

## **Design Thinking for Social Innovation**

[abridged]

In an area outside Hyderabad, India, between the suburbs and the countryside, a young woman—we'll call her Shanti—fetches water daily from the always-open local borehole that is about 300 feet from her home. She uses a 3-gallon plastic container that she can easily carry on her head. Shanti and her husband rely on the free water for their drinking and washing, and though they've heard that it's not as safe as water from the Naandi Foundation-run community treatment plant, they still use it. Shanti's family has been drinking the local water for generations, and although it periodically makes her and her family sick, she has no plans to stop using it.

Shanti has many reasons not to use the water from the Naandi treatment center, but they're not the reasons one might think. The center is within easy walking distance of her home—roughly a third of a mile. It is also well known and affordable (roughly 10 rupees, or 20 cents, for 5 gallons). Being able to pay the small fee has even become a status symbol for some villagers. Habit isn't a factor, either. Shanti is forgoing the safer water because of a series of flaws in the overall design of the system.

Although Shanti can walk to the facility, she can't carry the 5-gallon jerrican that the facility requires her to use. When filled with water, the plastic rectangular container is simply too heavy. The container isn't designed to be held on the hip or the head, where she likes to carry heavy objects. Shanti's husband can't help carry it, either. He works in the city and doesn't return home until after the water treatment center is closed. The treatment center also requires them to buy a monthly punch card for 5 gallons a day, far more than they need. "Why would I buy more than I need and waste money?" asks Shanti, adding she'd be more likely to purchase the Naandi water if the center allowed her to buy less.

The community treatment center was designed to produce clean and potable water, and it succeeded very well at doing just that. In fact, it works well for many people living in the community, particularly families with husbands or older sons who own bikes and can visit the treatment plant during working hours. The designers of the center, however, missed the opportunity to design an even

better system because they failed to consider the culture and needs of all of the people living in the community.

This missed opportunity, although an obvious omission in hindsight is all too common. Time and again, initiatives falter because they are not based on the client's or customer's needs and have never been prototyped to solicit feedback. Even when people do go into the field, they may enter with preconceived notions of what the needs and solutions are. This flawed approach remains the norm in both the business and social sectors.

As Shanti's situation shows, social challenges require systemic solutions that are grounded in the client's or customer's needs. This is where many approaches founder, but it is where design thinking— a new approach to creating solutions—excels.

Traditionally, designers focused their attention on improving the look and functionality of products. Classic examples of this type of design work are Apple Computer's iPod and Herman Miller's Aeron chair. In recent years designers have broadened their approach, creating entire systems to deliver products and services.

Design thinking incorporates constituent or consumer insights in depth and rapid prototyping, all aimed at getting beyond the assumptions that block effective solutions. Design thinking— inherently optimistic, constructive, and experiential—addresses the needs of the people who will consume a product or service and the infrastructure that enables it.

Businesses are embracing design thinking because it helps them be more innovative, better differentiate their brands, and bring their products and services to market faster. Nonprofits are beginning to use design thinking as well to develop better solutions to social problems. Design thinking crosses the traditional boundaries between public, for-profit, and nonprofit sectors. By working closely with the clients and consumers, design thinking allows high-impact solutions to bubble up from below rather than being imposed from the top.

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Design thinkers look for work-arounds and improvise solutions ... and they find ways to incorporate those into the offerings they create. They consider what we call the edges, the places where "extreme" people live differently, think differently, and consume differently. As Monique Sternin, director of the Positive Deviance Initiative, explains: "Both positive deviance and design thinking are human-centered approaches. Their solutions are relevant to a

unique cultural context and will not necessarily work outside that specific situation."

One program that might have benefited from design thinking is mosquito net distribution in Africa. The nets are well designed and when used are effective at reducing the incidence of malaria.<sup>5</sup> The World Health Organization praised the nets, crediting them with significant drops in malaria deaths in children under age 5: a 51 percent decline in Ethiopia, 34 percent decline in Ghana, and 66 percent decline in Rwanda.<sup>6</sup> The way that the mosquito nets have been distributed, however, has had unintended consequences.

In northern Ghana, for instance, nets are provided free to pregnant women and mothers with children under age 5. These women can readily pick up free nets from local public hospitals. For everyone else, however, the nets are difficult to obtain. When we asked a well-educated Ghanaian named Albert, who had recently contracted malaria, whether he slept under a mosquito net, he told us no—there was no place in the city of Tamale to purchase one. Because so many people can obtain free nets, it is not profitable for shop owners to sell them. But hospitals are not equipped to sell additional nets, either.

