

# Think Bigger with Sheena Iyengar

"Brainstorming produces, at best, a sort of okay idea. We either rely on that or we rely on some brilliant human being that might just have the right revelation. [But] to stay ahead of the curve, you have to have your employees know how to come up with useful novel solutions systematically to the problems that they are presented with."

Sheena Iyengar

Business Professor, *Columbia Business School*

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**Martin Reeves:**

I'm Martin Reeves, chairman of the BCG Henderson Institute. Welcome to our Thinkers & Ideas podcast, where we discuss important new books and ideas in business. Joining me today is Sheena Iyengar. Sheena is a professor of business at Columbia Business School and a very well-known thinker. She regularly features in Thinkers50, that's the most influential business thinkers list. She has a book, I think that many of our listeners will have heard of, the 2010 book *The Art of Choosing*, which was a *Financial Times* and an Amazon best business book of the year. And she's just written a new book, which I think touches most businesses, about innovation. It's called *Think Bigger*, and it comes out in April 2023 from Columbia University Press. So that's what we're going to be talking about today. So thank you so much for joining me, Sheena.

**Sheena Iyengar:**

Thank you for having me.

**Martin Reeves:**

As you know, Sheena, I work in a similar area of innovation, and when I pitched a book to my publisher, innovation, the first thing they said was, why do we need another book on innovation? So if I could be so rude, could I ask you the same question? You have produced another book on innovation. Why did you feel the need to do so?

**Sheena Iyengar:**

That's a great question. There are a lot of books out there that tell you what kind of a culture you need to have innovation or have people generate ideas. What incentives you need to give them so that they'll generate ideas? What are the things you can do that kills innovation? Why is innovation so important? Or you might have books that tell you all about when you have ideas, here's what you can do with them so that you build them up. My book is not about any of those questions. My book answers one very basic question, which somehow all the other books skirt around, which is, how do you get an idea? Not what are all the things that make you more likely to

want to have an idea, but literally what can you do to your brain? How do you go about the mental exercise of coming up with an idea?

The assumption underlying books right now and, quite frankly, the assumption we've had now for thousands of years has been that ideas are like magic, right? You have these aha revelatory moments. But actually in the early 2000s, we gave Nobel Prizes to neuroscientists who told us exactly how the mind forms thoughts, and I think it's high time now that we take that science and put it to work and actually show people and teach people how they can use their minds to generate ideas.

**Martin Reeves:**

Very good. So is there a sort of problem in practice that you're solving for? Is it that we don't have a method for coming out with ideas, or is it that we have the wrong idea about ideas? What problem are you addressing with the book?

**Sheena Iyengar:**

The problem I'm addressing is that most often people need ideas and the method they go for is brainstorming because they don't know any other method, and brainstorming produces, at best, a sort of okay idea. It's very tough to get a really big idea through brainstorming. So we either rely on that or we rely on some brilliant human being that might just have the right revelation. We need high-quality thinkers. We need people that innovate. If you're a big company, you need to be able to identify what are the new disruptive technologies out there, or disruptive ideas. You need to be able to promote innovation within your organization. To stay ahead of the curve, you have to have your employees know how to solve problems, how to come up with useful novel solutions to the problems that they are presented with. That's what Think Bigger is about; it teaches you how to generate useful novel solutions to the problems that are put before them, and it can be applied in your personal life or in your professional life.

**Martin Reeves:**

So before we dig into your method, you had some interesting observations, I think in chapter two, about things that we might misunderstand about innovation. So maybe you could just repeat some of those for us. So, for instance, you have a comment about the underappreciated importance of memory in creativity. Could you tell us about that?

**Sheena Iyengar:**

Yeah, so let's say I ask you a question, what is 28 plus 32? So what did you do to answer that question? It's a very simple arithmetic question, and you went into your brain and you asked yourself, what's number 28? What's the plus sign? What's 32? You yank these things down. You know what algorithm to plug in, you do it. Think of your brain as almost like a giant Excel spreadsheet. It's filled with lots and lots of cells of different information bits that you've been collecting since you were born. Whether you're doing a mathematical equation, like what's 28 plus 32, or whether I ask you, Hey, can you come up with a word that rhymes with airplane that's not a real word? That's more of a creative task.

