

MOST INNOVATIVE COMPANIES 2021

Overcoming the Innovation Readiness Gap

April 2021

BCG

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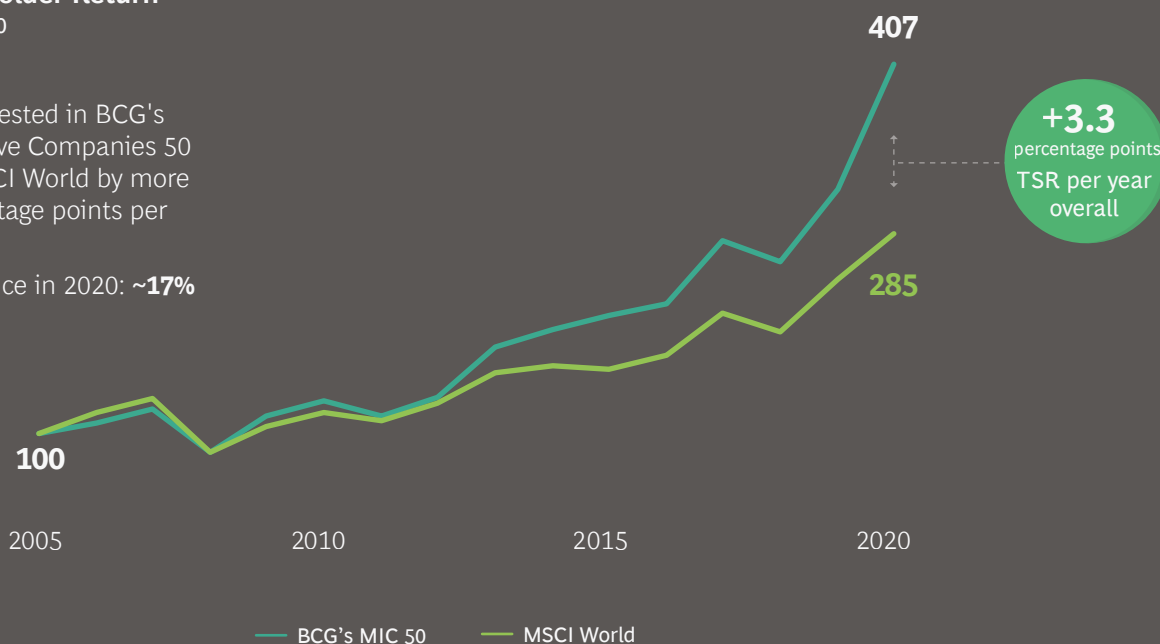
Innovation creates value...

Total Shareholder Return

2005 = index 100

A portfolio invested in BCG's Most Innovative Companies 50 beats the MSCI World by more than 3 percentage points per year.

Outperformance in 2020: ~17%



...but too few companies are ready to drive real value from their innovation investments

Sources: BCG Innovation Journey Analytics Database; CapitalIQ.

Note: This chart compares the TSR performance of publicly listed MIC 50 companies and their subsequent one-year TSR performance against the TSR performance of a global performance index (MSCI World). We reweight the MIC 50 basket annually. TSR data endpoint is December 31, 2020.



The Readiness Gap

Crisis focus the mind, and COVID-19 concentrated corporate management's attention on a number of critical issues. First and foremost may have been costs, but forward-looking leaders soon looked to broader needs affecting their companies' futures, such as resilience, digital transformation, and customer relevance. Little surprise that 2020 saw innovation rapidly ascend the list of top management priorities.

CEOs are ramping up their companies' efforts and investment, recognizing that innovation's power to boost resilience and drive advantage is more important than ever. We see a risk, however, that their hopes will not be realized because their companies are not ready. They have yet to build the systemic ability—the underlying processes and capabilities that drive innovation—to transform ambitious aspirations into real results.

The good news is that companies can meet the challenge and radically improve their readiness, but not simply by throwing more budget or talent at existing programs. Our research and experience indicate that in most cases a few targeted changes in strategy, operating model design, and organizational capabilities can unlock significant benefits.

This year’s Most Innovative Companies report looks at what we call the *innovation readiness gap*. We analyze the factors contributing to the divide and consider measures that companies can adopt to address them—both in the C-suite and on the frontlines. And, of course, we identify the companies that rank as the top global innovators one year into the COVID-19 pandemic.

Ready to Commit?

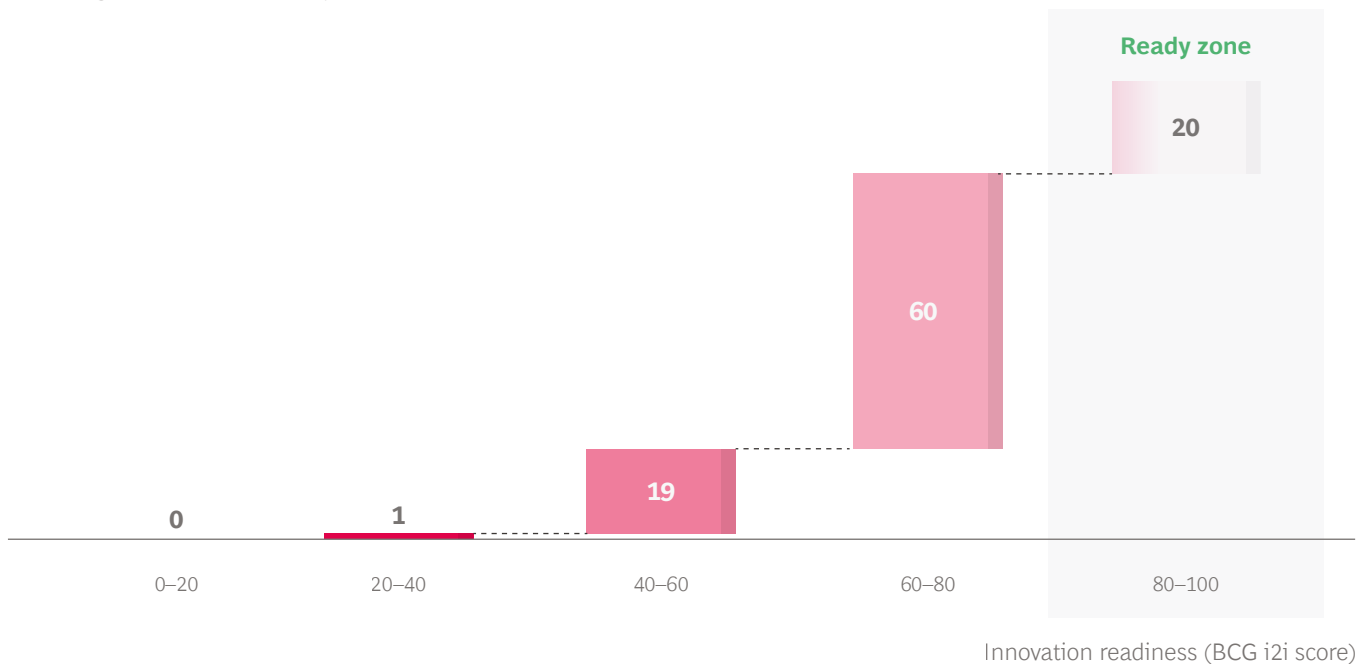
The pandemic has clearly accelerated ongoing trends for some companies and reshuffled priorities for others. Our 2021 survey of 1,500 global innovation executives found that, for most, the COVID-19 experience has spotlighted the critical importance of innovation. This year’s survey showed a 10-percentage-point increase, to 75%, in executives reporting that innovation is a top-three priority at their companies. A third of them point to it as the number one priority. Results were consistent across industries and geographic regions.

