

TEN TOOLS FOR DESIGN THINKING

This technical note profiles 10 design tools managers can use to identify and execute opportunities for growth and innovation. They include the following:

1. **Visualization** is about using images. It's not about drawing; it's about visual thinking. It pushes us beyond using words or language alone. It is a way of unlocking a different part of our brains that allows us to think nonverbally and that managers might not normally use.
2. **Journey mapping** (or experience mapping) is an ethnographic research method that focuses on tracing the customer's "journey" as he or she interacts with an organization while in the process of receiving a service, with special attention to emotional highs and lows. Experience mapping is used with the objective of identifying needs that customers are often unable to articulate.
3. **Value chain analysis** examines how an organization interacts with value chain partners to produce, market, and distribute new offerings. Analysis of the value chain offers ways to create better value for customers along the chain and uncovers important clues about partners' capabilities and intentions.
4. **Mind mapping** is used to represent how ideas or other items are linked to a central idea and to each other. Mind maps are used to generate, visualize, structure, and classify ideas to look for patterns and insights that provide key design criteria.
5. **Rapid concept development** assists us in generating hypotheses about potential new business opportunities.
6. **Assumption testing** focuses on identifying assumptions underlying the attractiveness of a new business idea and using available data to assess the likelihood that these assumptions will turn out to be true. These assumptions are then tested through thought experiments, followed by field experiments, which subject new concepts to four tests: value creation, execution, scalability, and defensibility.
7. **Prototyping** techniques allow us to make abstract new ideas tangible to potential partners and customers. These include storyboarding, user scenarios, experience journeys, and

business concept illustrations—all of which encourage deep involvement by important stakeholders to provide feedback.

8. **Customer co-creation** incorporates techniques that allow managers to engage a customer while in the process of generating and developing new business ideas of mutual interest. They are among the most value-enhancing, risk-reducing approaches to growth and innovation.
9. **Learning launches** are designed to test the key underlying value-generating assumptions of a potential new-growth initiative in the marketplace. In contrast to a full new-product rollout, a learning launch is a learning experiment conducted quickly and inexpensively to gather market-driven data.
10. **Storytelling** is exactly how it sounds: weaving together a story rather than just making a series of points. It is a close relative of visualization—another way to make new ideas feel real and compelling. Visual storytelling is actually the most compelling type of story. All good presentations—whether analytical or design-oriented—tell a persuasive story.

Tool #1: Visualization

What is it?

Visualization refers to any activity that takes information beyond text and numbers and into images, maps, and stories. Visualizing our ideas makes them look and feel vivid and real to our audience and us. At its simplest level, visualization is about creating physical images and pictures and stepping away from our reliance as managers on numbers and text. At a deeper level, it is about seeing with our *mind's* eye: conjuring up mental images, vivid depictions of our ideas and insights about customers and their experiences, in a way that makes them human and compelling. Visualization isn't about only drawing and photographing; it's also about imagining.

Consider the famous saying “a picture is worth a thousand words.” Images help us grasp things much more quickly and effectively than words alone. They can capture complex systems on a single page, convey meaning in an instant, and tap into powerful emotions. Images make ideas tangible and concrete, and they allow people to share and develop ideas together. Visualization brings a different part of our brain into play: It's a different way of knowing.

We have all heard about the differences between the “left brain” and the “right brain.” The left brain, we're told, is analytical and logical—it's the “business” brain. It likes numbers and language. The right brain contributes much of what makes us human: emotion and intuition. Visualization is a right-brain tool.

Current brain science tells us that it is not quite that simple, but “right brain/left brain” is still a useful metaphor. Part of our brain (the right part, according to the metaphor) is an expert at syntheses, thus tapping into it helps us see connections and make sense of all the data we will

collect in our exploration process. Recent brain science studies have taken us a step further in understanding why visualizing ideas and activities is so important by demonstrating the existence of *mirror neurons*. Only humans and orangutans are known to have these neurons (hence, “monkey see, monkey do”), which rehearse the physical steps of an activity we observe without sending the execute command to our muscles. Therefore, if you are watching someone hitting a baseball, you are actually practicing your batting swing in your head. You are working all the neurological connections you need to actually stand up and swing. Consequently, we learn to make something real by seeing it. Seeing can be as important as doing.

Visualization approaches need not be complicated or sophisticated. Just working together to capture images on a board is a way to think together and get different disciplines on the same page.

Why we use visualization

Making your work visible reduces project risk substantially (and is especially important for effective cross-disciplinary collaboration) because words are much more open to interpretation than pictures. When you explain an idea using words, the rest of us will form our own mental pictures, usually informed by our training. When you say, “We need a new growth platform,” the IT specialist sees servers and code and exchange rules, the marketing guru sees an advertising campaign, and the manufacturing manager sees new tooling. And we all think, “I’m sure he means what it means to me, and that sounds good. We’ll sort out the details later.” And, of course, that’s what kills us: We each go off and do our own thing, based on what your words meant to us. Later, you may well say, “That’s not what I was talking about!”

If instead you present your idea to us by drawing a picture of it, you reduce the possibility of unmatched mental models. This is no guarantee that we will all agree with your idea, but now at least we will know what we are disagreeing about.

When we use it

Visualization is the “mother of all design tools”—the common denominator across all stages of design thinking. It is a core element of many of the other tools presented in this note, such as journey mapping, prototyping, co-creation, and storytelling.

How we do it

One of the great things about most of the design tools we’ll discuss (including visualization) is that they require very modest capital investment: a whiteboard and markers. Flip charts, Sharpies, and Post-it Notes are also extremely useful. More sophisticated aids, such as PowerPoint software, digital cameras, and camcorders, can be handy as well. Designers use a more sophisticated set of software tools, such as Illustrator and Photoshop, but mastering these isn’t necessary to reap the extraordinary benefits of visual thinking (though a trained designer is an absolutely invaluable addition to the team!).

Here are some basics to get you started:

1. Keep it simple. Make your visual representations as simple as possible; basic stick figures can often do the trick. Use color in a meaningful way. Keep clip art simple and avoid the clutter of multiple fonts and other fancy effects. Remember: This is not about displaying your artistic ability; it's about using your imagination. Rudimentary can be better. Creating visuals that are too polished can backfire when your goal is to solicit feedback.
2. Start by breaking your problem down into components. In his bestseller on visual thinking for managers,¹ Dan Roam argues that you need to consider only these components: who, what, how much, where, when, how, and why?
3. Learn to think in metaphors and analogies. Can you come up with an image for every key point?
4. Use photographs. Photographs can be enormously helpful for both capturing data and communicating to others. Think of a bullet point in a PowerPoint presentation from a financial services organization that reads, "Our clients have an average of more than five different accounts." Now think of a photograph of a man's wallet stuffed with credit cards and another one of his desk littered with bank statements. What is the difference in impact between the line of text and the photographs? How can you marry words and pictures for maximum communication impact?
5. Get comfortable working with personas. Personas are fictional characters that you can create to exemplify certain customer attributes. They help you visualize your customers. Because personas make the potentially abstract concept of "customer" very personal and human, they enhance your ability to build the empathic understanding of customers that is at the heart of design thinking. In Tool #2, we'll talk in more detail about building and using personas. For now, just think of creating a set of characters and then using photographs and descriptions to bring them to life.