No matter what task you're doing, you're doing literally the same process. You're going into your brain, going into the shelves, yanking information bits, combining in a new way or an old way depending on what the question is, and it's the same thing. In the old days, we believe that creative and analytical tasks, or so-called analytical tasks, are somehow very different processes in our brain. They're actually the same process. We've learned that in the last two decades. Same portions of our brain are lighting up whether we're doing a creative or an analytical task.

**Martin Reeves:**

Thank you for that. And another interesting idea, let's get your view on this. You've already mentioned it briefly, which is if we think about idea generation, we think about brainstorming, we think about a group of people generating as many ideas as possible and not being too critical about those ideas. In my reading, you sounded fairly down on that construct. Could you explain that to us?

**Sheena Iyengar:**

Well, let's go back to the history of brainstorming. It was actually developed in New York in 1938 by a CEO of an advertising company, Osborn, and he was trying to solve one big problem. When he would go into a meeting, the various employees would come in and they would just say, yes, yes, yes to whatever he said. What he wanted to do was create conversation. And so he came up with a bunch of rules: don't critique, build on the ideas of others, encourage wild ideas, go for quantity. These are a wonderful set of rules, if you want to have a great dinner conversation, it's great. It feels good too.

But it's a wonderful set of rules that creates a dinner conversation where, if you're lucky, you'll share information and maybe you'll learn something that you didn't learn before, but it's not the kind of thing that's going to lead to real ideation, because really all you're doing is tapping into whatever is on the mind at that very moment. And whatever is on the mind at that very moment is one or two little cells that are in your brain that happen to prime you to yank information from that cell that was there. But there's a heck of a lot more in your brain, and there's a heck of a lot more out in the wide world beyond your brain and beyond that room of people that can actually help you generate a good quality solution to whatever problem you're confronted by. So it's too narrow, brainstorming.

**Martin Reeves:**

And indeed you have a much more deliberate method. So let's dig into your method. You have six steps. Let me just read them out, and then maybe we can discuss what is some of the critical how-tos in each step. So you've got defining the specific solvable problem, step one. Step two, breaking it down into sub-problems. Step three, defining the wants of different stakeholders in your success criteria. Step four, identifying precedents broadly and narrowly. Step five, choosing winning combinations of those ideas. And step six, then gathering feedback on the idea. So walk us through that process, and give us a little bit of a flavor for how to do that and the critical aspects of doing that. So step one, defining a specific solvable problem. What's critical about that step?

**Sheena Iyengar:**

Well, as Einstein once said, “If I had an hour to save the planet, I would spend the first 55 minutes thinking about the problem and then the last five minutes thinking about the solution.” Seventy-two percent of companies when they set up a strategic team to do a product launch or create a new vision for their company, 72% of the time they end up failing. Why? Because they’ve solved for the wrong problem. Why? Because they didn’t spend enough time really thinking through what exactly is the problem we’re trying to solve. So that step one is really thinking about what exactly is the problem we’re trying to solve. And you want to define it in a way that’s specific and solvable, and if solved would lead to a meaningful solution. And that’s not self-evident, it does take some thought.

**Martin Reeves:**

That sounds a little mystical. There are many ways of framing a problem. So what is the art of framing a problem productively?

**Sheena Iyengar:**

You just said something brilliant, that is absolutely right, you can frame it in many ways. And so finding that problem and figuring out the right way to frame it is key to your ability to succeed. So, say Reed Hastings, he defined for himself the problem that says, Look, how do I make consuming movies at home more convenient? Sounds simple enough. But actually, if he had changed a couple of those words in there, it could have made a big change in terms of how he went about his solution. By framing it that way, it enabled him to realize that what he really wanted to do was be able to go watch movies at home without having to pay late fees, without having to move his butt to go to the Blockbuster to return his movies. And that just changed the landscape in terms of how he would go about solving the problem.

**Martin Reeves:**

Okay, so let's go into the next step, breaking down a problem into sub-problems. Again, probably many ways of doing that. How do you do that in a productive way? What's critical there?