This increased emphasis has translated into larger budget allocations. More than 60% of companies plan to boost investment in innovation, one-third of them significantly. This finding holds true in hard-hit industries (58% of firms in industries such as travel and tourism and transportation plan to increase their innovation spending, 18% significantly) and in industries facing less adversity, such as pharmaceuticals and software (64% plan to increase their innovation investment, 20% significantly). Almost half of all companies (49%) qualify as what our 2020 Most Innovative Companies report termed *committed innovators*; that is, they identified innovation as one of their CEO’s top-three strategic priorities, and they have backed up this ambition with commensurate investments in innovation.

But commitment and investment alone are not enough to guarantee success. In addition, companies must be ready to achieve a return on innovation investment, meaning a well-tuned innovation system that can transform good intentions into real value. Companies that are both committed and ready are up to four times as likely as those that aren’t to generate a greater share of sales from new products, services, and business models.

Exhibit 1 - Only 20% of Companies Are Ready to Scale Innovation

Percentage of companies surveyed (%)



Sources: BCG Most Innovative Companies Report 2021; BCG analysis.

Note: i2i = innovation to impact. Maximum readiness score is 100. Total number of companies surveyed = 1,000.

Mind the Readiness Gap

BCG’s **innovation-to-impact (i2i) framework** helps companies measure the readiness of their innovation programs to operate at a consistently high level of efficiency and effectiveness. The framework allows companies to assess their relative strength on ten essential factors related to their processes and capabilities. Scoring is based on a 100-point scale that is designed to reflect best-practice maturity. We consider organizations that earn a score of 80 or above to be ready to realize their innovation aspirations.

By that metric, only about 20% of companies are ready. (See Exhibit 1.) Companies made progress on both dimensions in 2020, indicating that progress is possible even within a short time frame and under difficult circumstances. Still, large gaps are apparent between industries. This matters because, as we reported last year, more innovation now takes place across industries, rather than just within a single sector, with numerous top-50 companies transcending traditional industry boundaries (see Amazon, Bosch, Target, and Sony).

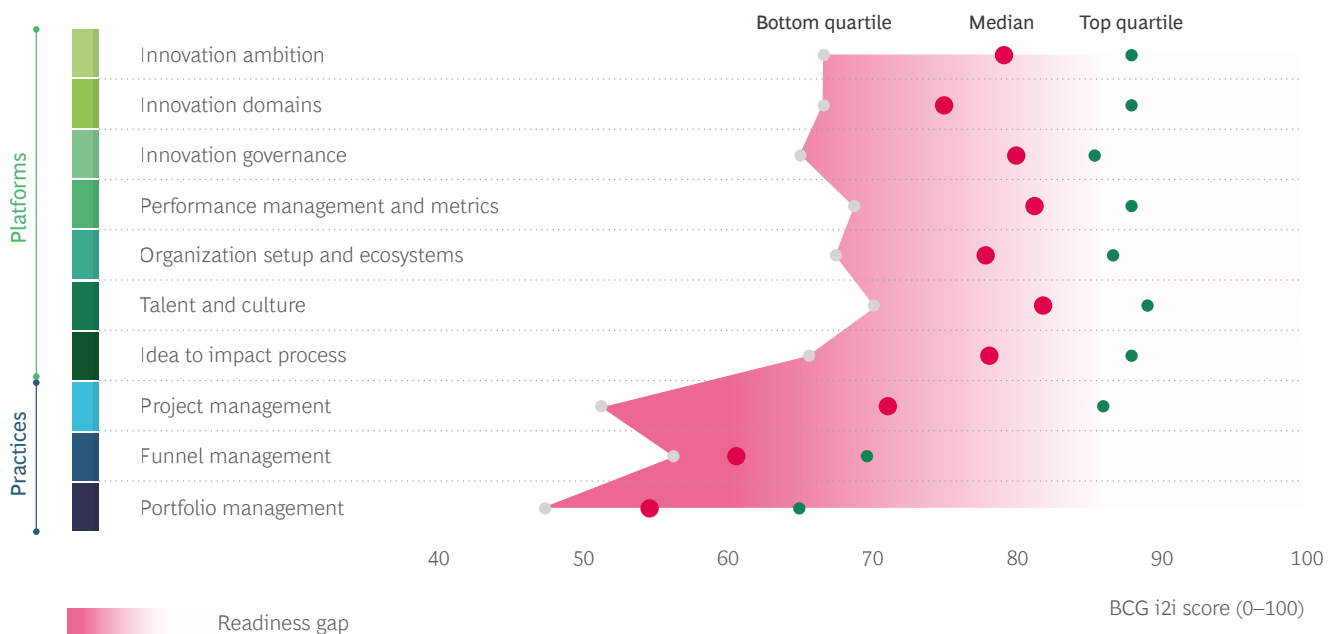
A deeper dive reveals worrisome gaps in readiness even among committed innovators (those that invest significantly in their priorities), suggesting that many companies are likely to fail to realize their ambitions. (See Exhibit 2.)

Although they score a bit better as a group than non-innovators, 74% of them are still not ready, according to our metrics. The largest gaps tend to involve what we call *innovation practices*—capabilities related to moving a portfolio of projects to impact. But we also see some significant gaps in *innovation platforms*, which set ambitions, define innovation domains, delimit roles, shape portfolios, and measure and reward performance.

These differences show up in performance, as demonstrated by the shareholder returns that members of BCG’s past 50 Most Innovative Companies rankings have generated. The members of our pre-pandemic top 50 from 2020 have outperformed the index by a staggering 17 percentage points in the past year; and even if you remove the high-flying tech giants (Apple, Google, Amazon, Facebook, and Netflix), top innovators’ still beat the index by 13 percentage points.

Exhibit 2 - Even Committed Innovators Struggle to Achieve Readiness

Innovation readiness (BCG i2i score) for committed innovators



Sources: BCG Most Innovative Companies Report 2021; BCG analysis.

Note: Sample of committed innovators only; n = 480; i2i = innovation to impact.

The Year's 50 Most Innovative Companies

A tour of this year's 50 most innovative companies underscores the power of commitment and readiness. (See Exhibit 3.) Start with Pfizer (number 10), the innovation story of the year, along with Moderna (number 42)—in which Merck & Co. (number 35) has been an early investor. Commitment and readiness helped Pfizer, in partnership with BioNTech, not only to cut the innovation time for a COVID-19 vaccine from a decade or more to less than a year but also to ramp up production capacity to deliver much-needed vaccines. Abbott Labs and Bosch (numbers 29 and 30, respectively) were early movers in developing testing kits and equipment for COVID-19. Target (number 18) and Walmart (number 23) benefited from deep investments in e-commerce and omnichannel capabilities to handle spiking demand. Amazon (number 3) rode consumers' desire for safe online shopping and fast home delivery to new heights.

