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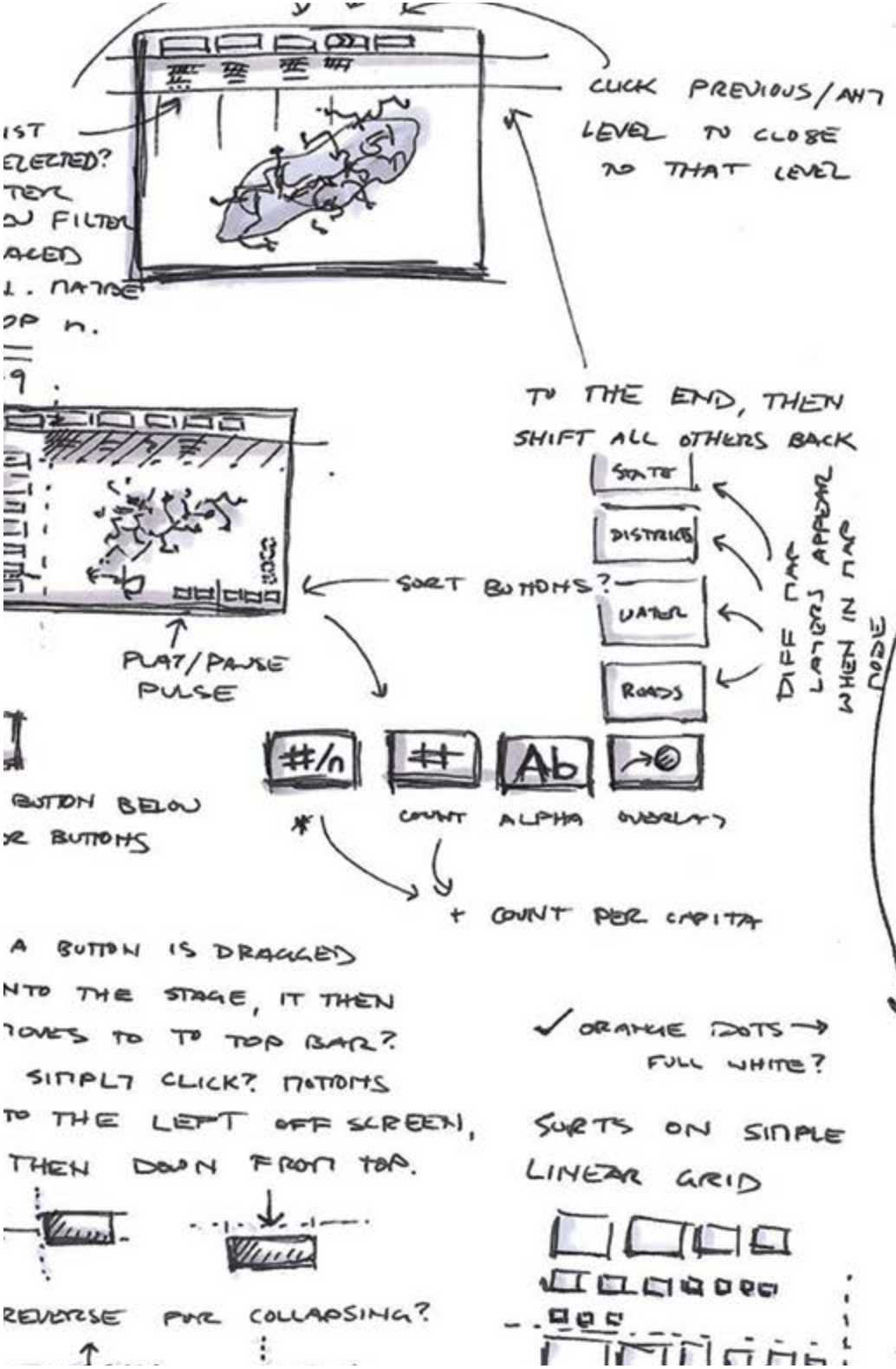
SPOTLIGHT ON THE EVOLUTION OF DESIGN THINKING

Design for Action

How to use design thinking to make great things actually happen

by Tim Brown and Roger Martin



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Throughout most of history, design was a process applied to physical objects. Raymond Loewy designed trains. Frank Lloyd Wright designed houses. Charles Eames designed furniture. Coco Chanel designed haute couture. Paul Rand designed logos. David Kelley designed products, including (most famously) the mouse for the Apple computer.

