

THE FINANCE FUNCTION'S PATH TO INNOVATION: A DESIGN THINKING PERSPECTIVE



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This Statement on Management Accounting (SMA) is published with the aim of providing a new skill for management accountants to use in making contributions to their organizations.

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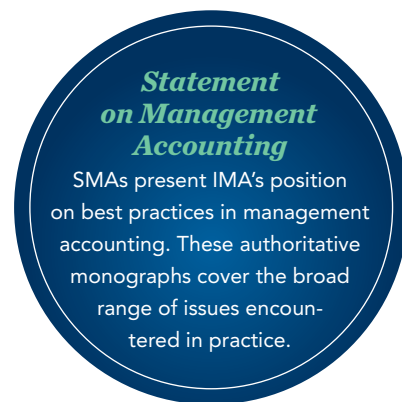
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EXECUTIVE SUMMARY

In today's volatile, uncertain, complex, and ambiguous (VUCA) environment, accountants and financial professionals in business are increasingly required to develop unique and novel solutions for business problems. Greater demand for management accountants' contribution to these solutions reveals they do not always have the tools, techniques, or processes to identify or develop innovative approaches effectively or efficiently. When a creative path is attempted, too often individuals and organizations rush for a "quick fix" yielding less-than-optimal outcomes. To better meet business demands in a competitive environment, management accountants are tasked with adopting novel approaches to problem solving, which is a bold undertaking that requires awareness, deliberate effort, and a new set of tools. Design thinking offers an approach that enables management accountants to leverage a creative thinking skill set, prompting greater innovation and value delivery.

Increased business complexities and rapid change have prompted a spike in business demand for greater transparency with quick yet responsible solutions to ever-evolving external and internal challenges. In response, some accounting and finance firms and functions have adopted design thinking—a problem-solving methodology aimed at unleashing the creative power of teams—to contribute to fostering a culture of innovation and continuous improvement. Learning design thinking techniques has already empowered some accountants and financial professionals across the globe to generate ideas in a more inclusive way, efficiently and more substantively contributing to strategic decisions and thus delivering incremental value to their organizations.

This IMA® (Institute of Management Accountants) Statement on Management Accounting (SMA) focuses on how design thinking, a flagship creative problem-solving methodology, can enable finance functions to achieve innovation. A companion report on creative problem solving (CPS) is concurrently being released to guide

IMA members through the CPS process. This report demystifies the design thinking process while illustrating, through specific use cases, ways that management accountants can leverage this methodology to elevate value delivery of finance functions. Design thinking facilitates a group's transition from exclusivity to inclusivity with techniques that encourage collaborative thinking and teamwork. When equipped with these new skill sets, management accountants can use design thinking to define challenges, ideate solutions, evaluate prototypes to strengthen solutions, and present the resulting innovations to their companies, markets, and the world. •



Pathway to Innovation

In 2020, the World Economic Forum named the top three skills needed in business: complex problem solving, critical thinking, and creativity.¹ In today's dynamic economic environment, business leaders call upon accountants and financial professionals within their organizations to develop innovative solutions for complex business problems, requiring use of these top three skills. While management accountants have long employed critical thinking and complex problem-solving skills, the skill of creativity may need to be cultivated since it is rarely taught or developed in college. Also, some believe creativity is innate and cannot be taught, but research shows that creativity can be taught and, in fact, improved.² For example, a group of researchers exploring creative problem solving in small groups found that teams that use creative problem-solving methods develop better and more unique solutions than teams that do not use these skills.³ Thus, more companies are training their employees in creative thinking techniques such as design thinking and creative problem solving (CPS). Both techniques represent an agile systematic approach to problem solving that encourages positive collaboration, allowing teams to push through obvious solutions, resulting in breakthrough ideas.

The value of developing a creative thinking mindset should not be underestimated. A major transformation is underway in global accounting and finance functions. Over recent years, some finance and accounting firms have begun to integrate design thinking into their corporate cultures. Leading accounting and financial services firms that train employees in these techniques include Deloitte, PwC, and Fidelity Investments. For example, according to Sherri Guidone, global audit partner at PwC, that company began offering an in-house design thinking training program in 2019, with 35,000 of its 55,000 auditors completing the program in the first year.

Design thinking offers an iterative, sometimes circular process that solves problems by tapping into the creative problem-solving potential of a team. Design thinking presents solutions fine-tuned to users' wants and needs. Instead of creating a product or service from a designer's perspective, the design thinker observes and listens to users in order to design and create a product or service to meet user needs. As Chike Aguh, chief innovation officer at the U.S. Department of Labor, said, "It's not important to get people to think like you, but how can you think like them?"⁴ Phil Gilbert, general manager of design at IBM, described design thinking to a Harvard Business School class as the most critical advance in leading how IBM thinks about product and offering development. He said, "Design thinking provides the framework for us to almost always build the right thing."⁵

Design thinking is also fun to do, can be learned in a matter of days, and can be honed over time. The methodology encompasses a road map of a five-step process so that a team will not lose sight of its target. By understanding the methods and techniques, accounting and finance teams can work together in new ways to strengthen business partnering, allowing for increased collaboration, constructive challenge, and consensus building.

This IMA® (Institute of Management Accountants) Statement on Management Accounting (SMA) contains four parts. Part 1 describes the history and interconnectivity of CPS and design thinking. Part 2 introduces the design thinking framework and offers practical tips on how to operationalize and implement each step within your organization. Part 3 describes how design thinking nurtures innovation. Part 4 presents design thinking in action, leveraging real-world cases to illustrate how management accountants can employ design thinking steps and techniques. •

A Brief History of Design Thinking

Influence of Creative Problem Solving

Although popularized in the 1980s, design thinking has its roots in CPS, a methodology founded by Alex Osborn, who coined the word “brainstorming” in 1939. As one of the founders of the global advertising firm BBDO, Osborn later authored the book *Applied Imagination* in 1953, which described the principles of CPS as fact finding, idea finding, and solutions finding.⁶

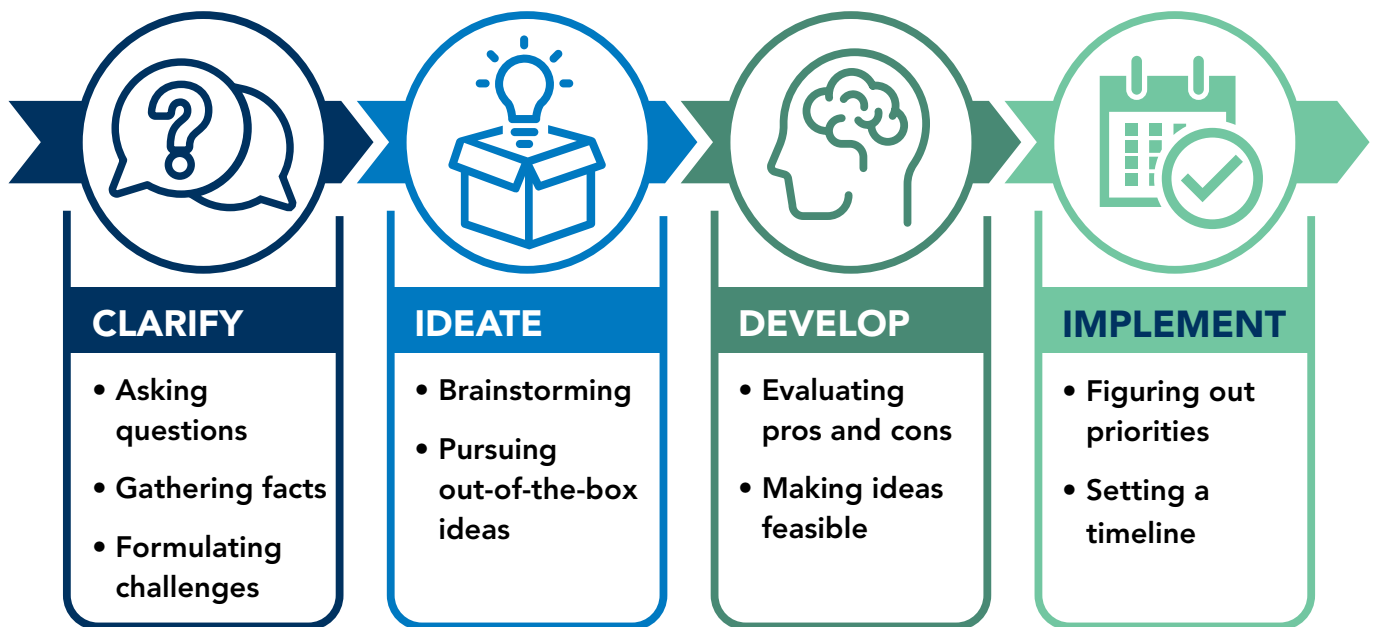
In 1954, Osborn founded the Creative Education Foundation (CEF) in Buffalo, N.Y., based on the idea that creativity can be learned and developed. Osborn, Sidney Parnes, and Ruth Noller founded a graduate degree program in creative studies at the Center for Applied Imagination at Buffalo State University to train students in CPS and to conduct