In other industries, big consumer products companies such as PepsiCo (number 38) took new routes to market, going directly to consumers to explore and test early customer sentiments. Industrial companies such as Siemens (number 11) and GE (number 47) found new uses for data and advanced technologies such as AI. Siemens's mobility division is connecting critical railway infrastructure and train data in its cloud software solution to allow customers to better manage operations for safety, efficiency, and flexibility. GE is using AI to reduce downtime and increase the output of its equipment. Apparel and fashion companies such as Adidas (number 34) adopted fully digital design processes to shorten time to market and support effective collaboration in a year of mostly remote work.

Exhibit 3 - The 50 Most Innovative Companies of 2021

Rank: 1–10

- 1 Apple
- 2 Alphabet
- 3 Amazon
- 4 Microsoft
- 5 Tesla
- 6 Samsung
- 7 IBM
- 8 Huawei
- 9 Sony
- 10 Pfizer

Rank: 11–20

- 11 Siemens
- 12 LG
- 13 Facebook
- 14 Alibaba
- 15 Oracle
- 16 Dell
- 17 Cisco
- 18 Target
- 19 HP
- 20 Johnson & Johnson

Rank: 21–30

- 21 Toyota
- 22 Salesforce
- 23 Walmart
- 24 Nike
- 25 Lenovo
- 26 Tencent
- 27 Procter & Gamble
- 28 Coca-Cola
- 29 Abbott Labs
- 30 Bosch

Rank: 31–40

- 31 Xiaomi
- 32 IKEA
- 33 Fast Retailing
- 34 Adidas
- 35 Merck & Co.
- 36 Novartis
- 37 Ebay
- 38 PepsiCo
- 39 Hyundai
- 40 SAP

Rank: 41–50

- 41 Inditex
- 42 Moderna
- 43 Philips
- 44 Disney
- 45 Mitsubishi
- 46 Comcast
- 47 GE
- 48 Roche
- 49 AstraZeneca
- 50 Bayer

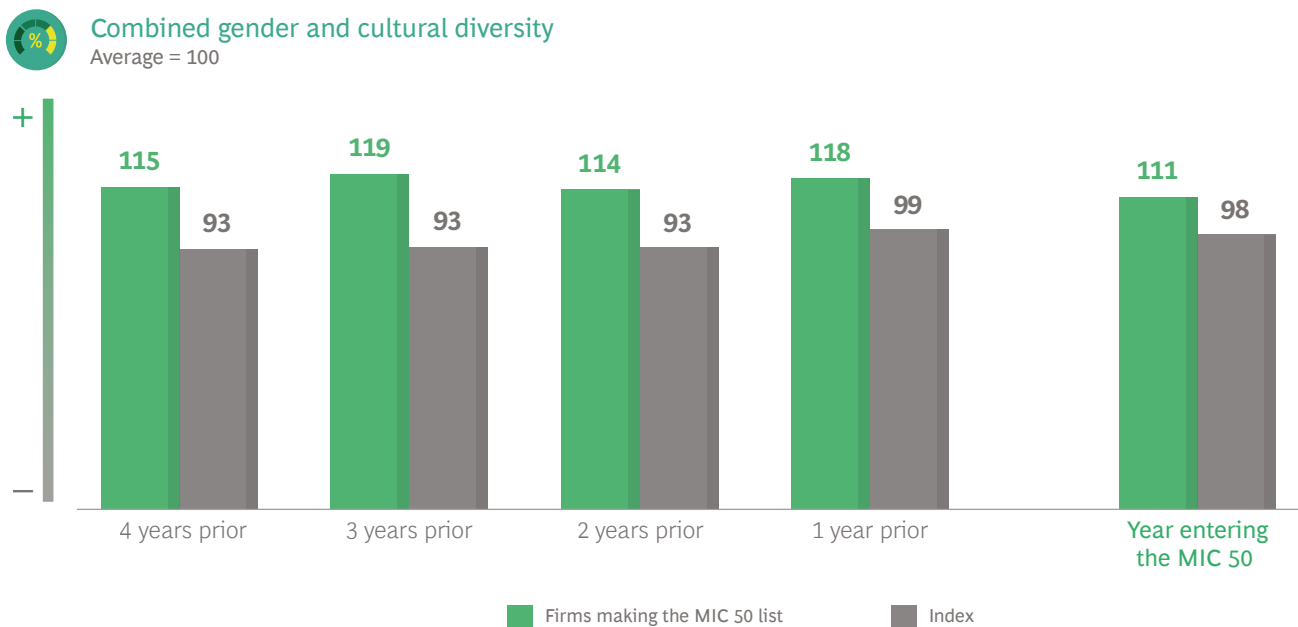
Source: BCG Global Innovation Survey 2020 and 2021.

There was little change in the ranks of top-ten innovators. Apple and Google parent Alphabet retain the top two spots. But in addition to 33 holdovers from last year (whose continued presence shows the enduring qualities of serial innovators), the 2021 list contains 12 companies that have returned to the top 50 after an absence of at least one year, and 5 firms that are new to the rankings.

Companies in the top 50 tend to have greater gender and ethnic diversity in their leadership—as shown by companies like Microsoft, Alibaba, Cisco Systems, Philips, and Novartis, which beat their peers in both gender and ethnic diversity. But which way does the causality run? Looking back at the companies that entered our top list each year since 2005, we see that they were more diverse prior to making the list than a broad index of the largest 1,000 companies. We don't see robust evidence, though, that top 50 innovators further increase diversity after attaining a top 50 ranking. (See Exhibit 4.) This dynamic suggests that while gender diversity and cultural diversity may help foster innovation, being more innovative does not cause firms to attract even greater diversity.

Exhibit 4 - Diversity Drives Firms Toward Innovation Stardom

Companies are significantly more diverse in the years prior to entering the MIC 50



Sources: Eikon; BCG Global Innovation Surveys 2005–2021; BCG analysis.

Note: MIC 50 = top 50 most innovative companies; index = largest 1000 public companies by market capitalization; n = 1,104; standardized diversity score = average of standardized cultural and gender scores. Difference significant at the 1% level. Changes in the index value are not statistically significant.

Ready in Five

Our analysis indicates that five factors are especially important to innovation readiness. (See Exhibit 5.) These factors are where the biggest gaps between leaders and laggards occur in our i2i scoring system—indicating that they are the ones most likely to make a difference—yet they are also areas where leaders still have ample room for improvement.

Clear Ambition. Top innovators pursue their objectives with clarity and consistency. They set aspirational goals that align with corporate strategy, and they establish value creation targets that rally talent to invent better ways to serve customers and society. Company leadership quantifies, appropriately resources, and drives the innovation agenda from the top.

Innovation Domains. Deciding where to play is essential. The best innovators define clear opportunities for customer benefit that the organization then aspires to own. They ground the innovation strategy in deep customer insight and adjust nimbly to shifting opportunities. They focus on a limited number of innovation domains in which they can leverage a unique strategic asset or capability, such as superior customer access, that others cannot match.

Performance Management. Moving the innovation needle quickly entails linking ambition to measurable KPIs that faithfully report performance on the true drivers of success. Moreover, these KPIs must be tied to incentives. Metrics and incentives should reward both predictable, incremental progress and successful step-change innovation. They should recognize leaders who not only push promising new ideas but also recognize and ditch failures early in the process.

Exhibit 5 - Five Pieces of the Innovation Readiness Puzzle

How innovation leaders outperform laggards

Five high-priority dimensions



Clear ambition:
Why do we innovate and what's our goal?