But as it became clear that smart, effective design was behind the success of many commercial goods, companies began employing it in more and more contexts. High-tech firms that hired designers to work on hardware (to, say, come up with the shape and layout of a smartphone) began asking them to create the look and feel of user-interface software. Then designers were asked to help improve user experiences. Soon firms were treating corporate strategy making as an exercise in design. Today design is even applied to helping multiple stakeholders and organizations work better as a system.

This is the classic path of intellectual progress. Each design process is more complicated and sophisticated than the one before it. Each was enabled by learning from the preceding stage. Designers could easily turn their minds to graphical user interfaces for software because they had experience designing the hardware on which the applications would run. Having crafted better experiences for computer users, designers could readily take on nondigital experiences, like patients' hospital visits. And once they learned how to redesign the user experience in a single organization, they were more prepared to tackle the holistic experience in a system of organizations. The San Francisco Unified School District, for example, recently worked with IDEO to help redesign the cafeteria experience across all its schools.

As design has moved further from the world of products, its tools have been adapted and extended into a distinct new discipline: design thinking. Arguably, Nobel laureate Herbert Simon got the ball rolling with the 1969 classic *The Sciences of the Artificial,* which characterized design not so much as a physical process as a way of thinking. And Richard Buchanan made a seminal advance in his 1992 article "Wicked Problems in Design Thinking," in which he proposed using design to solve extraordinarily persistent and difficult challenges.

But as the complexity of the design process increases, a new hurdle arises: the acceptance of what we might call "the designed artifact"—whether product, user experience, strategy, or complex system—by stakeholders. In the following pages we'll explain this new challenge and demonstrate how design thinking can help strategic and system innovators make the new worlds they've imagined come to pass. In fact, we'd argue that with very complex artifacts, the design of their "intervention"—their introduction and integration into the status quo—is even more critical to success than the design of the artifacts themselves.

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Idea in Brief

THE PROBLEM
Complex new designs of products (say, an electric vehicle) or systems (like a school system) typically struggle to gain acceptance. Many good groundbreaking ideas fail in the starting gate.

WHY IT HAPPENS
New products and systems often require people to change established business models and behaviors. As a result they encounter stiff resistance from their intended beneficiaries and from the people who have to deliver or operate them.

THE SOLUTION
Treat the introduction of the new product or system—the "designed artifact"—as a design challenge itself. When Intercorp Group in Peru took that approach, it won acceptance for a new technology-enabled school concept in which the teacher facilitates learning rather than serves as the sole lesson provider.

The New Challenge

The launch of a new product that resembles a company's other offerings—say, a hybrid version of an existing car model—is typically seen as a positive thing. It produces new revenue and few perceived downsides for the organization. The new vehicle doesn't cause any meaningful changes to the organization or the way its people work, so the design isn't inherently threatening to anyone's job or to the current power structure.

Of course, introducing something new is always worrisome. The hybrid might fail in the marketplace. That would be costly and embarrassing. It might cause other vehicles in the portfolio to be phased out, producing angst for those who support the older models. Yet the designer usually pays little attention to such concerns. Her job is to create a truly great new car, and the knock-on effects are left to others—people in marketing or HR—to manage.

The more complex and less tangible the designed artifact is, though, the less feasible it is for the designer to ignore its potential ripple effects. The business model itself may even need to be changed. That means the introduction of the new artifact requires design attention as well.

Consider this example: A couple of years ago, MassMutual was trying to find innovative ways to persuade people younger than 40 to buy life insurance—a notoriously hard sell. The standard approach would have been to design a special life insurance product and market it in the conventional way. But MassMutual concluded that this was unlikely to work. Instead the company worked with IDEO to design a completely new type of customer experience focused more broadly on educating people about long-term financial planning.

Launched in October 2014, "Society of Grownups" was conceived as a "master's program for adulthood." Rather than delivering it purely as an online course, the company made it a multichannel experience, with state-of-the-art digital budgeting and financial-planning tools, offices with classrooms and a library customers could visit, and a curriculum that included everything from investing in a 401(k) to buying good-value wine. That approach was hugely disruptive to the organization's norms and processes, as it required not only a new brand and new digital tools but also new ways of working. In fact, every aspect of the organization had to be redesigned for the new service, which is intended to evolve as participants provide MassMutual with fresh insights into their needs.

When it comes to very complex artifacts—say, an entire business ecosystem—the problems of integrating a new design loom larger still. For example, the successful rollout of self-driving vehicles will require automobile manufacturers, technology providers, regulators, city and national governments, service firms, and end users to collaborate in new ways and engage in new behaviors. How will insurers work with manufacturers and users to analyze risk? How will data collected from self-driving cars be shared to manage traffic flows while protecting privacy?

