

Innovation Systems Need a Reboot

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Innovation in 2024

Here's a paradox. Companies have never placed a higher priority on innovation—yet they have never been as unready to deliver on their innovation aspirations.

Our annual survey of global innovators finds that the pandemic, a shifting macroeconomic climate, and rising geopolitical tensions have all taken a toll on innovation discipline. Faced with high uncertainty, leaders' focus shifted from medium-term advantage and value creation to short-term agility. In that environment, the systems that guide innovation activities and channel innovation investments suffered, leaving organizations less fit for the race to come.

In particular, innovation readiness—as measured by BCG's proprietary innovation maturity score—is down across the elements of the innovation system that align it with the corporate value creation agenda. At the same time, executives report that innovation activities continue at pre-pandemic levels.

This finding evokes a troubling picture of “zombie” innovation organizations going through the motions in an endless loop as the strategic environment shifts around them.

Without a sharp innovation strategy aligned with a clear business strategy—offering clarity on target customers and the most attractive innovation domains—even the most efficient and flexible innovation system will fail to create value, particularly in disruptive times.

How to get back on track? We'd argue for a reboot that starts by establishing—or strengthening—the link between innovation strategy and business strategy.

And when you're thinking about recalibrating your innovation system to be both more strategic and effective, don't ignore GenAI. With today's strongest innovators already building experience with the technology, there's a real risk of falling further behind.

Innovation Prioritization Is Up

For 18 years, we’ve asked senior innovation executives where innovation ranks in their company’s priorities. Is it at the top, in the top three, one of the top ten, or lower? This year a record 83% respondents reported that their companies rank innovation among their top three areas of focus. (See Exhibit 1.)

Looking at regional patterns, China leads on prioritization, with 92% of companies ranking innovation as a top-three priority. The two largest year-over-year increases in priority are North America, which moved up 11 percentage points to 81%, and Africa and Middle East, which moved up 10 percentage points to 85%. Europe, Central Asia, and the rest of Asia all held roughly steady at around 80%.

From an industry perspective, the highest “top three” ranking, at 98%, was Tech Hardware—an industry that has perennially been at or near the top. The lowest was Wholesale and Retail, at 67%. Media and Entertainment saw the biggest jump—from 68% in 2023 to 94% in this year’s research.

Innovation Readiness Is Down

It takes an effective innovation system to transform high aspirations into value creation. And this year’s research suggests that a whopping 97% of innovation systems need a tune-up.

We measured readiness using BCG’s proprietary [Innovation-to-Impact benchmark](#) tool (i2i by BCG), which evaluates a company’s innovation maturity along ten dimensions.

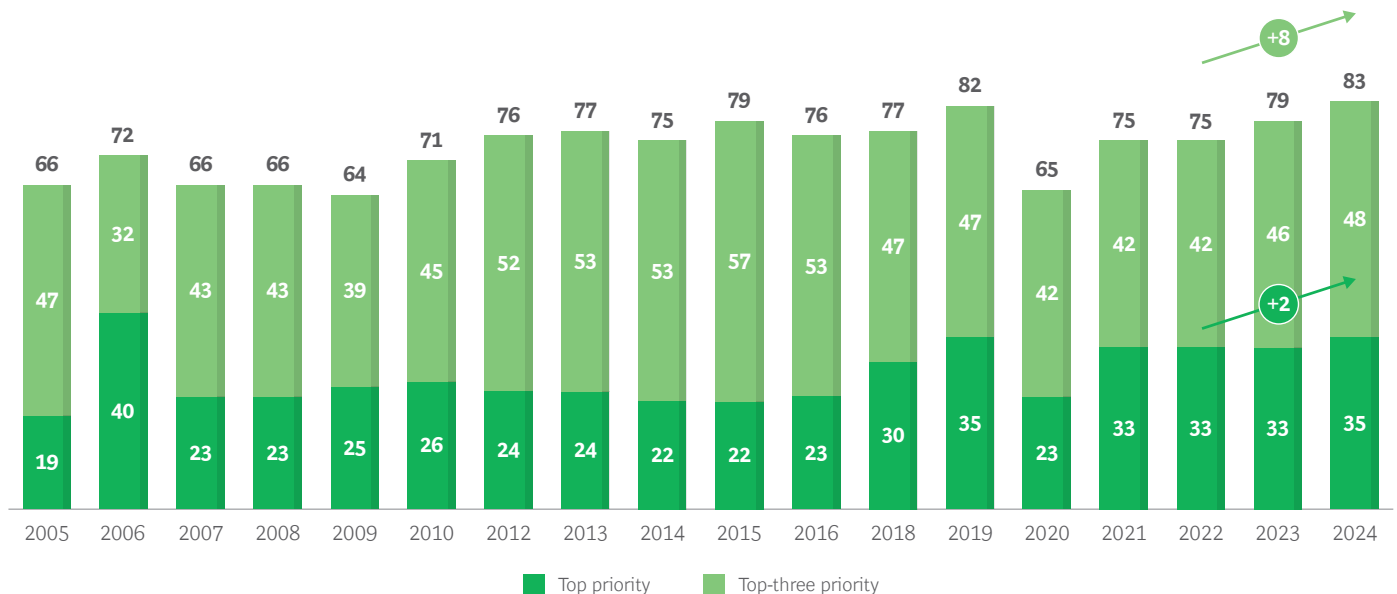
All respondents answered the full battery of questions. Organizations answering “yes” to all questions received a perfect score of 100, but we view those scoring 80 or above as being in the “ready zone.”

In the last two years, innovation readiness has plummeted, with just 3% of companies in the ready zone today, compared with 20% as recently as 2022. (See Exhibit 2.) We saw these significant declines across all regions, with the exception of China, where the readiness level has remained steady. The slumps were particularly strong across the seven i2i dimensions that focus on how the organization nurtures ideas and guides them through development to market:

- **Ambition.** Are there specific and aspirational goals linked to strategy and value creation?
- **Domains.** Do we focus on a limited number of attractive innovation domains where we have a right to win?
- **Governance.** Are people and budgets aligned with priorities?
- **Portfolio and Performance Management.** Is the portfolio rigorously managed, and are innovation decisions and compensation linked to strategy-aligned KPIs?
- **Organization and Ecosystems.** Is innovation championed by the C-suite, and are there fit-for-purpose innovation teams/vehicles for different types of innovation and different time frames?

Exhibit 1 - A Record 83% of Companies Rank Innovation as a Top-Three Priority

Where does innovation/R&D/product development rank among your company’s priorities? (%)



Sources: BCG Global Innovation Survey 2024; BCG analysis.

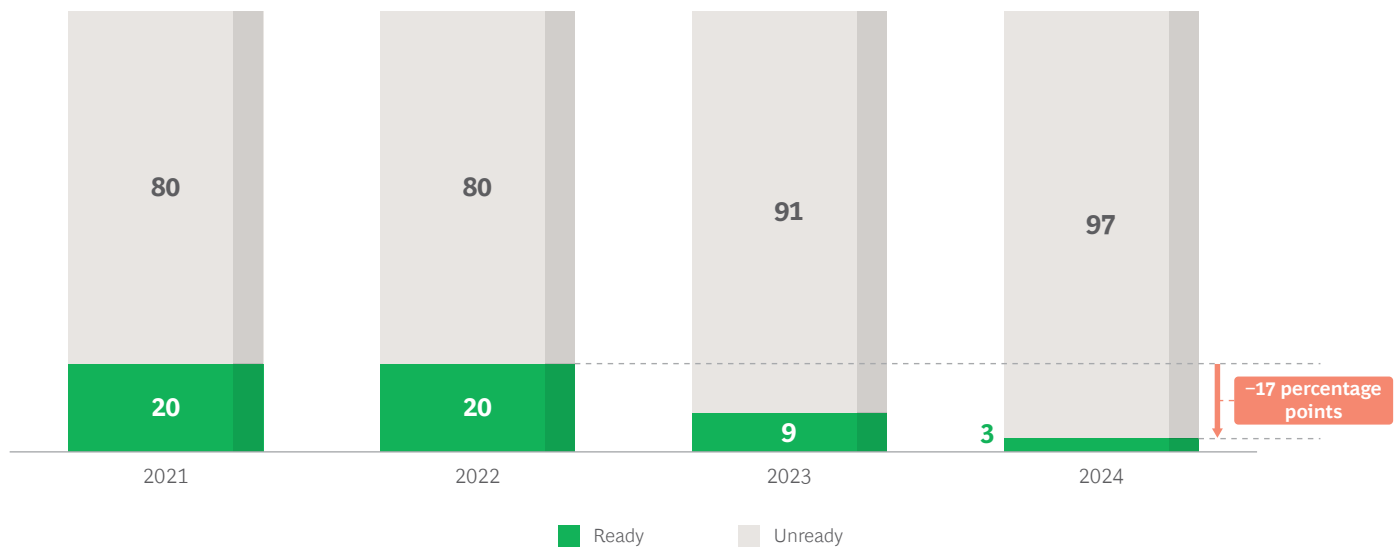
Note: n = 1,003 for global respondents. No data for 2011 and 2017 available.



