McKinsey&Company

Behavioral science in business: Nudging, debiasing, and managing the irrational mind

February 2018

Behavioral science has become a hot topic in companies and organizations trying to address the biases that drive day-to-day decisions and actions.

Although humans are known to be irrational, they are at least irrational in predictable ways. In this episode of the *McKinsey Podcast*, partner Julia Sperling, consultant Magdalena Smith, and consultant Anna Güntner speak with McKinsey Publishing's Tim Dickson about how companies can use behavioral science to address unconscious bias and instincts and manage the irrational mind. Employing techniques such as "nudging" and different debiasing methods, executives can change people's behavior—and have a positive effect on business—without restricting what people are able to do.

Podcast transcript

Hello and welcome to this edition of the *McKinsey Podcast* with me, Simon London. It's not new news that a lot of what drives human behavior is often unconscious and often irrational. We go back to the end of the 19th century and find Sigmund Freud trying to describe our unconscious and intervene on at least what he thought was more or less a scientific basis.

The good news is that our understanding of the unconscious mind has come a long way, grounded in decades of basic research into what drives ordinary, everyday human behavior. These are the biases, the heuristics, the rules of thumb that determine the great majority of our day-to-day decisions without us even being aware. So, yes, we can agree with Freud that we are often irrational, but as today's behavioral scientists like to say, we are predictably irrational. What can be predicted can be managed, at least to some degree.

Today's conversation is hosted by my McKinsey Publishing colleague Tim Dickson. You'll be hearing Tim in conversation with Julia Sperling, who is a neuroscientist by training and a McKinsey partner based in Frankfurt. Tim will also be speaking with Magdalena Smith, an organization and people-analytics expert based in London, and Anna Güntner, who is a consultant based in Berlin. Without further ado, over to Tim.

Tim Dickson: Julia, Magdalena, and Anna, thanks so much for being here today.

Julia Sperling: Great pleasure.

Anna Güntner: Happy to be here.

Magdalena Smith: Thank you for having us.

Tim Dickson: The study of human behavior isn't really new, and it's been widely accepted since at least Sigmund Freud that a lot of what drives human behavior is in fact unconscious. So, Julia, what's new about behavioral science, and why should executives take note?

Julia Sperling: Of course, you're right. Human psychology has been explored and used for management purposes for the past, I'd say, over 100 years already. You're also right that Freud gave us a very deep insight into the human mind and how it works. The issue had always been, though, that while Freud's insights have been very useful, they have been very hard to implement because they were so deep and hard to grasp and hard to alter.

At any point in time, over 11 million bits of information hit our brain, and it's able to filter them down to about 50…. Of course, with this enormous filtering exercise, we cannot consciously make choices all the time.

Now we have the insights that people are predictably irrational, but we also have the tools coming out of it to help alter behavior and to help guide behavior. What we use is the insight not only from behavioral sciences but also from neurosciences, most recently.

I can tell you the human brain is spectacular. At any point in time, over 11 million bits of information hit our brain, and it's able to filter them down to about 50 only. Then seven to ten of them can be kept in short-term memory. Of course, with this enormous filtering exercise that it does, we cannot consciously make choices all the time. A lot has to happen very unconsciously. And, by the way, that's a very different unconscious from the unconscious that Freud has been talking about.

Tim Dickson: So, Julia, what are the main applications of behavioral science for companies?

Julia Sperling: Well, number one, performance management. You can identify factors that actually hinder performance as well as those that foster it. Money, as we should already know, is not always the best motivator. The second piece is recruiting and succession planting. Here, machine learning has a much stronger ability to predict future success than those that have been, for example, choosing or selecting CVs in the past. And then last, cultures, be it for merger management, a general cultural change that you could see with bringing agility or more diversity to an institution, or something as targeted as introducing a safety culture, for example.

> "With nudges—subtle interventions based on insights from psychology and economics—we can influence people's behavior without restricting it."

Tim Dickson: Anna, I know you're an expert on nudging. Can you tell us exactly what nudging is and a little bit of the context for a company thinking about this?

