KPMG

The long-awaited data revolution has begun

How a handful of companies are finally creating outsized value with data and technology, raising major new risks for slow-moving competitors

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Introduction

Despite a decade of massive investments in data collection and storage, most organizations have achieved only incremental gains from their data assets. That's about to change.

The data revolution has begun, fueled by generative artificial intelligence (GenAI), cloud computing, and advanced analytics. Leading companies are already harnessing technological advances to unlock the value of their data assets and achieve transformational outcomes—speeding innovation, enhancing customer experiences, and raising productivity and margins. Those who do not act quickly to build essential data maturity and a data-savvy culture may fall behind.

KPMG LLP (KPMG) research reveals a critical gap: Indeed, 87 percent of survey respondents consider investments in data and analytics as top priorities, but more than 45 percent cite data quality and accessibility as major challenges, and only 36 percent have developed formal approaches to data governance and management.[1] This gap between recognition and readiness creates urgent risks—and unprecedented opportunities.

This report highlights the steps every company can take to get far more value from data to gain and maintain a leadership position in marketplaces that are changing faster than ever.

[1] KPMG internal surveys of 880 senior executives (July, October, and November 2024)

How data and new tools drive revenue, margins, and cash flow

Leading companies across industries are making their transformations more sustainable by becoming truly data-driven and agile. Most are pursuing three priorities. First, they are using existing data and technology aggressively while devoting significant resources to anticipating trends and investing strategically in additional data and tools to gain ground on competitors. Second, they are addressing the critical challenges of data privacy and ethical use, which includes providing regular training from the C-suite to the front line. Third, and perhaps most important, they are giving people at all levels of the organization powerful incentives to make data-informed decisions.

Improving results based on customer behavior

The benefits can accrue at every step of the value chain. Major theme parks, for example, can provide guests with RFID-equipped wristbands that serve as room keys, credit cards, and ride tickets, generating vast quantities of real-time data. With guests' permission, managers could see what purchases they're making, where they're lingering, which rides they're waiting for, and other data that could yield real-time insights into where food, retail items or staff might be required, where trash may need to be collected, and other opportunities to improve the guest experience, asset utilization, revenues, and so on. Exploring data from thousands of wristbands each day, the parks are improving predictive and sales analytics, demand forecasting, and more. These data-driven insights help the parks improve not just the customer experience but also resource utilization, revenues, and margins.

GenAI and other powerful tools are helping organizations improve results in every department and function. New insights into customers, for example, can help improve pricing and sales productivity. Leading casinos, for example, now tap their 24/7 fountains of data to more accurately gauge the value of each player. Based on these and other insights, a casino can automatically offer deals and promotions at the ideal moments, including hotel room discounts to keep a player on the property. (They also lower the costs of fraud by gathering and analyzing data from the floor around the clock.)

Some commercial distributors also now use AI to optimize prices for tens of thousands of products in real time based on supplier, customer, and competitor data, achieving what until recently might have seemed almost impossible: simultaneously improving margins and customer satisfaction. In addition to improving core business functions, these tools streamline day-to-day tasks, giving sales teams more time for customer-facing activities that increase revenues and profits.

Harnessing data to advance operational excellence

Operational excellence hinges on mastering data, culture, roles, and incentives. Bringing in new talent such as data scientists can speed progress, as can new incentives, such as holding managers accountable for meeting clear performance goals and continuous improvement. Remarkable results can occur quickly.

Properly used, data can be synonymous with visibility—into how customer behavior is changing and competitors are reacting, how well a product or business unit is performing, and where new opportunities are emerging. These and other insights help people and organizations respond more quickly in changing marketplaces and make strategic decisions that improve sustainability, profitable growth, and so on.

Predictive maintenance, powered by data and AI, is revolutionizing factory operations, for example. Traditional reactive maintenance approaches typically result in machine downtime rates around 20 percent, creating costly production delays and inefficiencies.

