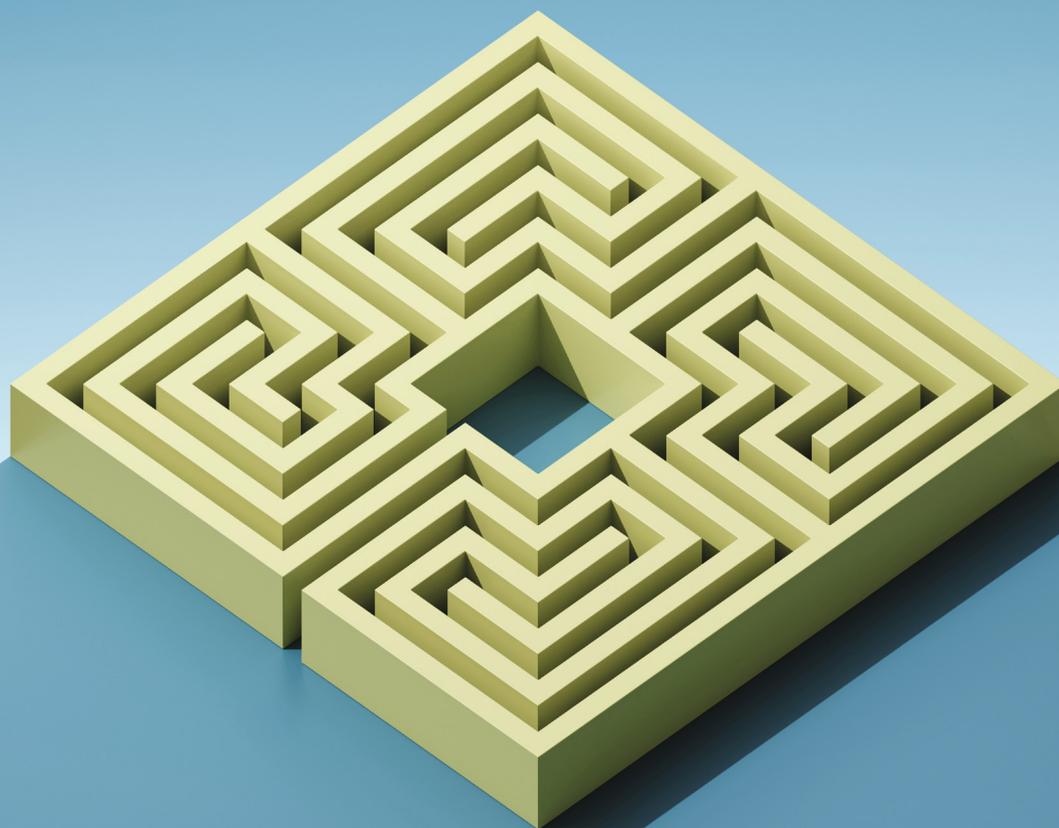


Strategy & Corporate Finance Practice

Four ways to assess projects and keep them on track

Biases can lead executives to misjudge project potential, ignore possible pitfalls, and let failures fester. Here is how to make better decisions.



Sean Brown: From McKinsey and Company's Strategy and Corporate Finance practice, I'm Sean Brown and welcome to *Inside the Strategy Room*. Over the past year, we've held a series of conversations with McKinsey partner Tim Koller, and Dan Lovallo, a senior advisor to McKinsey, and a professor of business strategy at the University of Sydney, where we've discussed the various biases that can get in the way of making good decisions, and some ways to overcome those biases. Our Bias Buster series has offered a myriad of approaches to overcoming both individual cognitive biases, such as anchoring, as well as organizational biases, such as the tendency to rely solely on an inside view. Today, we close out our series with four additional topics related to making important decisions about projects and ensuring that they stay on track. First, we'll look at how to avoid making snap judgments. Then, Dan and Tim will discuss some ways executive teams can better elicit arguments for and against proposals, as well as the benefits of carrying out premortems on projects. And finally, we'll discuss some effective strategies for avoiding the so called, 'sunk cost fallacy'. Tim, Dan, thanks for joining us today in our Stamford, Connecticut office. And welcome to you both.