Innovation domains:
Where do we play, what's our "unfair" advantage?



Performance management:
What outcomes do we reward and celebrate?



Project management:
Do we have agile teams working with end-to-end responsibility?



Talent and culture:
Is innovation a magnet for our best talent?

Project Management. Effective innovation today requires empowered, multidisciplinary teams that bring external market and customer insights to bear in shaping value propositions. Such teams have a clear view of the company's strategic advantage, and they put that advantage to use in new product and service development. To be effective, they must be small yet functionally diverse and able to act autonomously and make their own decisions.

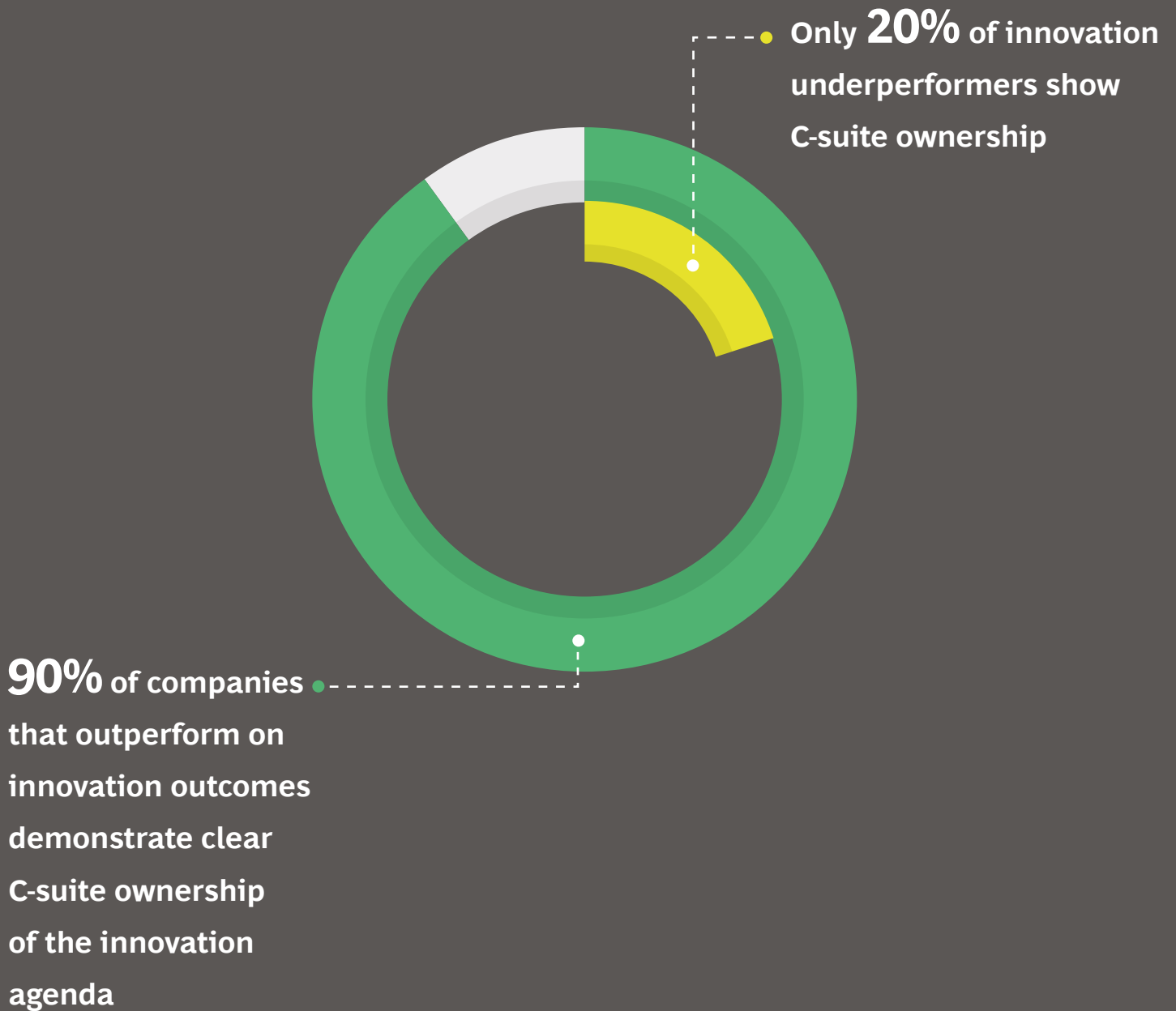
Talent and Culture. Leaders foster an organizational culture that grants prestige to innovation roles and values openness and thoughtful challenges to the status quo. They assign their very best talent, including true business builders, to the most ambitious innovation challenges.

Two themes are common to these five pivotal capabilities: exercising leadership and bringing teams together. A strategy-led, CEO-driven, data-informed innovation culture is central to putting the five pieces in place. A cross-functional, customer-centric organizational approach brings multicapability innovation teams together to share ideas and develop insights. We explore both of these themes in the subsequent chapters of this year's report.

Sources: BCG Most Innovative Companies Report 2021; BCG analysis.

Note: Based on the gap between leaders' and laggards' innovation-to-impact score medians for each dimension.

CEO Leadership Matters





The CEO Innovation Agenda

Innovation has long been a priority for many CEOs. Now, the pandemic has added new urgency to the quest: COVID-19 has driven a jump of 10 percentage points (to 75%) in the share of companies reporting innovation as a top-three priority—the largest year-over-year increase in the 15 years of BCG’s Most Innovative Companies survey. The data also shows that C-suite-level engagement matters: among companies that outperform their peers on innovation outcomes (as measured by their share of sales from new products and services), close to 90% demonstrate clear C-suite-level ownership, compared with only 20% of underperformers.

As part of our research for this year's report, we spoke with CEOs and other innovation leaders in a wide range of industries—including consumer goods, energy, materials and mining, industrial goods/manufacturing, pharmaceuticals, software and services, technology hardware and equipment, and telecommunications services—about their innovation efforts. A few clear themes emerged:

- CEOs have taken COVID-19 as an opportunity to question the impact of their innovation agenda and in some cases to rethink it from the ground up.
- Many leaders have seen their own teams or their competitors accomplish innovation feats in just weeks that previously took months, and they are looking for ways to sustainably adopt new ways of working.
- A general shift is underway from traditional incremental innovation toward non-incremental or even self-disrupting moves, which involve building new and often digital capabilities.

Although the particular emphasis varies by industry and by individual company readiness, we found five recurring topics that CEOs wrestle with as they work to embed innovation in their companies' DNA and to scale up this critical capability:

- **Driving Business Model Innovation.** How robust is our value creation logic, and how must our business model change in order for us to win in the 2020s?
- **Elevating Customer Insight.** Do we have deep customer insight, and do we translate it into a future-ready innovation strategy?
- **Getting the Innovation Flywheel Spinning.** Do we fully embrace the capabilities necessary to innovate quickly and repeatedly?
- **Digitally Transforming the Core.** How can we significantly raise our odds of success in scaling digital and innovation capabilities across the organization?
- **Creating Impact from Corporate Venturing.** Do our venturing vehicles effectively complement our core organization and lead to meaningful growth?

These questions mirror the top five priorities we found in our latest survey. Here we examine each one.