**Sheena Iyengar:**

So, every problem has many parts to it. It could be endless. But in order to create a meaningful solution, it's important to break it down into its most important sub-parts. And I have people do it roughly somewhere between three to six sub-parts. I don't like people to have more than that because then that becomes cognitively draining. And so the idea here is that you break it down into its most meaningful sub-parts, and that way, collectively, if you were to solve each of these, then it should solve about 80% of your problems. So that whatever solution you generate, if it addresses these sub-problems, it will have impact.

**Martin Reeves:**

And taking the Netflix example or any other example, give us a feel for how that works with a specific example.

**Sheena Iyengar:**

Sure. So let's say with Netflix, how do I make consuming movies at home convenient? Well, you had to solve a few problems, right. One was how do I make it so that I reduce inventory costs? Because if I make it so convenient that it's in every building, that's huge inventory costs. So how do I get it to you but not high inventory costs? Number two, what's the mechanism by which I can send it to you so that you can have a huge collection of whatever sets of movies you want? Oh, and how do I reduce late fees? Because he really hated late fees. So essentially what he does is he takes Planet Fitness, say, a gym membership model, which is different from paying late fees, plus Amazon, which at that time was already selling books. And so he said, Well, if you can send people books by mail, can we send them movies by mail? And plus the new technology that existed, which was the DVD, which didn't break when you put it in the mail.

**Martin Reeves:**

So step three, defining the wants of different stakeholders. I guess, what I wanted to ask you about this one is, of course the stakeholders may not know their wants until they've seen the new solution. What's the essence or the core of this step?

**Sheena Iyengar:**

When I have a problem, let's say I come to you with a problem. Your tendency is going to want to give me lots of solutions right off the bat, and there will be good solutions, at least in theory, because they're all solving my problem. And yet, somehow I'll only like some of them or I'll like none of them. And so I believe that a critical step before you start generating solutions is to ask yourself, what do I really want? Meaning, how should the solution feel if it were an ideal solution? So I'm looking here for adjectives, emotions. When you take into consideration the wants, you take into consideration, first and foremost, the wants of the creator, because that's always important, they're the ones that have to be motivated to produce the solution. The wants of the user, whatever target audience you have. And you always want to keep in mind who are your gatekeepers and allies, because those can also make a difference.

**Martin Reeves:**

Okay. So step four, defining precedents narrowly and broadly. Very understandable, but again...

**Sheena Iyengar:**

That's what I call searching in and out of the box.

**Martin Reeves:**

Right. Searching in and out of the box. Again, sort of very understandable in principle, but very open-ended and potentially many different permutations and data points there. How do you choose the right precedents.



**Sheena Iyengar:**

Okay, so I think a lot of times people think all I have to do is expose myself to as many, many, many different kinds of ideas, and voilà, I'll become more creative. Or they think, I just have to know everything there is to know in my particular domain and keep talking to people in my particular domain, and voilà, I know everything I need to know to have an idea. What my step four does is very strategic in telling you how to first organize your problem. It's something I call the choice map, so that for each sub-problem that you've identified, say, what are the alternative ways of collecting money for giving people movies at home? What are the alternative ways of funding that? You could do late fees, but you could also go entirely out of industry to, say, gyms and find gym membership.

And so the way you search for precedents is by being careful about asking yourself exactly what problem am I trying to get answers for? Who else has the same sort of problem, an analogous problem? Which other industry, which other people in time have had a similar sort of problem, and what solution did they do? And so what you're doing is you're collecting nonredundant ways of solving a problem from searching far and wide, and you collect those up, and now you have the materials that you can use for, what I call, choice mapping or creative combination, which is creating that winning combination of a solution. Because every solution is just a new combination of old ideas.

**Martin Reeves:**

And that indeed is the next step, choosing the winning combinations.

**Sheena Iyengar:**

Yes.

**Martin Reeves:**

So it sounds like there might be a lot of art in that. And even if you take a very simple choice matrix, you've got a factorial function, so many possibilities. I think you have this phrase *strategic*

*copying* in the book. I seem to remember that. So it's the art of choosing the right combinations. What is the art of choosing the right combinations?

