

The Essential Guide to Design Thinking

Generate new solutions with design thinking: a problem-solving process that combines creative and analytical thinking

Contents

What Is Design Thinking?

The Creative Promise of Design Thinking

Six Management Myths to Avoid (and Six Alternate Maxims to Consider)

Ready for the Next Step?

What Is Design Thinking?

There are many processes out there to help leaders solve problems, manage change, and grow and innovate. But recently you may have heard of a newer approach that's circulating in the business-management landscape: design thinking. But what is it? Here's what you need to know about design thinking and the evidence behind the concept.

In a world that needs innovation and well-run companies, design thinking is an approach to problem solving that allows us to combine right-brain creative thinking with left-brain analytical thinking.

What's the big idea?

The big idea that I'm really fascinated with these days is design thinking. It's kind of an off-putting term. People really aren't sure what you're talking about when you say "design thinking." I think of it as just another approach to problem solving. What's so attractive to me about this approach to problem solving, though, is that it allows us to combine "right-brained"

creativethinkingwith"left-brained" analyticalthinking. Inthisdayandage whereweknowweneedinnovation and,atthesametime,weknowwe needtorunourorganizationsas effectivelyandefficientlyaspossible, designthinkingoffersusaprocess and a set of tools to bring the best of both worlds into our decision-making process.

Is design thinking for anyone and everyone? Are there times when to use it and when not to use it?

My own interest in design thinking originated with my work on organic growth. When we studied managers who were very successful at growing their top-line revenues, what we discovered was they had a set of behaviors that were a lot like designers. They developed very deep insights into their customers, oftentimes using ethnographic methods. They had a "learning mindset," that is, they realized that the way to success was often filled with small failures and that figuring out how to conduct experiments fast and cheap was the way to deal with life in a world full of uncertainty. And so originally I studied and taught design thinking to managers as a way to grow their businesses.

But the more I work with managers, the more I come to realize that as a problem-solving process, design thinking could be used for a much broader set of problems than just those related to growth. We now teach it to managers who use it to re-design internal processes or to develop new products and services for their outside customers. We also have students coming back and telling us, “You taught this to me in a business context, but I really

use this in my private life as well.” If we look at the basic principles of design thinking — which is how we understand what the world looks like from the perspective of someone else, the person we’re trying to create value for or the person we’re trying to encourage to do a newer, healthier set of behaviors — we begin by developing deep insight into the way they see the world. Then we creatively generate ideas based on those insights, which we assume we’re

probably not going to get right at first. So we always want to keep plenty of options, experiment and be open to disconfirming data that tells us we’re headed down the wrong path. It turns out all of these approaches to making decisions are really helpful in your private life as well as in your work life.

Are there differences in applying design thinking principles to personal issues versus how a manager would apply them to a manufacturing floor process?

Problems that are suitable for design thinking share certain properties. For instance, one of the things that designers talk about is “wicked problems,” and they contrast this with “tame problems.” Often, a **tame problem** is one in which we have a lot of good data from the past that we can use. We understand the problem, and in fact, a group of us agree on what the definition of the problem is and we can predict the outcomes of trying to implement that solution.

But what we find increasingly in this complicated world we live in, both in our personal lives and in our work lives, is that problems are not tame, they are **wicked problems**. Often, we can’t even agree on a definition of the

problem, much less a definition of the solution. The data we have from the past doesn’t really help us predict what implementing this particular approach is going to be like, often because of the complexity of the interactions that go on.

So we’re living in a world where experimentation, trial and error, and really understanding the pain points of the human beings involved in the process are really the critical dimensions. So a wicked problem happens whenever you’re faced with a decision that first of all involves human beings; secondly, one in which the data from the past is not necessarily predictive of the future; and thirdly, in which a group

of people who see the problem differently still have to come together to work toward a solution. I think wherever you find a problem with these kinds of qualities, chances are design thinking will be a much more effective approach to solving it than our traditional analytic methods.



It sounds complex, how different people with different viewpoints would come together to help solve problems. This brings to mind a combination of a scientific method married to a creative method. How would you counsel a group of people in an organization — comprised of both creative types and more scientific types — that need to take this approach?

For me, one of the amazing benefits I've observed in design thinking that I didn't really expect, is the way it creates a set of collaborative tools that help people work together across differences.

Originally we began working with design thinking because we believed it would produce better ideas. But it

turns out, at least my hypothesis is, that design thinking may have an even more beneficial impact through not only better ideas but also better ways of working together. The tools allow us to create a common mind around today's problem and the pain points that we're trying to eliminate today, and that coming together and alignment set the stage for a lot less debate when you

finally get to the answers.

We find that design thinking asks us to make an initial investment as a team in really understanding the problem from diverse perspectives — and especially those of the people we're trying to serve — building a common mental map across team members based on the criteria required for a good solution

to be accomplished. So by the time we actually move into generating solutions themselves, it turns out to be much more obvious which ones are good and which ones are bad. Instead of endless debate in which we're each coming from our own perspective of the world with unarticulated assumptions about what's really important, we've already articulated our assumptions. We've agreed on a set of design criteria, and so then the challenge is just 'well, which ones seem to meet the criteria?' Then, we can validate with customers that our opinions of design criteria's potential match theirs as well. and then can we validate with customers that our opinions about the extent to which the design criteria work really are matched by customers.

