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McKinsey on Finance

Perspectives on corporate finance and strategy

Active resource reallocation

Plus, prepping assets before divestiture, best practices in M&A integration, and a useful mechanism for killing projects

Number 71, July 2019

McKinsey on Finance is a quarterly publication written by corporate-finance experts and practitioners at McKinsey & Company. This publication offers readers insights into value-creating strategies and the translation of those strategies into company performance.

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A note to readers

As you may have noticed, *McKinsey on Finance* has experienced a face-lift. We want our articles and exhibits to look and feel as modern as the ideas they seek to express. But not everything has changed: our redesigned cover and table of contents can still help you navigate the issue and find the topics of greatest interest to you. And you'll find the same practical insights about strategy and corporate finance that we've been sharing with senior business leaders since 2001—in these pages and in our extensive archive on McKinsey.com. We hope you enjoy this and future issues.

Admit it, your investments are stuck in neutral

New research shows that companies that know how to shift critical resources where and when they're needed share common traits. Rigor is the first one.

by Massimo Garbuio, Tim Koller, and Zane Williams

Studies show that companies that actively reallocate resources outperform those that don't.[1] In many companies, however, a range of obstacles—cognitive biases and inconsistent decision-making processes, for example—keep planning teams and senior executives from being as "active" as they could be. As a result, when executives are faced with opportunities outside of the traditional budgeting cycle, they can get caught flat footed.[2]

Pervasive as this problem is, it can be overcome. Our research on how companies make investment decisions (capital expenditures, marketing and sales, R&D, and the like) suggests there are tangible ways to get better at promptly reallocating resources when the need arises.

We surveyed executives in more than 500 distinct companies across a range of industries. We asked them 35 questions about their investment and decision-making practices, as well as managers' appetite for taking risks and the incentives that were present in their companies. We identified common traits in these companies, and we used cluster and regression analyses to quantify the impact of those traits on companies' performance generally and on their growth and innovation more specifically. We supplemented those data with 16 in-depth interviews with a subset of respondents.

As we looked more closely at the outperformers in our data set—or, the companies that actively reallocated resources within their portfolios—three traits kept turning up: agility, a commitment to project discipline, and a higher-than-normal tolerance for taking risks (see sidebar, "The three characteristics of active reallocators").

Follow-up conversations with the most active reallocators revealed that when it comes to organizing operations, they appear to do two things particularly well: they are simultaneously rigorous and flexible, keeping decision-making processes and project cycles in sync, and they recognize the importance of offering incentives that encourage managers to move critical resources where they're needed, when they're needed.

How to be rigorous and flexible

One of the main themes we heard from survey respondents is that having the right kinds of processes for making investment decisions is important—not just for clarifying who has the power to propose new projects but also to monitor how flexible the allocation of resources is over the course of a year or a project. Here are some of the more common processes these companies follow.

Pushing decisions down in the organization. A telecommunications-equipment manufacturer gave business units in some locations leeway in making investment decisions: they had "universal" targets for revenues and margins, same as everyone, but they also had the freedom to invest and make trade-offs as needed to hit targets at the local level. The only rule was that those additional investments needed to be signed off on by the business-unit head and the finance head. Some of the local business units used a rolling 18-month performance forecast to ease this process. The forecast allowed them to understand trade-offs and model the implications of potential actions in real time.

Minimizing the number of meetings and decision makers. Several of the executives we interviewed said they held only two or three meetings to review a project proposal and typically designated only two to four people, on average, to formally approve a project. These companies did not want to court recklessness, however, so they also implemented clear, consistently applied criteria for how projects should be evaluated. Executives know in advance what to include in their investment proposals, what metrics they should present, and how to defend their proposal to decision makers

[1] Marc de Jong, Nathan Marston, and Erik Roth, "The eight essentials of innovation," *McKinsey Quarterly*, April 2015, McKinsey.com; see also Stephen Hall, Dan Lovallo, and Reinier Musters, "How to put your money where your strategy is," *McKinsey Quarterly*, March 2012, McKinsey.com.

[2] Ronald Klingebiel and Christian Rammer, "Resource allocation strategy for innovation portfolio management," *Strategic Management Journal*, February 2014, Volume 35, Number 2, pp. 246–69; see also Andy Dong, Massimo Garbuio, and Dan Lovallo, "Generative sensing: A design perspective on the microfoundations of sensing capabilities," *California Management Review*, Summer 2016, Volume 58, Number 4, pp. 97–117.

The three characteristics of active reallocators

Our data and conversations with executives in the field reveal that the companies that actively reallocate resources tend to excel in three main areas.

Agility. Active reallocation of resources requires managers to be systematic about their pursuit of opportunities outside the traditional annual capital-budgeting cycle. This means adding to (or subtracting from) investment budgets during the year so managers can allocate extra cash to fund new projects as they arise—and so managers can accelerate the timeline or expand the scale of projects that are doing better than expected, even if this increases costs.[1]

Project discipline. The idea that a visionary CEO or CFO can decide to bet everything on some disruptive new technology is enticing, but that's not what happens in most organizations. In our experience, most of the companies that are active reallocators have specific metrics in place that everyone understands up front. They consider a range of potential outcomes or scenarios for a given project and welcome input from all organizational functions, no matter what the project is about.

Risk tolerance and incentives. Many of the companies that are active reallocators tend to establish cultures and reward systems that make it safe for employees to explore projects that may or may not be that far afield from the current business—identifying new ways of serving existing customers, for instance, or new customers and new geographies. They provide training and well-defined career paths for project managers. And the rewards for substantial successes include both financial incentives and job promotions.

