

How high performers optimize IT productivity for revenue growth: A leader's guide

New research offers business and technology leaders insights into the age-old challenge of improving IT productivity.

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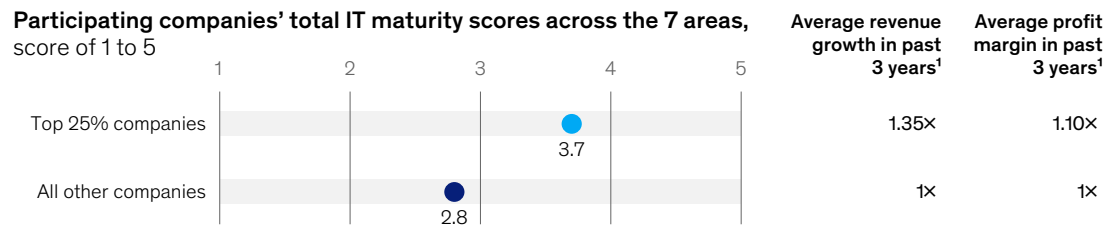


How quickly and cost-effectively can your IT organization deliver new tech capabilities or update the ones you have? The answer might have greater impact on your bottom line than you expect.

Our latest research on IT productivity shows how significant that answer can be. Enterprises with high-performing IT organizations¹ have up to 35 percent higher revenue growth and 10 percent higher profit margins (Exhibit 1). The research also finds that an average company has an opportunity to optimize and potentially reinvest 30 percent of its IT spend through improvements to IT productivity. Combined, these findings highlight how much the ability to manage IT efficiently is not just an operational concern but a business necessity. (See sidebar, “About the research.”)

Exhibit 1

High-performing tech correlates with better business performance.



¹Average revenue growth in the past 3 years for bottom 75% companies in sample is 15%, and average profit margin is 17%. Source: McKinsey CIO Flash Survey, n = 158; team analysis

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As experienced leaders know, IT productivity is a hotly debated topic with little consensus on where to start and how to measure improvements. Our research, however, is bringing more clarity to the issue with four new insights:

1. Time-to-market is the metric that matters most in evaluating IT productivity. It correlates more strongly with higher profit margins than any other frequently used business performance metric.
2. Three critical delivery capabilities—cross-functional delivery, vendor independence, and the use of public cloud—also correlate with higher profit margins.
3. The most important practices for achieving these delivery capabilities are improving developer journeys and engineering practices; adopting a cross-functional, product-led operating model; and reducing dependencies between IT systems and applications.
4. These capabilities and practices, properly implemented, have the potential to deliver solid returns on investment and should be a critical area of focus within a company’s broader efforts to rewire their organization for digital and AI.

¹Organizations scoring in the top 25 percent on technology maturity.

About the research

We conducted surveys with 158 CIOs and CTOs across Asia–Pacific, Europe, the Middle East and Africa, and the Americas on the top-line effects of 58 indicators for technological excellence across seven areas—architecture, infrastructure, data and AI, engineering practices, processes and practices, tech organization, and talent—which are measurable drivers

of technological maturity (exhibit). Our survey sample was evenly distributed across the following industries: banking, consumer, global energy and materials, advanced industries, insurance, telecom, and travel, logistics, and infrastructure; we also had a separate quota for 20 start-ups and growth companies across industries.

Exhibit

Our survey investigated the effects of 58 indicators of technology excellence across seven areas.

