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The path to generative AI value: Setting the flywheel in motion

How organizations can structure their GenAI pursuits to blaze a path to value and create lasting momentum.

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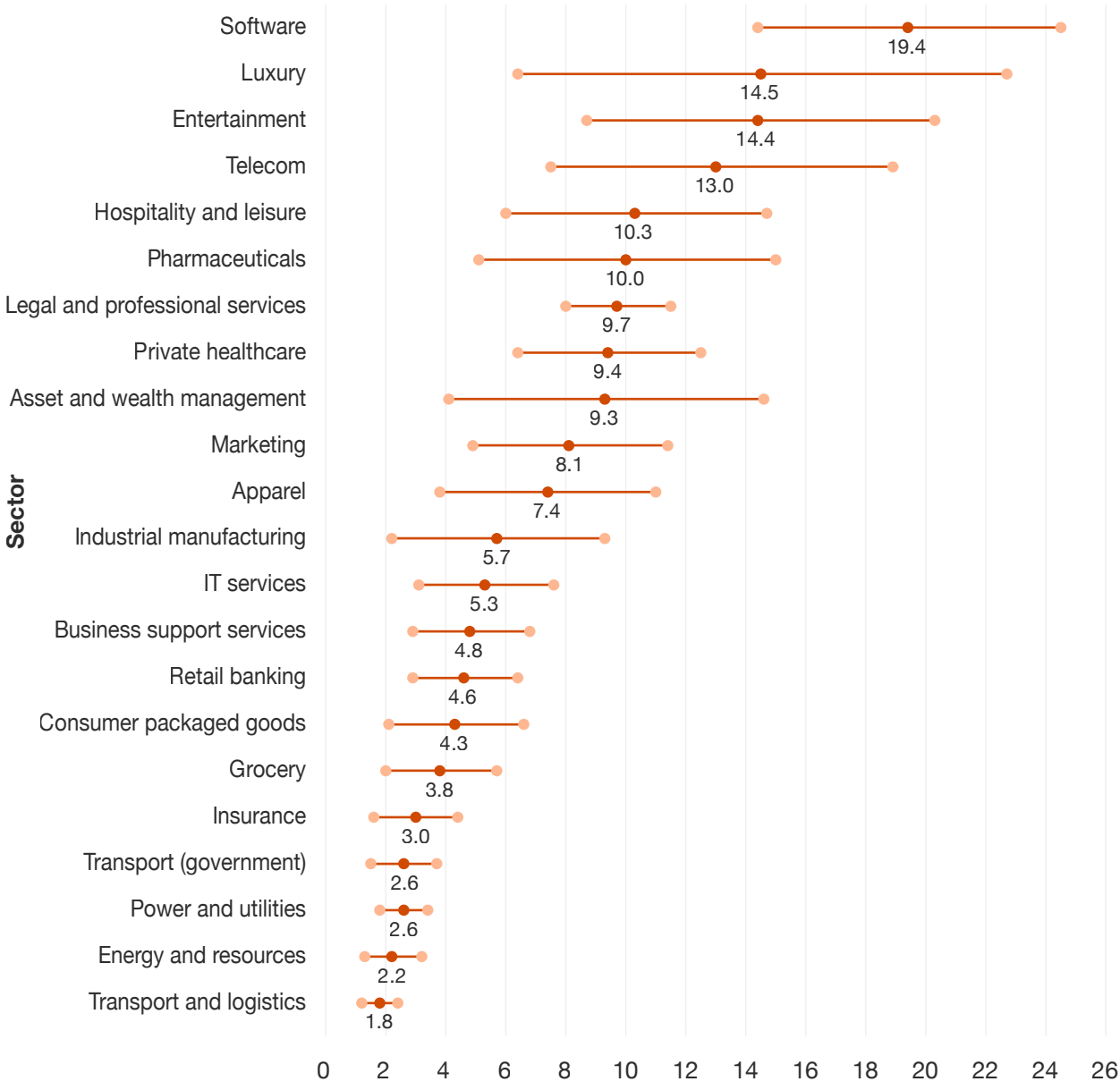
The huge potential for disruption promised by the latest iterations of generative AI (GenAI) has sent shockwaves across industries. In PwC's 27th Annual Global CEO Survey, published earlier this year, 70% of CEOs said they expected GenAI to significantly change the way their company creates, delivers, and captures value in the next three years. More than two-thirds of the surveyed CEOs who had already implemented some form of GenAI in their organization reported having changed their broader technology strategies as a result.