[1] Another survey of more than 2,000 executives found that a large proportion of strategic decisions takes place outside the annual planning process, either because the decisions are prompted by external factors or because there is no formal annual process. See "How companies make good decisions: McKinsey Global Survey results," January 2009, McKinsey.com.

without a ton of unnecessary back-and-forth. One oil and gas company wanted to minimize politics in its decision making, so it does not allow business-unit heads in the room when allocations are made. Written proposals are submitted, and only the CEO, CFO, and head of technology meet to review requirements and decide on resource allocation.

Encouraging cross-functional collaboration. One consumer-products company made sure that marketing and design executives were primary contributors to resource-related decisions, alongside business-development, finance, and other leaders. The senior team understood that marketing and design leaders' perspectives (at both the early and end stages of product development) were just as critical as any others' for understanding how business strategy could be affected if resources were pulled from, say, a solid but stagnant product line and shifted to newer, emerging initiatives. By positioning marketing and design executives as part owners of the proposal rather than just reviewers or evaluators, the company was able to identify and handle issues early in the process, eliminating errors or the need for rework.

Setting clear strategic goals. Project teams need to understand the boundaries within which smaller decisions can be made more rapidly. Executives in a hospital chain, for instance, maintain demand forecasts for medical services offered in the different locations in which it operates. The company uses these forecasts to identify potential areas for expansion. Its finance function also maintains a 15-year cash-flow forecast, so the company can readily determine how many projects it can fund at any given time. These two forecasts have enabled the company to respond quickly when opportunities arise. When it was offered a potential site for a hospital—a commercial office building by a distressed seller—executives knew in less than a day that they had the funding and that the location was a desirable one for the company. This accelerated the subsequent due-diligence process, as the COO and CFO jointly prepared proposals that were quickly reviewed and approved by the board.

Prototyping new ideas. Several respondents mentioned the importance of casting a wide net for ideas and frequently testing new concepts with customers. Some even require project sponsors to submit variations of a project idea (a different size or scope, for instance) alongside original proposals. Executives at one telecommunications-equipment company routinely assign technical and sales staffers to work at customer sites for long periods, so they can better understand customers' needs and share with the home office real-time observations about what's working and what isn't. Using this information, the home office has been able to identify emerging trends sooner than competitors did. Over time, the company has been able to significantly increase the number of new systems it is designing and selling.

Removing budget anchors. To avoid rubber-stamping the same allocations year after year, one large luxury-goods company instituted a reanchoring procedure. It defined a fact-based set of performance criteria without noting the prior year's budget. The criteria included market size, potential market-share growth, and sales-force head count relative to competitors. Using those criteria, the company built a predictive model to answer the question, "If you did not know what your sales targets were this year and were relying only on the criteria you defined, what would be the targets for next year?" It then positioned that model as a new anchor—using the results not to make decisions but to challenge status quo investments. This new process changed the dynamics of the budgeting discussions: the team was encouraged to ask "why?" about every line item, instead of "why not?"

Considering budgets to be rolling, not fixed. Many of the executives we spoke with said they consider the annual budgeting cycle to be too slow; instead they add spending to the capital budget throughout the year, so they can act quickly when markets shift. When executives at one advertising agency were presented with a new market opportunity, they were encouraged to pursue it even though it would lower the company's margin for the current year. Instead of being penalized, the team was simply asked to revise its revenue and margin forecasts as the project progressed. This process allowed the ad agency to adapt to technology changes in the market more rapidly than peers did.

Killing underperforming projects. Several of the managers we interviewed cited the need to set

Many executives we spoke with said they regard the annual budgeting cycle as too slow; they add spending to the capital budget throughout the year.

the ground rules for early termination and reported the use of contingent road maps and other tools and approaches to achieve this goal. Managers agree up front on specific project milestones and specific metrics for evaluating progress—for instance, did it meet thresholds for growth or profitability? When such targets aren't met, they wind down projects quickly and reallocate resources to more promising ones. In these companies, the burden of proof is on the business units to prove that a project should continue rather than just assume that it should.

Establishing the right incentives

Having the right kinds of processes for investment decision making is important, but our experience suggests they will fail if companies' incentive structures do not reward risk taking. Ideas will suffocate on the front line before they can even be considered.

Many of the executives we interviewed said they use financial and noncompensation incentives to make it safer for employees to support potentially risky investment decisions. Having a good balance of both is critical: one hospital chain was installing a new electronic-medical-records (EMR) system. Senior leaders said employees' bonuses and other longer-term performance-based compensation would be tied to this particular project's success, not the company's success. And the technology partner in the project agreed to send out interim status reports to the hospital CEO and other senior executives, assigning letter grades to various stages of the implementation and calling out specific roadblocks and challenges for the project. The financial incentives and performance-tracking mechanisms were clear. The idea was to make team members feel fully accountable for keeping the project on track—not an insignificant matter for an initiative that was likely to cost $1 billion over ten years.

However, the lack of nonfinancial incentives associated with this initiative eventually proved to be problematic. The roles on the EMR implementation team for IT and medical professionals were designated as temporary, and those that moved to the project team had their old jobs backfilled. It was unclear what career path they would return to after the project. As a result, many of the more experienced and skilled IT staff avoided working on the project, leaving the implementation team shorthanded in certain skill areas.

Some of the managers we spoke with also cited the importance of establishing incentives to take risks and innovate. One software company convenes a committee of midlevel executives each year from different parts of the organization—managers charged with gathering ideas for new products and features. The committee members pool, refine, and share the ideas with a group of senior executives who further refine them and develop proposals. The proposals are then sent to the executive committee for debate and approval. Once the process is complete, successful ideas are sent back to the business units for execution—essentially completing the circle.

Executives need to see and fund the most promising investment opportunities at any time, no matter where in the organization they originate. The best practices shared here can help them do just that. With the right processes and incentives in place, managers at all levels will be better positioned to feed senior executives the innovative ideas and proposals needed to fundamentally transform their organizations as technologies and market trends change.