Key performance indicators

■ Quantitative (all others are qualitative)

Business context	Architecture	Infrastructure	Data and AI
<ul style="list-style-type: none"> • Year founded • Revenue • 3-year revenue growth • Profit margin • IT cost to revenue • Total IT FTE¹ • Customer satisfaction score • IT employee satisfaction score • Industry • Geography 	<ul style="list-style-type: none"> • Landscape complexity • Average complex-product update speed • Releases per month on core systems • Releases per month on decoupled apps • Integration and open APIs • Omnichannel capabilities • Decoupling and service independence • Capability/application duplication • Vendor dependency • Resiliency and business continuity 	<ul style="list-style-type: none"> • Time to provision a new server with configured development environment • Share of workloads on public cloud • Number of technology stacks • Share of commodity x86 servers in compute • Shared infrastructure pool with usage-based chargeback • Self-service in infrastructure • Cloud spend visibility and transparency • Technical optimization on cloud • Operational technology (sensors, IoT, etc) 	<ul style="list-style-type: none"> • Data platforms • Data operating model • AI/gen AI adoption • Data architecture • Data resolution and retention • MLOps adoption • AI use case delivery teams
Engineering practices	Processes and practices	Organization	Talent
<ul style="list-style-type: none"> • Software delivery process • Architectural process • Developer portal and knowledge management • Controls automation • Application patterns • Modern engineering practices • Use of DORA metrics² • Threat prevention and detection 	<ul style="list-style-type: none"> • Preferred delivery methodology • Budgeting process • Product development decision making • OKR³-based governance • Product P&L and FinOps • Stakeholder involvement in tech • Project-performance assessment metrics • Sourcing strategy • Procurement centralization • Licence utilization • Project portfolio health • Separate innovation track 	<ul style="list-style-type: none"> • Team size • Number of reporting levels • Cross-functional delivery structures • Cross-functional delivery teams • Organization design: function based vs product or journey based 	<ul style="list-style-type: none"> • Share of engineers • Maturity of engineering talent • Talent specialization • Talent availability • Tech-talent retention • Expert career track • Employee evaluation and motivation

¹Full-time equivalent.

²A standard set of DevOps metrics from DevOps Research and Assessment (DORA) that evaluates process performance and maturity.

³Objectives and key results.

In addition to the survey, we also modeled the potential impact of these different productivity levers on a typical company's IT spend based on McKinsey tech productivity practice data to understand what capacity can be freed by these levers for reinvestment in value-adding activities. We also validated the survey results against companies that have recently applied these

levers in practice. This research expands on previous McKinsey research on developer velocity and operating model maturity; it spans both traditional and digital-native companies and provides new insights into the importance of simplifying developer journeys and decoupling the tech landscape.¹

¹ Shivam Srivastava, Kartik Trehan, Dilip Wagle, and Jane Wang, "Developer Velocity: How software excellence fuels business performance," McKinsey, April 20, 2020; and Aditi Chawla, Martin Harrysson, Hannah Mayer, and Megha Sinha, "The bottom-line benefit of the product operating model," McKinsey, December 19, 2023.

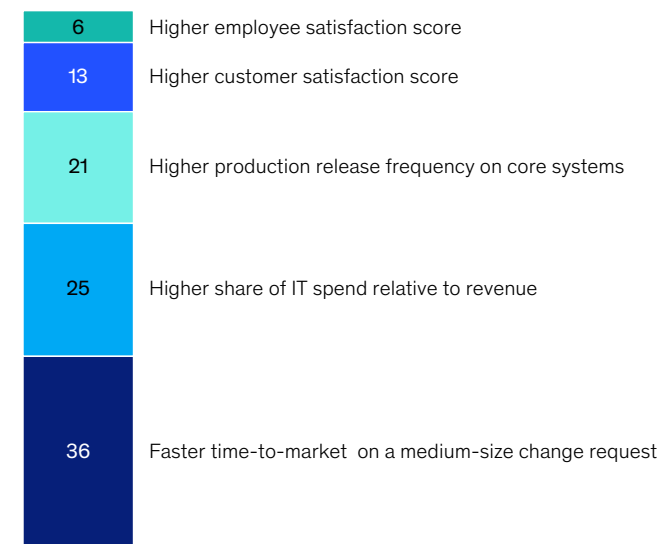
Insight #1: Time-to-market is the metric that matters most in evaluating IT productivity

Of the five frequently used business performance metrics for measuring IT efficiency and effectiveness that we assessed, time-to-market on implementing changes had the strongest correlation with higher profit margins (Exhibit 2).