By implementing AI-driven predictive maintenance systems that analyze real-time sensor data, monitor equipment performance patterns, and detect early warning signs of potential failures, leading manufacturers are reducing downtime to just 2 percent, which yields multiple benefits:

- Increased production capacity and throughput
- Lower maintenance costs through early intervention
- Extended equipment lifespans
- Optimized spare parts inventories
- Reduced emergency repair expenses
- More efficient scheduling of maintenance staff

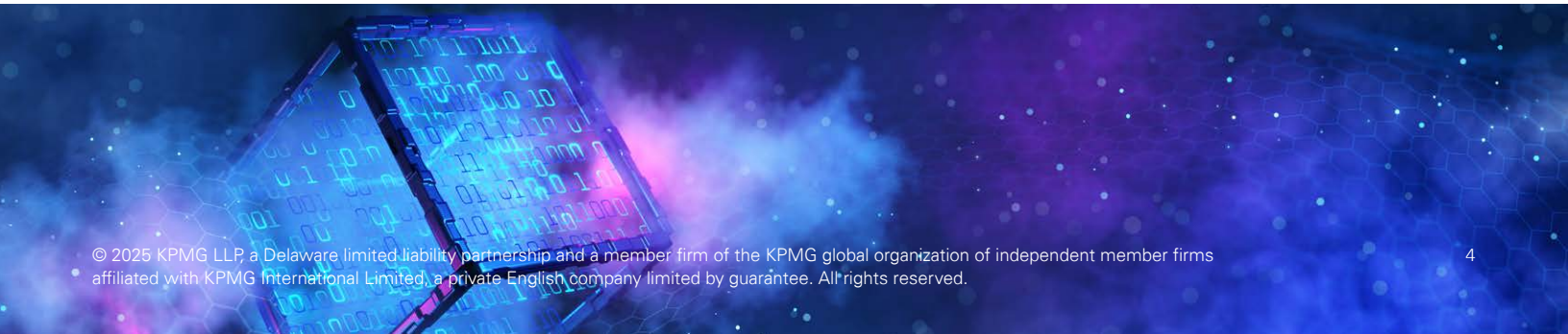
The success of predictive maintenance illustrates a broader principle: when organizations effectively combine high-quality data with advanced tools, they can transform traditional business challenges into opportunities for breakthrough performance improvements.

Using data and new tools to raise cash flow quickly and identify strategic opportunities

Leading enterprises are harnessing an array of new tools and approaches to improve operations and cash flow—and gain deeper and more strategic insights into costs, revenues and margins. They are using data to define competitive benchmarks, for example, tailor negotiation strategies, and optimize payment terms based on risk and leverage. Some are significantly improving accounts payable processes based on payment triggers and frequency for each supplier segment.

Some are making material improvements in collections using in-house data, customer segmentation, analytical tools, collector outreach reprioritization, and process automation. Based on analyses of on-hand inventory, margins, and historic and forecast demand, other firms are improving SKU rationalization and product range management, delivering savings in capital spending and inventory costs.

We find that many companies still calculate fixed and variable costs from a product, service, or business unit perspective without considering other links in the value chain, from Procurement to Sales and from Legal to Human Resources. But by taking a customer, product, and profitability (CPP) approach, they can allocate every dollar of costs to revenues for the whole organization, not just the business unit, to uncover new insights into margins and true cost to serve—and thus where to invest, what to cut, and how to run the business more profitably.