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The authors wish to thank Dan Lovallo for his contributions to this article.

A case for restructuring before spin-off

Making big operational changes before spinning off assets can be daunting, but our research indicates that doing so can dramatically improve the odds of deal success.

by Obi Ezekoye and Anthony Luu

The goal of most executives leading large spin-offs is to establish two (or more) successful and focused companies instead of just selling off noncore assets. Such transactions represent opportunities to create more value for shareholders. Since eBay spun off PayPal in 2015, for instance, PayPal has become one of the largest payments companies in the world and has been able to grow its base of active users, potentially exceeding 300 million accounts by the end of 2019—up from 169 million active accounts in 2015.[1]

But as many managers can attest, such transactions are always highly disruptive. Management teams on both sides of the deal must address all stakeholders' concerns—assuaging employees, customers, suppliers, and regulators—while protecting their base businesses and managing the market's perceptions of their companies. What's more, performance in such deals varies widely, especially in larger, more complex transactions.

Because the process is so daunting, managers are often reluctant to make improvements to business units or other assets ahead of spin-off. Better to wait until the deal closes, they think, and then focus on making any big changes. Our research suggests just the opposite is true: companies that undertake significant restructuring prior to spin-off tend to outperform those that don't.

Exploring the differences

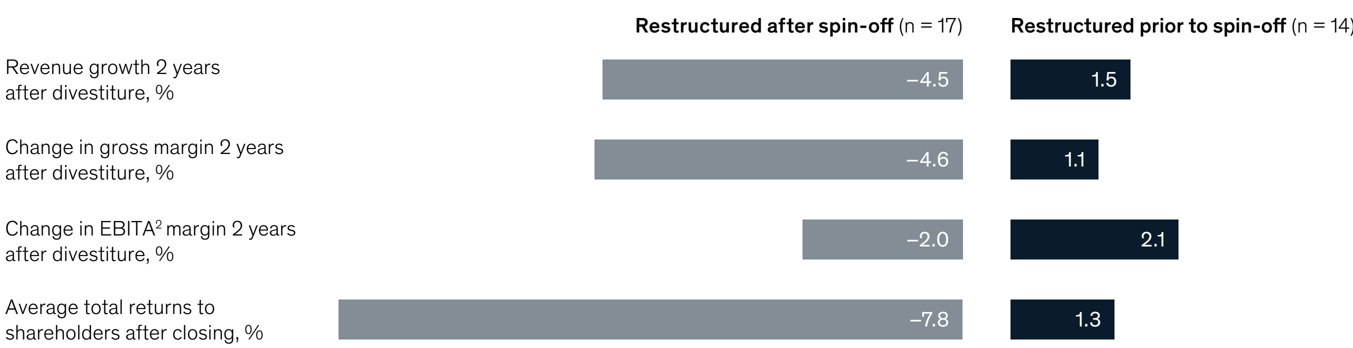
We examined spin-offs with a value greater than $10 billion that occurred between 2008 and 2017, in a range of industries. Specifically, we looked at the restructuring charges the companies in these deals incurred two years prior to separation all the way up to two years after separation.

The sample size is small but still instructive. The companies that had higher restructuring charges in the eight quarters *prior* to divestiture tended to produce greater total returns to shareholders than did those companies that invested more in restructuring *after* separation.[2] The companies that restructured prior to close also outperformed those that did not in terms of revenue growth, gross-margin change, and EBITA[3]-margin improvement in the two years leading up to the spin-off (exhibit).

Exhibit

Companies that restructure business units or assets prior to spin-off outperform those that do not.

Performance after spin-off[1]



[1] Large divestitures with value >$10 billion in 2008–17.
[2] Earnings before interest, taxes, and amortization.

Source: Expert interviews; McKinsey analysis

[1] Matthew Cochrane, "The complete PayPal stock history," Motley Fool, April 29, 2019, fool.com.
[2] We looked at returns produced by both the parent company and the spin-off when assessing performance.
[3] Earnings before income, taxes, and amortization.

The numbers suggest that the companies that restructured prior to separation were able to build and sustain momentum for transformation within both the parent company and the spin-off once the deal closed. By contrast, the companies that did not restructure ahead of separation were likely bogged down by the need to manage stranded costs and misaligned strategies, creating an overall drag on business performance in both the parent company and the spin-off.

Lessons learned

These findings and our experiences in the field point to a few lessons for companies seeking maximum value from spin-offs:

— *Activate the new business strategy as soon as possible.* Spin-offs and separations can create significant value that accrues to the bottom line, but only if companies emphasize strategic and operational improvements at the outset. Timing is everything. For example, a diversified industrial company spun off one of its commodity businesses. Well before close, the executive team in the divested business unit began operating with a leaner mind-set—for instance, reducing its general and administrative expenses, moving toward a flatter organizational structure, and improving its management of working capital. By the time the deal had closed, the divested unit was ready to stand on its own and was already realizing positive earnings.

— *Don't forget about the long-term implications of short-term decisions.* It's true that speedy separations create more value than do those that lumber along.[4] However, in the rush to separate quickly, companies can create orphaned entities and inefficient systems and processes, which can lead to extra costs. That was the case at one pharmaceutical company. It created unnecessary and redundant legal entities to house the assets being divested: senior leaders thought doing so would allow the company to close the deal more quickly. However, the way the deal was structured forced the company to take on extra IT, legal, financial-reporting, and other costs, which proved to be a huge drag on the pharma company's postclose earnings and on its ability to launch its new strategy.