**Since 2022, innovation readiness
has plummeted, with just 3% of
companies in the ready zone today.**

Exhibit 2 - Innovation Readiness Has Declined Significantly Since 2022

Respondent companies scoring "Ready" vs. "Unready" (%)



Sources: BCG Global Innovation Survey 2021, 2022, 2023, 2024; BCG analysis.

Note: "Ready" represents the proportion of companies scoring 80 or above on BCG's Innovation-to-Impact (i2i) benchmark.

- **Talent and Culture.** Do we have a culture of innovation, and is innovation seen as a career accelerator?
- **Idea to Impact.** Do we have ideation methods that can "see around corners" and processes to explore and scale ideas?

Between 2022 and 2024, median readiness scores on each element fell from the mid-70s to the 50s. And critically, top quartile readiness scores, which had been securely in the ready zone in 2022, are now at or below the 2022 median. (See Exhibit 3.)

A Disconnect Between Concerns and Priorities

We then asked respondents to rank the challenges faced by their innovation teams. This year, strategy concerns topped the list, with 52% of respondents citing an unclear or overly broad strategy as one of their top three challenges. (See Exhibit 4.) Rising cost of capital and talent constraints followed at 47% and 44%, respectively.

While addressing the latter two challenges is not entirely in the direct control of an individual company, sharpening a strategy is. And doing so can help with the other challenges. A strong strategy that enables smarter capital allocation and more rigorous funnel management will focus investment on the most attractive innovation domains, making it easier to earn returns above the cost of capital.

And companies with a compelling strategy and clear track record of success are most likely to have an edge in the war for talent.

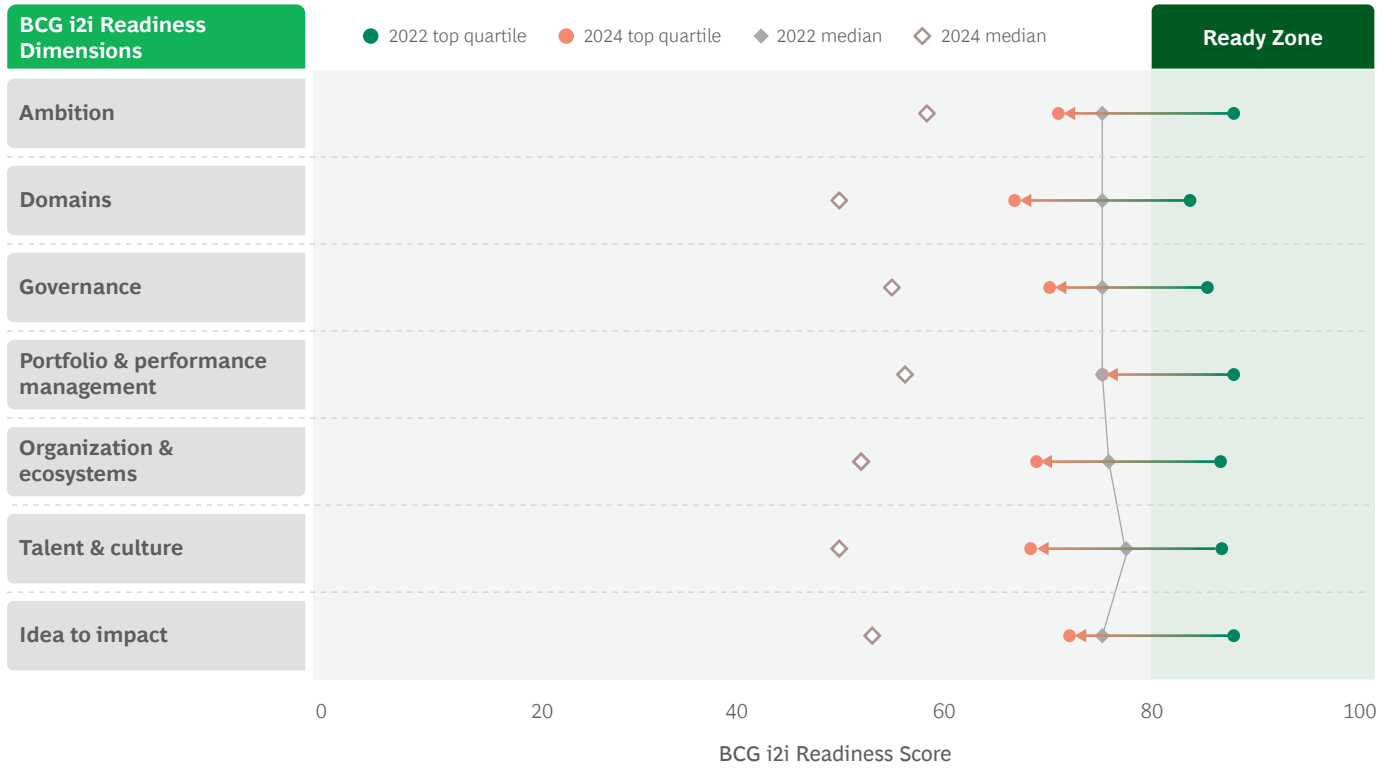
Unfortunately, not all companies are acting on their strategy-related concerns. Just 30% reported planning to revisit their innovation strategies, while 70% plan to focus on process optimization moves.

It's not a comforting picture. Overall, innovation FTEs and activity levels have remained constant. But without a strategic North Star to point the organization toward attractive value pools, even the most efficient innovation system is likely to underperform its potential. And the senior executives seem to feel it: our study showed their self-reported confidence in their organizations' innovation capabilities declining along with readiness.

Getting Ready to Win

Given the significant declines in readiness, it makes sense for organizations to continue their efforts to strengthen the efficiency and consistency of their innovation processes. But that alone won't be enough to drive superior performance. Achieving real, exceptional outcomes will require attention to two critical areas: first, sharpening strategy for the race ahead—and aligning innovation strategy, resource allocation, and pipeline shape to win in the priority domains; second, embracing GenAI to drive growth and accelerate success across the whole innovation cycle.