The basic data you are communicating may not change; but the way you communicate those data does.

Tool #2: Journey Mapping

What is it?

Journey mapping focuses on tracing the customer's experience as he or she interacts with a company in the process of receiving its product or service, with special attention to the emotional highs and lows and the meaning that the experience holds for the customer. This tool

¹ Dan Roam, *The Back of the Napkin: Solving Problems and Selling Ideas with Pictures* (New York: Portfolio, 2008).

is part of an ethnographic approach to studying customers in their own environments instead of encountering them in focus groups or surveying them. Its aim is to identify the customer's "pain points" and spark innovations that can reduce these low points and maintain and increase the high points.

As we create and then analyze the maps, we are looking for touch points, moments of truth, and pain points within the journey. These hold the key to identifying value-creating innovations. And central to these is emotion. Jill Taylor, PhD, a former Harvard Medical School brain researcher, noted:

Sensory information streams in through our sensory systems and is immediately processed through our limbic system. By the time a message reaches our cerebral cortex for higher thinking, we have already placed a "feeling" upon how we view that stimulation—is this pain or is this pleasure? Although many of us may think of ourselves as *thinking creatures that feel*, biologically we are *feeling creatures that think*.²

Operations experts advise managers to "staple yourself to an order" to really understand the flow of activities within your firm. We're suggesting that you go further and "staple yourself to a customer"—it may change what you believe about the customer's order.

Why we use journey mapping

The number one reason for the failure of new growth ideas is that we misjudge what customers really want, so the surest way to de-risk a project is to develop a deeper understanding of what they want. The reason for mapping customers' experiences is captured in Harvard marketing professor Theodore Levitt's famous observation, "People don't want to buy a quarter-inch drill. They want a quarter-inch hole!"³ It's not about the product we sell; it's about the value that we create in customers' lives. And a deep understanding of the problems and frustrations of the *lives* of those you wish to create value for is the most important input to the search for profitable growth.

The most attractive new business opportunities are not obvious—if they were, there would be no proprietary advantage in pursuing them. If a customer asks us for a new offering, chances are that he or she has asked our competitors as well. Therefore, the likelihood that the new offering would help to differentiate us is very slim. The gold is in the needs the customer *has* but is not able to articulate. Journey mapping offers a systematic way to uncover those hidden needs.

² Jill Bolte Taylor, *My Stroke of Insight: A Brain Scientist's Personal Journey* (New York: Viking, 2006), 19.

³ Clayton M. Christensen et al., "Marketing Malpractice: The Cause and the Cure," *Harvard Business Review*, December 2005, <http://hbr.org/2005/12/marketing-malpractice/ar/1> (accessed July 20, 2010).

Innovation works best when it does not require customers to change their behaviors in significant ways. In other words, we get innovative so our customers don't have to. We want to solve their problems at a minimal inconvenience to them. And, as CEO of design firm IDEO Tim Brown points out, if we want to build on top of customers' existing habits, we must first understand those habits.⁴

Journey mapping takes us on an empathic journey through our customer's current experience, supported by data gathered through observation and interviewing. In doing so, it seeks to shift how we understand that experience. It provides a compelling description of unmet needs and helps us understand the differences among customers and, in the process, identify key opportunities for improvement. It is never about "proving" that our ideas are worthwhile. Instead, we employ this tool with the aim of exploration that will yield ideas for future prototyping.

When we use it

During the exploration phase of a growth process, as we have noted, journey maps help generate ideas. During concept development, it can be useful to develop maps based not on the actual experiences of customers but on what they would consider ideal. During the later phases of the growth process, we can create journey maps that act as low-fidelity prototypes of our proposed new customer experiences.

How we do it

Here is how the process typically works:

1. Select the customer group whose experience you want to understand more fully. Spend some time investigating the context in which the customer group does the "job" your offering contributes to. Secondary data sources are often a good place to begin.
2. Lay out your hypothetical view of what the customer's journey looks like from beginning to end. Be sure to include all the steps in the journey—not just the ones in which your firm participates.
3. Identify a small number of customers (generally 12 to 20) who cover the range of demographic attributes of interest to you.
4. Conduct a few pilot interviews, walking systematically through the customer's journey, to be sure that you are accurately capturing the steps and getting the kind of data you need. This is hard work—harder than you think.

⁴ Reena Jana, "IDEO's Tim Brown on Using Design to Change Behavior," *Harvard Business Review*, the Conversation Blog, March 29, 2010, http://blogs.hbr.org/cs/2010/03/design_to_change_behavior_tips.html (accessed July 20, 2010).

5. Finalize the research approach and conduct the remaining interviews, focusing on the emotional highs and lows of the experience. We find it best for two researchers to interview one subject together. This allows the “questioner” to give the interviewee his or her full attention, while the second researcher takes notes.
6. Identify the essential moments of truth and other themes from the interviews; this is an intense phase of sense making that puts the research results into new frames that can be used for innovation planning. We begin by having interviewers summarize what they learned during each interview on a single template. Then we rip a sheet of flip chart down the middle and write the name of each interview across the top. As a team, we summarize the key emotional highs and lows as bullets on the flip chart. We array all of these on a wall, lined up next to each other so that we can begin to look for themes.
7. Take these themes and identify a number of dimensions that you believe to be useful in understanding the differences in the data you have gathered.

A more sophisticated version of journey mapping continues the process by creating a set of personas:

8. Select the two dimensions that you consider most revealing of their psychographic characteristics. This will create a 2×2 matrix.
9. Position each interviewee into one of the four quadrants of the matrix to form archetypal “personas.” Describe the archetype as fully as possible, focusing on the demographics and psychographics that make this archetype unique.
10. Map the journey of each persona. Taken together, these maps should reveal a set of shared low points. These are the “pain points” that represent the most valuable innovation opportunities for that customer type and will be our starting point as we move forward.

Journey mapping differs substantially from market research tools such as focus groups and surveys. Managers trained in those methods are often uncomfortable with the “findings” of ethnographic data because the number of subjects is much smaller. But a small sample is a deliberate choice because the data gathering is deep and intense. The process uses observation and intensive interviews (ideally done in real time, while the customer is in the middle of the experience, rather than retrospectively) in which the researcher walks the customer through each element of an experience, using open-ended questions. These questions may be supplemented with photo diaries or videos.

This tool, like the visualization tool, does not produce either generalizable or statistically significant results that “prove” anything. Instead, it is an exploratory research tool used in the early stages of an innovation process to open up creative thinking about the unarticulated needs of customers, which are often inaccessible using methods with larger sample sizes. Its purpose is not to produce a set of recommendations for action; rather, it is to produce a set of *hypotheses* for testing.