Dan Lovallo: Thank you. Nice to be here.

Tim Koller: Thank you, Sean.

Sean Brown: Let's just start out with an example of a snap judgment that a management team might make?

Dan Lovallo: Well, a lot of what we have in this particular Bias Buster has to do with hiring somebody. For example, someone who is taller, is more likely to be hired based on very similar background. Unfortunately, in the past, someone who's a man has been more likely to be hired. Now, companies have taken various kinds of steps to try to prevent these biases, especially with lower level employees, but also with senior level employees. And one of the steps is that they've structured their interviews. But here's a cool step that people take in the music field now when they're looking to hire,

let's say, first chair violin. They put up a screen, and you have no idea who is playing, unless, of course you have, you know, a very, very good ear, but you cannot see the person. And you can just hear the music that's coming out. And this helps you avoid making snap judgments on irrelevant factors.

Tim Koller: A similar situation occurs with a lot of important strategic decisions as well, where executives may make a decision based on who the person is who's making the proposal. So for example, if someone has been, you know, successful in the past, if someone's more articulate, if someone dominates the discussion, right, they may be more likely to get their way than in other situations. It also happens, for example, in the venture capital world, right, where, you know, someone who has had a successful startup in the past, might be more likely to get funding than someone who hasn't, despite the fact that they haven't really analyzed whether that person is actually, you know, got lucky, whether the idea is good or bad, right? They tend to attribute this to the individual, right? Despite the fact that there's a ton of evidence by some academics that shows that what's most important about whether you should fund venture capital is the strength of the idea itself, you can always change management if you have a good idea. But if you just have a good manager, you can't fix a bad business proposition.

Dan Lovallo: So one of the economic phenomena that we talked about is a big gem company, okay. And they had technological issues, and they were hiring a new CEO. And the CEO was the head of a particular ore division. And the ore's price had shot up. And so this person was contributing a lot to the bottom line of the overall company. Now, there are a couple issues with this. One was, you know, the mines that were built previously, he had no influence on. They were built 10 years ago, right. And then, furthermore, he had nothing to do with the spike in the price of the ore. But it was still the case that the halo from you know, having such high profits shone down on him and made him look particularly good for this job, even though his technological skills weren't all that strong.

Sean Brown: And so how do you counter these effects? I mean, is it enough just to be aware? Or are there specific steps you can take to try and keep yourself from making these erroneous decisions?

Tim Koller: Well, rarely does awareness alone overcome this halo effect bias, right. Daniel Kahneman, the Nobel Prize winner, who is the grandfather of thinking on how biases creep into decision making, often focuses on the fact that you can't change individuals so easily, you have to change the rules in which the organization makes decisions. So going back to Dan's example, about choosing someone from an orchestra, I think you want to apply that sort of principle. So for example, in the article we talked about, using a structured set of questions for all candidates, so you can compare them more clearly. If there's a tendency to go into an interview, you like the person on first meeting, right, and so the interview becomes more of a conversation, and you're talking about all kinds of things you have in common, as opposed to really sort of getting at whether they have the qualities that you need, that you've defined in advance for that job. So force yourself with rules to do that. The same would apply to, you know, at a strategic investment, you have to have some kind of structured rules and processes, to shift the discussion to the substance of the proposal. And you know, a common set of facts that you always demand when you're evaluating proposals, to make sure that you're surfacing all the right issues.

Dan Lovallo: So for example, if you're hiring a senior executive, what you want to do is not sort of have a casual conversation, because that breeds a halo effect, you know, that just gives it plenty of headroom. What you want to do is have a structured interview, whereby everyone's going to be asked very similar, or if not the exact same questions, you know, without stiling the interview too much. And then people are going to be rated on their past track record. So they'll just have a few criteria. And you will rate each individual on each criteria before you have a discussion of all the individuals. And you're not saying throw out managerial intuition. What you're saying is, let's usefully delay our managerial intuition,

so it doesn't affect our judgments. And that's essentially the essence of structured interviews.