Now, in a separate, ongoing study, PwC and Strategy&, a global strategy consulting business that's part of the PwC network, are finding that the potential impact varies considerably by industry and organization. Our analysis of GenAI's potential projected value suggests that if the technology were applied to current operating models, software companies could realize an uplift in profit margin of about 20 percentage points. Even for sectors with substantially smaller projected gains, such as transport and logistics, the potential of a 1 percentage point increase in profits is certainly worth exploring.

The potential value of GenAI across sectors

Potential increase in operating profit margin (percentage points)



Note: The range of values indicates levels of uncertainty: the impact of some use cases will vary considerably across companies in a sector. The potential increase in value is calculated by assessing the cumulative use case impact on benchmarked profits and losses for each sector, which is itself based on current operating models. Source: S&P Capital IQ data with PwC and Strategy& analysis

Of course, these figures are based solely on the prospect of applying GenAI to current operating models; they don't factor in either the cost of building and running GenAI tools or the possibility of shifting competitive dynamics. Even so, at the lowest end of the spectrum, such productivity gains could unlock

potential for substantial movements in market expectations, which, in turn, are likely to drive further innovation, disruption, and reinvention—leading to entirely new modes of value creation.

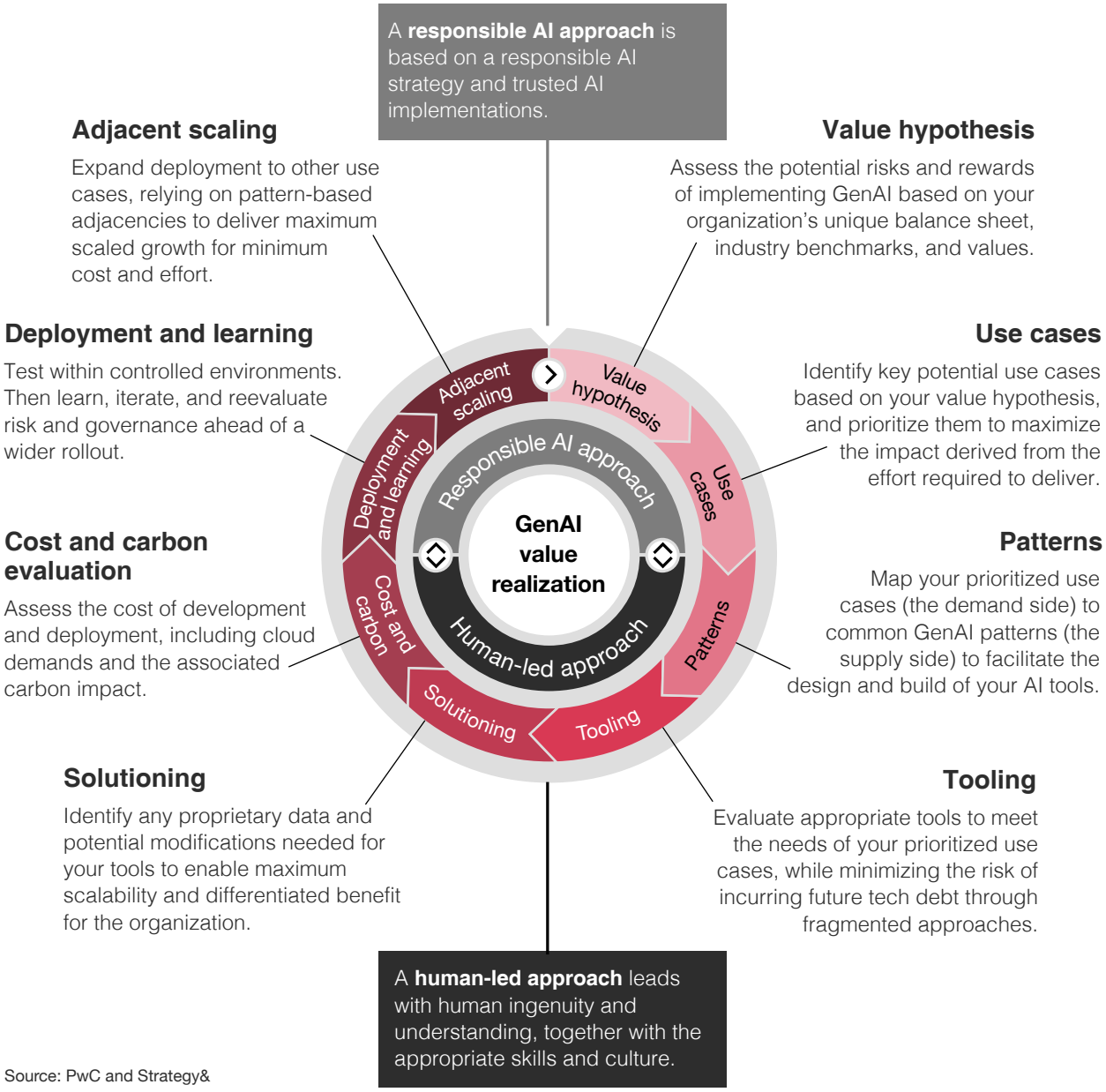
It'll be easier to set these transformations in motion in some sectors than others. To help identify where businesses can focus their GenAI efforts most productively, we've taken inspiration from a mechanism dating to an earlier period of transformative change: the flywheel.