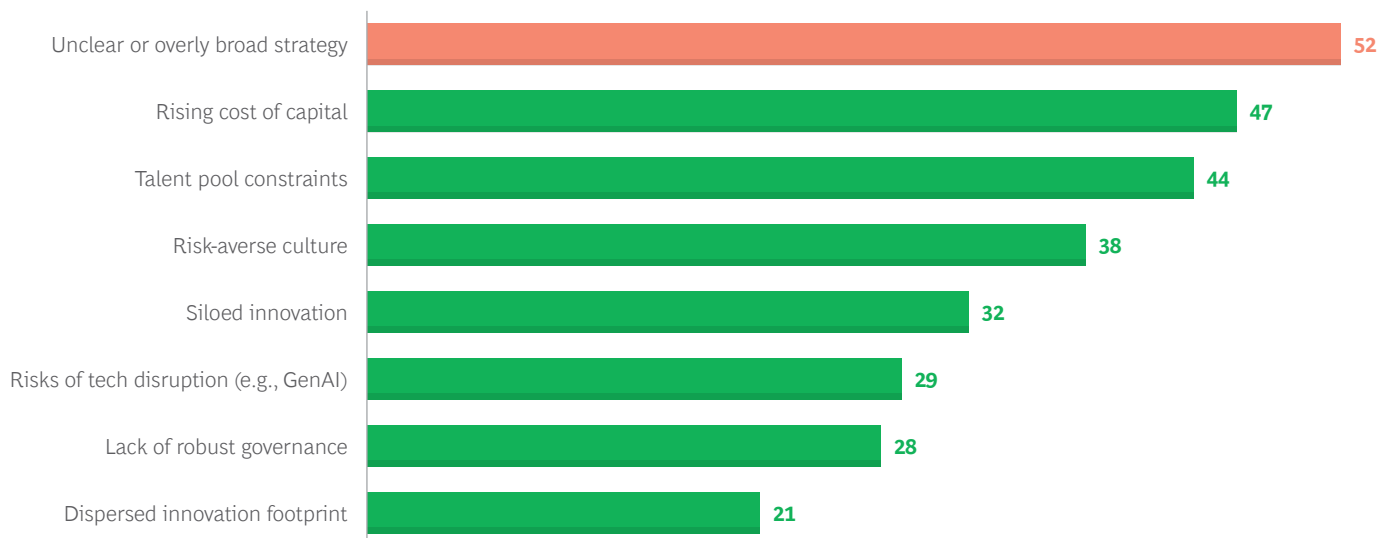
Exhibit 3 - 2024's Top Quartile Innovators Have Fallen out of the Ready Zone and Are Underperforming 2022's Median Innovators on Nearly All Dimensions



Sources: BCG Global Innovation Survey 2022, 2024; BCG analysis.
 Notes: n = 1,010 for global respondents in 2022; n = 1,003 for global respondents in 2024.

Exhibit 4 - More Than Half of Respondents Cite Unclear Strategy as a Top-Three Challenge for Their Organization

What are the top three challenges your company is currently facing in innovation/R&D/product development? (%)



Sources: BCG Global Innovation Survey 2024; BCG analysis.
 Note: n = 1,003 for global respondents. Percent are times mentioned in a respondent's top three challenges.



To Close the Innovation Readiness Gap, Start with Strategy

It seems obvious that business strategy should shape innovation strategy. But as we saw in the previous chapter, more than half of the global innovation leaders we surveyed this year cited an unclear or overly broad strategy as one of their organization's top three challenges. If they lack a strategy to focus innovation activities on the right opportunities, organizations risk falling short of their potential.

Through a combination of insight and foresight, the best strategists identify today's and tomorrow's most attractive customers and value pools. They understand their organizations' strengths—and how the sources of competitive advantage are likely to shift. Then, based on this knowledge, they marshal investment and resources toward a focused list of opportunities in which they have the strongest right to win.

Innovation is a critical lever to realize strategic ambition. But that can only happen if the strategy is clear and detailed on the innovation mission or missions—"What problems are we solving for which customers?"—that will maximize the organization's growth and value creation. While this is always true, in an era of rising rates and talent scarcity, it becomes particularly important.

There's a lot that innovators need to do to regain their readiness. But only by starting with strategy and weaving it into the fabric of their innovation systems will they see the greatest payoff.

Too Many Organizations Lack Direction in Their Innovation Efforts

But, as we've noted, not every organization has gotten the message. Just 30% of respondents this year, versus 36% in 2022, reported that refreshing their strategy is one of their top three innovation priorities going forward. (See Exhibit 5.)

Instead, the focus is on agility, activity, and capabilities: 70% plan to focus on boosting the efficiency and speed of their operating models, 63% seek to increase the number of projects in their portfolio, and 54% are prioritizing capability development. And of those focused on increasing their project load, about one-third intend to put their efforts into more short-term projects, suggesting a lack of clarity or conviction on medium- to long-term opportunities.

Unless this disconnect between executives' concerns and their organizations' actions is repaired, it is easy to imagine "zombie" innovation organizations—lacking an animating strategy to concentrate effort, going through the motions, pushing whatever projects seem interesting through their funnels to satisfy a need for activity. They may achieve some growth, but will likely fall prey to disruption or miss out on the most attractive emerging value pools.

Fixing this disconnect and positioning the organization to capture its best opportunities starts outside the innovation function. Organizations first need a sharp business strategy that makes crystal clear what's in scope—and what's out. Getting there demands superior strategic foresight to understand how the world is changing, where value pools are shifting, and in what domains the organization has a right to win. (For more, see the sidebar "The Strategic Foresight Imperative.")

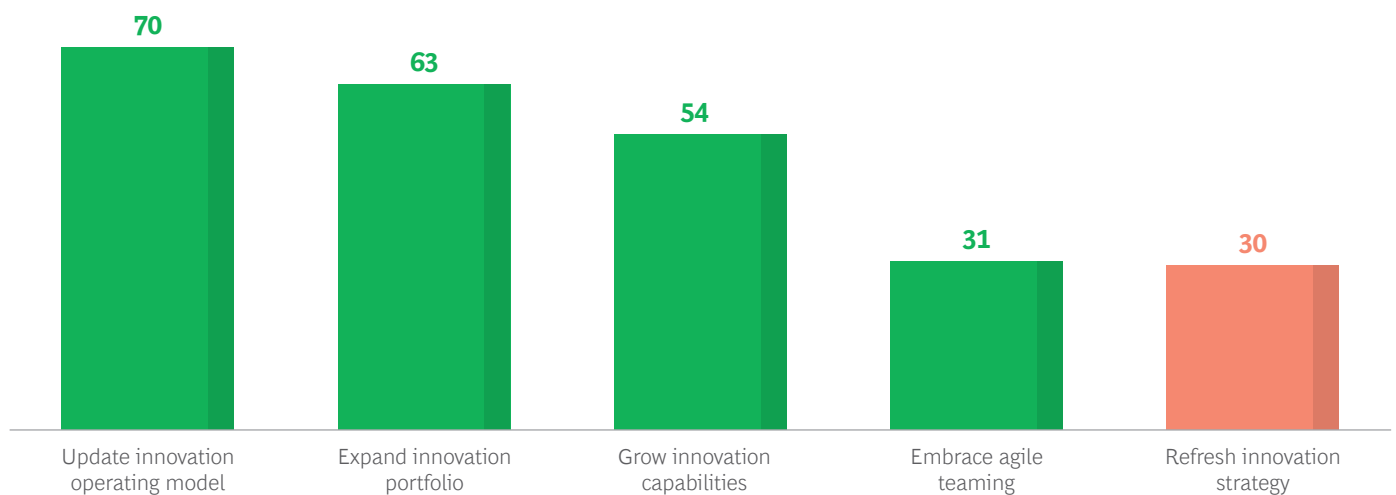
The strategy needs to be concrete enough to identify the priority innovation domains that are expected to deliver real results on the organization's short-, medium-, and long-term aspirations. Innovation leaders then can set about the hard work of infusing the strategy throughout their innovation systems: reallocating resources, acquiring needed capabilities, reshaping the pipeline, and rethinking success metrics and timelines.

Six Best Practices for Linking Innovation to Strategy

The most successful organizations align their innovation systems to their business strategies in six critical ways. We'll illustrate through the example of leading innovator Tata Group:

Exhibit 5 - Companies Are Prioritizing Efficiency and Throughput at the Expense of Strategy

Looking ahead at the next year and beyond, what actions do you plan to take? (%)



Sources: BCG Global Innovation Survey 2024; BCG analysis.

Note: n = 1,003 for global respondents.

The Strategic Foresight Imperative

You have to see an opportunity before you can seize it. You have to spot a risk before you can sidestep it. And organizations with superior strategic foresight have a significant competitive advantage, particularly in uncertain times when traditional forecasting approaches based on extrapolation from the past are unlikely to deliver valuable insights.

Rather than looking inward, organizations that are foresight leaders look across an uncertain landscape and scan the horizon. They are able to separate signal from noise and develop a perspective on what might be next—and imagine their role in those futures. They don't know exactly what will happen, but they're prepared for what might.