**Sheena Iyengar:**

So, I teach people how to create a choice map, and the prototypical choice map is a five by five. Now, some choice maps, as you pointed out, can be smaller or a bit bigger. But let's imagine it's a problem that has five sub-problems, and for each sub-part you have five different strategies for solving it. That choice map literally enables you to create 3,125 unique solutions through creative combination. And so that actually does give you a lot more solutions that you can create than brainstorming or any other way in which you might go about innovating. Even though I've put some constraints and I've created a deliberative method, it actually generates more solutions. Now, how do you choose? So I've got 3,125 different solutions. How do you choose? The way you choose goes back to step three. So by knowing what are the wants—and I limit people to three adjectives in terms of your final sort of feelings that your solution should generate—you use that to help you choose.

**Martin Reeves:**

Okay, that makes sense. And then your last step, gathering feedback. Tell us what you're getting at there? So you have these winning combinations. Are you simply talking about market testing those ideas, or is there something else going on in the final step?

**Sheena Iyengar:**

No. I actually believe that we're too fast to market test. I think that we can do a lot better job collecting feedback on our idea and using that to iterate on our ideas long before we market test or create prototypes, et cetera. So I call it the third eye. It's not about, you have an idea; it's not that you now run out and go see how many likes you have. Instead, you have an idea, say, like Paul McCartney wakes up with a tune in his head. He doesn't know if that's a real idea. He doesn't know how other people are going to respond. He doesn't even know what other people

are going to hear. And so what does he do? He goes out and he hums the tune, and he just asks people a simple question, Is this tune familiar to you? Do you recognize it? Have you heard it before? That's it. And little by little as he sings his tune over and over and over again, he starts to see people's reactions. And in the process of observing people's reactions, he's able to use that knowledge to help him further iterate. So the third eye, yes, you're going and taking your idea that's in your head, and now you're interacting with the external world. But it's still in service of you being able to continue to ideate, because in the end, your goal is to figure out if others see and hear and feel what you do. It's only when there's alignment between what I'm seeing in my idea and what you're experiencing from my idea, when there's that alignment, then I'm ready to go prototype and market test.

**Martin Reeves:**

Well, thank you for walking us through the method. I think that's very clear. Let's maybe try and put it in a broader context. So I'm asking myself, are you asserting that this is the best method or one of many possible methods? Or sometimes when experts give a recipe, they're sort of telling a useful lie. In practice things are more complicated, but here's a useful simplification. What is the spirit of your method? Are you saying this is the only way of doing things, or this is a way that's better than average, or a way that's better for particular circumstances?

**Sheena Iyengar:**

I guess, the way I would phrase it is we all know how to engage in mind-wandering. We all know how to sit around and keep thinking, thinking, thinking, and sometimes you get lucky and sometimes you don't. What I'm showing you how to do is how to do better than pure sort of unstructured mind-wandering. And I'm saying you can do better than unstructured mind-wandering, given what we've already learned from neuro- and cognitive scientists. In a few years, we'll have other scientific advances, and then they will probably improve more on what I'm proposing. I'm just taking advantage of the science that others haven't taken advantage of in the last 20 years and saying here's how you can apply it to actually do better than the current norms.

**Martin Reeves:**

Your process is very understandable. It's, step-wise, a linear process. I think there's good research that shows that one cannot deduce a useful innovation. There's the mathematics of recombination, the serendipity of innovation is a sort of constant feature. And so I'm wondering about the limits of your method. So your method has structure, and you make a strong case that this is better than mind-wandering. But if one were to abuse the method and say, well, this is the formula that will give me the answer—tell me about the limits of the method?

**Sheena Iyengar:**

Well, if you don't have a piece of the puzzle, you're not going to be able to solve it. I mean, there's still a lot that you have to do well in here. If I am trying to solve the problem, say, of making sure that the battery for my car—you know, it's an electric car—it lasts a lot longer, well, there's some questions for which nobody has come up with the answer of the solution yet. Until I have all the pieces, I can't find a solution, I can't do the combination. So that's always a limit.