Managers often want to know what “percentage of the market” any given persona represents. That is the wrong question. Personas are not meant to represent actual target market segments. They are *devices*, intended instead to generate deeper insights into the various kinds of experiences that customers are having and to help generate innovative ideas about how to improve those experiences. These personas are often psychographic, rather than demographic. They aim to transcend traditional segmentation categories such as gender, income, and marital status.

Tool #3: Value Chain Analysis

What is it?

Value chain analysis examines how an organization interacts with value chain partners to produce, market, and distribute its offerings. Analysis of the value chain offers important clues about our partners’ capabilities and intentions as well as our firm’s vulnerabilities and opportunities. It is the business-side equivalent of customer journey mapping. Value chain analysis highlights the “pain points” and opportunities in the organization’s experience as it works with upstream and downstream partners to deliver its product or service.

Why we use value chain analysis

Creating value for customers is only part of the equation for achieving business success. To be sustainable and attractive, new businesses have to create value for the organization (usually in the form of profits) as well as for customers. That means new businesses have to be hard for competitors to copy and possible for us to scale; they also need to be something we can execute with our current capability set (or with the help of interested partners). Ideally, new businesses *leverage* the distinct capability our organization has built over time. Analysis of the value chain often yields important clues about where the attractive places to play are, how to capture our fair share of the value created by the chain, and how to defend against our vulnerabilities and the forces of commoditization.

When we use it

Conducting an end-to-end value chain analysis is an important part of the exploration phase as we seek to understand the current reality of our business model in the search for profitable growth opportunities.

How we do it

Value chain analysis begins by working backward from value creation for the ultimate end customer and then adding the capabilities and bargaining power of other key suppliers.

Draw the value chain for your business. Start by grouping strategic clusters of activities, working backward from the end point (the final value proposition delivered to end customers), all the way back to the origin of the chain (the production of the raw materials it starts with). These clusters, taken together, form the basic architecture of the chain. Each competitor will have its own “footprint” in the chain, its own configuration of activities in which it participates. Some firms may participate in only one cluster; others will have a more expansive footprint that spans multiple clusters of activities.

Ask yourself the following questions:

- What does the competitive environment look like in each cluster?
- Who are the key players? How many are there?
- What are the core strategic capabilities in each cluster?
- What does each player contribute to creating value?
- What determines how value is captured?
- Who has the power in the chain? Why?
- What do you learn from this exercise about power and positioning in the value chain?
- Where do you see possibilities for improving your power and profitability by altering your footprint in the existing chain?
- Where are you vulnerable to others who might change their footprints in ways that put you at a disadvantage?

Tool #4: Mind Mapping

What is it?

Mind mapping is the term we use for the process of looking for patterns in the large quantity of data we collected during exploration. We want to create a common “mind” that links together all the disparate insights we have developed so we can use them to generate criteria for the new designs we will create in the next phase. We do this by displaying the data and asking people to cluster them in ways that allow themes and patterns to emerge.

Mind mapping calls for the kind of creative leap that can be uncomfortable for people who have been trained analytically. Fortunately, we humans tend to be pretty good at pattern recognition. Aeons of experience have trained our minds to be good at it—we’ve been trying to turn our brains into calculators for just a few hundred years. Keep in mind that all these tools are intended to help us be more creative thinkers, rather than come up with the “right answer.”

Why we use mind mapping

We come out of the exploration process having gathered a mountain of data. The first challenge is processing all this information in a systematic way so that we can actually *use* it to generate better ideas than we would have otherwise. It would be disheartening indeed, having collected information for months, for people to ignore it or, worse, use it selectively to justify their preexisting ideas. The second equally important challenge is aligning the organization around the ideas we choose to advance. Not meeting these challenges—not learning from the data or not agreeing on the most promising ideas the data suggest—is a prime source of waste and failure in innovation processes.

Mind mapping can help us avoid both pitfalls. With mind mapping, we are trying to replace a “business as usual” culture of debate about the one “right” answer with a more design-oriented focus on exploration and dialogue—while remaining data-driven. In doing so, we hope to build a common “mind” about current reality, which decreases people’s investments in the solutions they began the exploration process with. To succeed at this, mind mapping must be a team sport.

When we use it

We move into the mind mapping process when we feel like we have collected “enough” data. This can seem like an arbitrary decision—you will always want more information. But an important part of design thinking is letting go of the need for certainty. In this instance, it means accepting that we can never be absolutely certain we have all the data we need to make an airtight case.

How we do it

1. Create a yard sale. Mind mapping begins with laying out the data we have collected for everybody to see. This can be a daunting task. Traditionally, managers produce reports summarizing their learning, which they expect their teams to read and analyze before they come together to discuss their next moves. That approach may be sufficient for truly dedicated and diligent teams working together on a continuous basis, but we have found relying on this kind of intensive advance preparation leaves a lot to chance. Months of exploration often produces voluminous amounts of information that can overwhelm those not intimately involved with the project; for this reason careful attention to the presentation of data is crucial.

Our suggestion is to lay out all the data in a yard sale (or an art gallery, if that image works better for you). To do this, we are going to tap into the power of visualization (Tool #1) to communicate the key components of what we have learned and display them as clearly and simply as possible. Chances are, we already have some customer journey maps, persona 2 × 2 matrices, and value chains to display. That is where we begin. Then we usually want to create posters that capture key themes and trends in the data. (Note:

Copy stores can make a large black-and-white poster from any PowerPoint or Word document very inexpensively.)

2. Invite the shoppers. Tell a group of thoughtful people—anywhere from 10 to 50—that you want to borrow their intuition for a day. When they arrive, assign them to designated seats in small “team” circles. Each person needs a Sharpie and a stack of medium-size Post-it Notes, some kind of clipboard, and one stack of large (5 × 8 in.) Post-its and one more stack of medium ones in a different color.
3. Kick off the event by asking your guests to tour the yard sale (or art gallery). Depending on their familiarity with the process, you may need to spend some time (but not too much) moving around the room explaining briefly what each visual describes.
4. Pick out the good stuff. Ask each attendee to “browse” the yard sale or gallery individually (without talking to one another) and note (on separate medium-size Post-its) any learnings that he or she believes should inform new ideas. Each person will probably accumulate 20 to 30 of these. If any important data are missing from the gallery, attendees can add their own—but on a different colored Post-it. (Have teams start in different places around the room and tell everyone to write in large block letters.)
5. Cluster the good stuff. Have attendees return to their team circles and spend five minutes privately sorting through their Post-its and clustering them on their clipboards into the themes they see. After completing this, teams work as a group to cluster their combined Post-its into shared patterns and themes on a large foam-core board (4 × 4 ft.). We suggest the following approach:
 - a. One individual offers a theme that seems significant and attaches his or her relevant Post-its to the board. The other team members then add to that cluster their own notes that are relevant to the theme.
 - b. A second person offers another theme. The process is repeated as before, with participants adding to this second cluster their own related Post-its. The group continues in this way until all major themes have been gathered on the board.
 - c. At the conclusion, any Post-its that have not been assigned to a theme are posted in the margins as “outliers.” Pay attention to these; just because a piece of information doesn’t fit into a cluster doesn’t mean it isn’t important.
6. Identify the insights related to each cluster and look for connections between clusters. Ask the teams to step back and try to identify what insights arise from each cluster. These should be written on the large Post-its and posted on top of the relevant cluster. Teams should then look for relationships between the clusters.
7. Translate insights and connections into design criteria. Pose the question, “Based on what we have learned, if anything were possible, what attributes would our design have?” Capture these criteria on a flip chart, one per team.