Driving Business Model Innovation

COVID-19 provided an unexpected stress test for many companies' business models, and it did so on the back of already mounting pressure from competitive disruption. One result is that almost half of all companies (49%) see business model innovation as a top-three priority going forward, with particular urgency felt in the energy sector (toward decentralization and green), the software sector (toward cloud and software as a service) and the insurance sector (toward digital and analytics first). Since business model innovation, by definition, simultaneously changes a company's value proposition and its operating model, the C-suite needs to own the endeavor. Neglecting it is a good way to jeopardize the future of the company.

Business model innovation can take many forms. Leading firms are making both gradual and more abrupt moves inside and outside their core business, depending on the level of disruption in their industry and on available adjacent growth opportunities.

Most companies are at least gradually or partially altering their core business models. Digital opportunities and the [sustainability imperative](#) are two key forces driving this change. For example, we worked with a global automotive OEM to open up the software in its vehicles to outside developers, much as Apple and Google do with their smartphone operating systems, by building an application programming interface (API)—with appropriate safeguards—to enable third-party developers to build apps and solutions on top of it. The company not only expects this API to generate incremental revenue, but also hopes to see a [business ecosystem](#) take shape that will provide a differentiating consumer experience.

In addition, more companies today are building adjacent and new-frontier business models to serve as growth engines. Bridgestone, for instance, acquired TomTom Telematics so it could offer new integrated business models such as tires as a service and predictive fleet maintenance. In many cases, M&A may be necessary to add or scale up such capabilities quickly.

Relatively few companies are undertaking a full reinvention of their current core business model. Netflix's transition from renting DVDs to operating the world's largest streaming video subscription service and Microsoft's shift from selling software to positioning itself as a cloud-based provider of software as a service are two well-known examples that showcase both the extent of disruption to their previous business models and the rewards of success.

Elevating Customer Insight

BCG research indicates that some 80% of consumer-facing companies use only the most basic customer insight tools. Although many companies invest significantly in conducting consumer research or tracking consumers' behavior over time, they may lack the capacity to move from data to insights and then to action.

Leading companies use novel customer insight and market segmentation approaches such as [demand-centric growth](#) (DCG) to understand emerging or untapped customer needs, identify and size growth and expansion opportunities, and prioritize innovations that have the highest ROI. One critical feature of these approaches is that they help companies better understand not only what, when, and where customers want to buy, but also why they want to buy—information that is critical to identifying key opportunities and hurdles to address in the innovation process.

Before the pandemic, Hilton used a combination of DCG and customer insights to reorient its brand portfolio, leading to significant growth and contributing to a gain of almost \$14 billion when the company's sale was completed in 2018 (one of the most profitable private equity deals ever). After analyzing the evolving hotel landscape and shifts in customer preferences (including the influence of new competitors such as Airbnb), Hilton identified the untapped opportunities in its portfolio and launched Tru by Hilton, a new brand. Tru by Hilton addressed an underserved customer need to “get in and get out,” combining lower operating costs (free coffee but no free breakfast) and lower capital costs (no front desk or pool, and rooms with smaller bathrooms).

To trigger these kinds of successes, the customer insight function must have effective tools, but it also requires elevation to the status of a true [strategic insight partner](#) on innovation. Too often today, the primary role that customer insight plays is that of input provider. One reason for this situation may be that, according to BCG research, two-thirds of all organizations have not perceived their CEO as truly championing customer insight—often to the surprise of the CEO.

Getting the Innovation Flywheel Spinning

Converting insights into winning formulas isn't the result of one-off efforts but rather of a systematic approach to experimentation and innovation. The most successful CEOs embed insight-based innovation in their company's culture, in its ways of working, in its organizational design, and in its leadership model. By doing so, they push innovation to frontline teams across their business and empower those teams to identify and remove sources of friction for customers. They make everyday innovation a source of competitive advantage.

At the heart of this approach is a concept that we call the *innovation flywheel*—the insight-based learning loop that powers everyday innovation. (See [Exhibit 6](#).) It takes as its premise the idea that the more you know about your customers, the more opportunity you have to innovate on their behalf. Every interaction with an end user (customer or employee) produces information and data—both qualitative and quantitative—that generates insights into where and how new value can be created. This in turn drives the next round of innovation, which achieves deeper engagement with the end user. The full four-step process creates a virtuous cycle that, once in motion, generates greater engagement and new insights.

Companies have to exert substantial energy to get the flywheel spinning because at the outset they must overcome structural barriers such as organizational and incentive misalignment, sluggish decision making, and brittle legacy systems. The effort entails challenging existing paradigms, breaking organizational silos, and enabling true collaboration on shared goals by cross-functional teams—all of which require sustained leadership from the CEO. Once the process takes hold, however, it generates enormous energy and creates a self-reinforcing loop that attracts new talent, promotes a maker culture, and drives change from the inside out. Our recent article “[Powering the Innovation Flywheel in the Digital Era](#)” provides an insider's view of the innovation flywheel in action and examines the dramatic impact it is having at companies in multiple industries.

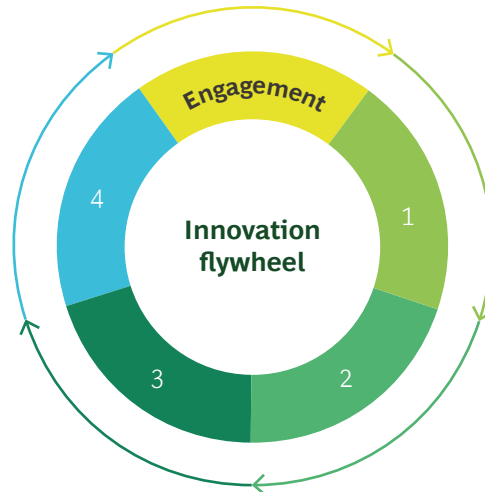
Exhibit 6 - Driving a Four-Step Virtuous Cycle of End-User Engagement

Innovate

Deliver new products, features, and experiences to create value, relevance, and trust; in turn, drive deeper, richer end-user engagement and business outcomes

Run experiments

Rapidly test new concepts in the market to gather data and make decisions on which innovations have the highest value



Build knowledge

Continuously capture quantitative and qualitative data flows from products, services, usage, and all other relevant activity to develop a conceptual understanding of customers and other end users

Generate insights

Identify the highest-value opportunities through ongoing analyses of ever-expanding data sets, in combination with human-centered research

Source: BCG Digital Ventures.

Digitally Transforming the Core

The year 2020 put to rest any remaining doubts about the value of digital processes and value propositions. Digital transformation of the core business is now a **top priority for 75% of CEOs, and 65% of firms are doubling down** on their plans for transformation with renewed urgency. One big benefit of digital is its ability to turbocharge innovation and create competitive advantage through new products, services, and business models.

Companies face a major challenge in this regard, however: our research shows that most digital transformations fail to deliver the desired results. BCG recently identified six success factors that together—and only together—**flip the odds of digital transformation success** from 30% to 80%. Those six success factors are close integration of digital strategy with the business strategy, commitment from the CEO through middle management, a talent core of digital superstars, business-led and flexible technology and data platforms, agile governance, and effective monitoring of progress toward defined outcomes. Bringing together all six factors is essential to becoming an innovative organization in the digital age. (You can take a quick **online self-assessment of your organization's likelihood of success in digital transformation here.**)

Organizations don't change overnight. Transforming leadership, culture, talent, governance, and technology takes time. One approach to assembling the key success factors described above is to embed a microcosm of the desired future-state organization into teams that are driving front-line change. As the number of such teams increases across the company, change occurs iteratively and continuously. We describe this as taking an MVP/MVO (minimum viable product/minimum viable organization) approach. Every innovative MVP that the company produces creates a surrounding MVO. In practical terms, this means putting just enough of the right components—leadership behavior, culture, talent, new ways of working, governance, processes, and tech—in place to enable the MVP to thrive.