— *Identify and manage leveraged costs ahead of separating.* Corporate functions need to be managed in a way that sets up both the parent company and the divested entity for success. Before finalizing organizational structures, management teams from both the parent company and the divested business unit should perform rigorous benchmarking of their cost structures, looking at operating models used by "target" peers rather than the parent company's peers. While time consuming, this exercise can uncover areas of inefficiency and highlight new ways of working. In a large industrial spin-off, for instance, senior management boldly announced cost targets associated with the separation and, to help meet those targets, implemented significant changes to back-office functions at both the divested company and the parent company ahead of separation. The spin-off became the catalyst for increased productivity in both organizations.

Our research cuts through the complexities of deal making to reveal one critical point: forward-thinking business leaders can achieve outsize performance from their divestitures, spin-offs, and separations simply by considering opportunities for improvement before deals close and then acting on them.

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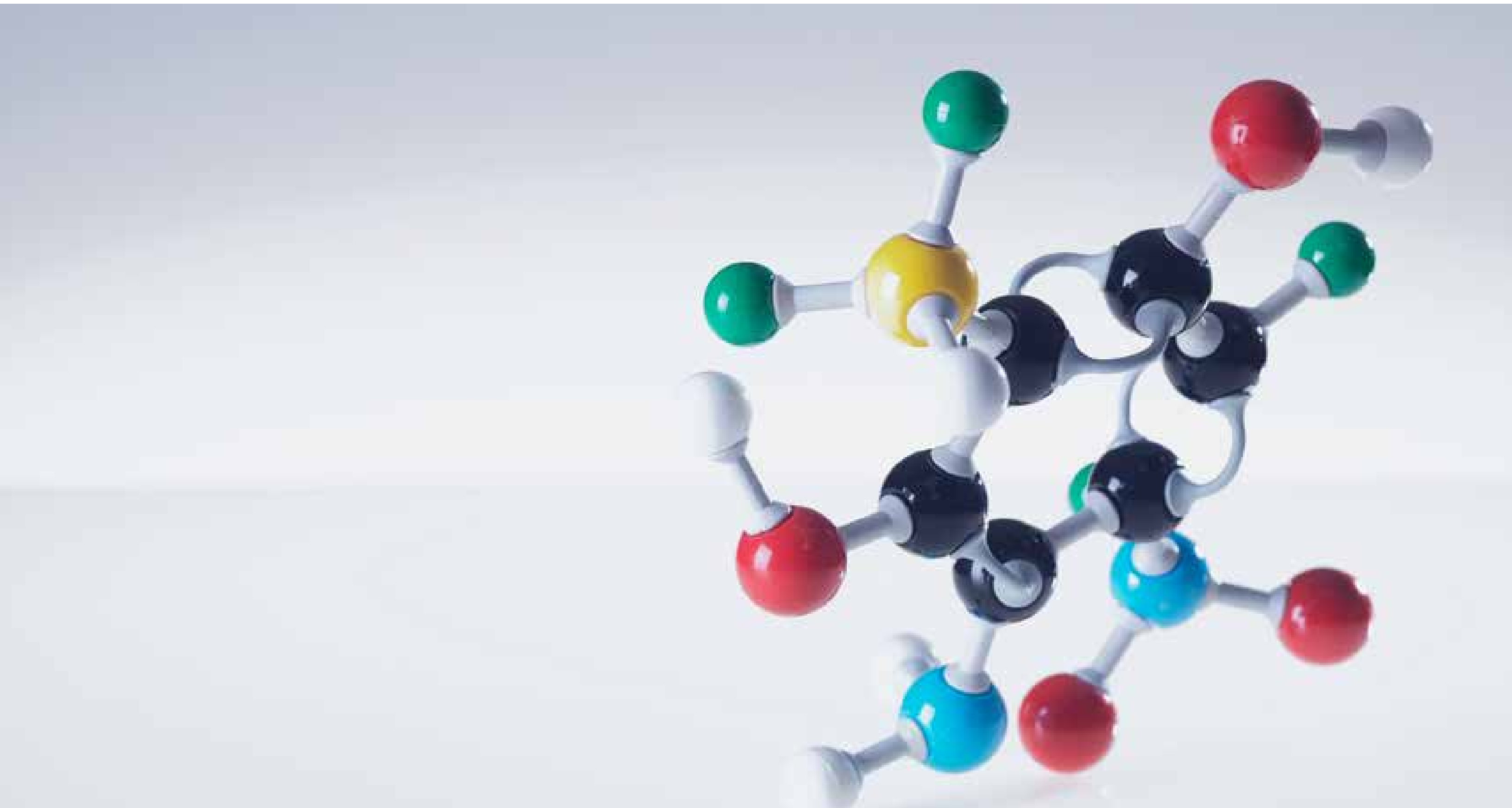
The authors wish to thank Tim Koller, Kristin Meyer, and Tim Wywoda for their contributions to this article.

[4] Obi Ezekoye and Jannick Thomsen, "Going, going, gone: A quicker way to divest assets," August 2018, McKinsey.com.

Compound growth at MilliporeSigma

CEO Udit Batra describes what it took to fuse two vibrant R&D organizations—and the business value realized from their integration.



Expectations may have been tempered when Merck KGaA, Darmstadt, Germany, a 350-year-old global pharmaceutical and chemical company, and its EMD Millipore division acquired Sigma-Aldrich in 2015 for $17 billion. After all, the business landscape is littered with the remains of "transformational" deals that fail to deliver.

Not so, in this case. Four years after the deal closing, the merged entity, MilliporeSigma, as it is known in Canada and the United States, has established its place as a leader in the life-science-tool market. The parent company gained the critical e-commerce capabilities and geographic reach it needed to grow, and the merged entity is now reaching more customers than ever.