Exhibit 2

Technology metrics vary in their correlation with higher profit margins.

Correlation of technology metrics with higher profit margins, past financial year,
factor weight out of 100



Note: Figures do not sum to 100%, because of rounding.
Source: McKinsey CIO Flash Survey, n = 158; team analysis

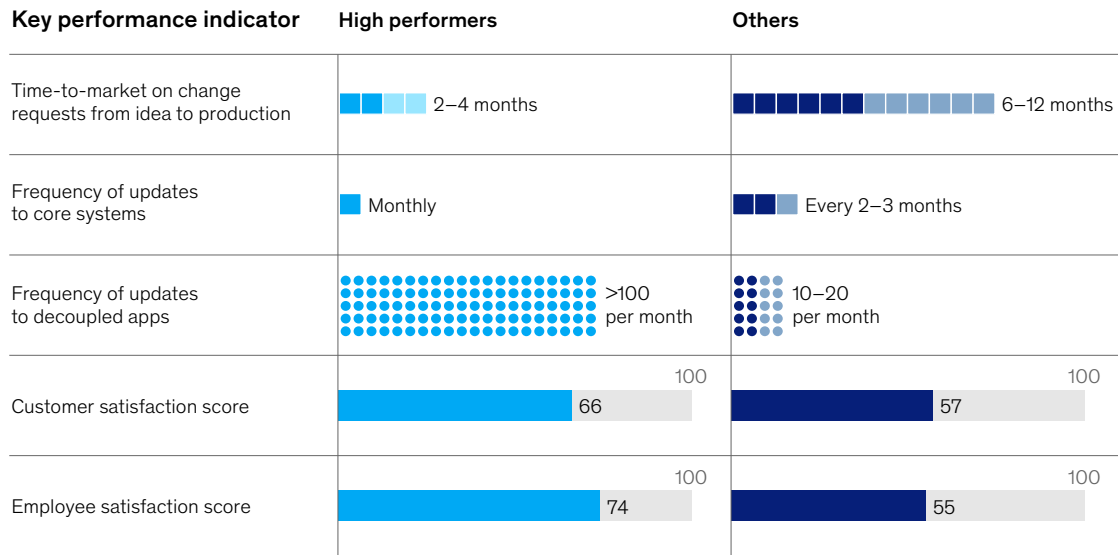
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Its correlation with higher revenue growth is three times stronger than that of customer satisfaction and seven times stronger than that of employee satisfaction.

What time-to-market should organizations strive for? For a significant share of high performers in our survey, the average time for completing a medium-size change request, such as adding a new product feature or changing pricing logic, was two to four months from initial idea to production. In contrast, less-advanced peers required up to a year to complete such changes (Exhibit 3).

Exhibit 3

High-performing IT organizations outpace peers in time-to-market of change requests and frequency of updates.



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Our research also found that two other factors are strongly aligned with better business performance: a higher share of IT investment relative to revenue and a higher frequency of production releases. For example, high performers were more likely to make monthly updates to core applications such as enterprise resource planning systems, while quarterly updates were standard among conventional peers.

One potential explanation for this might be that more-profitable companies can afford greater technology investments, which gives them a productivity advantage over competitors. However, profitability alone may not fully explain these patterns—other factors, such as strategic priorities, likely play a role as well.

Insight #2: Three delivery capabilities—cross-functionality, low vendor dependency, and use of public cloud—correlate most strongly with high profit margins