Sean Brown: Can you talk a little bit more about the halo effect?

Dan Lovallo: So the halo effect is a situation where you make an inference about somebody's ability based on something like overall performance. So you might make an inference about a particular football player's performance based on his team's winning record, rather than saying, maybe his blocking ability or yards after catch or some metric that's more local to his performance.

Sean Brown: Got it. So it's generalizing on somebody's performance based on something that they're part of, or maybe something they had some influence over, but not complete influence.

Dan Lovallo: That's right. Taking this to business, you often see that some CEOs get lauded, because their performance in their particular industry or industries, does well for a short period of time and they're thought of as being exceptional. A few years later, we often find, maybe not so exceptional. And so that's the halo effect in a nutshell. More generally, what you can see is when good CEOs leave their industries, and go to other industries, their track record rarely follows them.

Sean Brown: I think we're all familiar with the scenario where, you know, executives want to make sure they have the best information to make a decision. Do you have some good examples of where that can go wrong?

Tim Koller: A CEO of an industrial company with two business units, who is proposing to the board that they divest of because our financial performance was declining substantially and the markets were getting tougher and, you know, probably a good time to get out before it gets worse. Whereas the heads of the business units when he presented the case to the board, argued for continuing the course that they'd been following. And they had, you know, some additional facts because they

obviously were closer to it than, than the CEO, right. So it creates a dilemma for the board because they don't really have all the information that they need to make the decision. So in a situation like that, you need to figure out some mechanism to make sure that you have both sides of the story. That often means having teams in different parts of the company maybe who, who are assigned the task for particularly in important decisions, to take opposite points of view, and to come up with a structured and fact-based argument to support their point of view, so that the senior executives and the Board of Directors can really hear two very thoughtful perspectives on an important decision.

Dan Lovallo: From the academic literature, there are a couple things worth remembering. One is if you're going to use something like a red team, blue team to have people take two different points of view, it's better if they believe in their point of view than if they don't. And maybe it's even better if they if you have people who are indifferent, that are on each side, that's okay too. What's not okay is to have somebody arguing against what they truly believe, because that diminishes the impact of the argument. Another thing that you might think about, like, say, if you're going to make a large acquisition, and this is something that Warren Buffett does, and I'm quoting him now is that he goes to two investment banks. And one's incentivized based on whether he makes the purchase, and one's incentivized based on whether he doesn't make the purchase. And his reasoning for this is, you don't go to a barber to ask if you need a haircut.

Sean Brown: What's the threshold in terms, you know, because sometimes, you know, a decision may seem quite obvious, right? So at what point do you decide whether or not to use the, you know, Blue Team Red Team getting both sides of the story.

Tim Koller: So, you know, you have to sort of tailor that concept to the magnitude of the decision. So a big acquisition, as Dan mentioned, or a big investment, capital expenditure project, or our product development project, for example, because

the investment in the people time is small relative to the value at stake, right. And if there's less value at stake, then you might use a simpler technique, something like a devil's advocate, right, who doesn't necessarily have to develop a full case against the project, let's say, but you know, spend some time preparing to ask the tough questions to bring out the facts and to present a contrary point of view, based on that.

Dan Lovallo: In some companies we'll have a challenger paper that gets presented to the decision makers, but isn't necessarily argued in front of them. These types of new procedures or new interventions only happen with a very confident CEO, who's willing to take on this kind of feedback, who doesn't want to just push through his or her point of view.

Tim Koller: Just to build on that, that CEO has to hold back, right? And make sure that they don't telegraph what their point of view is, right? Because let's assume you have a situation where you've got, you know, a red team and blue team presenting, you probably have other executives there, who are not involved, who should be asking questions of the teams, summarizing their point of view, etc. And ideally, you would do all those things before the CEO presents their point of view, otherwise, they're likely to stifle the discussion.