New designs on this scale are intimidating. No wonder many genuinely innovative strategies and systems end up on a shelf somewhere—never acted on in any way. However, if you approach a large-scale change as two simultaneous and parallel challenges—the design of the artifact in question and the design of the intervention that brings it to life—you can increase the chances that it will take hold.

Designing the Intervention

Intervention design grew organically out of the iterative prototyping that was introduced to the design

process as a way to better understand and predict customers' reactions to a new artifact. In the traditional approach, product developers began by studying the user and creating a product brief. Then they worked hard to create a fabulous design, which the firm launched in the market. In the design-oriented approach popularized by IDEO, the work to understand users was deeper and more ethnographic than quantitative and statistical.

Initially, that was the significant distinction between the old and new approaches. But IDEO realized that no matter how deep the up-front understanding was, designers wouldn't really be able to predict users' reactions to the final product. So IDEO's designers began to reengage with the users sooner, going to them with a very low-resolution prototype to get early feedback. Then they kept repeating the process in short cycles, steadily improving the product until the user was delighted with it. When IDEO's client actually launched the product, it was an almost guaranteed success—a phenomenon that helped make rapid prototyping a best practice.

Iterative rapid-cycle prototyping didn't just improve the artifact. It turned out to be a highly effective way to obtain the funding and organizational commitment to bring the new artifact to market. A new product, especially a relatively revolutionary one, always involves a consequential bet by the management team giving it the green light.

Often, fear of the unknown kills the new idea. With rapid prototyping, however, a team can be more confident of market success. This effect turns out to be even more important with complex, intangible designs.

In corporate strategy making, for example, a traditional approach is to have the strategist—whether in-house or a consultant—define the problem, devise the solution, and present it to the executive in charge. Often that executive has one of the following reactions: (1) This doesn't address the problems I think are critical. (2) These aren't the possibilities I would have considered. (3) These aren't the things I would have studied. (4) This isn't an answer that's compelling to me. As a consequence, winning commitment to the strategy tends to be the exception rather than the rule, especially when the strategy represents a meaningful deviation from the status quo.

The answer is iterative interaction with the decision maker. This means going to the responsible

The Launch Is Just One Step in the Process

In his book *Sketching User Experiences*, user interface pioneer Bill Buxton describes the Apple iPod as the "overnight success" that took three years to happen. He documents the many design changes to the device that took place after its launch—and were essential to its eventual success.

As this story illustrates, a sophisticated designer recognizes that the task is first to build user acceptance of a new platform and later to add new features. When Jeff Hawkins developed the PalmPilot, the world's first successful personal digital assistant, he insisted that it focus on only three things—a calendar, contacts, and notes—because he felt users initially could not handle complexity greater than that. Over time the PalmPilot evolved to include many more functions, but by then the core market understood the experience. The initial pitch for the iPod was an extremely simple "1,000 songs in your pocket." The iTunes store, photos, games, and apps came along later, as users adopted the platform and welcomed more complexity.

As strategies and large systems become the focus of design thinking, imagining the launch as just one of many steps in introducing a new concept will become even more important. Before the launch, designers will confront increasing complexity in early dialogues with both the artifact's intended users and the decision maker responsible for the design effort. A solution with purposely lower complexity will be introduced, but it will be designed to evolve as users respond. Iteration and an explicit role for users will be a key part of any intervention design.

New information and computing technologies will make it far easier to create and share early prototypes, even if they are complex systems, and gain feedback from a more diverse population of users. In this new world, the launch of a new design ceases to be the focus. Rather, it is just one step somewhere in the middle of a carefully designed intervention.

—Tim Brown

executive early on and saying, "We think this is the problem we need to solve; to what extent does that match your view?" Soon thereafter the strategy designers go back again and say, "Here are the possibilities we want to explore, given the problem definition we agreed on; to what extent are they the possibilities you imagine? Are we missing some, and are any we're considering nonstarters for you?" Later the designers return one more time to say, "We plan to do these analyses on the possibilities that we've agreed are worth exploring; to what extent are they analyses that you would want done, and are we missing any?"

With this approach, the final step of actually introducing a new strategy is almost a formality. The executive responsible for green-lighting it has helped define the problem, confirm the possibilities, and affirm the analyses. The proposed direction is no longer a jolt from left field. It has gradually won commitment throughout the process of its creation.

When the challenge is introducing change to a system—by, say, establishing a new kind of business or a new kind of school—the interactions have to extend even further, to all the principal stakeholders. We'll now look at an example of this kind of intervention design, which involved a major experiment in social engineering that's taking place in Peru.