In this conversation with McKinsey's Roberta Fusaro, MilliporeSigma CEO Udit Batra describes the strategy that motivated the deal, the customer-centric focus that animated the integration process, and the ways in which he and his colleagues approached myriad operational, organizational, and cultural challenges.

McKinsey: *Let's start by helping readers understand MilliporeSigma's business. What products do you provide to customers?*

Udit Batra: We have a portfolio of more than 300,000 products that we market to researchers, regulated laboratories, and manufacturers. We sell filters, pipettes, high-grade research chemicals: essentially, all the products you'd need in a lab to conduct experiments. We also offer what we call "process solutions": the devices, systems, and compounds required in manufacturing environments to make and then purify small molecules and biologics that then become drugs. These range from bioreactor systems to chromatography equipment to filtration equipment to needles and filling equipment. The third part of our business is applied solutions, which is a mix of both segments.

McKinsey: *How has your industry been changing?*

Udit Batra: Technology is dramatically changing the way drugs are discovered and developed. Take toxicology testing as an example. Traditionally, discovery teams have spent roughly $300 million to $400 million on toxicology studies before a drug gets into early-stage clinical studies. Now we have technologies where you can do screenings in in vitro settings with genetically modified cell lines that often mimic what's happening in the human body—in many cases, better than rodent or primate models. Imagine the amount of savings you could generate and how much you could speed up drug discovery and development if you were to substitute toxicology studies on animals with in vitro tests.

McKinsey: *What other big changes are under way, beyond technology?*

Udit Batra: Researchers' expectations have also changed. In the old days, scientists would order the compounds, equipment, and any materials they needed over the phone or through a catalog. They'd get their order probably five or ten days later. Now researchers expect the same fast service and delivery they receive when they order retail products from online sites like Amazon: with a deep and easily searchable list of product categories and delivery 24 to 48 hours from the time they initially thought of the experiment.

Finally, you don't have this dichotomy of emerging and developed life-science markets as much as you used to. There's a lot of global learning taking place. For instance, many CDMOs [contract development and manufacturing organizations] and CMOs [contract manufacturing organizations] are using our products in China, much more so than in the developed world. So we're learning how technology is developing in China and adapting that and bringing it back to developed markets.

McKinsey: *What was the strategic rationale for the merger between EMD Millipore and Sigma-Aldrich?*

Udit Batra: The previous chairman of EMD Millipore and leaders in the Merck family saw the impact of emerging technologies, connectivity, and globalization in the marketplace, and they wanted to establish a successful scale player in the life-science-tool industry. EMD Millipore was already strong in the process-solutions segment, with a broad portfolio of products to serve

Udit Batra

Vital statistics
Born January 7, 1971,
in New Delhi, India

Married, with 2 children

Education
Holds a PhD in chemical engineering from Princeton University and a BS in chemical engineering from the University of Delaware

Career highlights
MilliporeSigma
(2014–present)
CEO, life science

Merck KGaA, Darmstadt, Germany
(2011–14)
CEO, consumer health

Novartis Vaccines and Diagnostics
(2009–11)
Head, global public health and market access

(2008–09)
CEO and country president, Australia and New Zealand

(2006–08)
Head, corporate strategy

Johnson & Johnson
(2004–05)
Global brand director, wound care

Fast facts
Board member, Greater Boston Chamber of Commerce and Massachusetts Biotechnology Council

Vice chairman, Massachusetts High Technology Council

Advisory-council member, University of Delaware and Princeton University departments of chemical engineering

early-stage biotech customers. We had also built up expertise in regulatory and quality-control domains, both of which are key success factors in the process-solutions space.

The story was quite different in the research-solutions space, however. To succeed there, you needed a wide portfolio of small lab products, as we had, but our portfolio was not broad enough to include certain chemicals and reagents. You also needed to be able to share this portfolio with customers in a very simple way. Think of going to a retail store: if products are not well organized on the shelves, how will you find what you need? Here, we saw ourselves falling short.

Sigma-Aldrich's e-commerce platform gave us a simple interface with customers. We wanted to provide customers—especially small biotech companies that are often able to do experiments but not scale them up—with a one-stop shop. EMD Millipore could sell you what you needed to purify a protein; Sigma-Aldrich had the cell-culture media you needed to actually make the protein. We wanted upstream and downstream processing to come together with this integration. We could load legacy

EMD Millipore products on SigmaAldrich.com to make more than 1.6 million SKUs available to customers. Finally, we wanted to expand our presence in North America—where Sigma-Aldrich already had a toehold in research and applied solutions—and build on EMD Millipore's existing reach in Europe and Asia.

McKinsey: *What was the state of play when you arrived at EMD Millipore?*

Udit Batra: When I joined EMD Millipore as CEO in 2014, I didn't know about the proposed deal. At that time, it wasn't absolutely clear which approach would be best: organic or inorganic growth. The chairman and family said, "Here's what we're thinking: go explore, come back in six weeks, and tell us what you think." I got together with my team, and we considered the options. We estimated that if EMD Millipore went it alone, it would take five to ten years to get into the research-solutions market. We'd need to build an e-commerce platform and set up an organization that could manage all this complexity. Acquiring Sigma-Aldrich could accelerate everything. We proposed it to senior leadership after the six-week exploration period. Six weeks after that, in July 2014, we developed the financial case and presented it to the Merck family. In September 2014, we announced the acquisition.

Senior leaders use a specially designed learning map to guide employees through all the phases of integration.

McKinsey: *The relative speed of that decision seems counterintuitive when you think about this being a 350-year-old company.*

Udit Batra: I had been told when I joined the company, "Well, we're very fast." I responded, "Right. There are four different boards in the company where you have to present quarterly results. How can we be that fast?" But being more than 70 percent family owned puts the company in a unique position. I'll give you an example. There was a point when a very small group of us were negotiating the final deal. We had gone to the limit that had been approved by our board as a premium, and the other side was asking us to go higher. Our chairman went into another room, picked up the phone, and got permission from the head of the Merck family to increase the premium just a little bit; waiting for another board meeting, another month, maybe even another quarter to get the permission we needed could have delayed the momentum we already had in the deal. Instead, we were able to get to terms quickly.