My method helps you do a better job of searching for what already exists that you might be able to use to solve it. If you define your problem too broad, like, how do I solve the problem of climate change or income inequality for the whole globe? Well, that's way too big. You're not going to be able to solve that. You're going to have to break that down into a much smaller problem that's solvable. And then once you solve for that smaller problem, then you scale. Remember, Bezos started by selling books. After he solved for that problem, then he little by little scaled, and today we have the everything store, but it began with books.

**Martin Reeves:**

So I guess, what I'm getting at, your method is very deliberate, and, in a sense, that's its strength, it's systematic. But we know that we can't be entirely deliberate or deductive about innovation. So I'm wondering where does the element of serendipity, trying things, iterating on things, starting somewhere, trying several things so that you open yourself up to the stochasticity of the process. Where does that unpredictable element come in?

**Sheena Iyengar:**

So, I think that when you're trying to learn about something, learning how to ride a bike, learning to develop expertise in anything—art, science, et cetera—then trial and error, experimentation, serendipity, that's what you use for learning, is you're learning through observing all these patterns. What I'm talking about here is, how do you get an idea? An idea is your next little experiment, and I'm simply showing you the way to generate an idea that has lower odds of failing, since most ideas will fail. But I'm saying that, when trying out your next experiment, rather than just throwing darts, I can increase your odds that it might not fail if you're more deliberative. But still, inherently, it's an experiment.

**Martin Reeves:**

Okay, that does make a lot of sense. So you're saying that this is not the whole innovation process, this is a particular part of the process as you're coming up with the idea and in subsequent steps in the process that may involve trial and error and so on, but that's not your main focus for the purpose of this book, if I understood correctly.

**Sheena Iyengar:**

Yeah, I'm just simply telling you how you get an idea.

**Martin Reeves:**

Okay. That's very helpful.

**Sheena Iyengar:**

The way I would see your question is meaning how do you learn? And sure, you should always try lots of things because that's how you learn.

**Martin Reeves:**

So let's talk about individual versus group. You've made a couple of dismissive comments about groups, that brainstorming may not be as productive as we think. And in the book, you also talk about the fact that individual solutioning is often more productive. But clearly there must be some role for a group. So, as you think about the step that you're mainly concerned with here, ideation, coming up with an idea and maybe subsequent steps in the process, how would you distinguish between places where group processes are useful and group processes are less useful?

**Sheena Iyengar:**

When I teach Think Bigger, I do teach it in groups, so I do believe in groups. So here's what I would say about individual versus group. And what I'm about to say is actually something that brainstorming scientists were the first to identify. If I have you first think about a problem by yourself and then you come into a brainstorming, you will generate three times more ideas and higher quality ideas. I call that the shark effect. And so one of the things that I very much advocate for and do in my class is I always say, before you get together with your group, first think by yourself. That's how you will be able to get everybody engaged. That's how you will get the greatest diversity of thought and information brought to the table. So I believe that group sessions are information sharing sessions, are question gathering sessions, are really good for that. They're good for sharing thoughts, but I don't think that just banding about ideas in the wild is a good way to get a good quality idea.

**Martin Reeves:**

Let me ask you about digital technology. We've never really had a window into what actually happens during the innovation process. We have the stories of people that are involved in the process, and we know that they're often not reliable. And one of the things I see in my work is that, at least for digital products, we now for the first time have an objective trace of everything that happened. The unproductive things, the unproductive avenues, the recombination for something like software, for example, we have the digital trace. So for the innovation process

overall, having that data is great for dispelling myths and guiding the process. Does digital technology or digital intelligence change the process of ideation at all?

**Sheena Iyengar:**

Well, I think this new AI art is very cool. So there's two things about that. One is that AI is showing us, even more than we thought before, that coming up with ideas is actually something that can be structured, can be algorithmic, and maybe that's unsettling for people, but it is a simulation, in a sense, of the way the mind works. And unlike the human, its capacity to combine and recombine has no limits because they don't get tired. Will it completely do exactly what humans do? Maybe, but unlikely, just because it doesn't have emotions in the same way, and ultimately we as humans are the judges. Will it make human creativity irrelevant? And that's certainly a question that we've begun to ask quite critically recently with AI art. And I can tell you that in my own studies with my PhD student Blaine Horton, we actually showed people paintings made by AI versus paintings made by humans.

