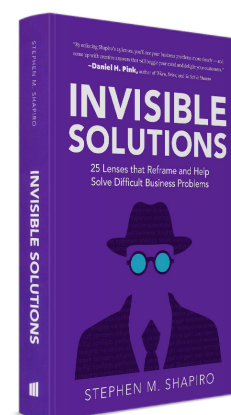


Invisible Solutions

25 Lenses that Reframe and Help Solve
Difficult Business Problems

by **Stephen Shapiro**



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THE SUMMARY IN BRIEF

The word innovation is used everywhere. We have innovative \$7,000 toilets with built-in Alexa voice controls, innovative cat litter boxes that send the owner a text message any time their feline poops, and a published list of innovative lawyers. The term is often used to describe anything unusual or novel, even if it is not valuable. It is one of the most overused, abused, and misunderstood words in business today.

Innovation is not about novelty or ideas; it is about defining and solving significant problems. When you view innovation through the perspective of problem-solving, you will discover that everyone can participate. It's not separate from the business—it is the business.

Stephen Shapiro, a left-brained engineer in a right-brained world, applied his systems engineering to purposeful innovation. He discovered the process for driving better results doesn't start with great ideas—it starts with better questions. He learned that innovation was not just the domain of the naturally creative. *Invisible Solutions* shares his secrets for problem-solving.

IN THIS SUMMARY, YOU WILL LEARN:

- How to formulate questions to open up true innovation.
- To recognize questions that deliver narrow solutions.
- To ask questions that change perspectives.
- Moving quickly with innovation maximizes results.

Introduction

Do you want a thriving business that can grow faster than the competition? Do you want to stay relevant in the minds of your customers? Do you want a more powerful life? If so, you need to master problem-solving.

The way we formulate questions and frame issues can inadvertently put blinders on us, obscuring our view to the best solutions. The least understood step of innovation and problem-solving is problem definition.

Better Questions Lead to Better Answers

A small U.S. airport surveyed its passengers and discovered that their biggest complaint was wait times at baggage claim. Being good innovators, they took to the task of “speeding up the bags.” They made a sizable investment on faster conveyors, additional baggage handlers, and newer technology. They reduced the wait time by half! When passengers were surveyed soon after that, their biggest complaint remained, “baggage claim wait time.”

So, the airport approached the problem in another way. Instead of speeding up the bags, they slowed down the passengers. They reconfigured the airport so that it would take the passengers eight to ten minutes to get from the plane to the baggage carousel. As a result, when the passengers arrived at baggage claim, their luggage was waiting for them. Instead of asking, “How can we reduce the wait time?” they changed the question to “How can we improve the wait experience?”

When we don’t understand something, we try hard to map it to anything we do understand from our past to make sense of it. Unfortunately, our past experiences may have nothing to do with the matter at hand.

What’s the Impact of Poor Questions?

One word in a question can have a huge impact on the thought process and, therefore, on the range of solutions. For example, when NASA was addressing the challenge of dirty clothes in space, they found one word made all the difference. Asking, “How can we get clothes clean?” yielded solutions around cleaning fluids. But “How can we keep clothes clean?” provided different responses. In this case, the solution became a material science problem involving clothing with built-in antimicrobials. Questions are powerful. And the words we choose for them are critical because changing just

one word can completely change your answers.

Why Do We Ask Terrible Questions?

People generally form a solution in their mind and then ask questions to validate it. Sometimes this is done to lead the witness, meaning we have an agenda, and our question is designed to get another person to agree with us. “Would you like to go to McDonald’s tonight for dinner?” is a closed-ended (i.e., yes or no) question that leads to one solution: fast food. A nonleading, open-ended question like “What would you like to eat for dinner tonight?” might give rise to several possibilities.

Our questions can be powerful tools for learning, but only if they challenge our assumptions rather than confirm our beliefs. The brain says to itself, “Everything I’ve done in the past has kept me alive, so I must be doing something right.” Therefore, it wants to perpetuate the past. Past experiences equal safety. As a result, the brain creates neural pathways—sort of like information superhighways—to things we have thought about for a long time or things we think about regularly.

Lenses for Reframing Solutions

Saying we should reframe questions is easy; actually doing it is difficult. As you practice asking great questions, avoid jumping to solutions. It is so tempting to try to find answers before you have created a great list of questions

Reduce Abstraction

The lenses designed to reduce abstraction are geared toward making questions more specific when they are too broad. When your challenge statement is overly large, broad, or abstract, narrow your question to help you bring it down to earth.

When you’re asking overly abstract questions like “How can we increase revenues?” or “How can we improve productivity?” identifying the leverage points can kick-start the problem-solving process. It allows you to focus on what will return the greatest value with the least amount of investment. Then, break your challenge into multiple smaller challenges. Ask: What are the parts or components of this? What are the steps of the process?

Increase Abstraction

When the questions you are asking are overly specific, use the Increase Abstraction lens. For example, don’t just look

at other businesses. Sometimes the best solutions can be found in nature and less obvious places. Consider the gas pipeline industry, which has struggled to solve the problem “How can we find and seal cracks in pipelines?” When they asked, “Who else solved a similar problem?” they realized that sealing cracks is something that the cardiovascular system’s coagulation mechanisms do all of the time. Armed with this knowledge, industry experts worked on the problem “How can we create an inert coagulant ingredient that will seal small cracks?”

In another example, a company with a leadership development issue brainstormed, “How can we more effectively use 360-degree feedback?” That’s a solution masquerading as a question, so they completely missed alternative methods. When the company asked, “How can we create powerful leaders?” instead, this more abstract question opened up a wider range of possible solutions. Of course, this then needed to be deconstructed into smaller and more solvable problems.