scholarly research. Since then, CPS has evolved into a four-step process: clarify, ideate, develop, and implement (see Figure 1).⁷ Each stage has its own distinct characteristics. The clarify stage usually takes the longest. Team members ask questions to identify the problem that needs to be addressed, reframing that problem into a solvable question. Next, the team brainstorms potential solutions and then takes the best solutions forward to develop them. The team then prioritizes action steps and sets a timeline to enact a solution.

Evolution to Design Thinking

Design thinking utilizes the same underlying processes of fact finding, idea finding, and solutions finding as identified by Osborn. First

FIGURE 1: STEPS OF CPS



implemented by architects and interior designers, design thinking is now used by professionals in many fields including business, education, and government. Its popularity over the last decade can be traced to 2009, when *Nightline*, a nightly news show, introduced Americans to David Kelley. Kelley, who founded Stanford University's design school (d.school) and IDEO, one of the world's most influential design firms, demonstrated the appeal of design thinking on television, making it accessible to the public.⁸

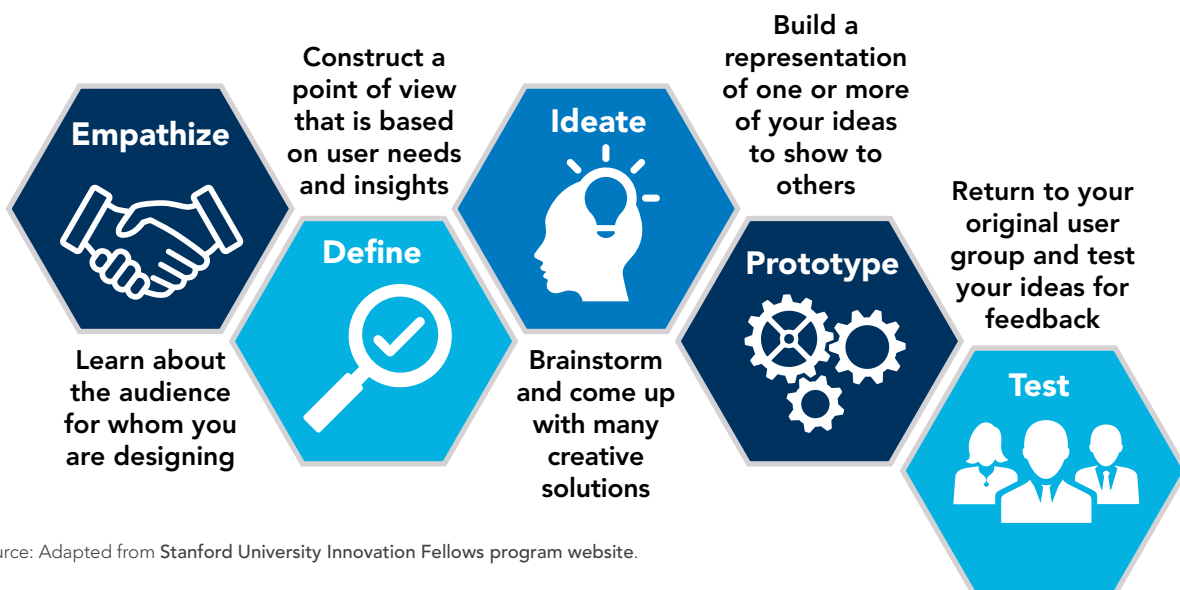
The founding of the d.school at Stanford increased the prominence of design thinking in education and business. Design thinking's popularity has grown with the emergence of additional design firms such as Frog Design and MAYA Design, which Boston Consulting Group acquired in 2017. Srikant Datar, management accounting professor, current lead author of *Horngren's Cost Accounting* textbook, and dean of Harvard Business School (HBS), also observed the need for design thinking to become part of the HBS curriculum. Datar said, "One of the things we heard from executives is the need to train our students to work on unstructured problems, think

more innovatively about solutions, and break their fixed ways of thinking."⁹

Datar used his sabbatical to develop a design thinking course, which he launched at HBS in 2012. The course focused on "learning by doing," where students could practice thinking innovatively and creatively. The class involved students working in small groups at the Harvard Innovation Lab rather than studying cases, the traditional HBS mode of teaching and learning.

The most well-known design thinking model, developed by Kelley, is used at IDEO and the d.school (see Figure 2). According to Kelley, design thinking represents a five-step process that begins with step 1 (empathize), where team members seek to understand users. In step 2 (define), team members infer insights from their research and formulate problem statements. In step 3 (ideate), team members brainstorm potential solutions, addressing a challenge. In step 4 (prototype), team members build a rough prototype to present to users. In step 5 (test), users give feedback on the prototype, thereby supporting rapid course correction and efficient deployment.

FIGURE 2: STEPS IN THE DESIGN THINKING PROCESS



Source: Adapted from Stanford University Innovation Fellows program website.

Applying Design Thinking and CPS Techniques

When it comes to using design thinking or CPS, one process is likely more appropriate to use than the other. Minimally, steps within each process can also be used to allow management accountants to advance in creative thinking. Before deciding on a particular methodology, teams must be willing to make a time commitment. A CPS session can be completed in as little as two hours, if guided by a trained facilitator, or can take days to weeks to complete. A comparison of CPS and design thinking is presented in Figure 3.

When to Use Design Thinking

If a team wants to design a new product or service where interviewing and prototyping is appropriate, design thinking is the better technique to use. Design thinking is most useful for projects where ethnographic research is needed, meaning information is gathered from observing and interviewing users. The process pushes teams to uncover pain points and to leverage changes that would be the most impactful to users.

Consider a new dashboard prepared by the finance team featuring monthly financial results for a business unit. Developing this product in a fit-for-purpose way would require feedback from the users of the product—business unit leaders and team members who will use the dashboard—to understand which key performance indicators (KPIs) to feature and the manner in which the users might want to drill down into the data. Tailoring these views to develop a custom dashboard in a business intelligence tool is a perfect use case for design thinking that could yield the development of new KPIs previously not monitored and the generation of insights that inform operational decisions in the business unit for the following month.

When to Use CPS

CPS is the more appropriate methodology if facing a challenge that requires new thinking such as “How might we improve a process?” or “How might we reduce costs?” Sometimes teams lack progress because they are overwhelmed

with so many challenges that they do not know which problem to tackle first. CPS brings clarity to defining challenges, guiding ideation, and developing solutions.

In some cases, CPS might also serve as a springboard or starting point for a design thinking project. With problem owners in the room, CPS can help clarify what challenge they want to tackle, as often the initially stated problem is a symptom of a bigger issue. The group can then move to the design thinking methodology if it is seeking to design a new product or service as a solution to the problem.