First of all, they can't tell them apart. They don't know who made what. They like them just as much. But if they think a painting is made by an AI versus a human, even if it's the identical painting, they give a higher monetary value to that which was made by the human. Back in the 1800s, the rise of the camera led people to say that art as we know it is dead. Why? Because it was undermining realism. But guess what? The introduction of the camera led to the development of such amazing art traditions as Impressionism and Cubism. Not to mention the fact that it also led to the photographer being its own separate art form. So I think if anything, AI is going to help us better understand new frontiers of human creativity.

**Martin Reeves:**

I wish we could go on and dig deeper on that and other questions, Sheena, but we're nearly out of time. So let me maybe wrap up with a question about implementation. So, supposing a CEO is listening to this and saying, Yes, we need to implement that approach to innovation, we need to take this more deliberate process guided by the latest findings in neuroscience. Where would you

start? What would be the first steps towards embracing and implementing the method that you're considering in the context of an organization?

**Sheena Iyengar:**

I mean, I would buy my book [laughs]. It does lay it out for you.

**Martin Reeves:**

That's a good start.

**Sheena Iyengar:**

Actually, I do have one tip that I could give all CEOs that is an easy thing to do at your next retreat or your next meeting, is something I call the innovation marketplace. And here's how I would do it as a CEO, and I'm just going to give you the tip. It's based on things that I've done with students and companies. So, imagine you're in a meeting and you know that there's a lot of things that you need innovation around in an organization, you know that. What you don't know is what are the problems that people are more revved up about, they care about, they want to do something about it. And it's very hard for a CEO to get the answer to that question. So I created something called the innovation marketplace, where you have a bunch of people—it usually works better if you at least have 20 people in the room, somewhere between 20 and 70 people in the room.

You give each person three checks, fake checks, and now you tell each person to come up with one problem that they think that if the company were to invest in, it could have really high returns for the company. Now you could do this with problems. You could do this with solutions. Like, say, if you were a CEO and you had a problem and you wanted people to come up with solutions. Now what you do is you have the people do a kind of speed dating, speed networking session, where they go person to person to person, and you do it in pairs or in sets of three.

And you simply describe in one minute or less your idea, and the other people describe their idea in one minute or less, and then you move on and you move on and you move on, and you do this over and over and over again. And then in the end, each person has to give their three checks to



three different people that are not themselves. And then you turn in these checks, and the CEO gets to see which ideas got the most investments. It's a fun way to actually learn what's on the minds of the employees in your organization.

**Martin Reeves:**

That's a good tip. We really are nearly out of time now. So let me just have a final question. I'm curious about what you are working on next. What's the next big frontier or the next book that you're working on, Sheena?

**Sheena Iyengar:**

Well, I'm continuing to expand Think Bigger, and train as many people as I can. And then beyond that, I'm writing a new book called *Find Your Blue*, which is on how you can apply the same approach to creating your best self.

**Martin Reeves:**

Well, I look forward very much to talking with you about that one. When will that one be out?

**Sheena Iyengar:**

Oh, not for another couple of years.

**Martin Reeves:**

All right. Well, thank you so much, Sheena. It's been fascinating.

**Sheena Iyengar:**

Thank you.

**Martin Reeves:**

I've been discussing *Think Bigger*, which came out in April 2023 from Columbia University Press, with Sheena Iyengar. I really enjoyed the book. It was about this critical step at the beginning of the innovation process ideation, and it made me think about the possibilities of being more deliberate about this seemingly magical part of the process. I like the fact that it was grounded in

neuroscience and cognitive science, there were reasons behind the suggestions in the method. And also well-illustrated, I thought, with how these ideas applied to well-known innovation. So I'd strongly recommend this to any company that's interested in innovation, which I think should include almost all companies, given the fact that the rate of competitive renewal is now faster than it's ever been before. And I think most companies have to constantly reinvent themselves. If you like today's conversation, make sure you're subscribed on your favorite podcasting platform. And as always, we welcome feedback.

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