8. Create a list of common criteria. Have the teams browse one another's charts, discuss the criteria, and work together as a large group to create a "master list" of criteria that an ideal design would meet.

Tool #5: Rapid Concept Development

What is it?

Rapid concept development is a tool for using the insights and design criteria we have generated to develop new business opportunities. When people hear the term "innovation process," concept development may be the *only* thing they think of, and they often equate it with brainstorming. But there is a lot more to innovation than the development of new ideas and a lot more to developing new ideas than brainstorming.

Concept development encompasses three stages. In the first stage, we take the design criteria, the personas and their pain points, and the value chain insights we have unearthed in our research and use all of it to generate new ideas—lots of them. In the second stage, we assemble the ideas into a manageable number of interesting concepts. Think of it this way: We first lay out all our Legos (the ideas), and then we use them to build something cool (the concepts). Finally, in stage three, we elaborate on the business design (incorporating both the customer and value chain journeys) behind that handful of concepts. The point here is to generate a lot of ideas and concepts, which means that some of what we produce should push beyond the boundaries of what is considered practical.

Why should concept development be rapid? Because we don't want to spend too much time sitting in a conference room creating and then debating each other's ideas—or preparing big PowerPoint presentations about them. We want to generate ideas quickly and get them out to customers to have a look at them as soon as possible. Speed is key.

Why we use rapid concept development

This one is fairly obvious: You can't have innovation without new ideas. Real innovation is about more than just fixing problems; it's about inventing something new—something that does not exist today. This is the exciting part of the process in which we move from looking at current reality and its problems to creating a new future. We do it in teams and groups so that we can harness the power of our diversity of viewpoints and experiences and tap into our collective intelligence.

When we use it

You can lock yourself in a room and come up with lots of new ideas at any time. You don't need data, or insights, or criteria. But that's not design thinking—that's brainstorming (a process that has typically made innovation synonymous with "winging it" in many people's

minds). In the brainstorming model, the *modus operandi* is often to come up with an interesting idea or two and then launch them as new products and see if they sell. But in the process we're describing, concept development sits *in between* an exploration stage, in which we work to develop insights about the people for whom we are trying to create value, and an experimental stage, in which we create a prototype to start the process of refinement of the idea, enlisting others to help us improve upon it.

How we do it

Rapid concept development has both an outside-in and an inside-out component. It starts with the insights into the customer's needs (the outside-in part) and the organization's business goals and capabilities (the inside-out part) that were generated.

Here are some principles and steps to guide your approach:

1. Focus on questions instead of answers. Sure, we want solutions, but the only way to get to creative ones is through a broad set of what we call trigger questions that are aimed (not surprisingly) at *triggering* new ideas. It's easy to run a lackluster C-grade concept development process—but hard to get an A. The difference between an A and a C, in our experience, often comes down to the quality (and sometimes even quantity) of the trigger questions.

Round one trigger questions warm us up. They take the design criteria and insights and ask, "What could we do to solve that customer's frustrations (outside-in) or better meet our business goals (inside-out)?" That is an important start, but it usually gets us to only a C because we mostly come up with the ideas we already have. What is different in this process is that, because of our exploration research and the design criteria we have generated from it, we understand *why* some of these are better than others and *how* they will create better value. But chances are that we have still dredged up a bunch of things that we have thought of before. We need to get those out of our heads so that we can clear space to get to the really good stuff—the stuff we haven't thought of before.

2. Keep pushing deeper. Round two trigger questions help us get into the heads of the various personas we created with the experience mapping tool. What are they thinking and feeling? What is making their lives difficult? What are the compromises and tradeoffs we've forced on them that they'd like to escape? Remember your extreme users as well as lead users here.
3. Question your assumptions. We all have unarticulated assumptions about "how things are done" in our business. Unexamined and unquestioned, they can be the greatest impediments to seeing new opportunities. One approach to recognizing these mental "rules" is to lay out how your business operates today. Your value chain analysis should help you do this. How do your offerings move *physically* to the market? How does *information* flow? What about how the *financials* play out? Then challenge yourself to come up with one alternative scenario for each.

4. Envision how a negative could become a positive. To probe deeper into foreign territory, try asking what you would *never* do. The idea of white comforters on beds must have seemed insane to some people at Starwood when the hotel company introduced its “heavenly bed.” But some executives in the company had learned that fluffy and white said luxurious to their customers, and it turns out that white comforters are easier to clean (using bleach) than dark comforters. And the people at Uncle Ben’s fretted that the time it took their rice to cook was a big disadvantage—until they realized that for some home cooks, “instant” is a turnoff, and a long prep time means “prepared with care.”
5. Create some alternative scenarios. Another set of trigger questions comes from traditional scenario-planning approaches. Consider the most significant uncertainties facing your business in the future. Array these against each other to create a 2×2 matrix with four different “worlds” or scenarios within it. For each quadrant, describe in as much detail as possible what living in that world feels like—from both a customer and a business perspective. What are the frustrations and pain points for customers in the different scenarios? How would you add value to their lives in each? Where do opportunities—and vulnerabilities—exist from an organizational perspective? How can you take advantage of (or defend yourself against) them? What will be the winning innovations (and who will be the winning innovators) in each world? Again, keep in mind that, as with the creation of our personas, we are not trying to predict the future. We are merely trying to shed the blinders of our “business as usual” lens and trigger new insights and ideas that we can subject to rigorous testing later.
6. Pretend to be somebody else. Try to imagine that you are somebody else—in an industry quite different from your current one. What would Google do to meet the design criteria we generated? Or Virgin? Or Southwest? Think about the vulnerabilities you dug up in your value chain analysis. If you were one of your competitors, how would *you* exploit these? Knowing your own vulnerabilities, where would you strike? What changes could your competitors make in the business model that would really hurt your firm?
7. Make it a party—but not too big. The odds of achieving A-level concept development go up astronomically when we invite people who see the world in a different way into the conversation. That is why cross-functional teams can be so critical to success. But you can go further: What about inviting some outsiders into your sessions? Customers, perhaps? Or, even better, an impartial third party? But try not to let the party get out of hand. In our experience, several sessions with smaller groups will be more valuable than a single large session.
8. Make it a competition. Why are so many businesspeople motivated to try harder in a competition? We don’t know why; we only know that they are. Even small competitions—such as dividing 10 people into two teams and asking them to compete—seems enough to get the creative juices flowing more vigorously!