The decision tree in Figure 4 can also be used to discern which methodology might better serve an organization. This SMA covers the design thinking framework while the companion SMA covers the CPS methodology. •

FIGURE 3: COMPARISON OF CPS AND DESIGN THINKING

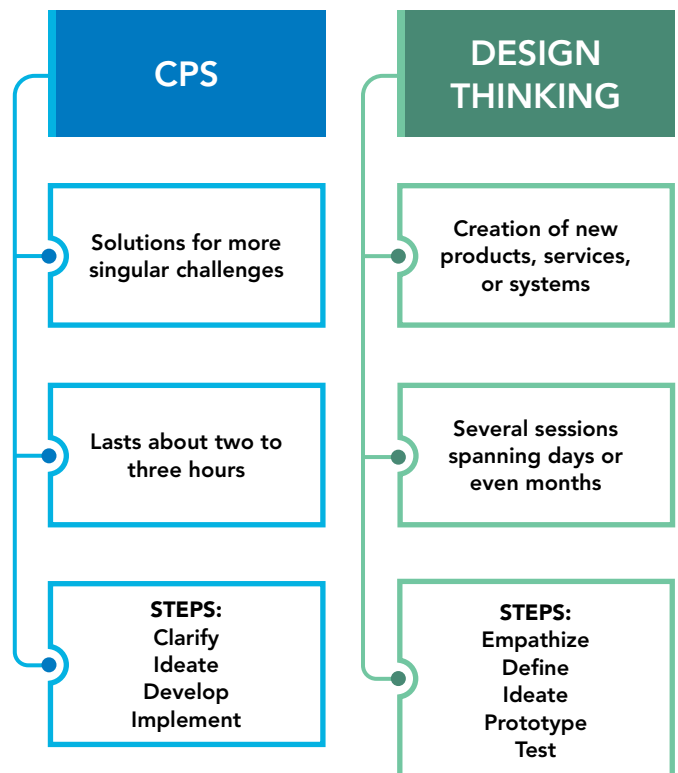
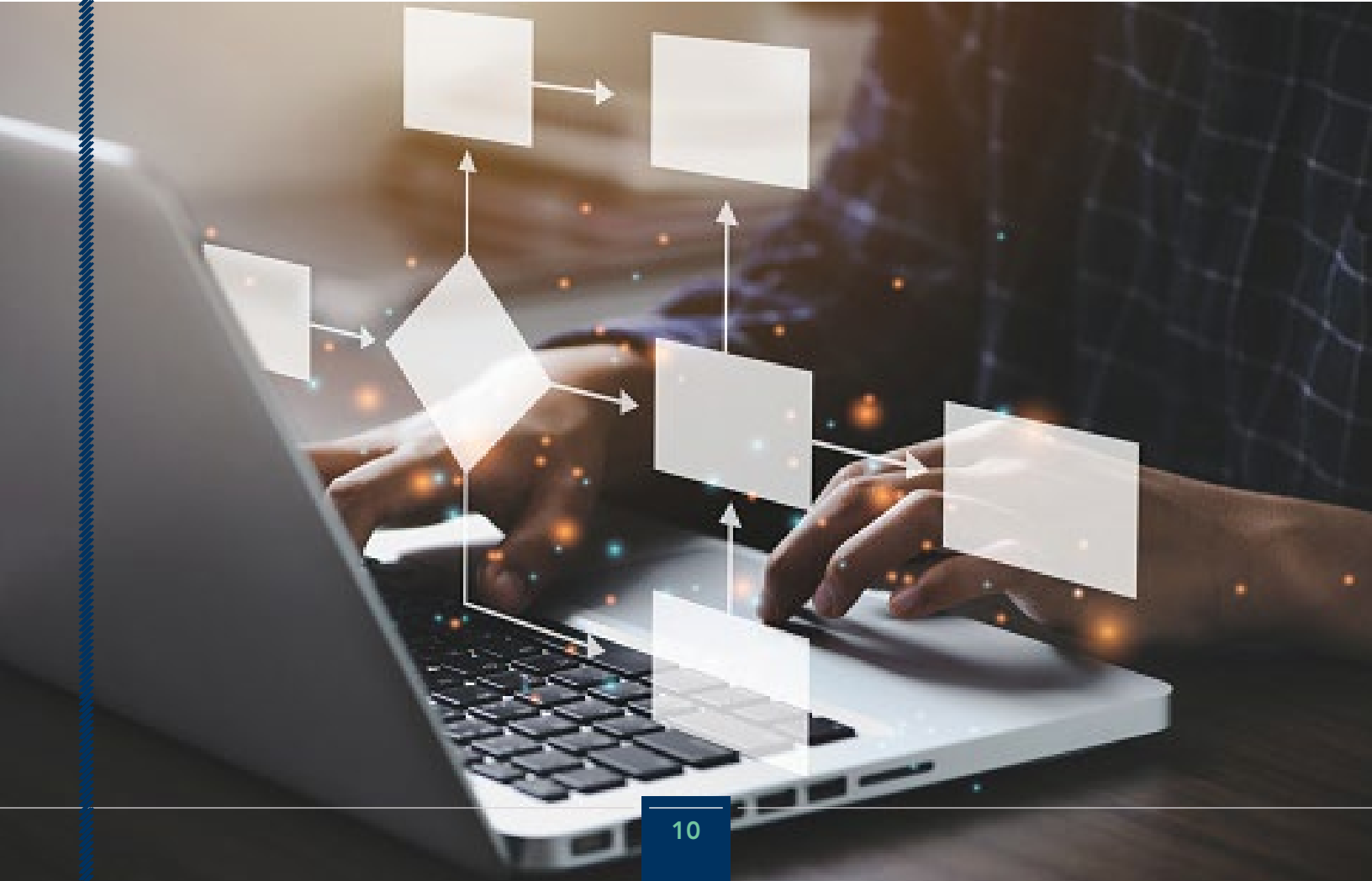
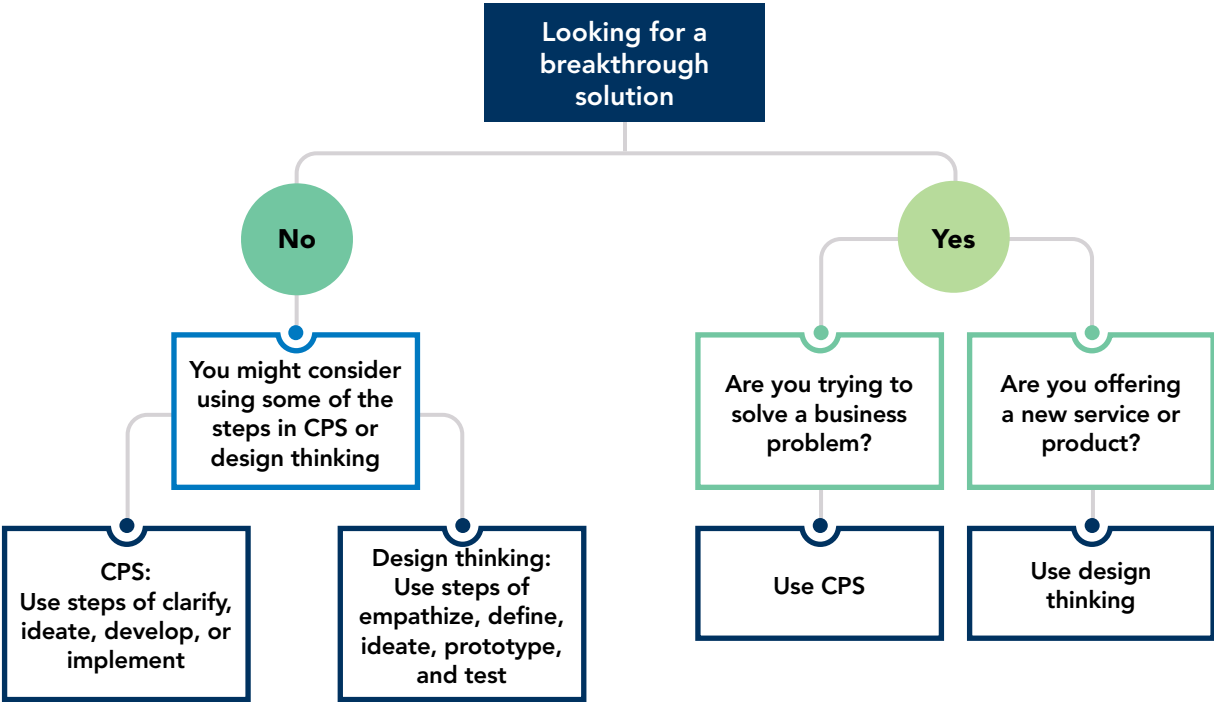