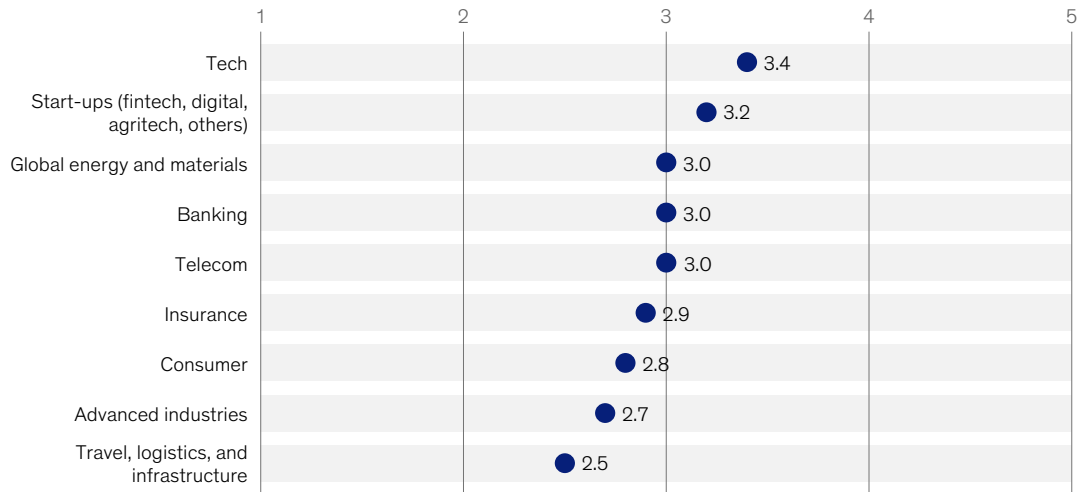
The research also surveyed leaders on their use of 50 common delivery capabilities across seven categories: architecture, infrastructure, data and AI, engineering practices, organizational processes and practices, organizational characteristics, and talent. We then correlated the responses to company profit margins.

As expected, digital-native tech companies and start-ups—which have often not been included in such research in the past—surpassed their traditional industry peers in IT maturity. But some companies in traditional industries, including global energy and materials, banking, and telecom, are closing the gap (Exhibit 4).

Exhibit 4

IT maturity varies by sector.

Participating companies' total IT maturity scores across the 7 areas, by sector, score of 1 to 5



Source: McKinsey CIO Flash Survey, n = 158, team analysis

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Three particular delivery capabilities have a much stronger impact on profit margins than the others for companies with the greatest IT maturity, regardless of industry (Exhibit 5):

- **Cross-functional delivery.** Companies whose technology teams are comprised of 20 to 40 percent business professionals, subject-matter experts, and colleagues relevant to product delivery tend to have higher profit margins than those whose teams consist primarily of tech experts. The majority of top performers also have a broad range of technical skills, including security operations (SecOps) and development operations (DevOps).
- **Low vendor dependency.** High performers are more likely to use internal IT resources, using vendors and contractors to develop less than 10 percent of their applications. In contrast,

conventional companies rely on vendors and contractors for over 40 percent of their application development.

- **High share of workloads on public cloud.** On average, enterprises run only 15 to 20 percent of their applications on cloud today.² Our survey found, however, that companies with the highest profit margins are more likely to have more than 30 percent of their workloads running on a public cloud infrastructure. This finding is consistent with the latest McKinsey Global Survey of technology and business leaders, in which a majority of top performers³ report adopting cloud at scale.⁴ Combined, these survey results support a fundamental need for cloud services to support enterprise generative AI (gen AI) solutions and for developers to use gen AI to more quickly modernize code.

²Chhavi Arora, Will Forrest, Mark Gu, and James Kaplan, "In search of cloud value: Can generative AI transform cloud ROI?" McKinsey, November 15, 2023.

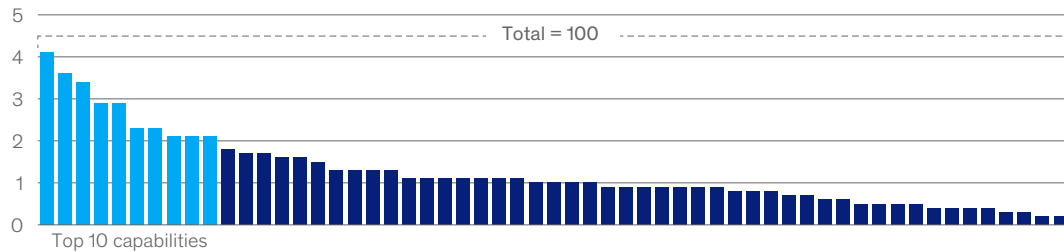
³Top performers in the McKinsey Global Survey are defined as those organizations that, according to respondents, have seen an average growth rate of at least 10 percent in both revenue and EBIT over the past three years. Of the 500 respondents in the survey sample, 131 qualified as top performers.