Flywheels, from the original potter's wheel to the concept that informs Amazon's e-commerce machine, may take a bit of effort to get spinning. But once these virtuous circles are in motion, every subsequent addition of new energy adds to their momentum, reduces the effort needed to accelerate, and helps both preserve and transfer energy (in the form of business knowledge, experience, and capabilities). Over time, this can lead to a decrease in the cost to create—and capture—value as the momentum builds.

Business leaders can harness the power of this flywheel to improve productivity and better position their organization for transformative reinvention. However, it's vital to remember that the impact of GenAI can stretch far beyond an uplift to the bottom line, so a responsible AI approach—one that considers the effects of business decisions on wider society—needs to be applied at every stage.

The GenAI value-realization flywheel

All industries can benefit from the value created by generative AI. By prioritizing GenAI deployments through the flywheel concept shown below, businesses can focus on efforts that will accelerate that value creation over time, helping them better position themselves to capture, realize, and maximize GenAI's value and benefits.



Source: PwC and Strategy&

Below, we describe how business leaders can leverage each stage of the flywheel approach to guide their GenAI implementation choices.

1. Create your value hypothesis

The value hypothesis is your initial strategic assessment of both the potential business value and the likely difficulty of implementing particular GenAI applications. It needs to be informed by such factors as the organization's purpose and values, its current balance sheet, its operations, the wider business ecosystem, and the competitive and regulatory landscape. The hypothesis can then be compared with an analysis of the potential long-term value uplift for the industry, to create a rough benchmark to help assess progress.

The immediate short-term value hypothesis for GenAI is rooted in efficiency. PwC's CEO Survey revealed that as much as 40% of the time spent on routine tasks—such as meetings and emails—is seen as inefficient. Using GenAI to enhance productivity makes both tactical and strategic sense. But it's important to keep the larger prize in mind when considering the value hypothesis: wholesale reinvention, which takes more time and resources.