FIGURE 4: DESIGN THINKING OR CPS DECISION TREE



The Design Thinking Framework

Many companies and organizations have created their own depictions of the design thinking framework. The steps, however, even if labeled slightly differently, are essentially the same. Developing empathy is the key to any design thinking project. Team members gather data from the intended end users of the new product or service, growing empathy, thereby enabling the team to develop a tailored solution. It is impossible to come up with an optimal desirable, viable, and feasible product or service without direct interaction with users.

The design thinking process can be deployed in finance functions to refine the function's strategic direction, in which case members of the function and the function's internal stakeholders would be key end users to engage. Finance teams can also utilize design thinking techniques to develop new products such as performance reports or user-friendly financial models that teams can use to evaluate new product or service lines to introduce to the market. Design thinking can also be used to design additional services requested by internal customers

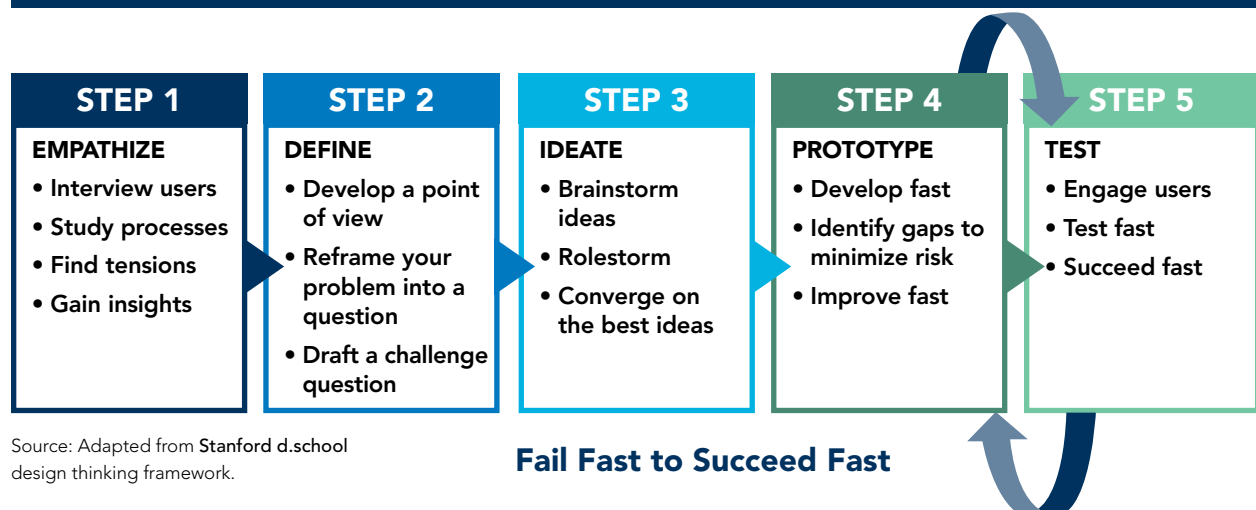
(for example, human resources or IT teams needing new analyses from financial analysts, or manufacturing teams wanting new cost reports from management accountants).

"Design thinking provides the framework for us to almost always build the right thing."

—Phil Gilbert, general manager of design at IBM

Figure 5 shows the five steps of the design thinking process—empathize, define, ideate, prototype, and test—and the key ideas within each step. Strategies on how to implement each step within a finance function are also provided to improve the likelihood of success. The following section provides a description of each step with basic concepts for how to practice each step in business.

FIGURE 5: DESIGN THINKING FRAMEWORK



Source: Adapted from Stanford d.school design thinking framework.

STEP 1: EMPATHIZE

The design thinking process begins with identifying a design challenge. Once identified, the team, acting as designers, will use both observations and interviews to gather insights about the needs, challenges, and motivations of stakeholders.

When putting users at the center of every new idea, questions to be addressed include:

- Who is involved?
- What do they care about?
- What are the relationships among stakeholders?

After discussing these questions, the team can map the stakeholders, processes, and networks involved on flip charts to increase the team's understanding of the issues and opportunities for design.

The *empathize* step can also include direct observations and conversations with users—most often through interviews. Sometimes these observations are made by “shadowing” the end users as they work with an existing product, which might require going to where the users work or live and observing, firsthand, what they are doing. This could also take place in a virtual environment with a videoconferencing platform by opening a meeting and using the share-screen feature to observe the steps the user performs if the product is digital. During these observations, design team members look for data points while paying particular attention to outliers, extremes, or points of frustration as users interact with the current product or system, uncovering points of leverage that, if changes are made, can yield the most positive outcomes. Also, it is important to note work-arounds—ways users “force” a product or process to work for them.

When planning interviews, the team will write questions and determine who and how many people to talk to. Ideally, teams of two should conduct the interviews so one can ask questions while the other takes notes. When interviewing, questions should be probing (e.g., “Why do you say that?” and “What were you feeling at that

OPERATIONALIZING STEP 1: EMPATHIZE

Before you can gain empathy, you must decide upon the challenge you want to tackle. If you think you know the solution already, you have moved too far ahead in the process unless you have spoken to potential participants, users, or customers. Do not make assumptions.

For example, if the CFO wants to reduce costs by improving process efficiency, do not assume you know which processes need to be eliminated, improved, streamlined, or automated. If you begin observations in this step with solutions in mind, you may already be too fixed in your thinking. In this step, consider these two exercises:

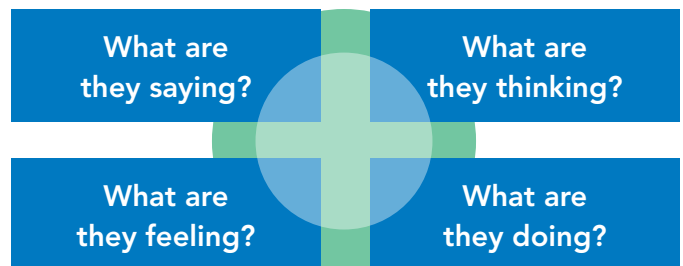
Exercise 1: What problems or challenges are you facing now that you would like to work on?

Exercise 2: Come up with your plan to learn about your stakeholders. Who do you need to talk to? What questions will you ask?

The primary objective of this first step is to **understand** your user. Step into the shoes of your stakeholders so you can develop empathy with respect to the challenges they face.

moment?”). Team members *need to pay attention not only to what users are saying but also to what they are thinking, feeling, and doing*. When team members debrief the interviews, they write key information on sticky notes and place them in a category on the empathy map (see Figure 6).

FIGURE 6: EMPATHY MAP



Source: Adapted from Stanford d.school and Xplane.

The map helps teams understand users' mindsets and motivations.¹⁰ Also, on a systems level, team members begin to uncover more insights about the relationships and interactions between stakeholders, departments, and functions within an organization, which can prove valuable in designing for not only the end users' use of the product but how they leverage the product to deliver value to others.