Successful companies follow this organic approach to transformation by starting small (but thinking big), learning by building, and setting the first flywheel in motion by surrounding it with the MVO it needs to sustainably succeed. Just as an MVP is a test-and-learn proof point for a new offering, an MVO serves as a proof point for the power of a more digital-, agile- and innovation-first organization—what we call the **Bionic Company**. As MVPs proliferate, so do MVOs, until the organization reaches the necessary tipping point to rewire itself and ensure that the change sticks.

National Grid, a leading utility, scaled up the flywheel and implemented the MVO change model by identifying value pools across its value chain and then launching innovation sprints to target each opportunity area with digital solutions and products. The utility has now launched its first wave of digital solutions. One is a field force enablement platform that radically streamlines network repair and maintenance operations by putting the line worker, supervisor, and clerk at the center of the flywheel innovation cycle. Teams are rapidly adopting this approach across field service operations, and early results show that doing so reduces the average closure window for a field repair job from 77 days to 48 hours. National Grid now has more than eight flywheel teams in flight, exposing more than 200 employees to the flywheel approach. The utility's goal is to have more than 20 fully operational flywheel teams in place by the end of 2021.

Creating Impact from Corporate Venturing

BCG research has found that 65% of companies today [work with startups or new ventures](#). For this purpose, they have set up innovation vehicles of one or more types—such as corporate venture capital (CVC) funds, accelerators, incubators, or open innovation units. But 45% of such companies have expressed dissatisfaction with the results of their efforts, because the programs have not delivered meaningful impact for them.

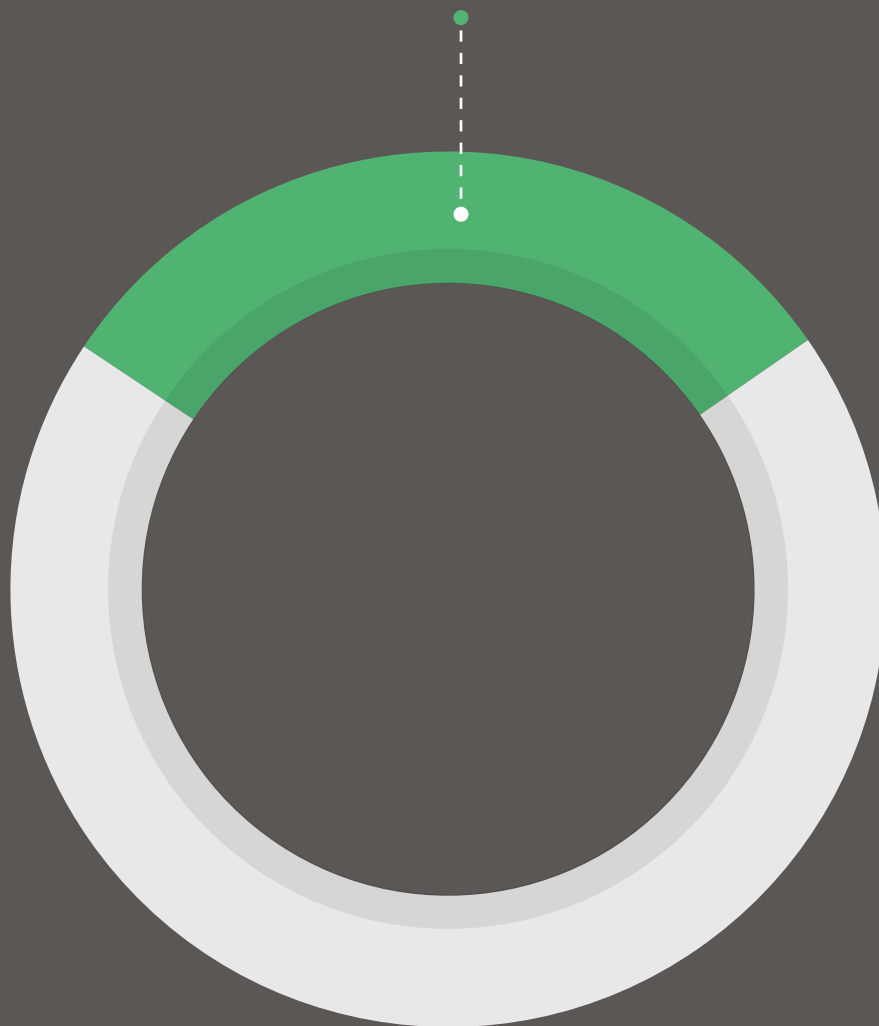
In our experience, three factors are key to unlocking significant impact from corporate venturing. The first is to define a clear mandate for the corporate venturing program and the required innovation vehicles. Relevant criteria include the anticipated contribution to the parent's growth ambition, the role of the program within the overall innovation agenda, and the ways in which the chosen vehicles complement R&D and M&A in the strategic objective—such as in building a new vertical or gaining access to new technologies. The second factor is to rigorously determine a budget allocation for each vehicle as part of the overall R&D budget allocation—even in difficult times—to avoid hobbling efforts to get innovations off the ground. The third is to ensure establishment of a link to the strategic competitive advantage of the parent company, such as its capabilities, market access, and existing customer base. This requires setting the right governance and incentives as well as ensuring buy-in from senior business leaders.

We worked recently with a leading consumer appliance manufacturer that historically had focused on its core business and powerful technology and R&D capabilities. The board wanted to significantly increase revenues outside the core. To leverage its technology and R&D capabilities, it established a dedicated business-building unit with a clear mandate to create or buy scalable businesses in adjacencies. In line with the factors described above, this approach had three critical components. The first was end-to-end responsibility to grow the businesses by applying strategic partnering, M&A, incubation, minority investments, and co-creation. The second was appropriate ring-fenced funding to achieve the growth ambition. The third was access to the core business's technology, R&D, marketing, and sales capabilities. The guiding principle was to systematically leverage the firm's strategic advantages and to de-risk and scale the new businesses.

Innovation creates long-term value and builds resilience in the face of crisis. But it requires active leadership from the top. Our research shows that executive teams at innovation leaders engage in this process far beyond merely setting the agenda and holding people accountable. They also elevate customer insight, actively manage the portfolio, and personally engage with innovation teams. Satya Nadella, Microsoft's CEO, has stated, "The purpose of our leadership team is to bring clarity, alignment, and intensity." Any company whose leadership team brings these attributes to its innovation program will likely reap substantial rewards.

Collaboration Is Essential

31% of companies see poor collaboration between marketing and R&D as the largest obstacle to improved return on innovation investment





How Leaders Bring Product and Sales Teams Together

Some of the biggest breakout successes in business history have been the product of iconic founding teams that combined technological foresight and customer insight. Think Steve, Woz, and Apple.