Chief transformation officers can play a key role

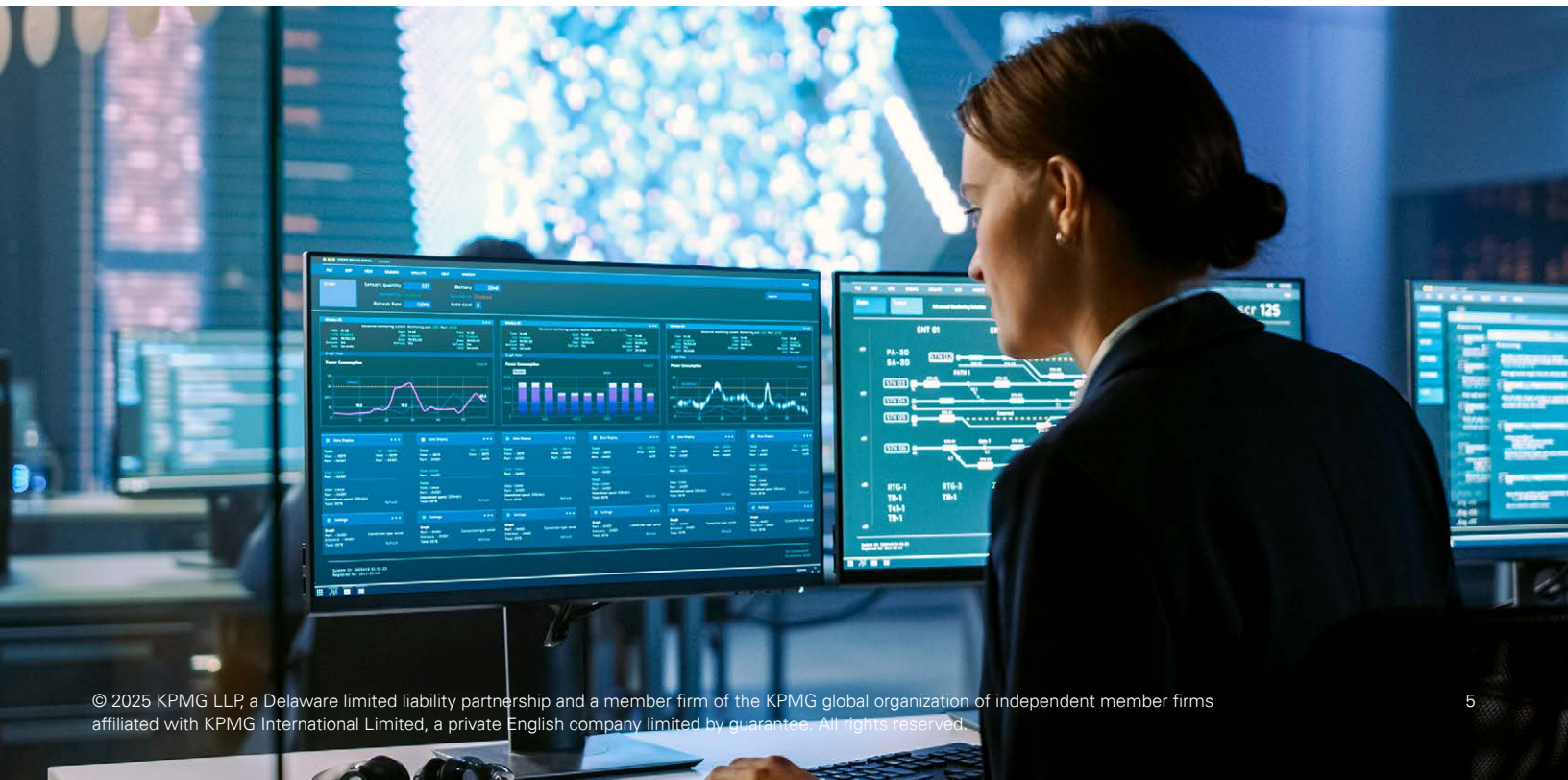
As rising competition makes almost every marketplace more dynamic, companies must continuously refine their strategies to stay ahead—efforts that are greatly enhanced with data-driven insights into challenges and opportunities. That said, many organizations, especially those that are already underperforming, face resource constraints in implementing data and technology solutions. Our root-cause analyses of underperformers reaveals an inability to gather and use data as a major contributing factor to shortfalls.

