategy based on rigorous, quantitative analysis (optimally backed by decision-support software). In this model, the basis of thought is analytical thinking, which harnesses two familiar forms of logic—deductive reasoning and inductive reasoning—to declare truths and certainties about the world. The goal of this model is mastery through rigorous, continuously repeated analytical processes. Judgment, bias, and variation are the enemies. If they are vanquished, the theory goes, great decisions will be made and great value will be created.

The opposing school of thought, which is in many ways a reaction to the rise of analytical management, is centered on the primacy of creativity and innovation. Analysis has driven out creativity and doomed organizations to boring stultification. To proponents of this philosophy, the creative instinct—the unanalyzed flash of insight—is venerated as the source of true innovation. At the heart of this school is intuitive thinking—the art of knowing without reasoning. This is the world of originality and invention.

These two models seem utterly incommensurable; an organization must choose to embrace either analysis or intuition as the primary driver of value creation. This choice then plays out in the structure and norms of the organization. Business organizations dominated by analytical thinking are built to operate as they always have. By sticking closely to the tried and true, organizations dominated by analytical thinking enjoy one very important advantage: they can build size and scale. In organizations dominated by intuitive thinking, innovation may come fast and furious, but growth and longevity represent tremendous challenges. Intuition-biased firms cannot and will not systematize what they do, so they wax and wane with individual leaders.

Neither analysis nor intuition alone is enough. Rather than forcing a binary choice, the burden is to reconcile the two modes of thought. Aspects of both are necessary but not sufficient for optimal business performance. The most successful businesses in the years to come will balance analytical mastery and intuitive originality in a dynamic interplay that I call design thinking. Design thinking is the form of thought that enables forward movement of knowledge, and the firms that master it will gain a nearly inexhaustible, long-term business advantage.

Design-thinking firms stand apart in their willingness to engage in the task of continuously redesigning their business. They do so with an eye to creating advances in both innovation and efficiency—the combination that produces the most powerful competitive edge. This is not to suggest that only design-thinking firms pursue innovation. No, the value that business leaders place on innovation is reflected in the wealth of resources that they devote to its pursuit. But in all too many cases, businesses unwittingly work against their own purposes. Even as corporate leaders chase the vital, elusive spark of creativity, their organizations' structures, processes, and norms extinguish it wherever it flares up. Their cultures and routines privilege analysis over intuition and mastery over originality.

Even organizations with a deeply ingrained bias toward analysis and mastery, however, can develop powerful capacities for innovation. With determined leadership, they can develop the skills, structures, and processes that generate value by driving valuable insights along the knowledge funnel.

The first stage of the funnel is the exploration of a mystery, which takes an infinite variety of forms. A research scientist might explore the mystery of a syndrome such as autism. A hospital administrator might ask what kind of space would improve the condition of cancer patients coping with chemotherapy. Or an ambitious salesman might ask how and what Americans would like to eat on the go.

The next stage of the funnel is a heuristic, a rule of thumb that helps narrow the field of inquiry and work the mystery down to a manageable size. The heuristic may be a genetic anomaly, a user-centered approach to the process flow of a chemotherapy patient, or the concept of a quick-service, drive-in restaurant. It is a way of thinking about the mystery that provides a simplified understanding of it and allows those with access to the heuristic to focus their efforts.

As an organization puts its heuristic into operation, studies it more, and thinks about it intensely, it can convert from a general rule of thumb to a fixed formula. That formula is an algorithm, the last of three stages of the knowledge funnel.

For Mac and Dick McDonald, their journey began with a question: What and how did the mobile, leisured, mass middle class of Southern California want to eat? The brothers devised an answer by focusing on a specific facet of that emerging culture—the consumers' desired out-of-home eating experience. The heuristic they developed—a quick-service restaurant with strictly limited menu options—emerged when they narrowed the field of possibilities to a manageable set of salient features.

Kroc then picked up the baton, driving that understanding—that heuristic—all the way to an algorithm by continuing to cut away vast tracts of possibility. Hamburgers could be charbroiled or pressure-cooked. The menu could be broad or narrow. Restaurants could be smaller or larger. Ultimately, Kroc plucked one answer along innumerable dimensions to construct McDonald's defining algorithm. Once that algorithm was in place, Kroc pushed it as far as it would go, adapting its elements to changing markets and economic conditions, but leaving its essential outlines unchanged.

## The Creation of Value in Business

The McDonald's story illustrates important elements of the dynamics of the march of knowledge from mystery to heuristic to algorithm: the paring away of information. The gain in understanding comes from picking out salient features of the environment and out of them building a causal understanding of it: "I think that Californians would like a quick-service hamburger joint." The heuristic doesn't attempt an encyclopedic understanding of the new Californian beach culture and how the freeway system brought it into being.

By paring away possibilities from the mystery of what and how Californians want to eat to the limited menu, drive-through, quick-service burger joint, the McDonald brothers could focus on a few important things and replicate the model several times over, extending its success. When Kroc converted the heuristic into a precise algorithm, he was able to scale the chain.

McDonald's created an efficiency advantage. By honing and refining the heuristic, it extended that efficiency advantage. By converting that heuristic to algorithm, Kroc drove the efficiency advantage still further ahead of his competitors, creating an enterprise worth tens of billions of dollars—all from one new-style burger joint.