Designing a New Peru

Intercorp Group is one of Peru's biggest corporations, controlling almost 30 companies across a wide variety of industries. Its CEO, Carlos Rodríguez-Pastor Jr., inherited the company from his father, a former political exile who, upon his return in 1994, led a consortium that bought one of Peru's largest banks, Banco Internacional del Peru, from the government. Rodríguez-Pastor took control of the bank when his father died, in 1995.

Rodríguez-Pastor wanted to be more than a banker. His ambition was to help transform Peru's economy by building up its middle class. In the newly renamed Interbank he saw an opportunity to both create middle-class jobs and cater to middle-class needs. From the outset, however, he grasped that he couldn't achieve this goal with the "great man" approach to strategy characteristic of the large, family-controlled conglomerates that often dominate emerging economies. Reaching it would take the carefully engineered engagement of many stakeholders.

Seeding a culture of innovation. The first task was making the bank competitive. For ideas, Rodríguez-Pastor decided to look to the leading financial marketplace in his hemisphere, the United States. He persuaded an analyst at a U.S. brokerage house to let him join an investor tour of U.S. banks, even though Interbank wasn't one of the broker's clients.

If he wanted to build a business that could trigger social change, absorbing some insights by himself and bringing them home wouldn't be enough, Rodríguez-Pastor realized. If he simply imposed his own ideas, buy-in would depend largely on his authority—not a context conducive to social transformation. He needed his managers to learn how to develop insights too, so that they could also spot and seize opportunities for advancing his broader ambition. So he talked the analyst into allowing four of his colleagues to join the tour.

This incident was emblematic of his participative approach to strategy making, which enabled Rodríguez-Pastor to build a strong, innovative management team that put the bank on a competitive footing and diversified the company into a range of businesses catering to the middle class: supermarkets, department stores, pharmacies, and cinemas. By 2015 Intercorp, the group built around Interbank, employed some 55,000 people and had projected revenues of $5 billion.

Over the years, Rodríguez-Pastor has expanded his investment in educating the management team. He sent managers each year to programs at top schools and companies (such as Harvard Business School and IDEO) and worked with those institutions to develop new programs for Intercorp, tossing out ideas that didn't work and refining ones that did. Most recently, in conjunction with IDEO, Intercorp launched its own design center, La Victoria Lab. Located in an up-and-coming area of Lima, it serves as the core of a growing urban innovation hub.

But Rodríguez-Pastor didn't stop at creating an innovative business group targeting middle-class consumers. The next step in his plan for social transformation involved moving Intercorp outside the traditional business domain.

From wallets to hearts and minds. Good education is critical to a thriving middle class, but Peru was severely lagging in this department. The country's public schools were lamentable, and the private sector was little better at equipping children for a middle-class future. Unless that

Intervention Design at Innova

changed, a positive cycle of productivity and prosperity was unlikely to emerge. Rodríguez-Pastor concluded that Intercorp would have to enter the education business with a value proposition targeted at middle-class parents.

Winning social acceptability for this venture was the real challenge—one complicated by the fact that education is always a minefield of vested interests. An intervention design, therefore, would be critical to the schools' success. Rodríguez-Pastor worked closely with IDEO to map one out. They began by priming the stakeholders, who might well balk at the idea of a large business group operating schools for children—a controversial proposition even in a business-friendly country like the United States.

Intercorp's first move was starting an award in 2007 for "the teacher who leaves a footprint," given to the best teacher in each of the country's 25 regions. It quickly became famous, in part because every teacher who received it also won a car. This established Intercorp's genuine interest in improving education in Peru and helped pave the way for teachers, civil servants, and parents to accept the idea of a chain of schools owned by the company.

Next, in 2010 Intercorp purchased a small school business called San Felipe Neri, managed by entrepreneur Jorge Yzusqui Chessman. With one school in operation and two more in development, Chessman had plans for growth, but Intercorp's experience in building large-scale businesses in Peru could take the venture far beyond what he envisioned. However, the business would have to reengineer its existing model, which required highly skilled teachers, who were in extremely short supply in Peru. Rodríguez-Pastor brought together managers from his other businesses—a marketing expert from his bank, a facilities expert from his supermarket chain, for instance—with IDEO to create a new model, Innova Schools. It would offer excellent education at a price affordable for middle-class families.

The team launched a six-month human-centered design process. It engaged hundreds of students, teachers, parents, and other stakeholders, exploring their needs and motivations, involving them in testing approaches, and soliciting their feedback on classroom layout and interactions. The result was a technology-enabled model that incorporated platforms such as the U.S. online-education pioneer

Khan Academy. In it the teacher was positioned as a facilitator rather than the sole lesson provider.