Their superior perception gives these companies an edge in identifying and responding to, among others:

- Critical shifts in customer priorities and sentiment that require new value propositions
- An unexpected and attractive adjacent market that could drive a new wave of growth
- A new technology with the potential to disrupt business economics
- An attractive partnership or acquisition candidate that can accelerate progress toward a strategic objective
- Weak signals of new moves by competitors—or the rise of potentially advantaged upstarts

The best organizations bring together advanced analytics and strategic creativity to build a foresight advantage: Analytics to surface patterns and spot anomalies within diverse sources from social media to scientific literature. Earnings calls to patent citations. Analyst reports to smart money flows. And creativity, scenario planning, and wargaming to expand the thinking and imagine the implications. Which new opportunities might emerge? For what potential futures do we need to prepare? How do we build resilience to potential new risks? How might competitors react?

Foresight leaders make this discipline central to their culture and not just a module bolted onto their annual planning process. They understand the critical assumptions behind their strategy and the foundations of their competitive advantage. And they continually scan for potential disruptions or accelerators—sometimes via a central foresight team staffed with experts and supported by technology, sometimes by empowering the broader organization to sense weak signals and challenge the status quo, and sometimes both.

In one example, in 2011 BCG's [Center for Growth and Innovation Analytics \(GIA\)](#) helped a leading semiconductor equipment company that was facing slowing market growth identify an unexpected adjacency by analyzing patent-citation networks. The company's expertise in moving materials in a vacuum at ultra-low temperatures could be of huge value in human tissue handling—a highly fragmented market. By mining startup, investment, and patent data, GIA identified potentially attractive acquisition candidates that accelerated the company's successful move into life sciences. Today—after the \$3 billion sale of the original semiconductor business to private equity—the pure-play life sciences business is the market leader, with a \$3 billion market cap.

- **Senior Executive Ownership.** Innovation is championed by the CEO or other prominent members of the C-suite. At Tata Group, executive chairman Natarajan Chandrasekaran drives innovation from the top down with a focus on three principles: think and aspire big; direction first, velocity next; and company values before market valuations. And the company is definitely thinking big—planning to deploy \$120 billion in investment between 2022 and 2027.
- **Clarity on Innovation’s Role.** There’s a shared story on the purpose of innovation and how it supports the company’s strategic direction. At the Tata Group level, that story is all about accelerating India’s development and industrial base in important areas like automotive and semiconductors.
- **Focus on Competitive Advantage.** The organization explicitly focuses on opportunities where it has a clear right to win based on its unique strategic assets. As India’s largest conglomerate, Tata has many advantages, among them a brand that attracts top talent, strong access to capital, and significant free cash flow. The company’s reputation and scale enable it to take on challenges—such as the development of an Indian semiconductor industry—that would be out of reach to many others.
- **Clearly Specified Domains.** The innovation portfolio is centered on specific innovation areas that support the overall business strategy. Chandrasekaran clearly communicates to the organization that “some bets are for us, some bets are not.” The company has identified crosscutting themes, including sustainability and digital, within which they make targeted investments into specific domains, such as electric vehicles (EVs) and 5G.
- **Target Portfolio Structure.** Innovation leadership has a vision for how talent and resources should be deployed against domains and across time frames to fulfill the organization’s strategic ambitions. When he took the reins as executive chairman, Chandrasekaran worked with division leaders to harmonize the portfolio to focus on a set of clarified domains. And each division of Tata is expected to balance its innovation portfolio between projects offering immediate profits and attractive longer-term bets.
- **Quantified Objectives.** The organization has a concrete, fact-based perspective on how innovation activities will contribute to its financial objectives. And it also has clear timelines and an analytical approach to quantifying risk. For example, Tata set ambitious targets to help it drive India’s national goal of having EVs represent 30% of domestic vehicle sales by 2030. These clearly stated objectives have helped Tata become India’s leading EV supplier, with 75% market share.

About 48% of the executives we surveyed felt that their organization made some effort to link their business and innovation strategies—but only about 12% reported strong links that were delivering real impact. [Exhibit 6](#) shows that the 12% of companies claiming strong links were also dramatically more likely to embrace the six best practices than those reporting no linkage. But even among these companies, there’s room for improvement. The two that are least embraced—establishing a target portfolio structure and quantifying objectives—are the ones that truly link ambition to action.

Getting to a truly strategic and effective innovation system is about embracing all six best practices—and doing so pays real dividends. [Exhibit 7](#) shows that the 33% of our sample that incorporated four or more of the six outperform the median percentage of sales from new products reported by respondents by 5 percentage points. Incorporating one to three conferred no benefit, while the 24% that embraced none of the elements underperformed by 5 percentage points.

Tata is not the only leading company showing the way to link strategy and innovation. This year’s report offers stories of three other companies winning through the linkage of business and innovation strategies:

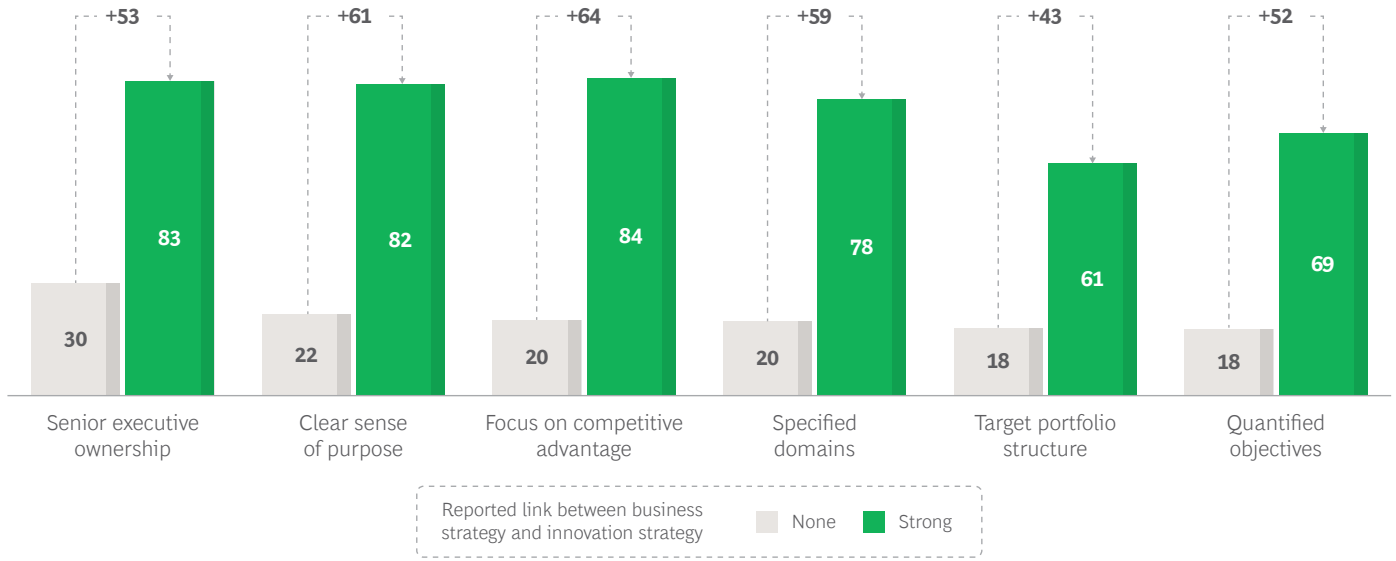
- Novo Nordisk’s and Eli Lilly’s long-term commitments to diabetes innovation positioned them to capture leadership positions in anti-obesity medications. (See the sidebar [“For Novo Nordisk and Lilly, Persistence Pays Off in the Obesity Domain.”](#))
- Automotive supplier Aptiv has embraced a strategy-led and highly rigorous innovation portfolio management approach to ensure it succeeds in navigating the rapid evolution of mobility-related technologies. (See the sidebar [“Aptiv’s Innovation System Is Not on Autopilot.”](#))
- AI chip giant Nvidia is now the world’s third most valuable company. It got there by staying true to its passion to enable accelerated computing—while remaining flexible on the best path to that goal. (See the sidebar [“Nvidia’s Path to Becoming the AI Revolution’s Brain.”](#))

While this year’s research finds that global innovators need to tune up their innovation systems across the board, strategy is the place to start. It’s the only way to ensure that the organization’s efforts are directed toward the projects that will help it achieve or retain long-term market leadership and create exceptional value for its stakeholders.