McKinsey: *How did you go about bringing these two companies and cultures together? What were your first steps?*

Udit Batra: We started by explicitly defining what needed to happen in the period between when the deal was announced, in September 2014, to when it would close, which turned out to be November 2015. Rakesh Sachdev, the CEO of Sigma-Aldrich, and I had to balance our respective teams' enthusiasm for the change with the need to keep them doing their day jobs. There were a lot of good ideas coming from both sides. We heard a lot of "we could do this together, we could do that together." But we had to follow a careful process because we didn't have regulatory approvals yet. And during this interim period, we wanted to ensure that teams remained focused on existing customers. We convened a small planning team comprising leaders from both organizations to build a fact base on the joint portfolio, the financials, the organization, the customers—everything. This team worked independently; the process was kept entirely separate from the existing management and existing operations so as not to disrupt what was already working.

“Central to everything was a relentless focus on the customers.”

McKinsey: *What regulatory challenges did you face during this period?*

Udit Batra: We got conditional approval from the European Commission in June 2015, with the recommendation to divest some assets. We had already received the go-ahead from the US, China, and Brazil, so this requirement to divest could have been a big distraction, but we remained focused on the deal with Sigma-Aldrich. The negotiations around the divestiture took a lot of time and energy: 14 months, to be exact. I remember at the time feeling like I was doing three distinct jobs—integration planning, managing EMD Millipore, managing the divestiture—each with its own distinct set of concerns.

McKinsey: *How did you organize and govern the merged company?*

Udit Batra: We established several core teams. My team, the life-science executive team, would meet monthly to make decisions on administrative topics. We also set up several oversight committees. One focused on identifying, monitoring, and managing innovation efforts across the merged organization. Another committee focused on operations—for instance, ensuring that we were managing our joint supply chain properly and harmonizing processes. These committees were created specifically for the integration, but we’ve maintained the ones that still make sense in the postintegration world—like supply chain.

We set it up so that most of our functions and systems radiated out from our parent company. That included HR systems, compensation systems, procurement systems—the only exception was IT. One of the biggest value drivers for the deal was the e-commerce platform. EMD Millipore did not have a great e-commerce platform, so we did not know what “great” looked like. We thought it best to let the Sigma-Aldrich team do what it was already doing best while we observed, so we kept the e-commerce, digital, and even IT-infrastructure teams separate at the beginning.

McKinsey: *How did you track your progress?*

Udit Batra: We established something we called the “integration-steering committee” to make sure that integration efforts writ large were being managed and examined day in and day out and that we were on target with our goals. It included me, our CFO, and the CEO of Sigma-Aldrich.

Central to everything was a relentless focus on the customers. To that end, we created a war room, where we monitored things like order-fill rates, delivery rates, customer-satisfaction scores, and other detailed customer-oriented metrics. Looking at revenue synergies, we wanted to put all EMD Millipore products on to the Sigma-Aldrich e-commerce platform, and we wanted to make sure customers in Asia and Latin America had quick and easy access to Sigma-Aldrich products. On the cost side, we set detailed spending targets that were cascaded down into the organization, and we looked at them every month. We made sure to share as much information as we could with employees; transparency was crucial to the integration.

McKinsey: *How did you manage the integration of talent?*

Udit Batra: We were worried about losing critical skills and institutional knowledge, particularly in IT and e-commerce; we felt like we didn’t have enough expertise in this area to make critical staffing decisions. This is partly why we kept IT and digital functions separate. We were quite deliberate about giving them freedom, letting them maintain their culture, and observing what worked and what didn't. In the end, that proved to be the right approach.

We also knew that in any such integration, we would lose the top layer—because you can't have two CEOs, two CFOs, and so on. In this case, many of the Sigma-Aldrich executives took on different roles in the merged company. Initially, there were two integration heads, one from Sigma-Aldrich and one from EMD Millipore. After closing, there was only one. At the next level, on my team, we spent a lot of time considering how and where to place people. Everyone was evaluated based on merit and fit for available positions. I would say we had about a 50-50 split between EMD Millipore and Sigma-Aldrich people on my team, and over time, the best of the best have thrived. At the research level, if you're a scientist, you're less concerned about bureaucratic processes and more concerned about having the freedom to pursue experiments. So from the scientists' perspective, things in the lab weren't changing that much.

McKinsey: *Was there an overarching philosophy behind everything, something you could articulate to employees?*

Udit Batra: The overarching principle in all this was to simplify. We used an approach we call "logic and love." This was our language for change management. It refers to the balance we try to achieve between the hard aspects of transformation—like defining a clear strategy, metrics, and governance—and softer aspects, like encouraging brand unity and a sense of passion and purpose in our work. We reiterated to all involved that our purpose was to solve the toughest problems in life science in collaboration with the global scientific community. We were already working in a dynamic culture, full of curiosity, and we wanted our strategy, our brand, and our talent to reflect that. We didn't want employees at Sigma-Aldrich perceiving us as the big company in Germany coming in and imposing our processes.

The merger sparked the creation of incubator-type businesses called "promise ventures."

McKinsey: *Can you share examples of any tensions that emerged during the integration and how you alleviated them?*

Udit Batra: Well, when you acquire a publicly traded company, the center of its universe is wherever its headquarters is. St. Louis was the center of the world for Sigma-Aldrich, and suddenly, all decisions were being made in either Boston or Germany. We had to combat that perception directly. From the time I was announced as life-science CEO, I was going back and forth to St. Louis every week. Eventually I was going every two weeks, and now I go once a quarter or even twice a year. And it wasn't just me: members of my team visited with employees at more than 20 different sites within a 72-hour period just before the deal closed. We wanted to make sure that people understood that decisions were not being made in a vacuum.