Sean Brown: And so one other follow up question related to this is, let's say you're not the CEO, but you're on the CEO's team. And you have a CEO who prides themselves on being really decisive. Right? They make decisions, they make them quickly, and they think they make them really well. And perhaps they do in many cases, but this may be one of those cases where totally different context. And the CEO needs to really take that step back. How do you as not the CEO, but a member of the senior management team, sort of gently talk about the advantages of using the Red Team Blue team.

Dan Lovallo: One of the funniest things that I've... somebody wanted to know how to open up debate more, and this was a chairman in the in the Middle

East. And he asked me, we had run a session about biases and, “How can I open up debate more in our organization?” And I said, “Well, sir, you know, one thing, the first thing I could think of is you could maybe get rid of your gavel.”

Sean Brown: And did he follow your advice?

Dan Lovallo: I don't know.

Tim Koller: But if you're not the CEO, that may be an opportunity to, you know, maybe you should take on the task of educating the CEO and saying to the CEO, “Yes, we do want you to be decisive. Right? It's important to make decisions quickly. It doesn't necessarily slow down the decision making. But you know, to make sure that you have both set of facts on the table, both points of view, or alternative points of view, won't necessarily stop that decisive decision making.” Right, right, it's more a matter of encouraging the CEO to listen, and to have a mechanism to make sure that that happens. And you also might take on that role, sometimes of asking the tougher questions that may lead to the opposite question or taking a different point of view.

Sean Brown: Can we talk a little bit about the sunflower bias?

Tim Koller: So sunflowers always face the sun, right, so they rotate, flower rotates as the sun moves. And the idea here is where the individuals in the organization are always looking and trying to guess what the CEO or the most senior person's point of view is. And so you have to take active steps like the ones we're talking about to overcome that. Not only is what we said earlier, where you need to make sure that the CEO doesn't telegraph their point of view, but you also have to take some steps to overcome that bias towards you know, I don't want to stick my neck out, if the CEO has a particular point of view, I'm just going to go along with it. So you need to do some things to encourage people to take a different point of view, or to speak up about their concerns and reward them for bringing up objections or points of view, even if, in the end, you go a different way.

Sean Brown: Is there a reason more companies don't do this, it seems like it makes a lot of sense to take this approach.

Tim Koller: You know, you'll talk to a company and they'll argue that they do have, that they do have open debates. But when you actually observe their conversations, they're not as open as they would seem to think that they are. They're not as structured. And so I think adding some structure makes a big difference as well. And to bring in other points of view that even the people at the table may not have, because the executives in the room may all be sort of, have the same biases as a CEO. Also you don't know that in advance. One of the things that individuals and organizations often try to do to get their proposals approved is they try to pre-syndicate if you will, that decision. So they'll go and talk to the decision makers one on one, right, get them on board. So you end up with a situation where the the meeting itself there is the rubber, it's a rubber stamp, right? And sometimes the CEO has to be disciplined about this to say, “No, you cannot come to me around the process. And you know, discuss the proposal with me and get me to buy in, you have to follow the process.” Okay, so we've discussed why it's important for executives to get both sides of the story. And you also shared some techniques that leadership teams can use to open up discussions and help bust the halo bias. Can we move now on to what you call the premortem and why it's important? I'll start with the obvious question, what is a premortem? A premortem is a pretty simple idea. At the start of a project, you imagine if the project went wrong, in the end? What are the things that would have caused it? So the idea is to turn the psychology around, and to sort of put yourself into the future, and to just in a non judgmental way, sort of write, if you will, the article, or the headlines of all the reasons why the project went wrong after the fact.

Sean Brown: So it gets people thinking creatively about what went wrong.

Tim Koller: One of the real benefits is that it creates a safe way for people to think about those kinds of things, as opposed to being perceived as being critical of the project.

Dan Lovallo: It makes it sort of a positive contest for coming up with ideas about why the project failed. The assumption is the project failed. So your incentives are to come up with all the ways that it might have failed.

Sean Brown: Got it. What's the benefit of doing one?