One likely priority investment area for many companies is embracing Gen AI not only as a way to enhance the efficiency of their internal functions, including innovation, but also as a key differentiator and enabler of new products, services, and business models.

Exhibit 6 - Organizations with a Strong Link Between Business Strategy and Innovation Strategy Are More Likely to Exhibit Six Best Practices

Percent of respondents exhibiting best practice (%)



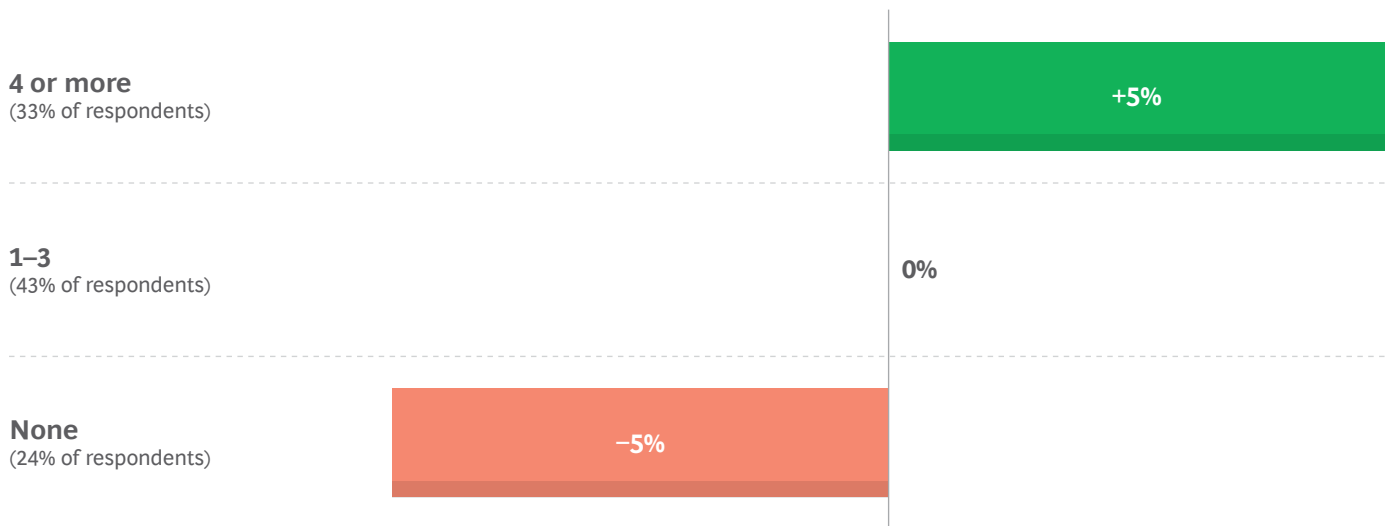
Sources: BCG Global Innovation Survey 2024; BCG analysis.

Notes: n = 124 for strong link; n = 525 for no link. Numbers may not sum due to rounding.

Exhibit 7 - Organizations Adopting Four or More Best Practices to Link Business Strategy and Innovation Strategy See More Sales from New Products

Number of best practices adopted (out of six)

Share of sales from new products, difference from overall median (%)



Sources: BCG Global Innovation Survey 2024; BCG analysis.

Notes: Overall median is 15% for 1,003 global respondents. Deltas refer to median values for subgroups.

For Novo Nordisk and Lilly, Persistence Pays Off in the Obesity Domain

In pharmaceuticals, focus matters. The monumental successes of Novo Nordisk's Wegovy and Eli Lilly and Company's Zepbound (respectively, the two firms' obesity-targeted formulations of their diabetes drugs Ozempic and Mounjaro) did not come out of thin air. Instead, they were the reward for sustained focus.

Both companies had long been committed to leadership in the innovation domain for diabetes therapies. In fact, each introduced its first diabetes medication in 1923. And that depth of experience with the relevant biology and related technologies—and with the lives and comorbidities of diabetes patients—positioned them to see opportunities and take risks that others could not.

In the 1990s, both firms started exploring glucagon-like peptide 1 (GLP-1) agonists, a new category of diabetes drugs that promised to lower blood sugar levels by mimicking a hormone that stimulates the body to produce more insulin. And both knew from the academic literature that GLP-1 agonists had potential weight-loss benefits. In 2005, Lilly introduced Byetta, the first GLP-1-based therapy for Type 2 diabetes based on the active ingredient exenatide. Novo followed in 2010 with Victoza, based on liraglutide.

Novo was the first to start studying the obesity adjacency of these drugs. The company made a strategic decision to research this area in the late 1990s. It was a risky choice. Many other companies had failed to create a workable obesity drug because of adverse side effects. Moreover, there were concerns that patients might be uncomfortable with injecting themselves to lose weight—and that health insurers might not be willing to pay for the drugs.

But Novo persisted, and in 2014 it received FDA approval for Saxenda, also based on liraglutide, the first drug specifically targeted as a weight-loss therapy. Then, in 2017, the FDA approved Novo's Ozempic for diabetes. Ozempic was based on semaglutide, had to be administered only once a week (unlike Victoza, which had to be injected daily), and proved to have more pronounced weight-loss benefits. In 2019, the company also received approval for Rybelsus for diabetes, the first pill based on a GLP-1 agonist (semaglutide).

Both companies then doubled down to capture the obesity adjacency. Novo secured FDA approval for Wegovy (based on semaglutide) for weight loss in 2021. In short order, Lilly launched Mounjaro for type 2 diabetes in 2022, and then Zepbound for obesity in 2023. Both are based on tirzepatide, the first treatment that activates both GLP-1 receptors and glucose-dependent insulinotropic polypeptide (GIP) receptors.

These drugs have been transformative for patients, with benefits going well beyond diabetes and obesity. Both companies are exploring additional advantages of GLP-1 agonists: Novo seeing significant reduction in cardiac events, and Lilly seeing value in the treatment of obstructive sleep apnea. But it has been equally transformative for the companies—approximately doubling their market cap—a major feat given that both Novo and Lilly have long been among the sector's top performers, appearing regularly on [BCG's annual ranking](#) of the top 50 value creators.

These successes are a testament to the depth of expertise, commitment, and curiosity of the companies' researchers. And both companies are continuing to innovate in this domain, each pursuing combination therapies and exploring other compounds with potential for patients with diabetes and obesity.