There was tension initially with our IT organizations and the need to reconcile technology systems. This function had traditionally resided at our headquarters in Germany. But now there were two

IT departments, and both wanted to showcase and maintain their own best practices. Keeping them separate initially helped to diffuse the tension, or at least it bought some time to take inventory of systems and capabilities and how those supported our new strategy. In all decisions, we followed the principle of first among equals—whoever had the better idea, the better system, the better process won the day. To that end, we convened working groups drawn from both IT organizations and from other functional groups in both companies to identify particular infrastructure requirements and issues. And by the middle of 2017, we were able to combine teams and address many of those pain points.

McKinsey: *How do you think the integration looked through the eyes of your customers?*

Udit Batra: We waited to bring the sales forces together until the end because we wanted to get ourselves organized internally before doing anything to alter customer interactions or perceptions. We acknowledged that we would have a bit more head count for a while, but we deemed it a priority and found ways to cut costs in other areas. We said, "The focus has to be on preserving sales and customer service." We really didn't want to experience a decrease in either area. For the most part, customer-satisfaction scores showed that people were staying with us throughout the transformation.

It all starts with the top line, which sounds rather straightforward, but to get it done, you really need to make sure the processes are right. For instance, Sigma-Aldrich had a state-of-the-art e-commerce and distribution system. It used automation and had established centers that were shipping 15,000 to 20,000 small packages every day. EMD Millipore had built a system designed for shipping large products, like bioreactors and mixers, but had less success managing small products with fast turnarounds. We had to marry all these discrete EMD Millipore products to Sigma-Aldrich's systems. As I mentioned, we established a war room, where our head of supply chain was monitoring performance numbers daily and then sharing them with me at least once a week. In the case of distribution, for instance, fill rates became very important. How fast can a product be shipped once it's ordered? If a product or category of products could be shipped within 24 to 48 hours, it received a "1" score, and if not, it received a "0" score. Then we took a weighted average to calculate fill rates. Before the acquisition, EMD Millipore had achieved fill rates of roughly 80 percent. Sigma-Aldrich was getting to the 90 percent mark. After the acquisition, the fill rate for the combined entity was at 95 percent.

McKinsey: *It's been four years since the integration was finalized. What does MilliporeSigma look like today?*

Udit Batra: We've essentially outpaced the market in terms of sales growth since we announced the deal. We are gradually realigning all our SKUs into just a handful of umbrella brands and providing simpler ways for customers to interact with MilliporeSigma. Our margins are now 400 to 500 basis points higher than the next competitor, and our innovation intensity is now twice what it was when we started this process. In 2014, roughly 2 percent of our sales were driven by innovation of products launched in the previous five years. Today, that number is slightly shy of 5 percent.

We've reorganized ourselves to emphasize this innovation. Two years ago, we formed three "promise ventures," which are small, incubator-type businesses within MilliporeSigma. One is focused on gene editing and cell therapy, which are both hot areas in life science right now. The second promise venture is focused on building and selling end-to-end processing solutions for small biotech companies. We started off with three customers that wanted us to help them make their first processes to get their drugs into the clinic; within a year and a half, we grew to about 15 customers, and we've established dedicated sites in Boston, France, and Shanghai to deal with the demand for these services. And the third promise venture is focused on digitizing the lab. It involves developing a platform where scientists can get data from their instruments, manage the inventory in the lab, and do it all remotely. It's kind of like the thermostat-monitoring technology you have in your house but for the lab.

Each promise venture has its own P&L and is led by its own CEO. They've been successful enough that we are now thinking about what the next promise ventures should be. Fifty percent of our capital expenditures go into these growth drivers.

McKinsey: *What advice would you offer to other companies that are undergoing integration or transforming themselves through M&A?*

Udit Batra: First, you must spend time listening and learning. And it doesn't have to be for an inordinately long time, but you need to get a comprehensive understanding of the situation. You can conduct deep, fact-based analyses; or you can read through analysts' reports or other literature; or you can just talk to people, colleagues. Probably, it's best to do all of those things.

Second, you must be the "simplifier in chief." Provide tools and processes people can use to guide them through the integration. We used learning maps, for instance, and introduced problem-solving frameworks to help focus the organization and remove some of the fear of change.

Third, focus on the top line before you focus on costs. It can be tempting to quickly go after cost targets, but you run the risk of losing sight of what had made these companies so successful in the past.

Finally, build a personal connection to the culture. As a leader, you need to present a fact-based case for change, but you also need to appeal to employees' desires to feel included in decision making and to be part of something bigger than themselves. When you walk around, people will know if you're interested in the products or the company mission or not. You cannot fake it.

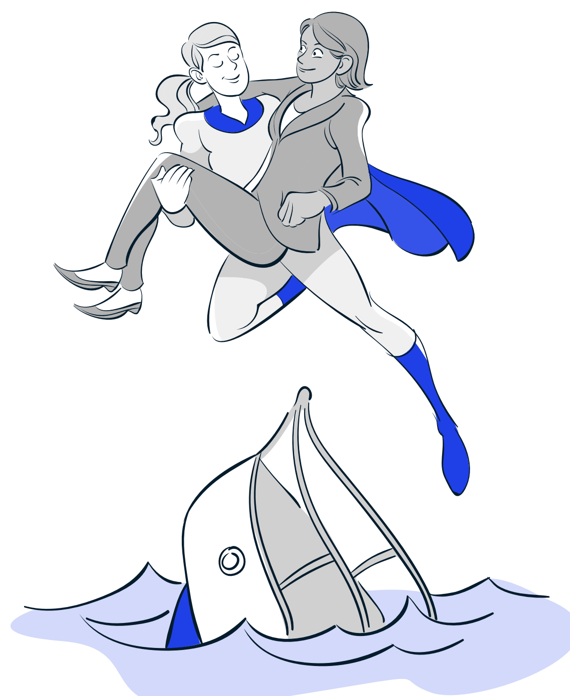
Udit Batra is the CEO of MilliporeSigma. This interview was conducted by **Roberta Fusaro**, a member of McKinsey Publishing based at McKinsey's North America Knowledge Center.