The intervention design challenge was that parents might object to having their children learn via laptops in the classroom, and teachers might rebel at the notion of supporting learning rather than leading it. So after six months of preparation, Innova launched a full-scale pilot and brought in parents and teachers to design and run it.

The pilot demonstrated that students, parents, and teachers loved the model, but some of the assumptions were far off base. Parents didn't object to the teaching approach; in fact, they insisted that the laptops not be taken away at the end of the pilot. Additionally, 85% of the students used the laptops outside classroom hours. The model was tweaked on the basis of the insights from the pilot, and both the parents and teachers became huge advocates for the Innova model in nearby locations.

Word of mouth spread, and soon the schools were fully enrolled before they were even built. Because Innova had a reputation for innovation, teachers wanted to work there, even though it paid less than the public system. With 29 schools up and running, Innova is now on track to meet its goal of 70 schools by 2020 and plans to expand into every market in Peru and even markets outside the country.

Spreading the wealth. If it followed conventional business wisdom, Intercorp would have focused on the richer parts of the country's capital, Lima, where a middle class was naturally emerging. But Rodríguez-Pastor recognized that the provinces needed a middle class as well. Fostering one there obviously involved job creation. One way Intercorp could create jobs was to expand its supermarket chain, which it had purchased from Royal Ahold in 2003 and renamed Supermercados Peruanos.

In 2007 the chain began establishing stores in the provinces. Local consumers were certainly receptive to the idea. When one store opened in Huancayo, curious customers queued up for an hour or more to enter it. For many it was their first experience with modern retail. By 2010 the chain was operating 67 supermarkets in nine regions. Today it boasts 102 stores nationwide.

Early on, Intercorp realized that retail ventures of this kind risked impoverishing local communities rather than enriching them. Though a supermarket

did provide well-paid jobs, it could hurt the business of local farmers and producers. Since they were small scale and usually operated with low food-safety standards, it would be tempting to source almost everything from Lima. But the logistics costs of doing that would erode profit margins, and if the chain crowded out the local producers, it might destroy more jobs than it created.

Intercorp thus needed to stimulate local production through early engagement with local businesses. In 2010 the company launched the Perú Pasión program, with support from the Corporación Andina de Fomento (an NGO) and Huancayo's regional government. Perú Pasión helps farmers and small manufacturers upgrade their capabilities enough to supply their local Supermercados Peruano. Over time some of these suppliers have even developed into regional or national suppliers in their own right.

Currently, Supermercados Peruanos sources 218 products, representing approximately $1.5 million in annual sales, from Perú Pasión businesses. One is Procesadora de Alimentos Velasquez. Originally a neighborhood bakery serving a few small nearby grocery shops, it began supplying a Supermercados store in 2010, generating just $6,000 in annual sales. Today, thanks to Perú Pasión's help, it supplies three stores for nearly $40,000 in annual sales. Concepción Lacteos, a dairy producer, is another success. In 2010 it began supplying its local Supermercados store for about $2,500 in annual sales. In 2014 it supplied 28 stores, including the chain's upscale outlets in Lima, and generated $100,000 in sales.

Intercorp's success in boosting the middle class in Peru depended on the thoughtful design of many artifacts: a leading-edge bank, an innovative school system, and businesses adapted for frontier towns across Peru. But equally important has been the design of the introduction of these new artifacts into the status quo. Rodríguez-Pastor carefully mapped out the steps necessary to engage all the relevant parties in their adoption. He deepened the skills of the executives on his leadership team, increased the design know-how of his people, won over teachers and parents to the idea that a conglomerate could provide education, and partnered with local producers to build their capacity to supply supermarkets. In conjunction with well-designed artifacts, these carefully designed interventions have made the social transformation of Peru a real possibility rather than an idealistic aspiration.

"...and this is our meeting simulation tank, where associates train for the rigors of long-term sitting."

THE PRINCIPLES of this approach are clear and consistent. Intervention is a multistep process—consisting of many small steps, not a few big ones. Along the entire journey interactions with the users of a complex artifact are essential to weeding out bad designs and building confidence in the success of good ones.

Design thinking began as a way to improve the process of designing tangible products. But that's not where it will end. The Intercorp story and others like it show that design thinking principles have the potential to be even more powerful when applied to managing the intangible challenges involved in getting people to engage with and adopt innovative new ideas and experiences.

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Tim Brown is the CEO and president of the international design consulting firm IDEO and the author of *Change by Design* (HarperBusiness, 2009). A professor at and former dean of the Rotman School of Management, **Roger Martin** is a coauthor of *Getting Beyond Better* (Harvard Business Review Press, forthcoming) and *Playing to Win* (Harvard Business Review Press, 2013).

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