Let's break down design thinking. What are the stages or phases of implementing a design thinking approach to solving a problem?

There are as many different words to describe different parts of the design thinking process as there are consultants selling design thinking services. We can go to IDEO who will talk about exploration phase, followed by an ideation phase, followed by a prototyping phase. If we went to some other design firms, they would follow a very similar pattern of activities, but they would call them different things. In our work, which has focused on translating this language of designers into a business language that we as managers can adopt, we've captured these phases in the form of four questions.

What is?

The first question is simply “What is?” and it asks people before trying to generate new ideas to take a deep dive into understanding what’s going on today, because it turns out that today’s customer dissatisfactions are really the only data we’ve got to work with to help us create a better tomorrow.

What if?

Having developed this understanding, we turn to our second question, “What if?” This is our creative possibility generating question. We ask if anything were possible, what would we create to satisfy these needs that customers have as we’ve discovered them during “What is?” We

end “What if?” with a series of ideas and we capture them in something we call the “napkin pitch,” which is named that way because the idea should have such a simple description that it could fit on a napkin.

What Wows?

We take a number of napkin pitches, because we never want to put all of our eggs in one basket, and we move into the third stage, and the question “What wows?” And here we talk about the wow zone, which is where something that creates value for the customers meets our ability as an organization to execute it meets a business model that brings us the profitability that we need to build a sustainable business. So we

begin through a process of creating rough prototypes and surfacing the assumptions behind why we think the idea meets those tests, and we begin to narrow down the number of ideas moving forward.

What Works?

The fourth and final question is “What works?” and that’s when we take the ideas that have made it successfully through the previous three stages and we move them into the marketplace for some small-scale experiments with real, live customers that give us quick feedback that we can use to iterate and improve our solutions. So four questions, pretty simple, that’s how we capture the process.

As an individual moves through this process, what are the tools along the way that help them within each stage?

For me, one of the most exciting aspects of design thinking is the toolkit it brings. The tools that designers have used are very different than the tools that we have historically had in our toolkit as managers.

So for instance, one of my favorite tools is called journey mapping, where we follow the experience of a customer as they try to do the job that they need to get done. As we follow their experience, through the whole process, not just our part of the process, we're paying particular attention to their emotional needs and ups and downs, as well as their functional needs. So here's a pretty straight-forward process. It looks like a flow chart with feelings (as

I call it when we're working with managers) that really gives managers much deeper insights into how to create value for their customers. With simple tools that designers have used forever, we can teach it to managers very quickly and it almost immediately begins to generate ideas for innovation.

Another tool that designers use that's a little bit more challenging for many

Most people don't find those Power Point bullets very compelling.

of us as managers is the visualization tool. Designers believe that to really have an impact, we need to show



people, not tell them. As managers, we've often been taught to create PowerPoint slides, "Here are the four important points, bullet one, bullet two, bullet three, bullet four." Most people don't find those PowerPoint bullets very compelling.

So if we want to change their behaviors, to learn new ways of doing things, to be willing to experiment with new products and services, we need to tell a more compelling story than that. This idea of creating a vivid image of the new future that we're talking about becomes really important. Designers spend years learning how to be visual in their thinking. Some of it is just how do we use imagery in place of words, some of it is how do we create stories in place of bullet points. These are all different aspects of visualization. It's

something that's very powerful, and as we work with managers, they catch on and they begin to get excited about its use, but it feels really awkward at first and most of us will respond, "Well, I never really could draw, so I don't think I can do that." But it's a very powerful tool.

In our original work on the subject, we identified 10 different tools that designers use, ranging from journey mapping to visualization to prototyping to assumption testing, all of which managers could learn to significantly improve their outcomes. We've since added many more tools, because designers have such an array, it's almost a question of pinpointing what exactly it is that I'm trying to accomplish and what tools are already out there that will help me accomplish it.

Can you share with us a story about when design thinking helped managers solve a very specific problem?

As we began to teach design thinking to managers, one of the things we discovered was we could teach them the technique, but we really needed to tell them stories about how they might use it. It seemed a little bit foreign to them, especially once we stepped away from organic growth.

It's pretty obvious how we would use these innovation techniques to find new products and services, but as we start to move into other areas, the stories become more important. I just finished working on a book with several co-authors, in which we highlighted 10 different stories of how organizations were using design thinking to accomplish very interesting things. Some of them were

large organizations: There's a story about IBM using the design thinking process to completely re-think its approach to tradeshow by taking them from being a cacophony of banners and people talking at you, into an experience of meaningful two-way, problem-solving conversations with customers. They use design thinking to understand what does it take to create a great conversation and then how do we begin to change the physical layout, the tools we give our salespeople, all the aspects in order to make it more welcoming, more comfortable and more conversational for those of us who visit tradeshow.