Keep at it. When you think you have exhausted every idea imaginable, challenge yourself to come up with two more. Go back to the design criteria you created and search for ideas you haven’t mentioned yet about how to meet them.

After you have plumbed the depths to come up with A-level ideas, using your design criteria, it is time to group them into concepts by examining how they relate to each other. To return to our earlier analogy, this is when we sort through our huge pile of Legos and build something cool with them. A lot of the power is in the assembly process, in the way you combine ideas. The fancy term designers use for this is “combinatorial play”: It has to do with picking and choosing elements that combine to create both compelling customer value *and* a viable business model. In this case, the whole is often greater than the sum of the parts. Individually, those Legos may not look very exciting—but what a castle they build when you put them together!

9. Make some chili. One of our favorite approaches to putting ideas together into interesting combinations was taught to us by Jeremy Alexis, a professor at the Institute of Design, Illinois Institute of Technology. He encourages his students to set up a “chili table”:
 - Think of all the categories of things you can put into chili (meat, beans, vegetables, spices, etc. (Alexis calls these his “variables.”))
 - Now think of all the possible items in each category, such as different kinds of meat and spices (Alexis calls these his “values.”)
 - Now create different combinations of the values to make different kinds of chili. You might make vegetarian chili (lots of vegetables, no meat), meat lovers’ chili (every kind of meat, no vegetables), or Hawaiian chili (ham and pineapple, hold the cayenne pepper). You get the idea.
10. Stand in the future and “backcast.” Get out of today and envision the tomorrow where your customers are blissfully loving everything you do. What does that look like? How did you get there?

Tool #6: Assumption Testing

What is it?

Assumption testing is a tool for bringing to the surface the key assumptions underlying the attractiveness of a new business concept and using available data to assess the likelihood that these assumptions are true. This approach acknowledges that any new business concept is actually a *hypothesis*—a well-informed guess about what customers desire and what they will value. And, like any hypothesis, a new business concept is built on some assumptions about what makes it attractive. The conditions and assumptions the hypothesis rests on must be valid for it to be “true.” Consequently, testing these assumptions is essential.

The assumptions underlying a new business concept must be clearly articulated before they can be tested. Then we have only two options for testing them: (1) use new data gathered from doing a *field* experiment in the real marketplace or (2) use existing data to conduct an analytical *thought* experiment without going into the marketplace. In order to do either, we first need to surface the assumptions that will be tested and identify the data we need to test those

assumptions. Then, because marketplace experiments tend to be costly and more visible, we usually prefer to conduct our first set of tests using data we already have, whenever possible. So we start the testing process with *thought experiments* before moving onto real experiments in the marketplace.

Why we use assumption testing

All growth projects fail because reality turns out to be different from what we thought it would be. Perhaps customers don't want a new offering, our firm can't execute it, partners don't like it, or competitors copy it quickly. Launching new concepts to see if they sell is a risky and potentially expensive approach that we want to avoid for all but the most attractive concepts. We minimize risk and expenditure by market testing only those concepts that pass this first set of thought tests.

When we use it

Assumption testing is useful at multiple stages in the innovation process. It is a valuable exercise to undertake even before you go into the field to do ethnography. Uncovering our own assumptions about customers and their preferences makes us more alert as observers—and more cognizant of our biases. Further along in the process we usually have more interesting concepts to try out than we have resources available, so the opportunity to conduct thought experiments lets us take a first pass at prioritizing. Even given abundant resources, we don't want to market test anything we don't have to.

Assumption testing should be done as soon as possible—but always carefully and with the caveat that existing data are often a poor predictor of the future. As Tim Brown has warned, many a good innovation is prematurely killed off by the lack of a “business case.” Ideas that go on to be “needle movers” often do not look that promising at the start. We have no doubt that somewhere in the archives of Compaq (wherever those sit these days) there is an elegant PowerPoint deck arguing decisively that Dell's crazy new idea of direct-to-customer delivery of customized PCs will never amount to more than a small part of the market. “Big” ideas often look that way only in hindsight.

How we do it

The goal in assumption testing is to wade through all the uncertainties associated with a new business concept and drill down to the core assumptions on which it depends. The steps in assumption testing are as follows:

1. Lay out the *generic* business tests that your new concept must “pass” in order to move forward. At this stage, our goal is to see what it will take for our new idea to become an attractive, viable business so we can use a set of tests that apply to just about any new business in any industry:

- *The value test:* Customers will buy it—at a price that works.
- *The execution test:* You can create and deliver it—at a cost that works.
- *The scale test:* If you pass the value and execution tests, eventually (the sooner the better) you can build a level of volume that makes it worthwhile.
- *The defensibility test:* After you do all the work involved in the first three steps, competitors can't easily copy you.

It's pretty simple—think doable, valuable, scalable, and defensible. Those are the core issues involved in identifying and testing the attractiveness of any new business concept.

2. Lay out the *specific* business tests your new concept must “pass” in order to move forward. The second set of tests relates to your firm and your particular situation. What are the important strategic goals you are trying to accomplish with this new concept? What assumptions are you making about how and why this concept accomplishes those goals? Refer back to the first two project-management aids we generated in the innovation process—the design brief and design criteria. The design brief should remind you of the strategic organizational goals you aspired to as you began the innovation journey. The design criteria will contain the imperatives that the business concept must meet based on your customer ethnography and value chain assessments.
3. Make sure that your assumptions relating to each individual test (value, execution, defensibility, and scalability) are as explicit as you can make them. Remember that these key assumptions revolve around a set of educated guesses you've made about the following:
 - *Customers:* Why will this concept create superior value for customers beyond existing options? How much will they be willing to pay? And are there enough of them to constitute a market of sufficient size?
 - *Your own organization:* How will the organization create and deliver the promised value, and what current capabilities will it leverage? You must also identify which critical capabilities are missing and whom you will partner with to obtain these.
 - *Competitors:* Which competitors are you likely to affect and how will they react? This would include assumptions about whether and why they are capable of copying the concept quickly and how else they might interfere with your ability to succeed.
4. Determine which assumptions are most critical to the potential attractiveness of your new concept. If you have been thorough, you have probably generated far more assumptions than you can feasibly test. Can you highlight the handful of assumptions that make or break your new idea? Timing is also important to consider. Generally, the two tests that matter most in the early stages of the innovation process are the value and execution tests. Most new concepts fail the value test rather than the execution test. That is where we suggest you focus your initial firepower. Scaling and defensibility come later, as we know more about the offering.