As Albert's experience shows, it's critical that the people designing a program consider not only form and function, but distribution channels as well. One could say that the free nets were never intended for people like Albert—that he was simply out of the scope of the project. But that would be missing a huge opportunity. Without considering the whole system, the nets cannot be widely distributed, which makes the eradication of malaria impossible.

## THE ORIGIN OF DESIGN THINKING

The design thinking process is best thought of as a system of overlapping spaces rather than a sequence of orderly steps. There are three spaces to keep in mind: inspiration, ideation, and implementation. Think of inspiration as the problem or opportunity that motivates the search for solutions; ideation as the process of generating, developing, and testing ideas; and implementation as the path that leads from the project stage into people's lives.

## INSPIRATION

... the classic starting point for the inspiration phase is the brief.

Once the brief has been constructed, it is time for the design team to discover what people's needs are. Traditional ways of doing this, such as focus groups and surveys, rarely yield important insights. In most cases, these techniques simply ask people what they want. Conventional research can be useful in pointing toward incremental improvements, but those don't usually lead to the type of breakthroughs that leave us scratching our heads and wondering why nobody ever thought of that before.

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## IDEATION

The second space of the design thinking process is ideation. After spending time in the field observing and doing design research, a team goes through a process of synthesis in which they distill what they saw and heard into insights that can lead to solutions or opportunities for change. This approach helps multiply options to create choices and different insights about human behavior.

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As Linus Pauling, scientist and two-time Nobel Prize winner, put it, "To have a good idea you must first have lots of ideas."<sup>10</sup> Truly innovative ideas challenge the status quo and stand out from the crowd—they're creatively disruptive. They provide a wholly new solution to a problem many people didn't know they had.

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Divergent thinking is the route, not the obstacle, to innovation.

To achieve divergent thinking, it is important to have a diverse group of people involved in the process. Multidisciplinary people—architects who have studied psychology, artists with MBAs, or engineers with marketing experience—often demonstrate this quality. They're people with the capacity and the disposition for collaboration across disciplines.

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One rule during the brainstorming process is to defer judgment. It is important to discourage anyone taking on the often obstructive, non-generative role of devil's advocate, as Tom Kelley explains in his book *The Ten Faces of Innovation*.<sup>11</sup> Instead, participants are encouraged to come up with as many ideas as possible. This lets the group move into a process of grouping and sorting ideas. Good ideas naturally rise to the top, whereas the bad ones drop off early on.

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## IMPLEMENTATION

The third space of the design thinking process is implementation, when the best ideas generated during ideation are turned into a concrete, fully conceived action plan. At the core of the

implementation process is prototyping, turning ideas into actual products and services that are then tested, iterated, and refined.

Through prototyping, the design thinking process seeks to uncover unforeseen implementation challenges and unintended consequences in order to have more reliable long-term success. Prototyping is particularly important for products and services destined for the developing world, where the lack of infrastructure, retail chains, communication networks, literacy, and other essential pieces of the system often make it difficult to design new products and services.

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## SYSTEMIC PROBLEMS NEED SYSTEMIC SOLUTIONS

Many social enterprises already intuitively use some aspects of design thinking, but most stop short of embracing the approach as a way to move beyond today's conventional problem solving. Certainly, there are impediments to adopting design thinking in an organization. Perhaps the approach isn't embraced by the entire organization. Or maybe the organization resists taking a human-centered approach and fails to balance the perspectives of users, technology, and organizations.

One of the biggest impediments to adopting design thinking is simply fear of failure. The notion that there is nothing wrong with experimentation or failure, as long as they happen early and act as a source of learning, can be difficult to accept. But a vibrant design thinking culture will encourage prototyping—quick, cheap, and dirty—as part of the creative process and not just as a way of validating finished ideas.

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## Notes

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- 3 "What Is Positive Deviance?" Positive Deviance Initiative.
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- 6 J.R. Minkel, "Net Benefits: Bed Netting, Drugs Stem Malaria Deaths: Proactive African Countries See Fewer Children Felled by the Mosquito-Borne Disease," *Scientific American*, February 4, 2008.
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- 8 Tim Brown, *Change by Design*.
- 9 Jocelyn Wyatt, E-mail correspondence with Kara Pecknold, September 23, 2009.
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