⁴André Jerez and Anusha Dhasarathy, with Anna Halawa and Pranav Himatsingka, "Investing in the future of tech: Lessons from winning companies," McKinsey, December 9, 2024.

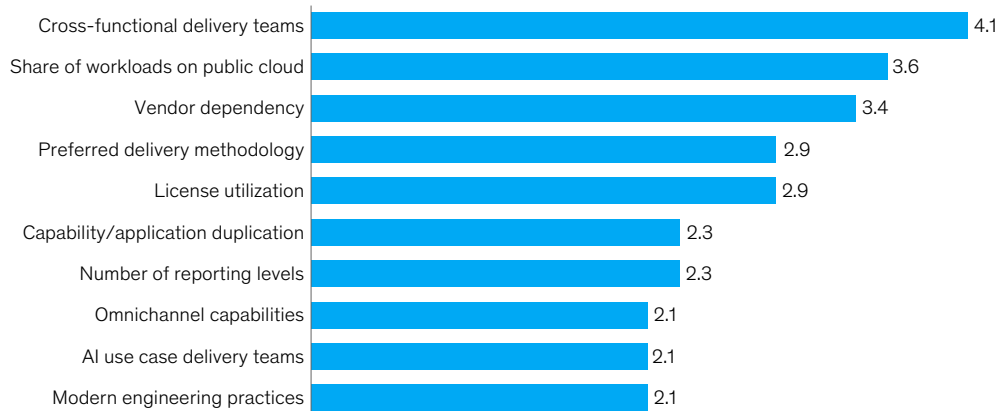
Exhibit 5

Top tech delivery capabilities correlate with higher profit margins.

Correlation of top tech delivery capabilities with higher profit margins, past financial year, factor weight out of 100



Top 10 capabilities, factor weight out of 100



Source: McKinsey CIO Flash Survey, n = 158; team analysis

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Insight #3: Three practices are priorities for improving IT productivity

Developing effective delivery capabilities to drive IT productivity requires strong practices. Of the dozen we analyzed, three seem most promising, though they all had various levels of interdependency (Exhibit 6).⁵

Even small improvements in developer journeys and changes to engineering practices can help a lot

In our experience, “change” programs (as opposed to IT maintenance) often account for roughly half of the total budget spent on applications. As a result, even minor productivity improvements to streamline manual and error-prone processes have the potential to visibly impact team productivity.

⁵Our research modeled the potential impact on the top 1,000 companies worldwide of improving nearly a dozen practices tied to IT productivity.

Exhibit 6

Key maturity benchmarks for priority practices that can improve IT productivity.

Developer journeys and engineering practices (not exhaustive)			
	Less developed	Advancing	Mature
Modern engineering practices <i>(Higher profitability)</i>	Fully reliant on requirement specification and quality assurance in product delivery	Limited use of development practices such as feature flagging or A/B tests to reduce risk and better validate product changes	Wide use of development practices (eg, feature flagging, A/B tests, blue-green and canary deployments) for product changes
Preferred delivery methodology <i>(Higher profitability)</i>	80% or more of delivery in IT follows waterfall delivery methodology	A mix of waterfall and iterative delivery methodologies, with some areas preferring one over the other	80% or more of delivery in IT follows iterative delivery methodology
Application patterns	No application archetypes are defined; greenfield development is started from scratch	Teams define their own templates that cover basic code structure and functionality	Automatically generated boilerplates use enterprise application patterns with logging/monitoring
Software delivery process	Mostly manual; different teams have their own accommodations for routine tasks	Around 50% of applications onboarded to CI/CD pipelines, enabling deployment automation; limited integration of automated guardrails, stage gates, or controls	Automated code deployment from development to production (with embedded testing/cyber controls); more than 80% of applications onboarded to subversion software and target pipelines