5. Identify the data that allows you to conclusively test key assumptions. Having narrowed the assumptions down to a manageable number, you now begin to move from surfacing assumptions to testing them. It is crucial here to think through what the data look like that either would confirm or disprove your hypotheses about the attractiveness of the new concept. This turns out to be a surprisingly difficult task for many managers. Given that managers are obsessed with data, you would think this would be a piece of cake. But most managers have been taught how to take the information they *have* and work with it. Here, we are identifying the information we *need* and then figuring out how to get it. This takes practice and patience—and a team with differing perspectives. This is where those “designated doubters” come in handy. They are adept at looking for flaws in logic, whereas leaders of innovation tend to be hopeless optimists. You need both qualities to find and execute growth. You must figure out how to get the doubters on your team to share their concerns in a productive way.
6. Sort the data you need into one of the following three categories: what you know, what you don’t know and can’t know, and what you don’t know but could.

Let’s look at each category in turn:

- *What you know*: These are the facts you already have in your possession related to each assumption. Beware of *beliefs* masquerading as facts. Don’t confuse the two. The doubters will help you with this by highlighting the areas where your personal (and sometimes optimistic) interpretations may be blinding you to realities that you should acknowledge.
 - *What you don’t know and can’t know*: This is the stuff we can’t know without a crystal ball. It is the land of true uncertainty—the land of the *unknowable*. As we have already noted, it is hazardous to use data about the past (or even the present) to predict the future. In these cases, you have to make that future happen and observe the results. You can’t get good data in this category until you move into the marketplace and try. Thought experiments here can do more harm than good. This is the reason that Tool #9, the learning launch, exists—to teach you how to conduct inexpensive, low-risk tests in the real world.
 - *What you don’t know but could*: Here is where you hit pay dirt for the creation of thought experiments. In any situation, there is a lot of stuff that is knowable, but we haven’t taken the time to go and get the data to know it yet. Generally, this can be an expensive proposition, and we don’t want to chase data that we don’t need. That is why it is so critical to be hypothesis-driven in your approach—identifying only the really important data and then spending the effort to go get them. This is why strategy-consulting firms flourish—this is what they do.
7. For the third category (what you don’t know but *could*), identify what it would take to get the data quickly. This is where the fun begins. We are going to have to *construct* some data, which means not relying on what our internal accounting systems or industry trade group (or whomever) decides to give us.

8. Design your thought experiment, paying special attention to the data that could prove you wrong. How many times are we going to repeat this, you ask? No matter how much we do, it will never be enough. Because this is your Achilles' heel (and every other manager's as well). There is nothing more powerful you can do to reduce growth risk than simply paying close attention to signals that indicate you may have gotten your assumptions wrong. The more explicit you can be in advance about what those signals would look like, the better the chance they will make it past your denial mechanisms and throw up a caution flag.

Tool #7: Rapid Prototyping

What is it?

Prototyping is the creation of visual (and sometimes experiential) manifestations of concepts. It is an iterative set of activities aimed at transforming the concepts generated in the “what if?” stage into feasible, testable models. It's the next step in continuing the assumption testing we started as part of our thought experiments, but now we're going live. In prototyping, we give our concepts detail, form, and nuance—we bring them to life. Larry Keeley, an innovation strategist at Doblin, describes prototyping as “faking a new business fast.”

We all understand the prototyping of new products, but prototyping concepts and business models can be hard to envision. Prototypes of these usually take the form of storyboards, user scenarios, experience journeys, and business concept illustrations.

Prototypes differ in their degrees of polish. Two-dimensional prototypes, created early in the innovation process, are often crude and unfinished in appearance, and they are supposed to be that way, looking like “works in progress.” They are called “gestural” prototypes by designers and may consist of nothing more than a few sketches on a napkin. Three-dimensional prototypes are more developed. They are “built out” (in design language) working models that contain more features and details.

Why we use rapid prototyping

Prototyping is all about minimizing the “I” in ROI. The cost of a simple 2-D prototype could be as low as a pen and some paper. Such minimization of costs allows you to do a lot more testing of different variations of concepts, bringing more of what designers call “optionality” into the design process. You can afford to do lots of 2-D prototypes—and to prototype individual parts of a concept as well as the whole thing.

By making abstract new ideas *tangible* to potential partners and customers, you can better facilitate meaningful conversation and feedback about them. The purpose of prototyping is to create something quickly that can then be tested with users, refined, and socialized with a broader organizational audience.

This is a volume game: You've got to be up at bat lots of times to get a hit. A client of ours developed 340 ideas during concept development. These were reduced to 23 napkin concepts to show potential customers and further reduced to five 3-D prototypes that moved into piloting in the marketplace.

When we use it

We prototype to learn rather than to "test" a theoretically finished offering. We want the process to be simple and fast so that we can "make mistakes faster," identifying areas that can be improved while agreeing on areas that are working effectively. Sooner is better than later (haven't we said that before?). A strong prototyping orientation can identify and correct potential problems and will ensure a smoother implementation. As architect Frank Lloyd Wright noted, "An architect's most useful tools are an eraser at the drafting board and a wrecking ball at the site."⁵ Clearly, we prefer the eraser to the wrecking ball.

How we do it

Architects create blueprints and models; product designers build physical prototypes in addition to those things. Business concept prototypes generally take visual and narrative forms: images and stories. They can even include role-playing and skits. Today's computing power has allowed a whole new set of prototyping approaches, including video games and simulations.

Regardless of the form prototypes take, they share some principles:

1. Figure out the story that you want to tell. Start out simply. Visualize the concept in pictures, using as few words as possible. Add complexity, appropriately, as you go.
2. Visualize multiple options. Create some choices to be made by the partners you will share these with. Draw them in by involving them in making choices about how the idea will work.
3. Use an affordable loss calculation. What amount can you afford to lose to learn something your competitors don't know (even if you don't move forward with the idea)? In other words, how much is learning worth?
4. Show; don't tell. Make the prototype feel real through imagery and artifacts. Work on bringing the concept to life for the observer. Focus on capturing details of how the concept will work and how people will experience it. Use stories, maps, images, and short videos to spark conversation with the observer.
5. Keep in mind the questions/assumptions that you are testing.

⁵ Frank Lloyd Wright Foundation, "Quotes," <http://www.cmgtw.com/historic/flw/quotes.html> (accessed July 20, 2010).

6. Play with your prototype; don't defend it. Let others validate it—not the people who created it.

Tool #8: Customer Co-Creation

What is it?

Customer co-creation engages a potential customer as a partner in the development of new business ideas. Using the prototypes described in Tool #7, customers explore alternative futures and actively shape win-win propositions. We want to put some small experiments in front of potential customers, get their quick reactions, and iterate our way to an improved offering. Designers refer to this kind of approach as “participatory design.”

Co-creation is *not* the same as customization. It is not about adding features that customers ask for; it is about understanding one customer's needs in a way that leads, eventually, to the creation of an offering that will appeal to many customers.