Tim Koller: Well, the benefit clearly is that most teams and project leaders are overconfident about their success. So they tend to focus on sort of a single path, if you will, towards success of the project. And if there are individuals who are let's say, on a project team, typically they're reluctant to speak out because they don't want to be seen as being negative. Right? And so, you know, you end up with this sort of self confirming thing where everyone is sitting around and everybody wants to be excited and rah rah and positive about the project, which in some ways is a good thing. But then no one brings up the, the things that could go wrong. That's the problem that you're facing.

Sean Brown: Got it.

Dan Lovallo: You know, some of the bigger risks are easier to see than others but in particular it helps you think about the low probability risks that might really matter that you might not flesh out.

Sean Brown: Is there a particular structure or approach that one takes to doing a premortem?

Dan Lovallo: Usually these are done in, you know, half-day to day sessions, depending on the complexity of the project. First of all, it's done after the decision is made, okay? To do the project okay, it's done after the decision is made to do the project. And then you assume this project has gone as badly as it could have gone. Right?

Sean Brown: It's totally sideways.

Dan Lovallo: That's right. And now, why did it go sideways? And the purpose of that is so that you think of all the ways that it's gone sideways. And this doesn't, isn't designed to change the project from a state of we're going to do it, to we're not going to do it. It's designed to mitigate the risk factors that come in.

Tim Koller: So in other words, you can, if you can anticipate some of the things that can go wrong, you can take actions ahead of time to prevent those things from happening. Or you can be ready and prepared in case something does happen. And you're not caught off guard, because you've thought these things through ahead of time.

Sean Brown: It does seem like an interesting dynamic, though, if you wait until after the decision has been made. So why is that typically the approach to do a premortem? It changes the incentives for people. So if the project is still up in the air, right, then you're not going to get everyone competing to come up with why and why fail, you're going to still have people arguing whether they should do it or not do it? So what's the approach is it you have a headline, and then you've got all the things that went wrong? Is it written in a story form?

Dan Lovallo: I think you could do it in any of those formats. But the most basic format, is you just list the risks that you have, and then you list how you would mitigate those risks. I personally feel like this should be part of a capability of any PR department, right? To try to anticipate what future risks might come up. And so this would often involve connectivity between engineering and PR, and maybe it should be part of the engineering department to figure out when you're taking decisions years in advance what sorts of risks could happen, so that you can protect yourself against them.

Tim Koller: And they're not just things related to the cost of a project, let's say if you think about sort of, you know, the cost of building something or whatever, you know, that you want to force yourself to think about things that could go wrong from a customer perspective, or a user perspective, or a

public relations perspective, you know, are there constituents out there who will be upset about it, for example? So how do you put contingencies or do things in advance, so let me you know, let's say you are developing an oil project in Africa, and it's going to be good for the country, because of economic development, etc. But, you know, oftentimes, the optics of it may not appear the way your intentions are. So by thinking these things through and identifying all these things that can go wrong, you can save yourself a lot of grief.

Dan Lovallo: And also from a profitability perspective. So one example, where premortem would have been particularly helpful, however it wasn't run, was a company was building to pioneer process plants almost simultaneously. And pioneer process plants just means that they're using a completely new new technology. And these were very expensive plants. And, you know, if you looked at the risks through a premortem, you could say, well, what's the worst case that could happen? And it would be well, the technology fails, and we don't get anything out of the plants. And that might lead you to think "Well, one way to mitigate that is to build a pilot plant first." Now, pilot plants, a lot of people, a lot of times people don't want to build because they're expensive, and they're not built to scale to be profitable. So, you know, you look at it, almost as if you're throwing away that, you know, the money's just used to prove proof of concept, and then it's gone.

Sean Brown: It's to mitigate risk.

Dan Lovallo: That's right. That's right. And so have you looked at that with a premortem lens, you may have been more likely to do the pilot plan than not.

Sean Brown: Who do you typically involve in a premortem?