These symbiotic relationships do not always scale well, however. As companies grow and mature, even highly successful startups tend to organize themselves by function, and the functions morph into silos. The crucial link between technology and product on one side and customer and market insight on the other can break down. Our research, supported by our case experience, suggests that the disconnect between product-facing teams (often in R&D or product development) and customer-facing teams (often in business development, marketing, or sales) is the number one obstacle to innovation success.

Not all firms struggle. Leading innovators build success upon success with a seemingly infallible ability to think about product and customer together. Amazon, with its customer-obsessed, day-one mentality, is a good example. For this year’s report, though, we ventured beyond lessons from digital-native innovators to ask: What can we learn from companies that are not yet in the spotlight but nevertheless lead innovation in their respective industries? Are they pioneering new management practices or simply putting well-established methods to new use in innovation?

We interviewed executives at ten industry-leading innovators that have found ways to overcome barriers between their product- and customer-facing teams. We offered to exchange anonymity for candor, and here we report on the practices they apply to maintain and sometimes reinvent this relationship.

Incremental by Default

In our 2021 research, almost a third of companies cited less than optimal collaboration between their R&D and sales teams as their biggest obstacle to higher innovation output. The results were remarkably consistent across industries. (See Exhibit 7.) These results certainly resonate

with our experience. We often hear product development staff grumble that marketing and sales teams are not pushing their new inventions—and salespeople complain that new technologies alone do not make exciting value propositions for their customers. (See Exhibit 8.)

This dynamic leads to another disconnect. Even as more CEOs push for a shift from traditional incremental product innovation toward disruptive digital service and business model innovation, the pressure from the frontlines—on both the product development and commercial sides—pushes in the opposite direction: toward a default position of safer, more cautious step-by-step product innovation. Not only are the scientists/engineers and the salespeople not talking to each other, they are inadvertently preserving the status quo.

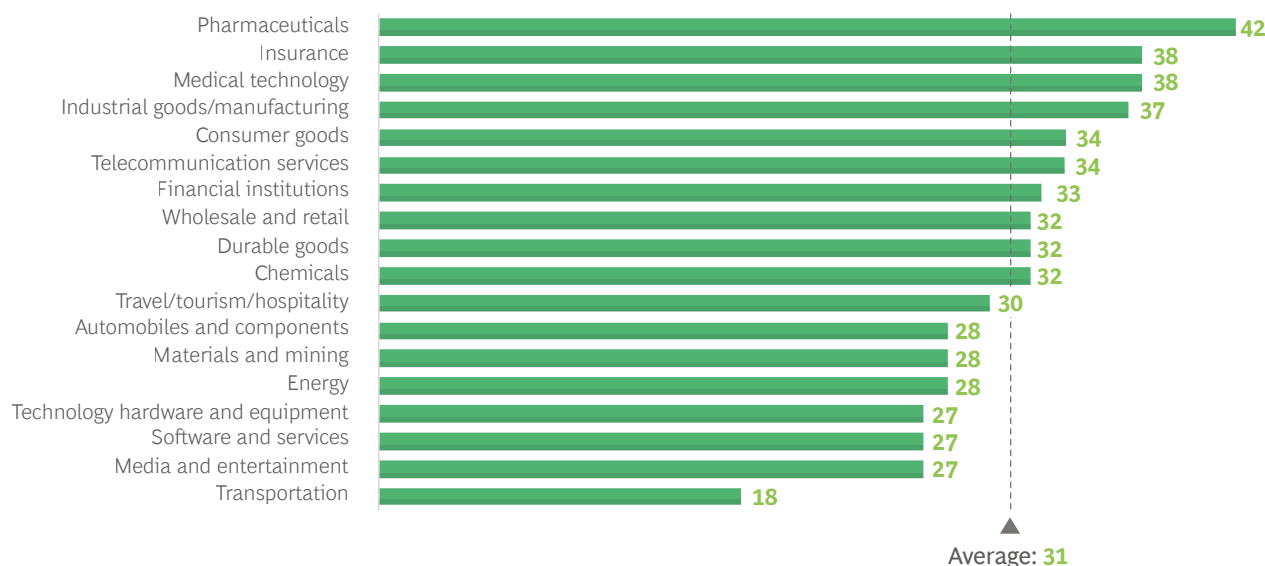
Four Types of Solutions

Companies across the board are coming to grips with this challenge. In 2020, 30% of the companies in our survey reported that they were focusing on this issue as their top innovation priority, and another 27% plan to make it their top priority in 2021.

Exhibit 7 - Lack of R&D-Sales Collaboration Is a Consistent Issue

What's the biggest obstacle to a higher return on innovation?

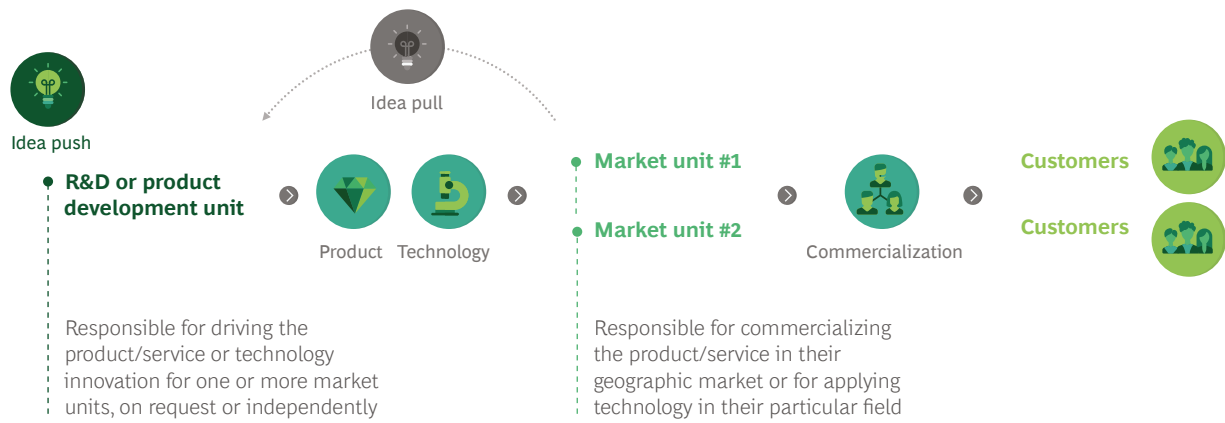
Percentage of respondents, by industry, citing lack of R&D-sales collaboration as an obstacle (%)



Sources: BCG Most Innovative Companies Report 2020 and 2021; BCG analysis.

Note: Respondents were invited to select up to three answer options out of nine possible.

Exhibit 8 - Most Large Companies Face the R&D-Sales Disconnect



Companies especially struggle if innovation is...

- ...pushed to market units rather than pulled by them
- ...adjacent or fully non-core rather than close to core business
- ...made for multiple market units rather than tailored to one

Source: BCG analysis.

Leading companies already deploy an array of solutions to bridge the divide between product development and sales and to build momentum for more disruptive innovation. These efforts range from the strategic (such using M&A to fill capability gaps) to the day-to-day (requiring greater co-location of people from different functions).

We recently studied ten great performers in multiple industries to determine how they address this divide. The companies we analyzed include members of BCG's 50 Most Innovative Companies and other standouts in individual industries.