Why we use customer co-creation

Customer co-creation is among the most value-enhancing, risk-reducing approaches to growth and innovation that we have discovered. It gives managers an alternative to waiting for the “ROI Fairy” or going for the *Field of Dreams* approach.

In the ROI Fairy model, we develop rigorous financial models that assess market size, adoption rates, and product margins—all for an offering that doesn't exist yet. We sprinkle our analytical pixie dust over an imaginary business, and its performance numbers magically materialize. The alternative that fares best is the winner. Very often, the winner of these ROI contests is the concept for which the assumptions are the least specious. That means we tend to pick concepts that are close to what already *is*, and not close enough to *what if*. The results are tepid customer experiences that represent only an incremental change from the status quo. This is a sure-fire recipe for a project that does not move the needle with customers.

The *Field of Dreams* approach is so named because of a line from the eponymous 1989 film: “If you build it, [they] will come.” So, the idea is that we have the courage to formally roll out one concept as a real business—whether it was vetted by the ROI Fairy or simply anointed by the senior executive closest to the project—and see if customers respond. Yet anytime we introduce a new and unfamiliar concept, we can expect to get it mostly wrong. That is why co-creation, using low-cost, low-fidelity prototypes, is so essential to reducing the risks and improving the speed of successful innovation. Co-creation methods take a week or two and cost four figures or less, whereas formal new-product rollouts require months and cost six figures or more. For this reason, we view co-creation as one of the most significant ways to de-risk a growth project.

If we want our innovations to have meaning for our customers, and to be worth investing in both financially and psychologically, we need to invite them into our process. This creates energy and passion for managers as well as those they serve. If you want to be truly customer-centric, customer co-creation is not merely an option, but a *required* stage any time funds are allocated to a growth project.

When we use it

The sooner the better! In our Six Sigma world, which values perfection and polish, we tend to get anxious about showing customers unfinished, unpolished “stuff.” Get over it. Innovation is about the learning, and customers have the most to teach us. The sooner we get something in front of them that they can react to, the faster we will get to a differentiated value-added solution.

How we do it

There is no rocket science to effective customer co-creation—just a few simple principles. These have to do with picking the right customers to invite to our playgroup, giving them something worth playing with, and listening attentively to their feedback:

1. Enroll customers who care about you (but not as much as they care about themselves): We need customers who are hungry for a solution and motivated to be completely candid.
2. Enroll a diverse group of customers: There is a temptation to choose only target customers for co-creation, but remember, this is not selling. You may be surprised to learn that non-target customers are just as keen for a concept. And the objections they raise might lead us to a solution that benefits everyone.
3. Engage one customer at a time. This may seem inefficient, but remember that we are not going for a statistically significant sample size. You will learn so much more when there is no social pressure on the research subject—when they are alone with you and not influenced by others in the room expressing their opinions at the same time.
4. Provide visual stimulus: If you want people to walk with you into a possible future, you need to help them *see* it. But it shouldn't be anything fancy at this stage—quick sketches or posters are all you need. We want to keep the visual fidelity *low* in the early iterations to reinforce your willingness to modify the solution based on their input. Make your prototype too polished and they may feel that the right answer is “Looks great!”

Leaving parts of the concept incomplete is a great way to elicit the customer's creativity and competence. Even if you know how your firm will want to fill in the blank spaces, it can be illuminating to see what customers come up with.

Digital environments (e.g., Communispace) offer great opportunities for virtual co-creation. In fact, the potential of social networking for co-creation has only begun to be tapped. You can learn from target customers you may never even meet!

5. Offer a small menu of choices: Presenting a single concept, well considered, defies the purpose of co-creation. Typically, you want to give customers two or three options and invite them to begin exploring one they are drawn to. Maybe they can move on to a second one, if time allows. Simply learning that your favorite concept is not the one customers choose first can be important.

Be sure to include choices you think people will *not* select. The best firms test concepts they know are too extreme or too tame, just to locate their customers' novelty threshold.

6. Provide a simple, visual way for customers to express their choices: Methods such as card sorting can be great ways to empower a customer's design preferences. Another way to elicit their choices is by leaving empty speech bubbles over a character in a storyboard.
7. Leave time for discussion: In co-creation, the discussion is more important than the actual choices customers make. Often, we film the research subjects' faces so we can note when they make a choice they don't really believe in. You can identify these areas of dissonance through asking clarifying questions as well as observing facial expressions.

Answer questions with questions (within reason). If the research subject says, "How would private information be handled?" the best response is, "How would you recommend it be handled?"

8. Provide timely feedback: Customers don't care if the visualization is low-fidelity or if the idea is embryonic and half-baked, but they do want to know you used their input to refine it. So let them know what you did with their input.

Tool # 9: Learning Launches

What is it?

Learning launches are experiments conducted in the marketplace quickly and inexpensively. In contrast to a full new-product rollout, a learning launch's success is not about how much you sell but how much you *learn*. The goal of the launch is to test the critical assumptions about why this is an attractive business idea.

So why call it a *launch* instead of an experiment? Because it is meant to feel real to both launchers and customers. Only then can it yield reliable data. And the managers who run learning launches don't like to think of themselves as conducting experiments—they want to start a successful new business! But there is a fine line between having the passion to shepherd a nascent business through the obstacles organizations throw in its path and ignoring important data about its weaknesses. Professors at Stanford University Institute of Design advise aspiring designers to "treat your prototypes like they are right and your assumptions like they are wrong." We like that advice. A learning launch tries to find the fine line between the two approaches—and walk it.

Why we use learning launches

Learning launches are designed to test the key underlying assumptions of a potential new growth concept. As we have discussed before, using historical data to predict how an offering will actually perform in the marketplace has some severe limitations. Using data from the past to predict the future is hazardous work. After a point, we actually *increase* our risk by focusing on analysis instead of experimentation. Our investment—both financial and emotional—becomes more and more, making it likely that we will “fall in love” with our new concept and screen out the data that tell us about our beloved’s flaws. “Marry in haste, repent at leisure” applies to business too.

Therefore, we need to be fully aware of the reality of what our bets are based on. This requires taking the assumptions identified during assumption testing and figuring out what data we will need to really test them—and where we’ll get those data.

Don’t underestimate how hard it is to see bad news. “What? Bad news finds me,” you say. In fact, it doesn’t, and your own brain is complicit in this cover-up. Scientists tell us that our ever-solicitous brain does not like to see us upset, and so it plays tricks on us. It tries to screen out the bad news at an unconscious level (this is all going in the limbic area rather than in our “thinking” cerebral cortex), so we never actually *see* it. And the more anxious we are, the more screening it does. That is why people who are made uncomfortable by the uncertainty and ambiguity of managing growth and innovation really do have a higher chance of failure. They do not heed, or even see, the signs warning them of dangers on the path they’re on.

But calm down—that’s what the tools we’ve shared with you are for: to reduce the uncertainty and risk by minimizing the investment and maximizing the chances that your customers will want what you’re offering.