Tim Koller: Anyone who's involved in the project, because you want to encourage them to think differently, because they're more likely to know the details of what can go wrong, but probably helpful

to have, it's often helpful to have somebody there who can sort of encourage them to think in different ways. So for example, thinking of a company recently that announced a big restructuring and transformation program, that they just assumed that investors would, that would be great. And the share price went down 7%, when they made the announcement, because they didn't really think through their messaging to the investors, no one sort of said, "Okay, what's an investor looking for? If we if the company divests these businesses and receives cash for them, what's it going to do with that cash?" Right? They didn't answer that question. Didn't have an answer to that question. So investors were quite concerned, oh, you're going to solve these businesses and then you're just going to go waste the money, right?

Dan Lovallo: Let me give some 'should not's'. The 'should not's' are the CEO shouldn't run the premortem, okay. The project champion, shouldn't run the premortem. The best case scenario is probably to have someone external who doesn't have any skin in the game, okay, now, or they could be internal, but with no skin in the game, but with enough respect, and, and capability to run the session. People who listen to this podcast are hearing a lot of the different bias busters. To me, this is number one, in the sense that it's the easiest with the most value. And if you're not doing it, if your company isn't doing it, I personally think you're making a mistake, because there are plenty of place, places to think about where to apply it. And it's not a heavy burden, but it can have a really huge payoff.

Tim Koller: And I think that's an important point. It doesn't require a lot of research or analysis or number crunching even. I mean, it may, it may stimulate some extra work. But it's really just about idea generation, so that you get everything on the table, so you know what might be coming. So you can begin to think about other places, you should do some preparations ahead of time, but during the process itself of the premortem, itself is not expensive, or time consuming.

Sean Brown: Okay, let's move on to our next bias. When investing in projects, people often have a tendency to throw good money after bad to help salvage a project that may have gone awry. Can you give us an overview of what upfront contingency planning is and how it can help improve a team's investment decisions?

Dan Lovallo: Yeah, it's in flowery terms, it's binding yourself to the mast. So it's a way to avoid, say, becoming subject to the sunk cost fallacy or sirens, or sunk cost sirens. The idea is, in a financial sense, to tie yourself to the mast so that you don't follow the beautiful songs of the sirens and steer towards the rocks. Rather, you make sure that you're bound to goals that you set prior to setting out on the endeavor. And the main siren song that steers you away from your goals towards the rocks in one sense, is the sunk cost fallacy. That's the song you're singing that says, you know, we spent this much we should keep spending more. You want to avoid that if at all possible.

Sean Brown: And so by contingency planning upfront, you sort of say, these are some of the things that I think could happen and here's how I can avoid then looking back and saying I've already spent a significant sum of money on this, because now you've got a plan already in place that you created at the beginning.

Dan Lovallo: That's right. And you, you become let's say, you're the project champion. And you said, well, by the time we've spent 100 million dollars on this, we expect to be producing X number of units per day, at Y cost. And if you find yourself producing one fourth X number of units at three Y cost, then you got a lot of explaining to do. And it's at minimum, good for you to have to explain the numbers that you forecast in advance without letting it slip by senior management, and then you can make adjustments. And sometimes those adjustments will lead to further investments. And sometimes those adjustments will lead you to abandon the activity.

Tim Koller: And you got to think about how do you go about actually implementing this idea. So you do have to think about the things that are really going to make a difference. And sort of layout, okay, you know, if you know, the market is reacting a certain way in terms of our customers at a certain point in time, you know, how do we change course, for example, knowing that in advance, right? It doesn't mean necessarily that you can sort of make some modifications because if you know, if it's a year or two down the road, right, you will have learned a lot of things along the way. But it's a disciplined starting point, right, that you would only deviate from, if you had really good reasons to deviate from it. It forces you to ask the question, as well, about whether you should continue or whether you should change course.

Dan Lovallo: And Tim's made a really good point, you know, you would have a bigger problem on your hand, if you examined 20 assumptions. And what are we going to do? Then, you know, you take you pick the top three, or four, or I would say at most five, and you map that future out and decide what you would do in advance, rather than having too large a number. And this helps you explore, "What are the key assumptions we're making about technology or profitability, or costs?" All those various things, it allows you to explore those in advance.