Exhibit 6 continued

Product and platform operating model (not exhaustive)			
	Less developed	Advancing	Mature
Cross-functional delivery teams <i>(Higher profitability)</i>	Most delivery teams are functional with only technology capabilities (eg, developers, quality assurance)	50–60% of the delivery teams possess business, technology, and operations capabilities enabling them to deliver and maintain products	80% or more of the delivery teams include full BizDevSecOps capabilities and are able to deliver and maintain their product end to end
Vendor dependency <i>(Higher profitability)</i>	More than 80% of applications are delivered by vendors/contract development	30–50% of applications are delivered by vendors/contract development	Less than 10% of applications are delivered by vendors/contract development
Number of reporting levels <i>(Higher profitability)</i>	Typically 5 or more levels of hierarchy between a developer and the CEO	Typically 4 levels of hierarchy between a developer and the CEO	Typically 3 or fewer levels of hierarchy between a developer and the CEO
AI use case delivery teams <i>(Higher profitability)</i>	Opportunistic AI exploration in select domains (eg, workforce management, risk)	Centralized AI pipeline or funnel in place but not fully linked with the business strategy; 20–50 AI use cases in production	AI-enabled use cases embedded in business processes/operational improvements, with defined performance metrics; first proofs of concept on gen AI; more than 100 use cases in production

Application simplification and decoupling (not exhaustive)			
	Less developed	Advancing	Mature
Decoupling and service independence	80% or more of teams depend on other teams during releases; there are known monolith systems that are clear bottlenecks in scalability	Around 50% of teams depend on other teams during releases; there are not more than 1–2 monolith systems that are bottlenecks in scalability	95% or more of teams can make releases independently from other teams; each service scaled independently subject to actual loads
Capability/application duplication <i>(Higher profitability)</i>	More than 30% of applications in the application portfolio have overlaps in functionality	10–20% of applications in the application portfolio have overlaps in functionality	There are no applications with overlapping functionalities; all applications are aligned with business capabilities
Omnichannel capabilities <i>(Higher profitability)</i>	Products/services for different channels are implemented in separate systems, with no shared code base; business logic is specific to a channel	Notable effort toward delivering products/services across different channels, with limited code reusability	Business logic and process orchestration are largely reused between different channels
Public cloud workloads <i>(Higher profitability)</i>	Less than 10% of workloads on public cloud	30–40% of workloads on hybrid cloud; unified control plane across on-premises and public cloud	60% or more of workloads on hybrid or multicloud

One large bank, for instance, set out to double its delivery capacity over two years by removing obstacles in developer environments, such as highly manual processes, and adopting continuous integration/continuous delivery (CI/CD) practices. In launching this effort, the bank tested the new engineering practices across two groups of engineers, totaling 500 people, to confirm the processes would deliver the expected productivity gains; refine workflows, tools, and documentation based on real-world feedback; and make a case for additional investment in tooling and engineering skills. The engineers and technology leaders who participated in the pilot served as champions and trainers during the full rollout to help ensure the program's success. As part of its next phase in improving developer journeys, the bank is evaluating gen AI coding and quality-assurance tools to accelerate daily tasks, which in some cases have resulted in a 10 to 15 percent productivity lift.⁶

Typically, the work of streamlining developer journeys and engineering practices in a mid- or large-size company can be led primarily by IT and completed in less than a year. However, CEOs can facilitate this change by ensuring sufficient resources and shielding the tech organization from excessive business demands, such as supporting change freezes during the transformation.