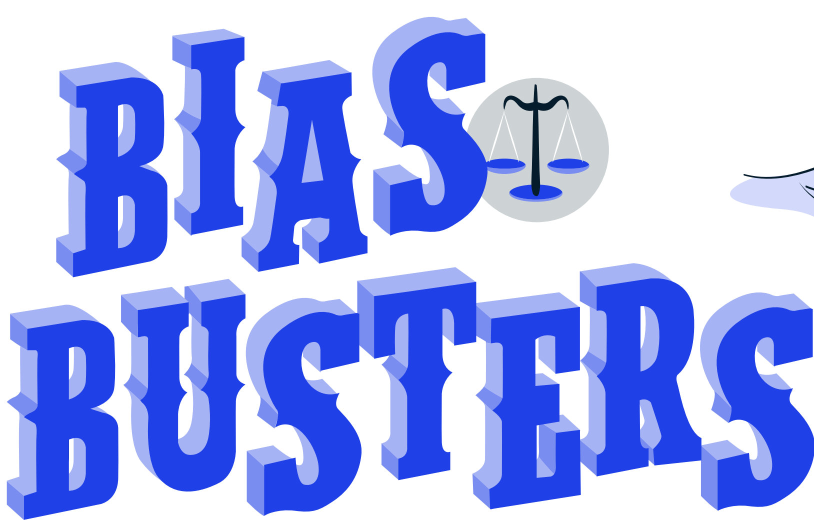
Despite their best intentions, executives fall prey to cognitive and organizational biases that get in the way of good decision making. In this series, we highlight some of them and offer a few effective ways to address them.

Our topic this time?

Knowing when to kill a project

by J. André de Barros Teixeira, Tim Koller, and Dan Lovallo





The dilemma

In the past six months, the product-development group in your company has generated a dozen concepts that would breathe new life into existing brands—for instance, foaming variations of the company's established line of bar soaps. In fact, the team is coming up with more promising ideas than there is funding to support them. These would be small investments relative to the rest of the company's overall R&D expenditures, but altogether they would account for a significant percentage of the limited resources tabbed for product development. As the head of R&D, you're keen on encouraging this sort of enthusiasm for innovation and letting a thousand flowers bloom, but how do you sort the weeds from the seeds?

The research

Multiple studies have indicated the degree to which business leaders are loath to kill projects. One such study developed by IESE Business School professor Luis Huete found that companies and individuals that have had a track record of success have a harder time killing projects because they carry with them an ingrained belief that they can turn everything into gold, so long as everyone works hard enough.[1] Managers under these circumstances attribute more credit to the person making or supporting an investment proposal than to the merits of the proposal itself. Compounding this belief is the *sunk-cost fallacy*, in which managers who are assessing projects lend more weight to the costs they've already incurred from an initiative rather than the costs to come. Not wanting to see past efforts go to waste, they put their pruning shears away and let projects grow indefinitely.

The remedy

One global producer of baking ingredients, oils and spreads, and other types of food designated a full-time "project killer"—someone with deep knowledge of both food technology and the business aspects of the industry—to rein in project creep.

Researchers at the food company were motivated to find the next "home run" product. But over time, the number of R&D investments was disproportionate to the value being generated from them. The project killer sits within the R&D team at the company but loosely reports to different functions within the business. He maintains a database of all active projects, noting areas of repeated inefficiency, or lack of success, or lack of opportunity. Using these data, he builds a dispassionate case for why a project should continue (under changed circumstances) or be killed. The project killer's review of the database considers the costs and benefits

As the head of R&D, you're keen on encouraging enthusiasm for innovation and letting a thousand flowers bloom, but how do you sort the weeds from the seeds?

[1] For more on Luis Huete's work, see www.iese.edu/es/claustro-investigacion/claustro/luis-maria-huete/.

of *all* projects in play, not just individual initiatives, and this happens on a rolling basis, not as part of a meeting or event. As such, there are few formal opportunities for project ombudsmen to repitch failing initiatives.

In the three years since it designated a project killer, the food company has been able to cull its portfolio—from more than 560 projects to just over 200. And the effect on profitability has been overwhelmingly positive.

The project-killer role is a better fit in some scenarios than in others—useful in fast-moving consumer-goods companies, for instance, but not necessarily in the film industry or in oil and gas companies, where production lead times are very long. Still, the theory behind this approach—mandating objectivity—is worth noting, regardless of company or sector. Companies absolutely need to invest in new ideas. They must be entrepreneurial and imaginative. But they also need to adopt mechanisms that take some of the emotion out of their resource-allocation decisions.

Tim Koller (Tim_Koller@McKinsey.com) is a partner in McKinsey's Stamford office; **Dan Lovallo,** a senior adviser to McKinsey, is a professor of business strategy at the University of Sydney; and **J. André de Barros Teixeira,** a former executive at Coca-Cola, Campbell Soup, and Goodman Fielder, is a professor of innovation at Antwerp Management School.

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Obi Ezekoye and Andy West

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July 2019
Designed by Global Editorial Services

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Printed in the United States of America.