A century ago, Henry Ford supposedly noted that when his customers wanted "faster horses," he gave them the Model T. Today, early generative AI use cases have tended to focus on improving the efficiency of existing solutions and ways of working—the equivalent of faster horses. And though the flywheel framework can help to drive value with this approach, it's vital to remember that a larger prize exists. Rather than focusing all their attention on marginal improvements, most businesses will want to completely rethink what the best solutions could be in light of the new options available to them. To avoid sleepwalking into a large technology- and process-debt problem in the next two to three years, it's necessary to keep an eye on the longer-term potential for significant disruption and reinvention when assessing future value and developing your early days GenAI strategy.

2. Prioritize key use cases

With your value hypothesis as a guide, it should become easier to identify the GenAI use cases with the strongest potential to deliver the maximum benefit across the entire value chain. Not only will this make it easier to demonstrate return on investment, but it can also contribute to a proof of concept, helping to improve buy-in from key stakeholders for future initiatives.

Across industries, the top five GenAI use cases can create 50 to 80% of the overall value derived from the technology.

We've identified hundreds of GenAI use cases across sectors—and every organization in our analysis will have specific niche variants, challenges, and opportunities, potentially including differentiated approaches depending on how their data is used to train the GenAI tooling. Our initial analysis indicates that across industries, the top five GenAI use cases can create 50 to 80% of the overall value derived from the technology—so it makes sense to identify and concentrate on these.

For instance, in the luxury sector, where personalizing the customer experience at scale has long been the holy grail, GenAI's ability to deliver hyper-personalized marketing to buyers of luxury items—based on pattern recognition analysis of their buying history, content preferences, and preferred forms of address—could be a differentiator in providing customer service, and a significant revenue driver. In software development, GenAI coding assistants are already boosting productivity and profits by allowing human coders to focus on delivering the direction and quality control, with GenAI creating the bulk of the code itself.

Of course, the most valuable use cases won't be the same for everyone, even within the same industry. When assessing the potential value of GenAI for your business, you should focus on the likelihood that a use case will affect—and be affected by—seven key types of considerations, as shown in the chart below.

Key considerations in assessing GenAI use cases

To understand the true potential value of GenAI use cases, it's important to look beyond financial projections to also consider the likely level of disruption and relative ease of adoption.

Source: PwC and Strategy&

3. Look for patterns to drive scale

To create maximum value, GenAI usually needs refinement and focusing. An out-of-the-box model may be able to deliver solid results for some use cases, but adding in your own company's data, with additional guardrails to provide focus and security, or additional plug-ins to increase the core tool's capabilities and accuracy—as PwC has done with its internal ChatPwC GenAI tool—can deliver much more relevant and impactful assistance.

Once this initial model refinement stage has been completed, GenAI tools can often be quickly repurposed for similar uses. We call these patterns. They can help technology strategists and other business leaders think laterally about the areas where small additional efforts can adapt existing GenAI deployments for other use cases and scale them across the business.

Six common GenAI use-case patterns

Because a single AI model can be adapted and tuned for many specific tasks, applying a GenAI pattern to one use case can unlock pathways to similar use cases.

Net-new creation

Creating entirely new content based on a user-provided prompt (instruction).

Examples:

- Creating images or video for marketing content
- Generating functional code from textual description

Share of GenAI value creation:

33%

Augmentation

Expanding on existing content to fill in gaps or create new synthetic datasets.

Examples:

- Auto-completion of written text, including emails, presentations, and code
- Imputation of missing values with statistically appropriate synthetic data

Share of GenAI value creation:

21%

Transformation

Converting data into new formats–such as text translation and personalization–or changing image styles.

Examples:

- Formatting code to company standards
- Personalizing design for aesthetic preferences or accessibility standards

Share of GenAI value creation:

19%

Dialogue

Responding to questions to provide guidance and information.

Examples:

- Generating humanlike speech and text for in-product functionality (e.g., video games)
- Responding to customer queries with intelligent service options

Share of GenAI value creation:

14%

Deep retrieval

Searching for specific information within a given document or set of documents.

Examples:

- Identifying specific insights within a collection of documents
- Creating metadata from documents to support business decisions

Share of GenAI value creation:

12%

Summarization

Producing an abbreviated form of a given document, coded program, or other body of text.