Aptiv's Innovation System Is Not on Autopilot

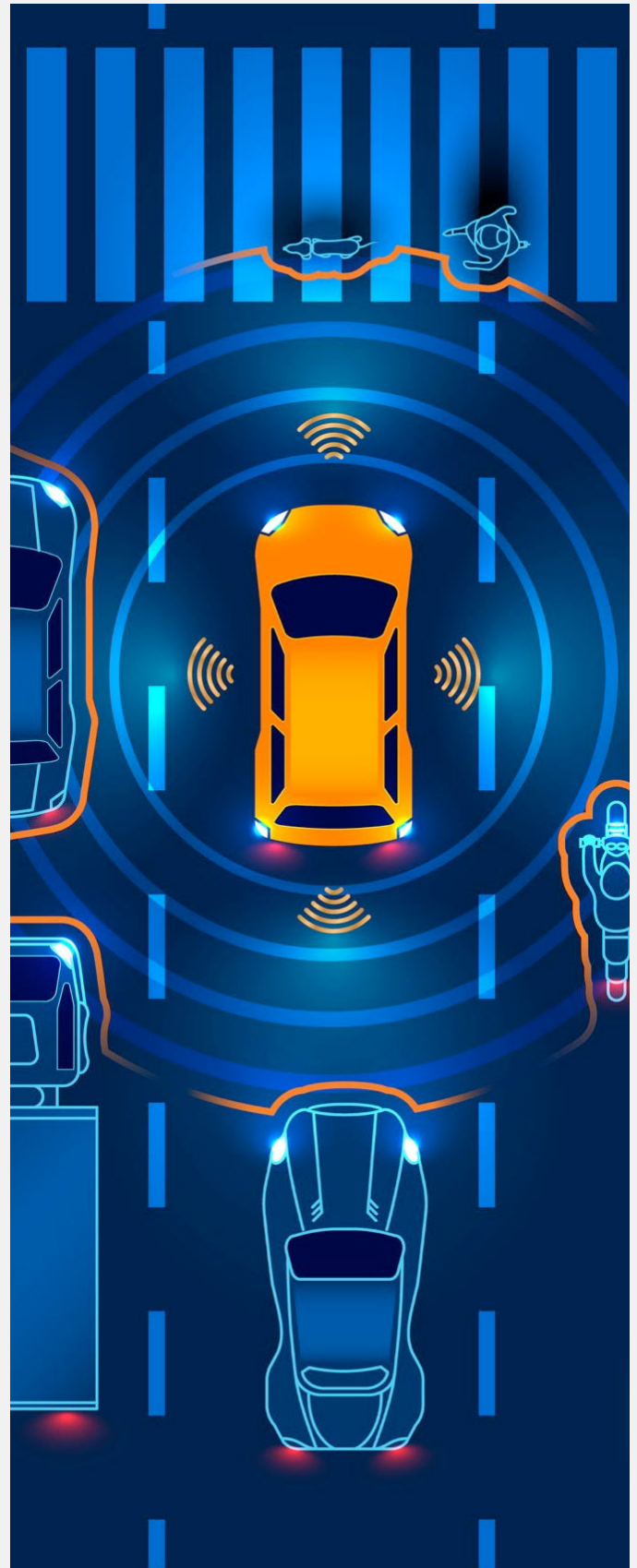
Aptiv is a \$20 billion automotive technology supplier and a key player in the drive toward an electric-powered, software-defined future. Its business strategy is rooted in a clear vision of the future that it refreshes, at the corporate level, regularly. This vision then informs decisions about priority innovation domains—or as Aptiv refers to them, future platforms—for the business units.

Within the business units, Aptiv has a rigorous portfolio approach to drive continued success both today and tomorrow. On the hardware side, it manages the portfolio using a well-established review and technology-development process across three timeframes: near-, mid-, and long-term. And it manages the software side for an even faster cycle time.

A few years ago, the company's vision exercise saw traditional "hardware-defined" vehicles continuing to give way to "software-defined" ones with dynamically updatable features. These software-defined vehicles would include the initial steps toward autonomy, although full autonomy—with cloud-native vehicles embedded into the Internet of Things—was not envisioned to arrive until at least 2030.

With an eye toward developing partial autonomy and software-defined vehicles as future platforms, Aptiv defined clear innovation domains for both hardware and software. These included central vehicle controllers, high-voltage power electronics, radars, cameras, and their related software. It also focused on untethering software from hardware (known as "hardware abstraction") by enabling easier and more frequent software updates. This will allow the company to accelerate progress.

This strategy-led approach has driven many successes; for example, Aptiv's Gen 6 advanced driver-assistance system, which can handle driving scenarios (e.g., tunnels, bridges, fog) with which radar has traditionally struggled while also reducing compute demand. The organization is also making bold moves such as the \$3.5 billion acquisition of Wind River, a leader in edge computing, to accelerate its progress toward hardware abstraction and software life cycle management.



Nvidia's Path to Becoming the AI Revolution's Brain

Nvidia was founded in 1993 with the aspiration to be a leader in the growing market for accelerated computing—an approach that enabled demanding applications to run faster and more efficiently by separating out data-intensive elements and processing them on specialized hardware and chips that work in concert with the CPU.

The company's initial success was in computer graphics. In 1999, it developed the GeForce 256, the first graphics processing unit (GPU) chip. The product was targeted at the high-end computer gaming market. Its success earned the firm the right to develop the graphics hardware for the launch of Microsoft's Xbox gaming platform.

But the company saw gaming as just one application for its chips. And perhaps its most important move to realize its broader ambition was the creation of CUDA, a parallel computing platform and application programming interface that opened up the GPU's hardware and software, enabling the global community of programmers to explore new use cases for the GPU.

That bet revealed a potentially huge opportunity in 2012 when the ImageNet Large-Scale Visual Recognition Challenge was won by AlexNet, a neural network that was trained on a system powered by Nvidia GPUs. While Nvidia had been experimenting with AI on its own—it had used its GPUs to train a machine learning model to identify cats in YouTube videos in 2010—the AlexNet victory put the company and the world on notice that Nvidia's GPUs could be central to the next generation of AI progress.

Following this win, CEO Jensen Huang shifted the organization's innovation focus away from its core in computer graphics to leading the nascent market for AI chips—even though for the first few years, it was, in his words, “a zero-billion-dollar market.” Huang invested in new capabilities and chip architectures to capture the leadership position in data centers for AI.

Today, Nvidia's Hopper microarchitecture is at the heart of OpenAI and ChatGPT. Nvidia is now the world's third most valuable company after Microsoft and Apple, and it ranks first on BCG's 2024 listing of top value creators.





Accelerating Innovation with GenAI

GenAI has huge potential to transform the innovation process as well as to enable new products, services, and business models. Recent BCG research found that 65% of executives view it as having the most disruptive potential of any technology over the next five years. According to BCG's AI Radar, 89% of executives surveyed cited GenAI and AI as one of their organization's top 3 technology investment priorities for 2024—and about half said it was their top priority.

The executives in our sample mirror those results, with 86% reporting that their companies are at least experimenting with GenAI in their innovation organizations. Those that were already proficient with predictive AI technology are further along, with 21% reporting that they have implemented GenAI with impact in an innovation-related use case.

Building expertise in both GenAI and predictive AI is important because, like the two hemispheres of the brain, they complement one another when they work together and further expand the art of the possible. Traditional predictive AI is the left brain, supporting analytical decision making and optimization. GenAI is the right brain, boosting creativity, developing content, and distilling the essence of vast troves of information.

In this early stage of the race, the readiest innovators are moving out ahead and further extending their advantage through both AI and GenAI.

Nearly All Innovators Are Exploring GenAI

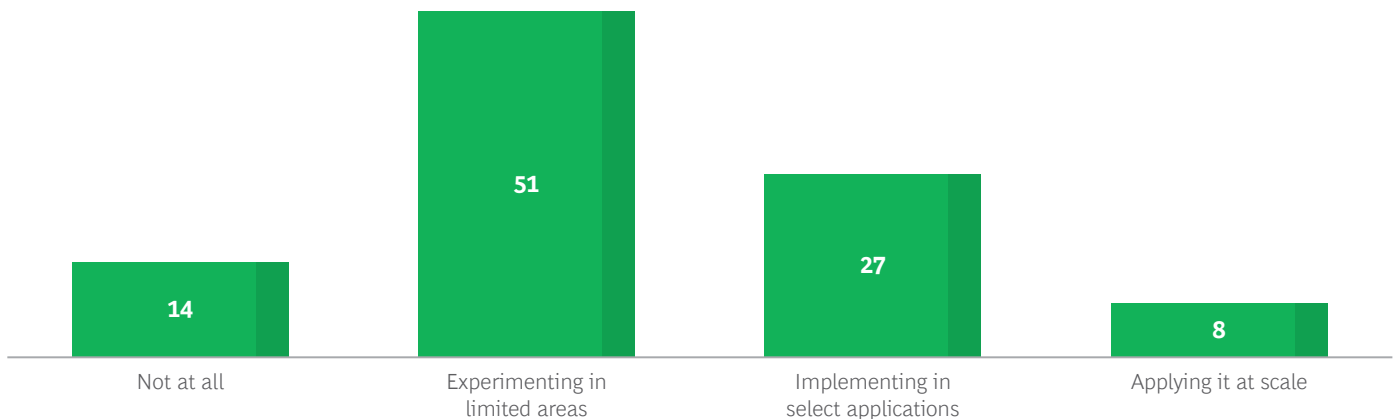
Interestingly, the rise of GenAI as a new dimension of machine intelligence seems to have shaken many innovators' assessments of the quality of their AI achievements to date. Between 2022 and 2024, the proportion of executives reporting that their companies had implemented AI with impact declined from 37% to 10%.