STEP 2: DEFINE

This step seeks clarity and makes sense of the data collected and mapped in step 1. After the team maps its learnings to the empathy map (remembering to notice outliers and unusual statements) and identifies tensions in the data, the team writes (1) a point of view (POV) and (2) a challenge statement. For example, Figure 7 represents a "tension matrix" that might emerge when users were asked what they wanted in a new process. In this case, some users wanted "ease of use" while others wanted "high functionality."

Informed by observations from interviews in step 1, designers discuss their observations and insights from the interviews by asking themselves questions like, "What is interesting? What is surprising? What is the deeper meaning behind what we saw and heard?" The aim is to aggregate the answers to these questions to formulate a POV.

OPERATIONALIZING STEP 2: DEFINE

The Challenge Statement

Design thinking does not solve a problem by focusing on it; rather, it reframes the problem into a solvable question. Often when thinking of a problem, the way we think and feel are rooted in old thoughts that no longer serve our organization. Thus, we reframe the problem from a different perspective. The challenge statement starters in Figure 9 help facilitate this reframing.

A key tip for designing a good question is to focus on statements that are generative and inspiring. The statement should also include your customers. Draw from your insights. For example, a challenge statement that might be too general would be "How might we redesign a static spend report?" A better question would be "How might we move from a static spend report to an interactive dashboard where frontline managers have access to real-time data to support time-sensitive decisions?"

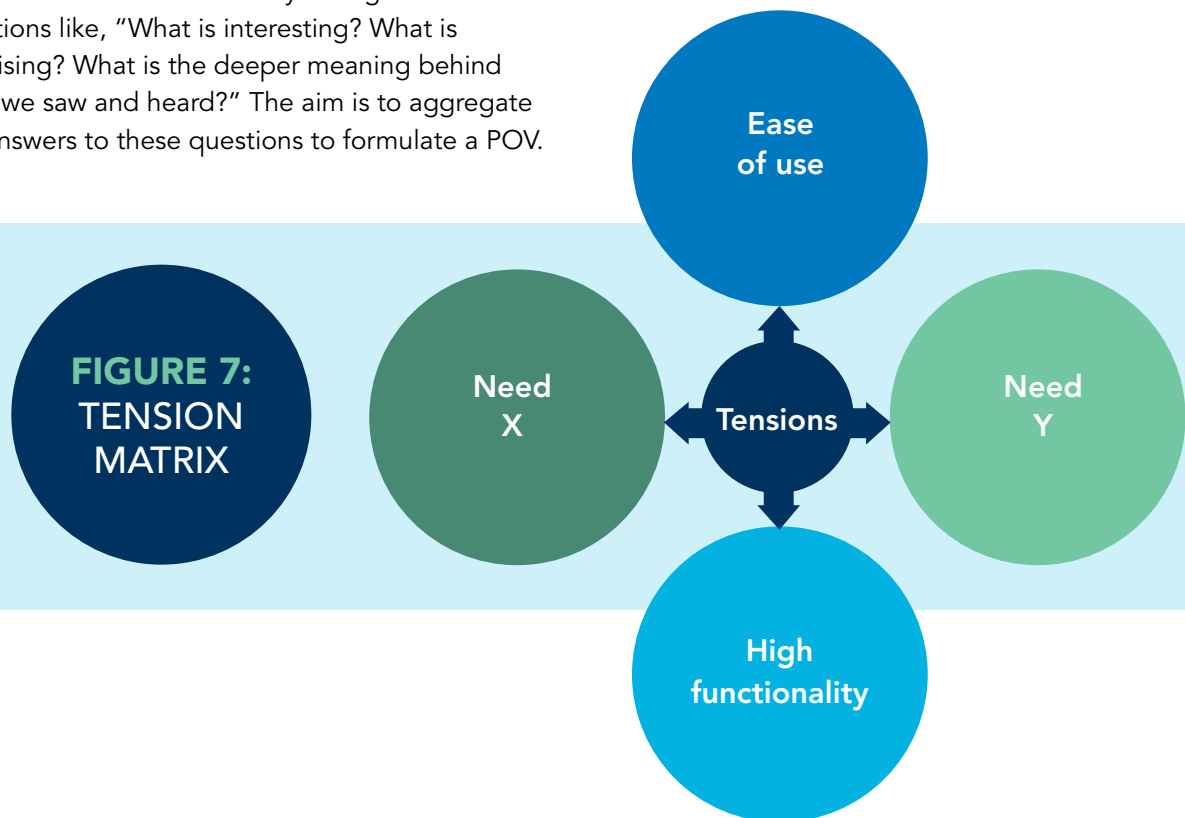
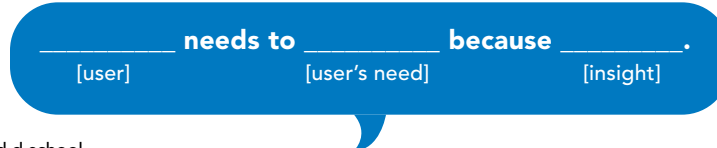


FIGURE 8: POINT OF VIEW

- 1) We met _____ (include descriptors that illustrate what the person is like):
- 2) We were surprised to notice:
- 3) We wonder if this means...
- 4) It would be game-changing to...

[User...(descriptive)] needs [Need...(verb)] because [Insight...(compelling)]



Source: Adapted from Stanford d.school.

The POV interprets what the interviewees meant and postulates what modifications might be game-changing (Figure 8 presents a POV template). The team might write several POVs, for example, one for each type of user they met. After discussing the POVs, the team can narrow its focus and write a challenge statement to be addressed next in this step.

A challenge statement is a question stated in a particular way (see Figure 9) using sentence stems with phrases such as “How **might** we...” or “What **might** be all the ways...” The team should generate 10 to 20 challenge statements to hone to one statement for which they want to find a solution. It is only at this point in the design thinking process that the team will begin working on a solution to a problem or designing a new product or service for users.

After the challenge statements have been generated, it is time to converge. Here, design team members can vote on challenges and refine challenge statements as deemed appropriate. Next, these statements are clustered by type and assigned a name or category to represent the cluster. After discussion, the group can converge on one challenge statement to advance to the next step of ideation.

STEP 3: IDEATE

Now equipped with a clear challenge statement that is supported by designers and users, the path to generating solutions, or ideating, can begin. Ideation encompasses a variety of brainstorming techniques intended to empower designers to push past the obvious and spark new ways of thinking. In traditional brainstorming sessions, facilitators often end the session too soon before the best and most creative ideas can emerge. In step 3, “wild” ideas are encouraged to stretch a team beyond the ordinary. Rules such as “go for quantity” and “defer judgment” are often posted on the wall to encourage a free flow of ideas by participants, without fear of ridicule.

One effective ideation technique is called “stick ‘em up brainstorming” (see Figure 10). Team members use markers and write ideas on sticky notes that are posted on a wall or board so that everyone can read them. Team members should

FIGURE 9: CHALLENGE STATEMENT STARTERS

Create 10 to 20 statements using these statement starters:

- How to...? (H2)
- How might we...? (HMW)
- In what ways might...? (IWWM)
- What might be all the ways...? (WMBAT)

first write their idea, then read it out loud, allowing others to hear the idea before placing it on a whiteboard. Sometimes hearing one idea can spark new thinking for other team members. Note: A digital whiteboard can also be used as needed to capture ideas generated by virtual teams.

Additional techniques such as role-playing can be used to encourage ideation with team members playing characters to come up with new ideas. When the team is finished ideating, it can cluster similar ideas together. The team can also discuss points of leverage—places where small changes can make a big impact. (See “Operationalizing Step 3: Ideate” for a practical glimpse into rolestorming, an ideation technique utilizing role-playing.)