Anna Güntner: The general idea behind nudging as well as debiasing is that people are predictably irrational. Now, with nudges—subtle interventions based on insights from psychology and economics—we can influence people's behavior without restricting it.

With a nudge, we could get people to do whatever is best for them, without prohibiting anything or imposing fines or restricting their behaviors in any other hard way. In terms of nudging, there are different applications for companies. One certainly is marketing, and marketers have been using similar approaches for a long, long period of time.

Tim Dickson: What do you say if executives are squeamish about this and worry about nudging behaviors—changing behaviors—that may potentially be used for malignant purposes and worry that they might find sensitivities among their employees?

Julia Sperling: It highly depends on what type of nudge is used and the intent with which you use it. It is much more a function of, is the behavior that you'd like to see in your company something that is in line with your company values, that is in line with what your company stands for? That's the decision executives have to make. Nudging is then merely a technique to make this behavior more likely, but it's a choice of the behavior that makes the difference.

Anna Güntner: Another area of application, in particular, is safety culture. In terms of irrational thinking, this of course is absolutely something irrational—to risk your life by not sticking to the procedures.

With behavioral science, companies are able to go away from the backward-looking approach, where after something happens, you try to understand what the reasons were and take them out, to something forward looking, where you try to not attack people's mind-sets but to change the environment in a way that becomes simpler and more intuitive for people to follow safety procedures.

One of the problems that construction companies have is that managers, once they become promoted, stop wearing the helmet, as a sign of superiority to the workers. A nudge that's implemented by some companies is that the managers get a helmet of a different color. They use the same status bias but in a different way to help people to stick to safety procedures.

Tim Dickson: Understood. So that's about unleashing particular behaviors. But sometimes you have to fight behaviors and biases. Magdalena, I know that's something that you know about, and you've seen this in action in the workplace. Can you talk about that aspect of the situation?

Magdalena Smith: As Anna mentioned, we're not always rational, and sometimes that rationality—or lack of rationality, rather—has a real impact on the decisions that we make. That can be extremely costly for organizations.

We have recently worked on an incredibly interesting project, where we worked with a global asset manager trying to identify the decision-making biases that their fund managers have and thereby also see what impact they have on the underlying performance of the funds.

We did that by using the data available in trading and looking at their behavior, looking at individual trades. In combination with this and analyzing the underlying decision-making process in more detail, we could identify which trades were less optimal than others.

Looking at those and looking at the potential improvement of those, if you reduced the effect, it really could show you the direct dollar impact that overcoming these biases had. They were significant. You're talking about 100 to 200 basis points per year for a fund manager and an extra alpha on an equity fund. That is billions for a company like this over the next three to four years.

> "If you want to have a diverse set of leaders in the future, you have to be aware of those little biases and fight them."

Julia Sperling: I have a lot of clients asking—in particular with regard to their diversity efforts—how they can minimize unconscious bias. It starts with the recruiting processes, behavioral design of how to make them function in a way that doesn't favor those—we call it a "mini me" bias—who have always been recruited to the company before and would be recruited all the time again. Because again, our human brain is biased, and we enjoy having those that remind ourselves of us around us.

If you want to replicate a homogenous leadership group again and again and again, don't intervene. But if you want to have a diverse set of leaders in the future, you have to be aware of those little biases and fight them, as we said, right at the start of your recruiting process.

In Germany, together with about 20 other companies, we work in an initiative called Chefsache that wants to bring more women into leadership positions and create gender balance. As one of the focus topics, we looked into unconscious bias within talent processes. When you look into recruiting, for example, even with the best intentions, there was what we talked about—this mini-me bias. People make choices, make biased choices, and might miss out on talent because of those.

One of the debiasing techniques that we use, for example, is that after we've seen a case and we have a team speak about what they've seen, we now never let the most senior person in the room speak first, because there's something called the "sunflower" bias, which is once the sun

speaks, the flower follows. That means that in this group, people would more likely adopt [the senior person's position], maybe even a different position from the one that they had before.