Today, most organizations are adopting GenAI to some degree. While just 8% are now applying it at scale, over one-quarter have implemented it in select applications, and over half reported they are experimenting with it in limited areas. (See Exhibit 8.) And as alluded to earlier, ready innovators—those that earned a score of 80 or more on BCG's i2i benchmark—are moving ahead of the rest when it comes to GenAI. They are 1.5 times more likely to have implemented GenAI in one or more applications—and five times more likely to be applying the technology at scale.

Yet not every industry is investing in a manner consistent with its perceived risk of disruption by GenAI. Exhibit 9 shows the average GenAI adoption score for the industry (calculated from self-reported behavior) and the percent of respondents for the industry that rank potential disruption from GenAI as a top three challenge for their company. Perhaps not surprisingly, four industries are leading the charge: Software and Services, Tech Hardware, and Telecom Services, likely due to the importance of technology leadership; and Media and Entertainment, presumably because of GenAI's capacity for content creation.

Exhibit 8 - Nearly All Companies Are Experimenting with GenAI for Innovation, but Most Are in the Early Stages of Their Journey

How extensively is GenAI being integrated into your company's innovation/R&D/product development function? (%)



Sources: BCG Global Innovation Survey 2024; BCG analysis.

Note: n = 1,003 for global respondents.

And while, on average, every industry is taking steps to build GenAI capability, some (for example, Financial Institutions and Consumer and Durable Goods) are investing in GenAI despite a lower level of concern, while others (notably Public Sector and Wholesale and Retail) would seem to be underinvesting given their perceived risk.

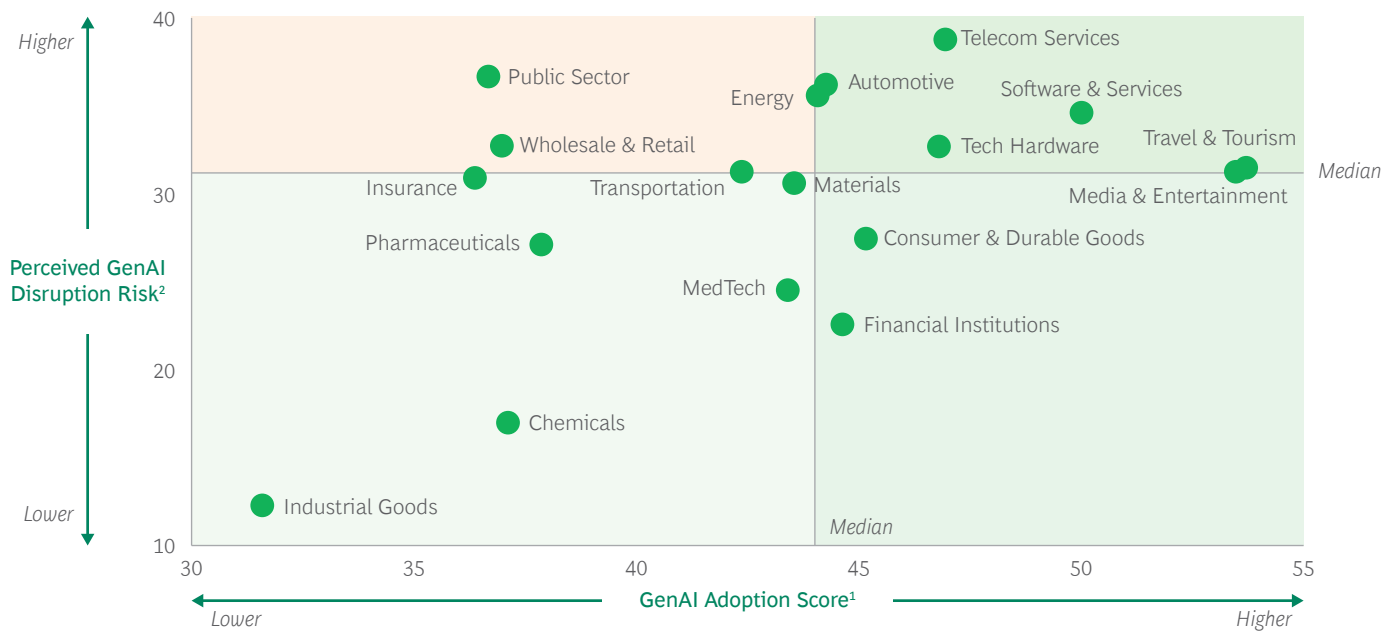
Three GenAI Value Plays

GenAI is an investment priority, and the lion's share of companies have already begun to experiment. Yet in our experience, many are unclear about how to identify and deliver on their most attractive GenAI opportunities.

BCG has developed a [helpful framework](#) to aid organizations in mapping out their GenAI journeys. It identifies three broad value plays that all companies should pursue:

- **Deploy.** This is where nearly every organization begins—focusing on quick wins using off-the-shelf GenAI tools to boost productivity and build experience either as one-offs or for a specific, narrow organization-wide use case. It's a great way to start gaining traction, identify champions, and spotlight small-scale applications with greater potential. For instance, companies can use ChatGPT to write first drafts of reports, or take advantage of Zoom's automated meeting summaries.

Exhibit 9 - Many Industries Are Matching Their GenAI Adoption with Their Concern over Its Disruptive Power, but Not All



Sources: BCG Global Innovation Survey 2024; BCG analysis.

¹BCG score based on responses to the question “How extensively is Gen AI being integrated into your company’s innovation function?” (industry average).

²Percent seeing potential disruption from GenAI as a top-three challenge (industry average).

- Reshape.** In this value play, companies rethink critical internal functions through the GenAI lens to drive improvements in quality, speed, and efficiency. GenAI becomes a powerful new addition to the business transformation toolbox, freeing staff to work on more value-added activities. And it builds GenAI expertise throughout the organization, creating home-grown experts who, given the scarcity of GenAI talent, will be critical to future advantage. For example, Sanofi, a leading health care company, is rethinking three functions—R&D, manufacturing, and commercial—through pilots with the twin goals of improving business economics and freeing up resources and time to reinvest in R&D.
- Invent.** Companies can leverage GenAI to drive value creation by enabling new products, services, and business models—and enhancing the attractiveness of existing ones. This will inevitably generate the highest returns by creating new pathways to top-line growth. These capabilities may still be a bit down the road for the many companies that are just starting to experiment with GenAI. Microsoft, however, is further along the adoption path and showing the way. It recently introduced Copilot, a subscription-based assistant for Microsoft 365 that lets users apply GenAI to their own data, resulting in significant potential to increase customer productivity. Analysts estimate that Copilot has the potential to generate \$7.3 billion in incremental recurring revenue by the end of fiscal 2025.

While “invent” generally represents the biggest opportunity for an organization, “reshape” is typically an easier place to start building transformational GenAI expertise. For this reason—and the fact that the global imperative to increase innovation readiness now also includes building GenAI into the innovation system—we’ll focus here on ways that leaders can reshape (and are reshaping) their innovation systems with GenAI. A crucial benefit: a reshaped innovation function will be able to invent faster and better.

Reshaping Your Innovation System with GenAI

There are myriad ways that GenAI can speed, streamline, and bring fresh perspective to an organization’s innovation system. [Exhibit 10](#) offers a non-exhaustive roster of potential use cases. We’ll spotlight ten that are already making important contributions across the three phases of the innovation cycle: strategize, create, and scale.

Strategize. This is the phase in which the business strategy and complementary innovation strategy are shaped. It’s where innovation ambition is set, domains are defined, and target portfolio aspirations and metrics are established. Three areas in which GenAI can help:



GenAI has huge potential to transform the innovation process as well as to enable new products, services, and business models.