After generating so many ideas, the team needs to converge on the best ideas by voting. Voting can take place informally or by adding tally marks or dots to an idea’s sticky note that is posted on the board. This should take place for the top

FIGURE 10: STICK ‘EM UP GUIDELINES

Write it

Say it

Stick ‘em up

OPERATIONALIZING STEP 3: IDEATE

Rolestorming

One creative brainstorming technique is called “rolestorming.” According to MindTools, a website dedicated to providing tools for creative thinking, rolestorming “encourages group members to take on someone else’s identity to develop new ideas.”* Rick Griggs, the inventor of rolestorming, said some people are hesitant to brainstorm for fear of ridicule or criticism. “By giving participants a role, they are freed to think more creatively,” Griggs said.**

Griggs recommended picking roles such as the saint, the evildoer, or the winner. Group members should spend a few minutes getting into character for each role. They could ask themselves, “How might this person see the company?” or “How might they address the challenge?” For example, in the case of an audit, Griggs said the saint could act as a whistleblower, the evildoer could be the CEO who would do anything to make the company look good, and the winner could be the CFO who puts ethics first and will look for fraud.

He found that those who are uncomfortable brainstorming often find rolestorming liberating, thereby contributing to innovative problem solving.

*Mind Tools Content Team, “Rolestorming,” MindTools.

** Rick Griggs, “Rolestorming Level 1: ‘Saint-Sinner-Winner’ Roles.”

three to five ideas per person. Any idea card with even a single vote should be considered. Teams are encouraged to reserve at least one vote for an out-of-the-box, wacky, or seemingly unrealistic idea. After voting has concluded, the team should organize the ideas into clusters and name the clusters or groupings by theme. As the team considers each cluster, thought should be given to the idea’s ability to effectively address the challenge statement for the users, practicality of implementation, resources needed for design, and sustainability of the solutions. This may prompt combining or refining certain ideas. Once the team decides on the solution to be offered, it is ready to design a prototype, an initial version of the proposed solution to show users.

STEP 4: PROTOTYPE

Step 4 of the design thinking process is to create a prototype of the solution to show future users. In the case of a new report, for example, a prototype could be a mock-up of the report format with preliminary data. In the case of a new process, the prototype could be a process map that includes controls, handoffs, data sources, and the specific stakeholders performing each step of the new process. When prototyping, the team needs to be sure its model addresses the issues identified in the earlier steps and is grounded in the pain points and challenges experienced by users.

Simple, inexpensive materials can be used to build the prototype, thereby converting abstract ideas into concrete products or service models. The prototype should represent the process or product the organization plans to offer. For example, if a design team develops a new app, it would show images of what the screens might look like or create a storyboard. In finance functions, while team members are unlikely to develop physical products or apps, a prototype might include a new financial model that business unit team members could utilize to enter key specifications about a prospective new product or desired inventory levels. The calculations typically performed by the finance team could be automated by designers who are financial analysts, enabling greater efficiency in the generation of financial projections. Just as with the app example, a storyboard could be used to show what the inputs would look like, and specifications from recently evaluated operational products or inventory queries could be used to demonstrate to the users how they might have generated projections the finance team had to prepare for them previously. The goal of prototyping is to identify faulty assumptions, misunderstandings, and gaps to minimize the risks associated with new product or process development not meeting user needs.

STEP 5: TEST

Perfecting a prototype is an iterative process. The goal of step 5 is to present a prototype as close to the "real" product or service experience to users. Design team members, armed with a set of feedback questions, will show the prototype to other design teams and their target audiences, asking for input. Another way to test your prototype is to gather input on a feedback grid. Ask other teams or users to enter comments in each respective category of the grid. The feedback grid example in Figure 11 provides space for teams to express what they liked about the prototype, what could be improved, what they did not understand, and new ideas to be considered. It is also beneficial to ask users if they intend to use the prototype.

When receiving feedback, team members need to exercise a learning mindset. This entails not defending the prototype but listening to what others have to say, with the objective of improving the proposed solution. By taking time to reflect, the team can determine if the new process or product is ready to advance or if revision and retesting is necessary. If revision is necessary, the team will repeat steps 4 and 5 by revising its prototype and presenting it again to users for feedback. This iterative, sometimes circular, process ensures the resulting product or service is truly tailored to the benefit of the users and addresses the initial issues defined in the POVs and challenge statement. This five-step approach bolsters business partnering among finance functions and paves the way for innovation. •

FIGURE 11: FEEDBACK GRID

Things I liked the most:

Things that could be improved:

Things I did not understand:

New ideas to be considered:

Design Thinking Nurtures Innovation

To keep up with the climate of rapid change within organizations and across the broader marketplace, many CFOs and controllers are nurturing an agile culture within their functions. According to Gartner, the faster the rate of change, the more adaptive organizations need to be.¹¹ The adaptability and flexibility inherent in an agile culture allow for early recognition of new opportunities and an efficient response to change, making companies more likely to succeed in today's competitive markets. Design thinking can play a critical role in not only uncovering those opportunities but fostering processes and systems that meet the needs and wants of the internal operational and functional teams supported by finance functions around the globe, the primary users of finance function products and services.

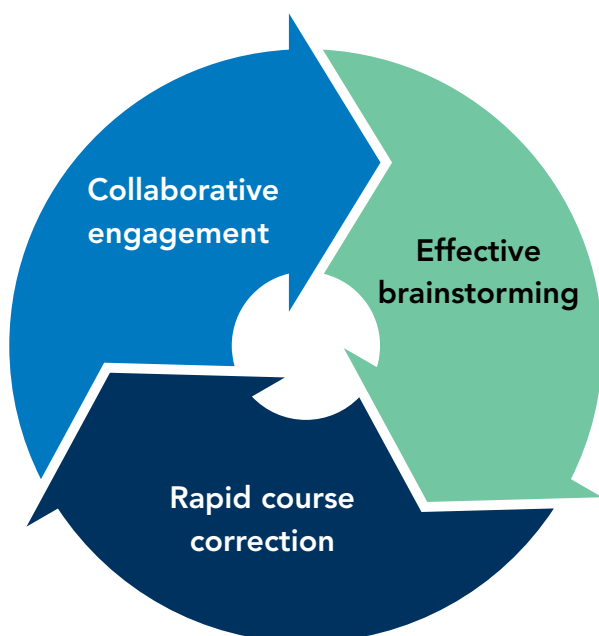
Design thinking nurtures the creative thinking process with its collaborative engagement, effective brainstorming, and rapid course correction.

As discussed earlier in the five steps of design thinking, the approach goes beyond simply brainstorming. The methodology allows for a holistic approach to effective transformation and continuous improvement, leveraging the insights gained from user input, to develop more effective, fit-for-purpose solutions. Design thinking nurtures the creative thinking process with its collaborative engagement, effective brainstorming, and rapid course correction (see Figure 12).

Collaborative engagement: Design thinking allows management accountants to cocreate with diverse groups of stakeholders to build alignment and secure buy-in. The methodology invites others into the process, whether as design team members or interviewees who provide insight on challenges faced and offer feedback on prototypes developed. Together, the design thinking team integrates multiple perspectives to uncover solutions for maximum impact, pushing past the obvious to find creative, outside-the-box solutions.

As team members grow in empathy through the design thinking approach, they develop a shared understanding of processes, products, challenges, and frustrations, uncovering root issues. Empathy

FIGURE 12: DESIGN THINKING'S ROLE IN NURTURING INNOVATION



also allows teams to gain insights and perspectives from stakeholders to reframe problems into questions while identifying opportunities for change. The team will use insights to design new processes and products, build prototypes, and present them to users. Throughout the process, teams ideate and maintain regular engagement to develop, iteratively refine, and deliver the best solutions. This collaborative engagement strengthens the finance function's ability to serve as business partner and increases the value delivered to the business.