Another intervention is to combat the bias that occurs—in recruiting, for example—called groupthink. You make people fill out a statement on the candidate themselves before they enter the group discussions, because science has also shown that once a group starts adopting a certain opinion, it's very hard for the individuals that haven't spoken yet to bring in another thought or have another opinion. There we'd say, never let the most senior person in the room speak first. Make sure that everyone notes the opinion right after having seen the recruitment candidate and before sharing their opinion.

Magdalena Smith: One of the areas that is growing very fast within debiasing and within nudging is the concept of advanced analytics and machine learning. That has particularly been used, for example, when it comes to identifying talents, behaviors, and future potentials and very much used in trying to identify who the great performers are going to be in the future and where they can be found.

To follow on in your example regarding recruitment, we've seen a global service company that wanted to make the recruitment process more efficient. The way they did this was by acknowledging which type of candidate would automatically go through to a round of interviews.

This automatically put forward the top 5 percent of candidates. One of the very positive side effects of this, which wasn't actually planned, but it was fantastic, was that the number of women that were put through to the first interviews increased massively.

Tim Dickson: But technology has its own biases as well. What would you say to that?

Magdalena Smith: If we look at what machine learning is, machine learning is trying to find objective insights using data through algorithms, advanced statistical algorithms. Unfortunately, somehow those algorithms have to be programmed, and they're programmed by humans.

What you very quickly see is that assumptions come into the algorithms. You also see areas where assumptions are made in the sense that you have missing data. You have to impute numbers where you either put a value on it or an assumption that then gets amplified throughout.

Julia Sperling: That's why you can—and have to—check very carefully whether your algorithms are working. By the way, when we use them in succession planning, for example, or when we use them in recruiting even, we always advise our clients to do a look back in the past and see whether those algorithms, if they have been used already in recruiting, would have predicted the success of those in their positions right now.

Magdalena Smith: Absolutely.

Julia Sperling: Right? So, one has to reality check very carefully every algorithm one puts in place. That's one very practical example of how to do it.

Tim Dickson: Let's talk about a different area of application, for example, merger management. I think you've seen biases at work and how to counteract them in that situation, Anna.

Anna Güntner: In merger management, the challenge that a lot of mergers—we could even say every merger—faces is that you try to bring together two different cultures and two different corporate cultures and get them to function as one. In that case, there are many biases, especially the in-group out-group bias, that are at play.

But there are also tools—debiasing techniques but also nudging techniques—that can help us prime or create a new common identity. These can be very simple interventions like, for example, if you think about how to bring together new teams. What can you do to force the exchange between people who barely know each other?

Tim Dickson: Julia, you mentioned the context of performance management. Anna, I know you have an example of a counterintuitive insight from that area.

Anna Güntner: In traditional management approaches, we tend to assume that money is the biggest motivator—that if you pay your employees more, then they will work more. Now we know that money is actually the hygienic factor. You have to pay them enough, but there are different things that motivate them, like, for example, meaningful acknowledgment of the social factor and extrinsic motivation. If it's given for something that in the beginning was not for sale or if it's too low, it can even reduce intrinsic motivation, like enjoyment or self-fulfillment of work. Also, we know that so-called performance-based teams, where you are paid depending on the result of your work, are actually detrimental for creative work because it makes people think narrowly in a particular direction, whereas for creativity you need to think broadly.

"One of the insights from behavioral economics that a lot of companies are now exploring is to separate developmental feedback from evaluative feedback."

Another assumption that you would typically have is that you need to give people honest feedback. You need to tell them what they're doing well, what they're doing not so well, and how to improve it. But there is a lot of research that shows that people shut off and even try to avoid those from whom they have received such constructive feedback. One of the insights from behavioral economics that a lot of companies are now exploring is to separate developmental feedback from evaluative feedback.

Tim Dickson: Taking a step back and thinking about some of the broader challenges for CEOs and senior executives coming to this for the first time, what would you list as the key challenges?

Anna Güntner: One of the challenges is that you need to adopt the so-called evidence-management mind-set. You need to be ready to test the things that you promote, debiasing algorithms or nudging or anything else, based on large samples of data rather than doing it the

way it is usually done—in the past or even today—when a lot of intelligent people get in the room, discuss, and then come out with a decision, which is then rolled out all across the organization.