We also have a story about 3M using design thinking as a way of equipping its sales force with a different set of tools, used to help customers visualize the potential of 3M's new and exciting raw materials created for their products. We also have stories from the social services sector.

One of my personal favorites is the story of the Good Kitchen, which is a meals on wheels delivery service to the elderly in Denmark. They used design thinking not just to update the menu, what they originally

thought they would use it for, but in fact to completely change the meals on wheels process of what happened. They not only changed the creation and delivery of meals to the elderly, but also made changes with the workers in the kitchen. One of the things we're finding about design thinking is that it creates an opportunity to invite people into the process. So, we find that the benefit of increased satisfaction was just as significant with the kitchen workers as it was with the elderly.

There's a terrific story from the city of Dublin in Ireland, where design thinking methods were taught to citizens in order to pull them into conversations and generate ideas about revitalizing the city. So we could just give story after story, all kinds of ways in which large organizations, entrepreneurial startups, civic organizations and social service organizations all use design thinking to come up with more creative, human-centered solutions to meet the needs faced in their different contexts.

idea well

The Creative Promise of Design Thinking

what help do you need?
I'm looking for...
(Please help)

how can you help?
I'm looking for...
I'm looking for...

how can you help?
I'm looking for...
I'm looking for...

what help do you need?
I'm looking for...
I'm looking for...

**You're much more
imaginative than
you think!**

Design your future with us and our “creativity laboratory”...a living live lab where creation, management, business and culture are teaming up for success!



WE DESIGN THE FUTURE TOGETHER

We're in the ideas business /

We're in the strategy business /

We're in the complexity business/

We're in the learning business /

We're in the political diligence advise/

We're in the creativity business.

We're in the collaboration business.

We're in the solutions business.

We're in the knowledge business.

We're into building tomorrow society projects

Six Management Myths to Avoid

(and Six Alternate Maxims to Consider)

Sayings like


**it's sometimes
better to beg
forgiveness than
ask permission**

and

**keep your boss in
the loop**

are classic management adages. Many such sayings are great advice, but some of the old tenets just don't work anymore.


As a manager, you might believe in common management myths because you think they will simplify your life. Perhaps now is the time to reexamine those myths and replace them with maxims grounded in reality.



Myth 1: Think big.

Pressure will always exist to be sure an opportunity is big enough, but most really big solutions began small and built momentum. When the Internet was still new, how seriously would you have taken eBay or PayPal? In an earlier era, FedEx seemed tailored for a niche market. To seize growth opportunities, starting small and finding a deep, underlying human need with which to connect is best.


Better maxim 1: Be willing to start small — but with a focus on meeting genuine human needs.



Myth 2: **Be bold and decisive.**

In the past, business cultures were dominated by competition metaphors (those related to sports and war being the most popular). During the 1980s and 1990s, mergers and acquisitions lent themselves to conquest language. Organic growth, by contrast, requires a lot of nurturing, intuition and a tolerance for uncertainty.


Better maxim 2: Don't put all your eggs in one basket — always explore multiple options.



Myth 3: Don't ask a question to which you don't know the answer.

This one is borrowed from trial lawyers, and it entered the mainstream because looking smart always seems career enhancing. Unfortunately, growth opportunities do not yield easily to leading questions and preconceived solutions.


Better maxim 3: Be willing to start in the unknown and learn.



Myth 4: Measure twice, cut once.

This one works fine in an operations setting, but when the goal is creating an as-yet-unseen future, there isn't much to measure. And spending time trying to measure the unmeasurable offers temporary comfort but does little to reduce risk.

Better maxim 4: Place small bets fast.



Myth 5:
Sell your
solution. If
you don't
believe in it,
no one will.

When you are trying to create the future, knowing when you have it right is difficult. We think being skeptical of your solution is fine — what you should be certain of is that you've focused on a worthy problem. You'll iterate your way to a workable solution in due time.

Better maxim 5: Choose a worthwhile customer problem, and consider it a hypothesis to be.



Myth 6:

If the idea is good, the money will follow.

Managers often look at unfunded ideas with disdain, confident that if the idea were good, it would have attracted money on its own merits. The truth about ideas is that we don't know if they are good; only customers know that. Gmail sounds absurd: free email in exchange for letting a software bot read your personal messages and serve ads tailored to your apparent interests. Who would have put money behind that? The answer, of course, is Google.

Better maxim 6: Provide seed funding to the right people and problems, and the growth will follow.

The challenge for managers is to find a balance between the myths and the realities of business. In this age of uncertainty, an unavoidable but healthy tension exists between creating the new and preserving the best of the present, between innovating new businesses and maintaining healthy existing ones. As a manager, you need to learn how to manage that tension, not adopt a wholly new set of techniques and abandon all the old. The future will require multiple tools in the managerial toolkit — a design suite especially tailored to starting and growing businesses that adds to our current set of analytically oriented approaches to managing today's businesses well.

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Mission: To increase the viability of startups in our area by connecting entrepreneurs with expertise, resources and community.

Values: We believe creativity drives innovation, innovation drives entrepreneurship, and entrepreneurship drives sustained economic growth.