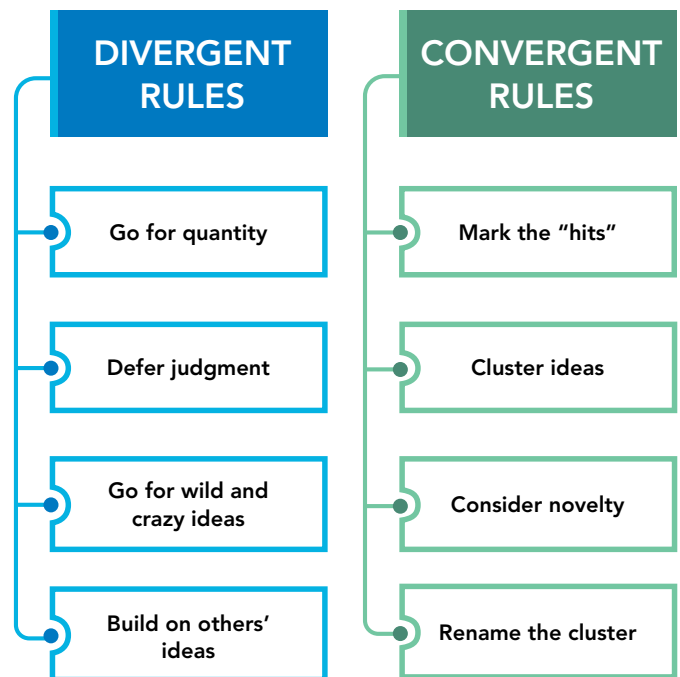
Effective brainstorming: "When most people think of brainstorming, they often think of coming up with a bunch of ideas and picking one of them," says Gerard Puccio, chairperson of the Center for Applied Imagination at Buffalo State University. "The key to effective brainstorming is the coordinated movement between generative (divergent) and evaluative (convergent) thinking." For Puccio, there are a "couple of main points of differentiation" between good and poor brainstorming. First, good brainstorming utilizes a trained facilitator. Second, it follows the guidelines for brainstorming. Third, effective brainstorming includes a briefing process.

Divergent thinking means generating many ideas without fear of judgment. Convergent thinking means narrowing many ideas to the most promising ones. Figure 13 presents the rules of divergent and convergent thinking.¹² Each stage of design thinking uses both types of thinking; thus, the rules need to be emphasized throughout the process. When diverging, participants often need to be reminded to defer judgment. They should not say statements like "That's a bad idea," "Someone said that already," or "We tried that, and it didn't work" because this will shut down a brainstorming session. After the divergent aspect of brainstorming is complete, the team can then use evaluation skills to converge on the best ideas. In order to promote collaboration, the team will mark the best ideas as "hits" and cluster them together. It will rename the clusters and move forward to the next step in the process.

Allowing for divergent and convergent thinking in the ideation stage of the design thinking process increases the likelihood that teams will generate novel, relevant, and effective ideas, which is necessary for optimal solution design.

Rapid course correction: Because design thinking requires repeated prototyping and testing, the framework allows for rapid course correction. An iterative approach to designing new products or services underscores the design team's goal of making continuous progress toward the ultimate solution that addresses the point(s) identified in the challenge statement. Prototypes designed are shown to business users, and the management accountant designers use that feedback to improve the prototype. Such efficient, proactive, and intentional course correction allows teams to learn quickly (not weeks or months later) when their solutions are offtrack, misaligned with tactical

FIGURE 13:
RULES OF BRAINSTORMING



Source: Adapted from Alex Osborn, *Applied Imagination*, third edition, Creative Education Foundation Press, Hadley, Mass., 2001.



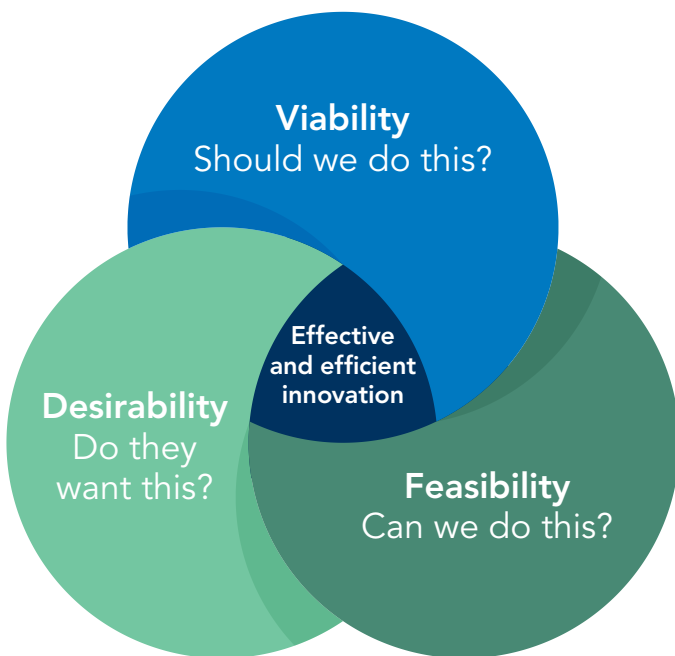
or strategic goals, or will not deliver the projected value. As management accounting teams become accustomed to working with design thinking steps such as empathize and ideate, they can use a

design mindset to improve outcomes for other job activities, yet again leading to development of innovative solutions.

De-risking Innovation

Design thinking leads to innovative solutions when taking into account the viability, feasibility, and desirability of a proposed solution (see Figure 14).¹³ Feasibility checks ensure the organization has the resources to develop and sustain the proposed innovation. Viability checks confirm that the innovation delivers value. Desirability checks focus on what the end users need and want. These three elements—feasibility (asking if the project is achievable and sustainable), viability (asking if the project adds value), and desirability (asking if the project will meet user needs)—together lower the risk of ineffective innovative solutions. The design thinking process integrates checks as part of the process in the prototype and testing steps. It is also important to note that innovation, by nature, comes with some risk. As team members enter uncharted territory with new and creative ideas, they learn from users through continued ideation, prototyping, and testing. Forgiveness for unsuccessful solutions will position the team to create the ultimate solution. •

FIGURE 14:
DE-RISKING INNOVATION



Source: Adapted from IDEO Design Thinking.



Design Thinking in Action: Value Delivery

By augmenting their solution development with design thinking techniques, management accountants, already well-respected data stewards, can offer tailored, relevant insights to their organizations. This combination of insights and methodologies can create opportunities for revolutionary solutions. Management accountants have clients within the organization (i.e., functional teams like human resources and operational business teams) with whom they must partner to deliver value. Following are two cases in which finance functions needed input from users and/or needed to test prototypes with their internal customers. These cases demonstrate the design thinking steps in action, where management accountants serve as strategic business partners to functional and operational teams.

Case 1: Performance Report Modernization

Maury, VP of operations at a manufacturing company, requested a new performance report to enable more efficient decisions. For years, the finance function supporting operations has manually generated reports in Excel. These reports take several days to create after the month-end close. Maury said to the controller, “We need more real-time performance data.”

Using design thinking, the financial analysts already supporting Maury’s operational team, wearing designer hats, needed to put themselves in the shoes of the internal client to determine their needs. In step 1 (empathize), the controller assembled a team to conduct interviews to not only hear what the operations team was saying, but also to determine what the operations team

was thinking, feeling, and doing. The team assembled a set of interview questions:

- What data and KPIs do you need to see most and when?
- What decisions will more timely access to this data enable you to make?
- What decision has a lack of timely access to this data prevented you from making?
- What information are you using in the current Excel-based reports to meet your needs?
- What frustrates you in the current performance reporting process?
- What work-arounds do you have in place to enable you to compensate for the inadequacies of the existing performance reporting process?

It is impossible to come up with an optimal desirable, viable, and feasible product or service without direct interaction with users.

After conducting interviews with stakeholders, team members wrote up the insights they gathered, identifying gaps in the current reporting process. They also learned the operations team's true preferences and asks, identified work-around reports currently used to get answers, and heard what ideas excited the operations team.

In step 2 (define), the design thinking team learned Maury really wanted real-time performance data that he and his staff could access from their computers and mobile devices. Thus, the team formulated a challenge statement to address the needs of the operational team: "How might we grant real-time access to performance data with the KPIs and drill-down capabilities that will support Maury (and his team) with their daily operations?"