If we take the example of nudging, it's rather like running an A/B test. You have one group of people who don't get exposed to a nudge and the other group of people who get exposed to the nudge. Then you can measure the difference in behavior that hopefully occurs between these two groups and also assess the profit impact.

So that's one. Number two is that it's still not very intuitive for many companies to think in terms of behaviors. Very often, we think in terms of KPIs [key performance indicators]—for example, customer satisfaction or sales—so it takes some conscious effort to bring it down to the kind of behavior you're trying to change.

Julia Sperling: Very often, behaviors are being put into one box together with mind-sets, and core businesses are going to be put into a very different box. Putting those boxes together into one and showing how behaviors—and it's nothing but behaviors that ultimately drive an outcome in an organization—can be assessed, can be influenced, can be elicited, can be fostered, etcetera, in the same stringent way as some business processes can be new for many executives.

Magdalena Smith: I'd like to add that debiasing is hard. It's difficult. Just knowing that you have certain biases isn't sufficient. A lot of people acknowledge that biases have a massive effect on decision making but don't acknowledge first that they have biases themselves, which is a bias in its own way. That's overconfidence. Even once you've identified a certain bias, you often need some form of external help. For example, in hospitals, they use checklists in order to make sure they don't miss anything, they don't make certain assumptions about things. These are props that can help them overcome some of these biases that they may have, or assumptions they make about patients, that are helpful.

There was some very interesting research coming out of the United States last year that showed the number of mistakes that were made in hospitals between the eight years of 2000 to 2009 in taking people in for accidents and emergencies. There were hundreds and thousands of mistakes being done that they specifically put down to biases, the main one being "anchoring" and assuming that they've seen the first kind of information that comes, and they stick to that rather than explore any other problems they could have. They estimated that this had an impact of 100,000 lives a year. Being able to save another 100,000 people a year—I think that should be motivation enough to try to use these kinds of methodologies.

Julia Sperling: This is becoming a hot topic more and more. When you look at international institutions, they're not only starting to deploy those approaches on larger scales. They're even building their own behavioral-insights unit. They are actively recruiting behavioral psychologists, behavioral economists to work with them. Those units are being built as we speak.

"You need to have a deep understanding of your business and the opportunity to truly understand the precise behavior that leads to the unwanted outcomes."

Tim Dickson: Is it a question of hiring behavioral economists, or can companies generate an understanding themselves and do this themselves without the very deep academic understanding of this field?

Julia Sperling: It takes a couple of different skills. Number one, it takes a deep understanding of analytics and the ability to use data at scale; as Anna mentioned, do you compare A to B when you do nudging? You need to be able to set up these types of trials and to be able to process them properly. There is an analytical capability that you need to have and you need to build.

Number two, and this might be the even more challenging one, is you need to have a deep understanding of your business and the opportunity to truly understand the precise behavior that leads to the unwanted outcomes or the precise behavior that gives you exactly the outcome that you want. So, you need a deep understanding of your business, the way that your people are currently behaving, and the way you would need them to behave in order to fulfill the strategic and organizational goals that you have.

And then, of course number three, you need these professions that I've been talking about before. You need those that come up with a whole library—and McKinsey has one with over 150 different interventions that are linked to certain nudges that have proved to work in companies in the past. You deploy this database, then, to the precise behavior that you've identified that yields the business outcome. And you use the analytics to track the impact over time. Those are the three main capabilities that you need to build.

Tim Dickson: I'm afraid that's all we have time for. But thanks very much to Julia Sperling, Magdalena Smith, and Anna Güntner for a fascinating discussion. Thanks to you, our listeners, for joining us. To learn more about our work in behavioral science, change management, and organization more broadly, please visit us at McKinsey.com. □

Anna Güntner is a consultant in McKinsey's Berlin office, **Magdalena Smith** is a consultant in the London office, and **Julia Sperling** is a partner in the Frankfurt office. **Tim Dickson** is deputy editor in chief of the *McKinsey Quarterly*.

Copyright © 2018 McKinsey & Company. All rights reserved.