Sean Brown: Tim, is the timeframe, something that's typically predetermined is quarterly ideal? How does it relate to the sort of nature of the project?

Tim Koller: It really does relate to the nature of the project. Software, for example, three months is often a good timeframe. If you're developing a pharmaceutical product, the timeframes are obviously going to be longer, you know, if you're building a big plant of some kinds of timeframes may be different.

Sean Brown: And so who's typically best positioned to create the contingent roadmaps?

Dan Lovallo: The person responsible for bringing them in.

Tim Koller: That person, you could always consult with people who are outside and you want to look at other situations, perhaps and learn from other circumstances. But the starting point has to be the person you know, the team or whatever that is, that is developing the project, because they're going to know best what it is. Now, that doesn't mean they shouldn't be challenged. When you present the project to whoever it is who's going to give you approval, this is something that's an integral part of that presentation. And who does that challenge, you know, will vary depending upon the nature, it could be just more senior executives, it could be some somebody who doesn't have skin in the game as it could even be, you know, we've seen situations where it was an outsider or retired executive, or, you know, engineers from a different part of the company or something like that. There's lots of different ways you can do it, the initial sort of work has to be done by the team itself, subject to the challenge of outsiders.

Dan Lovallo: So I have a slightly different view on this than Tim does, in that, with the contingent roadmap, I think it's particularly important for the team and the team's leader to commit to it, even if their incentives may be skewed. Now, clearly, they have the most information. But they may, who knows they might game the situation a little bit, they might be a little bit overly optimistic, who knows exactly what the situation is? But they're going to be the ones that are accountable for bringing in the project on time. And so they have to be fundamentally in agreement, along with their superiors, to bringing in that project along this timeline. And if they don't agree with the timeline, you've got a problem.

Sean Brown: So one related question into this is, as you think about these contingencies, how does that tie to investment decisions? You know, do you recommend that you tie stage gate investment decisions to the process as well?

Tim Koller: Yeah, the stage gating of the spending, if you will, is very closely tied to this, right. I mean, the decision points should be pretty much the same for the most part. So the idea being that at these points that you've pre identified, you not only decide what path to go forward, but that's also where you get the approval to spend the next tranche of money so that the two concepts of stage gating and contingency roadmaps sort of have to be used together.

Sean Brown: And so in other words, at the outset, you are getting a long term commitment for funding with the recognition that there are going to be checkpoints and if you don't meet the checkpoint, the funding won't be there. But if you do, it will be.

Tim Koller: Or if it you know, or you may you have a predefined change of direction, which may mean a different amount of funding or whatever. But it's not just the funding that matters. It's also what you do at that point in time, right, because it's not just about killing the project. It's also, stage gauging is often associated with just an opportunity to kill a project. Here you're dealing with sort of, you're assuming that there are different paths you can take. Once you, once you learn more, once you've gotten partway down the path, you have more information, you've seen what's successful, what's not, so you have a better sense of what course changes you have to make at that point in time.

Dan Lovallo: So like we spoke of earlier, you know, you're looking at, you know, two to four, let's say big assumptions. And one assumption might be around what the market demand is going to be. And let's say the market demand is a lot higher than you thought, well, then what we're going to do is we're really gonna ramp up right now. So it's not just about killing things at all, you know. If we find market demand is high, that means we're, you know, maybe we're going to build another plant, or maybe we're going to increase capacity at our current plant, or maybe we're going to start working more hours at the current plant? So, you know, it's more flexible tool than stage gating, but it's certainly tied directly to stage gating.

Sean Brown: Dan, thanks again.

Dan Lovallo: Always good to be here.

Sean Brown: Tim, thanks very much for joining us.

Tim Koller: Thank you, Sean.

Sean Brown: Thank you for joining us inside the strategy room. a transcript of today's podcast will be posted on McKinsey.com under the Strategy and Corporate Finance practice page, where you may also find links to our previous episodes. For more articles on this topic, we encourage

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