Examples:

- Querying public company information to summarize financials
- Identifying customer sentiment from surveys or social data

Share of GenAI value creation:

2%

Note: Sum does not total 100 due to rounding. Source: PwC and Strategy&

Only about 15% of the potential GenAI value rests with the summarization and dialogue (Q&A chatbot) patterns for which early GenAI services have become known.

Not all patterns hold the same level of potential. Our findings suggest net-new creation and augmentation could generate more than 50% of the overall value from GenAI, but these gains could be slower to materialize because they require more up-front investment in data and integration, and supportive business or process change. Only about 15% of the potential GenAI value rests with the summarization and dialogue (Q&A chatbot) patterns for which early GenAI services have become known.

Pattern identification can be very helpful for deciding where to focus your efforts to deliver maximum value. A major communications service provider's legal team knew there was potential to leverage GenAI's deep retrieval capabilities in order to identify key information across thousands of unstandardized contracts and thus help streamline future contract writing. Efforts focused at first on the commercial contracting function, where the value was likely to be captured much faster. Once the company-specific contract analysis GenAI model had been developed, it could be modified for use across procurement, real estate, and employment contracts—maximizing the value for minimal additional effort.

4. Select your foundational GenAI tools

Having identified use cases and patterns to drive scale, you can start evaluating and short-listing the most appropriate GenAI foundational technologies. The goal here is to anticipate and avoid future potential tech debt—the cost of changes that may eventually be required due to the longer-term limitations of tech investments to meet immediate needs—such as the inefficiency of having

multiple disconnected GenAI tools addressing various processes. The key need is balancing the tech's robustness with adoptability and adaptability to both enable scale and deliver sustained business outcomes.

Start with selecting appropriate GenAI foundation models and supporting technologies, cloud platforms, and service providers and partners. For some use cases, public general access GenAI models such as OpenAI's ChatGPT, Google's Gemini, or Anthropic's Claude are adequate. For more sensitive business information, a more secure, private version of one of these models, hosted within a controlled environment, may be necessary. More specialized uses—such as drafting legal documents or RFPs (requests for proposals) based on detailed knowledge of your organization's particular capabilities; providing personalized services requiring access to private data; or assisting with product and service innovation—mandate the application of unique enterprise and domain knowledge. This can be undertaken within your foundation model through retrieval-augmented generation (RAG), or by fine-tuning those models when required. In some cases, particularly for pharmaceutical and chemical R&D, to deliver the results you need, it may even be necessary to train your own bespoke models from scratch.

5. Define solutions that maximize existing value

The next step is to identify what to add to the foundational tools to deliver more specific solutions that can maximize the value. For many organizations, tooling itself will not lead to any market differentiation, so the addition of proprietary data will be the key to success. But that sort of data use will, in turn, raise additional challenges in governance and risk management that could result in the costs of development and implementation rising considerably, potentially reducing the overall value of otherwise promising solutions.

To identify the solutions that can deliver maximum value for minimum effort, it's important to think laterally, via the patterns. The classic example here is GenAI chatbots. Once you've developed one to help with automated customer service queries based on analysis of your organization's product and service documentation, a little modification could create a refined version to aid your

human workforce with in-person customer interactions. From there, it's not too great a leap to develop internal GenAI assistants for sales teams, training, and product development. Individually, these additional use cases may not make much impact on your bottom line. But adding such incremental GenAI solutions can take advantage of the momentum.

6. Assess the cost and carbon impact

Once a potential path to value has been mapped out, it's time to assess the cost of development and deployment, and decide whether to proceed. For many organizations, initial productivity-focused use cases will zero in on cost efficiency—improving margins through automation and augmentation of existing ways of working. Assessing the cost and impact of the GenAI use cases with the greatest longer-term net-new revenue-generation potential—through a fuller business transformation, innovation, or reinvention—is likely to be more challenging.