When we use it

Learning launches are an extension of the co-creation process, but at this stage, we are asking customers to put their money where their mouths are. We have already translated our concept into a low-fidelity prototype and shown it to customers. We have listened to their advice and reworked the prototype (maybe multiple times). But asking customers what they *think*, however useful for *developing* a new concept, is really a weak form of *testing* it. We know that focus groups, for instance, are notoriously likely to green-light products that customers later refuse to buy—even those who were *in* the focus groups and said they *would* buy.

People who say they will buy remain only *potential* customers. And at some point, counterintuitive as this may sound, *potential* customers are a bad thing. They can lead us down a primrose path of investing in things they *seem* to care about, only to watch them walk away—leaving us holding an expensive gizmo we built especially for them. The only *true* test of the value of an idea for customers is their willingness to part with cold hard cash (or something else

that they really care about) in exchange for it, and the sooner we find out if they will do that, the better.

How we do it

Designing the launch itself is straightforward. First, you need a working prototype in hand—to move from 2-D to 3-D. Then, follow some basic principles:

1. Construct the right team. Like the rest of the innovation activities we have talked about in this note, a learning launch is a team sport. The composition of the team makes a difference. Yes, you want the passionate supporters of growth and innovation on the squad; however, having a few skeptics around will ensure that you are not designing a test to give you the answer you want. Someone with a financial perspective is valuable—and project management skills are essential. As straightforward as it sounds, this whole experimental approach can be devilishly difficult to grasp for managers schooled in traditional ways. A coach/facilitator, familiar with the methodology, can be very valuable.
2. Identify the critical assumptions and the data you need to test them. In Tool #6, we conducted thought experiments; now we're going to go out and get some data from the real world to do a more accurate test. Pinpoint as precisely as possible the kind of data you need. Be sure to dig deep and get beyond the easy and obvious questions. What are the specific behavioral metrics that you want to pay attention to? Behavioral metrics—not financial ones—are core to the learning launch process. Information such as revenues can signal if a concept is attractive to customers—but revenues can't tell *why* or how to make it better. Only behavioral data can do that.
3. Identify how you will generate those data. This usually involves identifying who you will work with as part of the launch. The best partners are ones you trust, whose capabilities complement yours, and whose strategic intent aligns with yours. You will also need to estimate your affordable loss: How much are you willing to spend to learn?
4. Be explicit about the search for disconfirming data. These data disprove your hypotheses. As we have said, they are the most valuable to find and the easiest to miss. To enhance your ability to detect this kind of information, you will want to explicitly lay out in advance—for each assumption—what it would look like. What new facts would cause you to alter your assumptions? What are your exit criteria?

Colin Powell once said, “An old rule that I’ve used with my intelligence officers over the years, whether in the military, or now, in the State Department, goes like this: Tell me what you know. Tell me what you don’t know. And then, based on what you really know and what you really don’t know, tell me what you think is most likely to happen.”⁶

⁶ “Statement of Secretary of State Colin Powell on Intelligence Reform,” Opening Remarks before the Senate Governmental Affairs Committee, Washington, DC, September 13, 2004.

5. Work out timelines and required resources. You will need a capable team, an expense budget, a calendar for deliverables, and some clear go/no-go markers. Carrying out a learning launch requires the same kind of project management discipline that you bring to technical projects.
6. Identify the internal initiatives and activities the launch requires. What are the issues, barriers, or conflicts that need to be resolved? Who will be responsible for resolving them? What does someone have to stop doing to make this work? Or what does someone have to start doing, such as coordinating or communicating better?
7. Lay out your on-ramp strategy. Your on-ramp is the path that leads your customer to awareness and then trial of your new business concept. Thinking of it as marketing's job is a mistake. If only we had a dollar for every manager we heard say, "The customers who use it love it!" we'd be rich. That means that too many potential customers never made it to the on-ramp to awareness, understanding, consideration, tryout, purchase, use, habitual use, and then advocacy. A few years back, the New York Lottery had the slogan "You've got to be in it to win it!" The same is true for growth strategies. The on-ramp is one of the most crucial elements of successful innovation.
8. Work in fast feedback cycles. Test for key tradeoffs and assumptions as soon as possible. One simple protocol we advocate is the 100-day pilot—the project must create a working experience for at least one live paying customer within 100 days. If you are thinking that the only thing your organization is capable of doing in 100 days is form a committee and create a lot of PowerPoint slides, join the club. But you can't play the game that way and expect to win at the kind of innovation we are talking about. This is about placing small bets fast.
9. Minimize the cost of conducting your experiments. Right now, we are all about minimizing the "I" in ROI, not going for the big "R." We are assessing a set of underlying assumptions as cheaply and as quickly as we can; we are not trying to size a market.
10. Think "table," not "kill." Chances are, if an idea is good enough to get to the learning launch stage, its problems may be temporary. Times change and so do needs.

Tool #10: Storytelling

What is it?

Storytelling is just what you think it is—the weaving together of ideas and bits of information rather than the laying out of a discrete series of points. It is a close relative of visualization—another way to make new ideas feel real and compelling. Visual storytelling is the most compelling type, which is one reason why TV, with its mass visual storytelling, has changed the world. And, like visualization, storytelling is something managers already do. All good presentations—whether analytical or design-oriented—tell a persuasive story.

Why we use storytelling

Like images, stories allow us to access emotions and emphasize experiences. They add the richness of context and allow us to “sell” a problem as well as its solution. Stories build identification and empathy with their characters and help managers to develop a personal investment in their welfare. With any luck, they keep their audience awake.

When we use it

Stories are everywhere in the design process. They are critical to helping us explore customers’ deeper needs when we start out, develop ideas about how to meet those needs as we develop concepts, solicit feedback about our prototypes as we iterate our way to a better solution, and convince others of the value of our solutions when we feel good about having reached one.

How we do it

Good stories follow a predictable pattern. Here are the basic principles:

1. Identify your audience. Is this the Brothers Grimm for a reluctant bedtime audience? Or the latest bodice ripper for someone looking to spice up his or her fantasy life?
2. Create a storyboard. You first have to figure out what the story is that you want to tell. Would anybody in Hollywood set out to make a movie without a detailed storyboard? (Wait—don’t answer that.)

Storyboarding is critical. It allows us to pay careful attention to flow and logic, to ensure that we are keeping our audience with us at every step of the way and avoid losing them by taking a leap that we see but they do not.

3. Set the scene. Sell the problem. Why should anybody care about it? Pull the listener into your world.
4. Introduce your cast of characters. Make them and their problems feel real to your audience. Your personas should be ready to do this job for you.
5. Work the plot. All good stories unfold with some drama and tension. Maybe some surprises develop. Here is where you think about how to combine data and pictures to drive home your points.
6. The climax comes. Unveil your resolution to the problem. Make it compelling. And don’t forget the use of metaphors and analogies to bring your story to life!