Making the right investments in data and technology takes time, money, and expertise. To navigate technological disruptions and marketplace changes, some firms are now hiring chief transformation officers (CTOs). In our survey, 45 percent of respondents noted that digital transformations are driving the need for new leadership.[2]

Many of the most capable CTOs today have traditional restructuring skills but can also help enterprises advance their digital maturity, manage the impacts of disruptive technologies and economic volatility, and speed cultural change. In our experience, they can also help restore the credibility of management teams with improved stakeholder reporting, communications, and negotiations.

They may take steps to establish performance improvement metrics, for example, help finance and accounting teams improve stability and manage liquidity, and work with the senior team to explore a range of strategies and organizational design options. We find that one of their most important contributions can be relieving senior leaders of many of the burdens of a turnaround or restructuring, freeing them to run the business day-to-day.

[2] In January 2025, KPMG conducted an online survey of 51 CFOs and 51 CIOs and their direct reports at US-based public or private companies with more than 1,000 employees and at least $1 billion in revenues or fund size.



Outperformance with data: The four key pillars

Leading companies recognize that data value rests on four pillars—quality, accessibility, usability, and governance and culture—and continually work to strengthen each one.

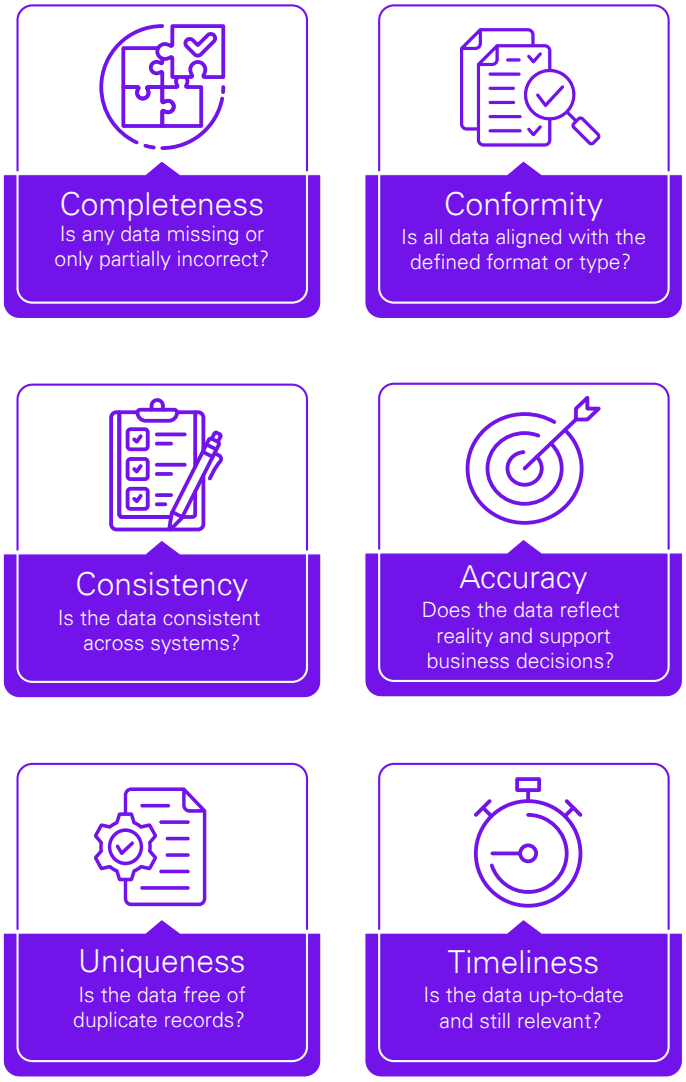
1 Data quality: The foundation of value creation

Advanced tools such as machine learning, large language models, predictive analytics, and GenAI depend on high-quality data to deliver value. Organizations that lead in data quality focus on six dimensions (Exhibit 1). They rely on sophisticated technologies to monitor, test, and integrate data in real time and transform raw data sets into valuable data products, which we define and discuss below.