Consider cost in the broadest sense—not just financial, but also environmental, and even reputational. For example, though it may be possible to cut costs through the reduction of labor by using GenAI to perform some tasks, heedlessly replacing humans with bots could lead to a destructive or brand-damaging backlash, while also reducing human oversight and validation of GenAI output, which could increase risk exposure.

As it's still early days, it's possible that some well-publicized risks, such as GenAI's energy consumption, may be overblown. Our analysis of the carbon impact of GenAI use—assessing a combination of time spent, number of processors used, power per processor, and an emissions factor for metric tons of carbon dioxide equivalent—shows that the routine use of GenAI can be energy-intensive, but can also reduce emissions from other sources through wider efficiency gains.

7. Develop and deploy, test, and learn

Testing and learning is essential with a technology evolving as fast as generative AI. Every deployment, when rolled out with defined controls and success metrics in place, is an opportunity to learn. These lessons will, in turn, help you

identify enhancements—including to your understanding of how value can be captured and how you should measure future successes—as well as reevaluate risk and governance before adapting and scaling the tools and solutions to other parts of your organization.

This is the approach taken at PwC over the last year, during which the company treated itself as "client zero." In spring 2023, we partnered with GenAI startup Harvey to develop and test the effectiveness of tax, law, and HR-focused solutions Harvey had begun to build on top of OpenAI's ChatGPT foundation model. From the initial trial phase, our in-house teams soon realized the benefits of the tool's deep retrieval and summarization capabilities and identified effective ways of working, which were then used to enhance the tool with additional refinements. The deployment evolved from a helpful time-saver into an ongoing experiment in the reinvention of long-established operating models.

8. Adapt to deliver adjacent scale

In the final segment of the flywheel, you can tap into the substantial knowledge and experience built through assessment, development, and testing to make the tweaks necessary to repurpose GenAI tools for broader uses. In some cases, the solutions you've identified may need to be customized further for specific additional uses—but the proof of concept and lessons learned from the initial deployments should mean that buy-in is quicker, and training and adoption faster, thanks to your acquisition of institutional knowledge.

One major global beverage company has been following this adaptive approach to scale its deployment of GenAI. After initially focusing on predictive maintenance in factories by instructing the tool to spot patterns that could lead to part failures, the company was able to take the same patterns and adapt the approach for transport and logistics management. Subsequent applications even developed new solutions to help improve the efficiency of crop production through GenAI-enhanced precision agriculture. This, in turn, enabled a system-wide view, with similar GenAI-enabled predictive analytics tools and solutions adapted and combined to provide end-to-end supply chain–planning capabilities on a scale that would previously have taken years of development

to achieve. The underlying patterns were the same throughout, with solutions built on top of the same tool. This has meant each additional project has been delivered far faster and cheaper than in the past, as the company harnesses the momentum of its flywheel approach to learn from past deployments and find shortcuts to ever-greater value.

Seizing the GenAI opportunity

Though the flywheel can help identify where the value lies and help maximize it, some sources of value will be easier to realize than others. For all organizations, the key benefit that the flywheel approach will drive is the establishment of a virtuous circle of continuous learning and cumulative value creation that can bring the entire organization on the journey toward new, GenAI-enabled ways of working.

Naturally, a host of factors—including existing technology stacks, company culture, local regulatory landscapes, and competitor activity—affect the chances of success for individual organizations. One of the most important factors, which we will discuss in further detail in upcoming work, has to do with which industry you work in.

GenAI applications can work for some business functions across sectors, but initial results from our ongoing analysis suggest the greatest value opportunities will be industry- and business-specific, and will depend on a combination of how easy it will be to adopt the technology and the level of potential disruption it will bring. Some industries with high disruptive potential and few barriers to GenAI adoption are already seeing advanced levels of implementation, value creation, and reinvention. Other industries at lower risk of major disruption may find that GenAI can deliver meaningful gains that could help them secure a crucial edge over slower-moving competitors.

Regardless of the industry or state of development, companies can tap into the flywheel to rapidly identify the GenAI applications that can most effectively drive value across their organization, and to more swiftly and effectively scale them by building on the momentum of successful implementations.

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