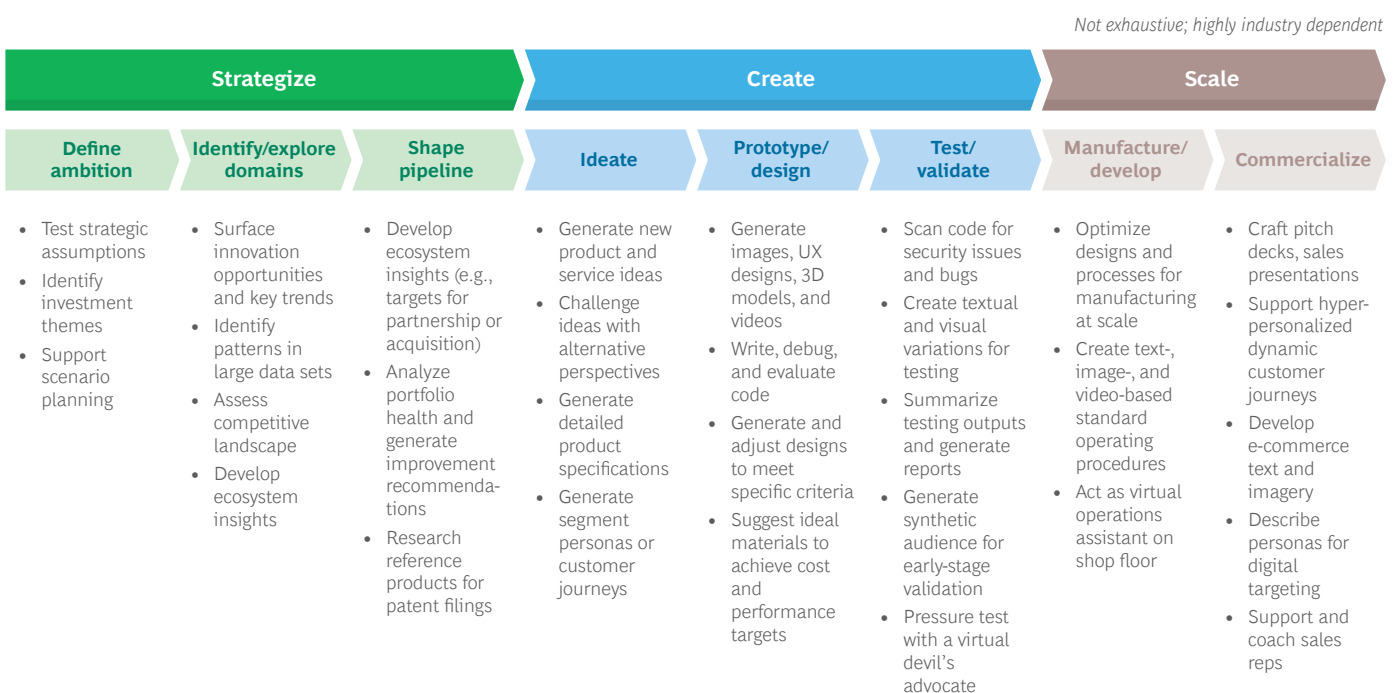
- **Test strategic assumptions.** Every organization should operate on the basis of a set of shared strategic assumptions—for example, about customers, competitors, business economics, competitive advantage, and technology. Staying ahead in disruptive times requires sensing when core assumptions need to be rethought. GenAI, lacking emotional bonds and biases, can help by bringing an external perspective, making connections you might have missed that support or undermine your convictions. Organizations are articulating their assumptions and then asking chatbots to critique them. They’re also asking chatbots to develop a perspective on the assumptions of a traditional rival or upstart. Even the technology’s potential to confidently produce incorrect output can be helpful by forcing leaders to sharpen their arguments for the status quo. (See “[To Drive Innovation with GenAI, Start by Questioning Your Assumptions.](#)”)
- **Identify and explore innovation domains.** As discussed in the previous chapter, an organization needs to focus its innovation investment on a focused list of domains consistent with its business strategy. GenAI can help innovators connect the dots to identify and develop a richer understanding of the shifting landscape of demand. For instance, Nestlé is using GenAI to look for patterns in online and social media, strengthening its trend analysis capabilities.

- **Develop ecosystem insights.** It’s important for organizations to have a clear sense of the landscape of supply. This includes not only key competitors but also the universe of complementors, and how they all fit together. What are our competitors up to? Who are candidates for partnerships or acquisition? GenAI can help. For example, a leader in blockchain technology, eager to identify new and interesting applications of its technology, is using GenAI to rapidly summarize, categorize, and extract key themes from its—and its competitors’—patent citation networks, including automatically generating summaries of the product offerings of the corporate patent owners.

Create. This is the phase most people think of as innovation. It’s an iterative cycle of ideation, design and prototyping, and testing and validation. It’s where new products, services, and business models are born and perfected. We’ll spotlight four use cases here:

- **Generate new product and service ideas.** GenAI is a great support for the divergence phase of any focused ideation exercise. By adjusting the “temperature,” it can rapidly complement the inventory of human-generated ideas with a universe of options ranging from more near in to more far out. And it can also work with humans to help evaluate which ideas are most promising for further development. In one example, Mattel has used GenAI to quadruple the number of Hot Wheels concept images it produces, providing its innovation teams with useful ideas for new designs or features.

Exhibit 10 - A Sampling of GenAI Use Cases to Reshape the Innovation Cycle



Source: BCG analysis.

Note: UX = user experience.

- **Generate images, UX designs, 3D models, and videos.** GenAI is a huge help in the process of exploring and refining ideas. Platforms like Midjourney can create realistic images of potential new products, and innovators can invest in custom models. For example, Orbital Materials' GenAI model, Linus, helps product teams streamline material discovery and design by generating 3D molecular structures based on natural language prompts. Successes include the development of a more efficient and cost-effective carbon dioxide filter.
- **Generate reports.** GenAI can be a powerful aid in streamlining the creation of innovation-related content. Sanofi, for example, cut out 40% of the time needed to create clinical trial reports by starting with a GenAI-created draft. Since these reports are critical to the regulatory approval process, submitting them faster has the potential to drive higher returns on R&D investment by shortening time-to-market.
- **Act as a devil's advocate to challenge early ideas.** Another promising GenAI application is to use it as a sparring partner to strengthen ideas as they move through the innovation funnel. For example, Innovation CoPilot—a proprietary BCG tool currently in development—is a GenAI chatbot that iteratively challenges ideas at each innovation stage, helping teams enrich and improve them.

Scale. This phase focuses on transforming innovation into growth and value through manufacturing and commercialization. We'll illustrate with three examples:

- **Support hyper-personalized dynamic customer journeys.** GenAI's conversational skills make it a powerful personalization engine that can accelerate and enhance outreach to target customers. L'Oréal has developed Beauty Genius, a GenAI advisor that offers personalized beauty advice via an app. Trained on over 6,000 images as well as hundreds of thousands of customer-care conversations—and tested by makeup artists across 50 countries using over 10,000 products—Beauty Genius offers customers playful and interactive advice on skin care and cosmetics.

- **Develop e-commerce text and imagery.** GenAI is also speeding, and decreasing the cost of, bringing products to market. L'Oréal's Content Lab leverages GenAI to help create storyboards for new product launches, generate social media content, adapt materials for different languages, and generate images and text for product pages faster than previously possible.
- **Support and coach sales reps.** Rather than using AI in place of sales reps, leaders can use GenAI to assist them by providing a **digital support team via four sales-related personas**: a talented sales assistant that can brief reps before every call, a data scientist that can help reps find new prospects, a personal assistant that can polish and personalize emails, and a wise sales coach that can help reps become top performers. This support will improve efficiency. But the real prize is boosting effectiveness.

Reshaping their innovation system with GenAI should be a top priority for nearly all companies. It can inspire and challenge teams. It can take critical time out of processes, freeing staff to focus on more value-added activities. And it's likely to become table stakes for any ambitious innovator, making it an increasingly important dimension of an organization's innovation readiness.

However, reshaping your innovation function with GenAI is only a first step, and one that, given technological progress, never really ends. Not all industries need to act with the same urgency, because each faces a different degree of disruptive threat from GenAI. But all organizations need to start building their capabilities. Ultimately, the big payoff comes from moving from reshaping to inventing. It's only with the creation of winning new products, services, and business models that leverage GenAI that innovators have the opportunity to achieve a sustainable competitive advantage and deliver superior value creation. And in the quest to capture the next big wave in an industry, innovation systems reshaped with GenAI will have an edge.

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