In step 3 (ideate), the design thinking team of financial analysts invited operational team members to a meeting to brainstorm solutions and quickly concluded that an electronic dashboard seemed to be the ideal solution. With this quick win, the teams collaborated to ideate on the design and content of the dashboard. They offered ideas of what the new dashboard might look like, including KPIs that were most important. Team members used role-playing techniques where the controller, for example, took on the role of the company's CFO, one team member played a plant manager in one of the company's smaller manufacturing plants, and other team members became superheroes like Iron Man. From those roles, they brainstormed what KPIs those individuals would want to see, which resulted in new KPIs that they might not have thought of otherwise.

In step 4 (prototype), the design thinking team prototyped the new reporting dashboard by drawing it on a flip chart. The team conducted interviews to improve the rough sketch, which evolved into an electronic prototype loaded with a historical month's data that was demonstrated for the operations team. Finally, in step 5 (test), the team conducted interviews on the electronic prototype to gather feedback for additional improvements. After two rounds of interviews, the controller and team launched a dashboard that could be accessed from both computers and mobile devices, filling reporting gaps. Better yet, the team was able to automate several accounting tasks related to performance reporting through the use of this dashboard with an automated feed of data from the accounting system that previously needed Excel spreadsheets, enabling more efficient decision making for the operations team. Without design thinking, the team might have taken a longer time to identify and implement a solution, may have delivered a dashboard that did not meet the needs of the varied group of stakeholders, and could have focused on KPIs that were more important to the finance team than the operations team.

Case 2: Sustainable Business Information

Management accountants are increasingly accountable for reporting of environmental, social, and governance (ESG) data. Before ESG data or sustainable business information can be reported, it must be gathered, and related sustainable business initiatives must be managed. Sustainable business management means operating in a way that recognizes that resources are limited and valuable. Accountants and financial professionals are leveraging existing skills and capabilities to support, and in some instances lead, the global transition to deliver on ESG aspects of performance and value—delivering profits with purpose.

Chen, the CEO of a multinational retail corporation, wanted greater visibility of his organization's ESG data. Driven by external influences, such as regulatory disclosure requirements, and internal forces, honoring commitment to social responsibility, Chen contacted the company's CFO, Jennifer. He tasked her with identifying how they could better leverage ESG information, specifically environmental data, to inform the transformation of operational delivery, particularly for U.S. retail centers where preliminary ESG metrics suggested inefficient energy use and high waste. Jennifer proposed using design thinking to jump-start the sustainable reporting plan for the current and future retail centers in the United States.

In step 1 (empathize), Jennifer assembled a team to conduct interviews. The team first interviewed the head of U.S. retail operations and learned that they could not provide assurance for the data currently being collected. Thus, the team agreed it first needed to identify the sustainable business information needed, metrics to be tracked, and data sources. Jennifer and her team began to interview additional stakeholders in the U.S. retail operations teams to learn what information each department held and what should be aggregated, tracked, and reported.

After concluding the interviews, the design team members met to discuss their insights

and to write their POVs in step 2 (define). They generated challenge statements and settled on the following challenge: "How might we prepare, report, and leverage the most relevant sustainable business information to measure environmental performance of U.S. retail centers?"

Jennifer hosted a working session with a broader team to ideate solutions to address the challenge in step 3 (ideate). After using a variety of ideation techniques, the team generated 30 to 40 illustrations of the types of information needed. The team then converged and voted on the most relevant ESG data to collect. The team members weighed the pros and cons of what they wanted to collect, employed feasibility checks to ensure data was accessible and could be gathered reliably, and strengthened their plan with details that included preliminary data sources, key contacts for verification of data sources, and high-level proposed internal controls for data collection and reporting processes.



Finally, Jennifer and her team developed a prototype (step 4), which was an initial draft of a standard operating procedure (SOP) detailing what sustainable business information needs to be collected, monitored, and reported and by whom. They presented the prototype to stakeholders along with naming what tasks need to be performed by whom and when to commence formal data collection. This exercise was also intended to ultimately inform longer-term sustainable business transformation initiatives on the horizon.

Stakeholders from the U.S. retail operations teams provided input on what they liked, what could be improved, and the reasonableness

of the tasks in step 5 (test). After the meeting, Jennifer and her team of designers refined the sustainable business information, management, and reporting SOP prototype. They were then able to gather samples of the data to be collected and detail accountable parties for each piece of data. Jennifer and her team used what they learned to inform action plans to proceed with the new ESG reporting plan. Utilizing design thinking in this project ensured input from all relevant stakeholders, identification of data sources teams did not know were already available, and tailored output that would inform retail operations decisions, enabling sustainable business management of current and future ESG initiatives. •



INNOVATING FOR TOMORROW

The design thinking framework provides tools that allow management accountants to bring clarity to complexity. Implementing creative problem-solving techniques can exponentially elevate a finance function's agility and generation of novel insights. Design thinking, specifically, can transform corporate cultures and strategies, elevating organizational performance and strengthening competitive advantage. Some of the largest corporate design thinking initiatives began with a single evangelist who was convinced of its value and able to demonstrate that value with decision makers. Once gaining the support of senior leadership, design thinking can be applied to both individual use cases and multinational company-wide efforts.

Bringing a human lens to problem solving is critical. These methodologies make room for a holistic and inclusive approach to addressing

To better meet business demands in a competitive environment, management accountants are tasked with adopting novel approaches to problem solving, which is a bold undertaking that requires awareness, deliberate effort, and a new set of tools.



challenges along a broad continuum including development and refinement of products, processes, and services. In addition, design thinking enables teams to visualize the challenge, gather insights from stakeholders, reframe problems from different perspectives, and test prototypes with stakeholders. During a time when demand for collaboration and efficient transformational innovation is at an all-time high, management accountants are incentivized to consider design thinking approaches when facing their next challenge. This decision could yield exponential benefits for their function, organizations, and society for years to come. •



For more information, please visit imanet.org/thought_leadership.

RESOURCES

Websites with training resources:

[Acumen Academy](#)

[Center for Applied Imagination, SUNY Buffalo State University](#)

[The Edward de Bono Foundation](#)

[Design Thinking for Innovation, Coursera](#)

[Enterprise Design Thinking Field Guide, IBM](#)

[Design thinking training, tools, and services, LUMA Institute](#)

[Design thinking course, Harvard Business School Online](#)

[Design thinking courses, Harvard University](#)

[Design thinking online courses, IDEO U](#)

[Design thinking courses and certifications, Enterprise Design Thinking, IBM](#)

[Management training and leadership training online, MindTools](#)

[MIT Sloan Design Thinking Online Certificate Program](#)

[Learning Journey: Design Thinking and Business Model Innovation - Methodology and Tools, SAP](#)

[Griggs Achievement](#)

[Stanford d.school](#)

[Wallet Facilitators Guide, Stanford d.school](#)

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ENDNOTES

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³ Gerard J. Puccio, Cyndi Burnett, Selcuk Acar, Jo Yudess, Molly Holinger, and John F. Cabra, "Creative Problem Solving in Small Groups: The Effects of Creativity Training on Idea Generation, Solution Creativity, and Leadership Effectiveness," *The Journal of Creative Behavior*, September 2018, pp. 453-471.

⁴ [Chike Aguh presentation](#) at 2022 Wharton Future of Work conference.

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⁷ Gerard Puccio, Selcuk Acar, Blair Miller, and Sarah Thurber, [FourSight Research Summary: The science behind the theory](#), 2020.

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¹⁰ Adapted from [Stanford d.school](#).

¹¹ Jackie Wiles, "[Lead Through Volatility With Adaptive Strategy](#)," Gartner, June 1, 2021.

¹² Osborn, 2001.

¹³ [IDEO Design Thinking](#).