Change Perspective

Sometimes you just need to look at your challenge statement with a fresh set of eyes and consider it from a different point of view. If a problem statement implies that a particular person, department, company, or industry does the work, changing the “who” can unleash some creative solutions. Keep in mind that sometimes the “who” can be a computer or other nonhuman. This is a particularly powerful lens when considering the blurring of industries’ boundaries.

Don’t just ask questions that are about facts, data, and results (e.g., increase customer satisfaction)—ask questions that create emotional responses. Instead of “How can we improve morale?” ask, “How can we get 100 percent employee engagement?” or “How can we get 5 out of 5 on employee satisfaction surveys?” Instead of asking “How can we retain our customers?” ask “How can we wow our customers?” or “How can we create customer evangelists?” or “How can we make people smile when they think of our company?” or “How can we help people feel at home in our stores?”

Switch Elements

Many questions we want to solve have multiple components. We often get fixated on solving just one of them. But sometimes, other hidden factors can unleash a much simpler solution. We can do that by asking, “Instead of fixing this factor, what if we fixed or adjusted a different factor?”

Switching elements is one way to solve a common problem

among the elderly. Falling is one of the leading causes of death in older people. The elderly are aware of this risk, and therefore are afraid of falling. What do they do to address their fear? They try especially hard not to fall. Ironically, trying not to fall makes them more likely to fall. By accident, an alternative solution was discovered: Teaching people to fall on purpose and then roll on the floor made them more comfortable with the idea of falling. They realized that they could indeed fall without any serious repercussions. When they lost this fear, they stopped trying not to fall. The result? They stopped falling!

Sometimes a way to crack the nut is to change the question and look for a terrible solution instead. This can be used as a starting point to find great solutions. America’s flight to the moon was made possible through a terrible question: “What if the rocket ship were to fall apart after takeoff?” Proposing the destruction of the rocket ship sounds like a crazy idea. But this concept was a critical factor in the success of the Apollo missions: The rocket boosters containing the fuel fell off early during the trip to the moon, which allowed for the required lift and acceleration needed to exit the stratosphere.

Zero-In

When problem-solving, it is important that you are solving the real issue. Ask whether you are solving the right problem or whether you are just resolving the symptoms. No matter how efficiently you solve the wrong problem, the result will not matter. A consumer goods company invested a large amount of time and money trying to develop an alcohol-free mouthwash that was as effective as products containing alcohol, as they’d been told that’s what customers wanted. “How can we create an alcohol-free mouthwash that is equally effective?” proved more difficult to solve for than they’d expected. Eventually, the product developers went back to the marketing department and discovered that customers did not care if the mouthwash had alcohol; they just didn’t like the sting associated with alcohol-based mouthwashes. The new challenge—“How can we create a mouthwash that doesn’t sting?”—proved to be much easier to solve.

It is often useful to consider your industry in broader terms than you may be used to and to consider the competition that is outside your industry. Sometimes technology can force you to reevaluate your industry. UPS is known for moving physical goods from one location to another using trucks and planes, so its investment in self-driving vehicles makes perfect sense. However, a potentially more disruptive technology could impact them in the future: 3D printing.

This technology allows products to be moved digitally rather than physically, eliminating the need for trucks and planes. Knowing this, UPS has launched an “On-Demand 3D Printing Manufacturing Network” designed to get ahead of the game while adding 3D printing capabilities to many of their stores. Their real business has shifted from just trucks and planes to other forms of delivery.

Challenge-Centered Innovation

We strive for quantity of ideas when, in fact, we really should be striving for quality of questions. Quantity drives waste; quality drives value.

Leveraging Challenges for Innovation

Although you likely have been told to think outside the box to find creative solutions, the reality is that you want to find a better box. The better box is that well-framed challenge that drives high-value innovation. If starting with ideas isn't the answer, where do we begin? We start with questions. The question is an issue, problem, challenge, or opportunity that, if solved and implemented, will provide great value to the organization.

Challenge-centered innovation starts with a specific, well-defined, and differentiated challenge. Identify and solve the opportunities that help you stand out from the competition because these opportunities are the ones that will add the most value. The next step is to set clear objective evaluation criteria that help with the selection process. By having clear and objective criteria, you know when you get a good solution and can objectively choose the best ones.

Get the money, people, sponsors, and owners upfront.

This ensures that when you find a great solution, you can move forward immediately. The advantage of identifying challenges over ideas is that when you look for solutions to your well-framed challenges, you don't get inundated with thousands of useless ideas. After solutions have been identified, it's time to move into implementation. It's important to start building small, scalable experiments that allow you to test your hypothesis.

Shapiro outlines four steps in his FAST Innovation process:

Focus—Focus on differentiators

Ask—Ask better questions

Shift—Shift your perspective to find solutions

Test—Test, experiment, and implement solution

With Challenge-Centered Innovation and the FAST Innovation process, you now have the tools to start creating a high-performing innovation culture. When you get everyone collaborating around well-framed challenges, you increase ROI, drive higher levels of efficiency, and reduce overall risk.

The key to finding better solutions is to look at the problem with different eyes. We need to shine a light on our blind spots. We need to bring our assumptions to the surface. And we need to use tools (e.g., the lenses) to help us see opportunities—especially the ones that are right in front of us.



Stephen M. Shapiro started his innovation journey by founding and leading a 20,000-person process and innovation practice during his 15-year tenure at Accenture. Since leaving the consulting firm, he has authored six books on the topic, including *Best Practices Are Stupid*, and has become a regular columnist for Inc.com. He has also developed Personality Poker, a powerful card game that helps create high-performing teams. He has presented his groundbreaking innovation work to audiences in 50 countries, and in 2015, he was inducted into the Speaker Hall of Fame.

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