We discovered that leaders that build the requisite links between their technology and product development teams and their customer-facing teams excel at three increasingly important types of innovation. Heading the list is disruptive product innovation—being first to find valuable use cases for a new technology. Second comes digital service innovation—adding digital service or subscription revenue to existing high-performing product- or hardware-driven business models. Third is business model innovation—radically innovating the core value streams of a business to deliver value to new customer groups or find new ways to monetize or deliver products or services.

Four types of solutions, implemented singly or with others, have shown significant success:

- Build a one-team mentality.
- Align incentives with matching metrics.
- Establish clear lines of communication, mandates, and accountability.
- Shift the status quo and celebrate success.

Here are some examples of what leading innovators in their respective industries are doing in each of these areas.

BUILD A ONE-TEAM MENTALITY

Cross-functional teams are a hallmark of many innovation leaders. Take, for example, an innovation leader in insurance. This European property, life, and health insurance company links strategy, product development, and sales by building small global end-to-end teams to develop adjacent growth opportunities. The teams are centrally coordinated but sit within the business, and their members possess a minimum viable set of cross-functional abilities, including commercial, sales, and operations skills. Teams access specialized actuarial or underwriting expertise, as needed, project by project. This approach has enabled the company to become a leader in new insurance solutions in emerging and high-potential market segments such as autonomous vehicles and shared mobility.



**Thinking simultaneously about
product and customer is the
secret to sustained success**

To better link the work that its digital accelerator produces to its core business, one of Europe's most innovative media publishers encourages flexible talent rotation across business units. Idea originators can switch temporarily out of their line responsibilities and become project managers for the development of their ideas. Employees can choose to spend three months in the company's innovation lab to validate an idea and build a minimum viable product. A senior business leader from a relevant business unit guides their work, championing the project and ensuring that emerging products find a home in the organization. Such rotations have become a coveted opportunity for young talent to demonstrate their leadership abilities, and the publishing house has successfully established a one-team mentality across its organization of disparate publications. It has also spun out new fully digital businesses with a multimillion-euro valuation.

Or take the case of a leading serial innovator, a global hardware and software company. For years, the firm struggled to translate deep research insights into customer products. It then adopted two critical changes: shifting its central R&D budgets into the businesses and, even more fundamentally, revamping its engineering team culture. The organization now emphasizes "three moments of truth." In navigating these critical parts of the process, engineers not only work in product development but also participate in the sales launch ("ship it!") to see and learn from deployment hiccups that inevitably occur. They become their own customers, actively using their products in daily life ("use it!"). And they regularly switch job roles between R&D and business teams ("rotate it!").

ALIGN INCENTIVES WITH MATCHING METRICS

Although everyone knows that incentives are fundamental to driving desired behavior, it's hard to find companies that consistently incentivize innovation. A multinational industrial goods company and serial innovator across industries uses what we call matching metrics to address both sides of the innovation equation: R&D and business teams. Business unit leaders are incentivized on product vitality (the share of sales from products launched in the past three years) while R&D leaders and engineers are incentivized on new sales generated by the patented products or technologies they develop. Both functions collaborate more effectively because the company uses complementary metrics to steer them. Introducing such shared metrics is relatively straightforward, but it requires a robust accounting system to track innovation activities and outcomes. A unit of this sort requires significant resources, but in our experience the induced culture change clearly outweighs the costs.

To complement its use of hard metrics, an industry-leading global IT hardware and software company relies on soft incentives to drive cross-functional alignment. Market-facing business units receive half of the overall corporate R&D budget and have a mandate to define near-term product development priorities. The company also temporarily assigns agents from the central R&D function to business units to help build personal networks. In addition, the company spends considerable resources on three distinct exchange formats. Science fairs, involving 30 to 150 people each, showcase early-stage technologies within the R&D community and speed progress on prototypes. Affinity groups, which often meet virtually, explore broader application areas such as natural-language processing. Yearly meetings that mix the R&D and business development teams showcase later-stage technologies or early product ideas and achieve buy-in from the business. The company has successfully launched a steady stream of valuable product, service, and business model innovations and is widely recognized as a serial innovator.

ESTABLISH CLEAR LINES OF COMMUNICATION, MANDATES, AND ACCOUNTABILITY

Clear accountability and communication are essential ingredients of effective innovation systems. An industry-leading global retailer takes this basic insight to a near-flawless level of execution through a system of mirrored central and regional teams that matches team member roles one-to-one. This ensures direct exchange and accountability as well as clear channels for feedback to the central team on local customer needs. To avoid local bottlenecks, the company tracks product managers' performance centrally, starting from product development and continuing through rollout. To address a common obstacle to effective scaling, it established a central launch support team to share insights and discoveries from multiple regions and to make experienced backup resources available as needed.

A leading cybersecurity and privacy company manages its middle- to long-term innovation output via a shared roadmap that R&D and product owners in the core business units jointly maintain. This proves especially valuable for integrated services that leverage hardware and software solutions and are sold directly in subscription models to end customers, since these types of innovation activities require a shared understanding of long-term customer needs and do not rely on precise technical requirements from channel partners or B2B intermediaries.

In a similar vein, a leading medical technology company recognized the need to bring its R&D and sales teams closer together. For this firm, the solution started at the top, by elevating the head of R&D to board level as CTO and then bringing together the CTO, the chief sales officer, and the head of innovation in an innovation council to manage the portfolio and project pipeline. To further support the equal partnership between commercial and R&D teams, the R&D function retains end-to-end technical accountability for the product for up to a year after launch.

SHIFT THE STATUS QUO AND CELEBRATE SUCCESS

Companies are finding lots of ways to shake things up and look at opportunities through new sets of eyes. For example, a top electronics and telecommunications company leverages the full potential of a technology along the product life cycle by keeping the patent-holding R&D engineers involved, as part of a technical steering body. Besides facilitating the exchange of knowledge, this setup recognizes and celebrates the business contributions of engineers who develop boundary-breaking ideas that shift the status quo.

Finally, consider the case of a leading multinational med-tech company that, after years of incremental product progress, realized the value of thinking in terms of customer value propositions rather than technical requirements. Its business teams, which used to spec products to be built, now frame problems from the end user's perspective for new product development. In this way, business teams empower R&D teams to craft more novel solutions to meet customer needs. This shift is often initially challenging for everyone involved, but once the new language is embedded across the organization, it creates the space necessary for more disruptive product and business model innovation.

The year 2020 was one in which many firms improved their cross-functional team efforts, often in remote work settings. Advances born out of necessity now must be made to stick. Companies can nurture and extend successful innovations in many ways. Executives have a varied toolkit at their disposal, starting with tried-and-true organizational or governance measures and extending into initiatives such as incentive design, systematic relationship building, and culture change. Although appropriate solutions for specific cases depend on starting point and industry, the examples drawn from the non-digital-native firms described above demonstrate that there are many paths forward.

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Methodology

BCG's Most Innovative Companies ranking is based in large part on a survey of 1,600 global innovation executives who were polled in two waves from September 2, 2020, through October 10, 2020, and from January 21, 2021, through February 7, 2021. We assess companies' performance on four dimensions and then take an average of normalized scores to calculate the overall ranking. These four dimensions are:

- **Global Mindshare.** The number of votes received from all global innovation executives.
- **Industry Peer View.** The number of votes received from executives in a company's own industry.
- **Industry Disruption.** The Diversity Index (Herfindahl-Hirschman) of votes across industries.
- **Value Creation.** The TSR including share buybacks from December 31, 2017, through December 31, 2020 (three years).

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