As more gen AI tools to improve developer productivity come to market, business leaders may need to consider new skill-building strategies and tooling to take full advantage of them. At another leading bank, executives found that the team's pilot using gen AI capabilities to refactor and migrate legacy code on a sample application enabled 40 to 50 percent faster completion times than conventional manual methods, which is expected to lower the cost of modernization by 30 to 40 percent at scale.⁷

Embracing a product and platform operating model empowers teams to work at scale

Our research finds that leading companies empower cross-functional delivery teams to work independently to achieve a given business outcome, such as improving user experiences or building internal services for reuse. The product and platform operating model provides this level of independence, while preserving sufficient oversight.⁸ And the latest McKinsey Global Survey of technology and business leaders confirms that top-performing respondents⁹ are more than twice as likely as others to report use of product- or platform-centric operating models.¹⁰ The most mature product and platform models are developed through collaboration with business and technology leaders across the C-suite (including the CEO) to restructure all facets of how work gets done, including talent, processes, and technologies.

The first step one financial services company took in adopting a product and platform operating model was having business and technology leaders meet to align their product teams along service domains, such as payment operations, loan operations, and customer relationship management. This put the organization on track to accelerate time-to-market for new capabilities and reduce expenses related to legacy and other non-strategic applications by more than 50 percent over two years.

Decoupling core-system capabilities that change frequently is key to facilitating greater cloud adoption and operating model maturity

Transitioning to a product and platform model may not deliver full business benefits if teams must still navigate siloed approval processes and outdated systems. Our research finds that leading companies kept pace with digital natives in decoupling applications (reducing dependencies between applications

⁶As a percent of total developer time.

⁷"Unleashing developer productivity with generative AI," McKinsey, June 27, 2023.

⁸"The big product and platform shift: Five actions to get the transformation right," McKinsey, June 9, 2023.

⁹Top performers in the McKinsey Global Survey are defined as those organizations that, according to respondents, have seen an average growth rate of at least 10 percent in both revenue and EBIT over the past three years. Of the 500 respondents in the survey sample, 131 qualified as top performers.

¹⁰André Jerez and Anusha Dhasarathy, with Anna Halawa and Pranav Himatsingka, "Investing in the future of tech: Lessons from winning companies," McKinsey, December 9, 2024.

to allow for faster fixes). One bank, for instance, found that, despite its shift to a new operating model, it at first couldn't reach its goal of cutting time-to-market on projects from up to 20 months or more to less than a few weeks. The culprit? Three outdated, complex, monolithic core systems that required extensive updates with every product change. As a result, nearly two-thirds of developer time was spent maintaining and managing complex dependencies in these core systems, leaving little time for more strategic work. By decoupling frequently changing capabilities embedded in the core systems and turning them into cloud-based microservices, the organization was able to increase the number of releases per year from four to more than 10,000 and reduce the time-to-market to as little as hours for small changes, such as A/B testing of new customer journeys.

Effective governance—clear policies, metrics, and processes—is important in choosing which capabilities to decouple and how to manage them on an ongoing basis. To facilitate its shift to decoupling applications, a digital-native retailer adopted policies for managing the application life cycle, tracking technical debt, assigning priority and engineering capacity, and sunsetting features that no longer delivered business value. These steps have enabled the organization to more effectively prioritize which capabilities to invest or divest in, decouple the architecture, and simplify the overall delivery process, putting IT on track to speed application changes and cut engineering time spent on maintenance from 50 percent to 20 percent.

Insight #4: When done well, companies making these changes can expect a solid return on investment in productivity

In all, our research estimates that increased technology maturity could unlock almost 30 percent additional value through productivity gains. The impact within each sector will depend on its current level of IT adoption and maturity.

On average, organizations can expect at least a 24 percent reduction in their total IT spend. Some industries, such as travel, logistics, and infrastructure companies, could realize up to 34 percent higher marginal returns from their efforts, given their lower IT maturity. But the real value comes not just from the savings themselves but from their reinvestment into further IT advancements, positioning companies for even greater IT productivity, innovation, and sustained growth.

The dynamics of IT productivity are complex. While each organization will need to tailor these insights to its own unique context, this research offers a framework for evaluating existing efforts and prioritizing strategies that can increase both revenue and profit.

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