They obsess over data accuracy and hygiene, eliminating duplicates and standardizing definitions and formats, and seek to identify and close data gaps. With help from automated solutions, they can efficiently improve data quality at scale, ensuring that it is compliant and ready for real-time use. In an October 2024 KPMG survey of 330 leaders at large public and private US-based companies, 6 in 10 respondents said they were planning data quality improvements.[3]

We find that many senior leaders have yet to grasp the paramount importance of data quality. In our 2024 pulse survey of 100 senior executives at billion-dollar US-based companies, 70 percent said that adopting GenAI was important in building competitive advantage and market share—but only 28 percent cited data quality as a top long-term concern, compared to about half who pointed to privacy or cyber risk.[4]

Exhibit 1. Data quality has six main dimensions



[3] FY25 Transformation Survey, Oct. 2024 (from page 19 of Primary Research Summary)
[4] KPMG 2024 AI Pulse Survey third quarter update (October 2024)

2 Data accessibility: Breaking down silos

We find that many organizations still gather, store, and use data in functional silos. Leading organizations are breaking down these silos by integrating data into centralized platforms such as lakes and warehouses, which allows business users and data professionals to access needed information, collaborate, and make data-driven decisions more quickly. Creating a detailed catalog of data assets with appropriate metadata helps users understand what data is available and its potential uses.

For example, when a manufacturing procurement team has access to sales forecasts and marketing data, it can make better decisions about the size and timing of parts and raw materials purchases, avoiding shortfalls, controlling inventory costs, and preserving capital. Similarly, customer insights can help product designers and research and development teams identify pain points and opportunities for innovation. Consumer complaints on social media and in call centers, for example, can help designers improve the durability of a product or training for employees providing a service.

Most enterprises still lag in data integration, however. In our October 2024 Transformation survey, nearly three-quarters of respondents cited "poor integration of data into the decision-making process" as the primary reason data did not contribute to the success of their transformation initiatives.[5] At the same time, only 44 percent said they planned to invest in integration solutions to improve data quality and consistency.[6]

Moreover, in an August 2024 global survey of senior leaders, only 33 percent reported that improving data accessibility and democratization would be a priority in the next 12 months; fewer than one in four named improving data interoperability as a priority.[7]

This apparent lack of focus on data accessibility presents opportunities for companies aspiring to move quickly toward data maturity. One global tech and media company identified over $15 million in cost savings by providing leadership with access to data on its spending on contractors and cloud computing.

3 Data usability: Making data work for everyone

Unusable data is an idle and costly asset. Data must be free of errors, have the right level of depth or detail, and be structured and formatted to provide business users with actionable insights. Leading organizations improve the usability of their data with a four-step process:

1. **Preparation:** Selecting data from relevant sources
2. **Integration:** Consolidating data from multiple sources into a unified format
3. **Continuous monitoring:** Auditing data in use and in repositories for errors and inconsistencies
4. **Openness:** Developing the infrastructure that allows authorized users to access and analyze data, such as application programming interfaces (APIs) that allow different software applications to communicate with each other.

Preparation and integration are also keys to creating "data products"—quality-certified collections of up-to-date data that are carefully curated to help teams achieve specific goals, from cost containment to upselling. They are far more valuable than reports frozen in time, data dumps, raw or unstructured data, or manually updated spreadsheets on a local hard drive.

All viable data products share some characteristics:

1. **Secure:** They use only authorized data and comply with applicable regulations and company policies.
2. **Trustworthy:** They are built on high-quality data, with reliable delivery, availability, and performance, and users have access to support.
3. **Interoperable:** The data is structured according to published standards documented in the user interface, catalog, or marketplace.
4. **Discoverable and addressable:** They are available to approved users in a marketplace or user-friendly interface via API, microservice, subscription, sandbox, or other easy-to-use tools.
5. **Self-describing:** Users can easily understand the data and how to use it with minimal data literacy, training, or support.

[5] FY25 Transformation Survey, Oct. 2024.

[6] Ibid.

[7] "KPMG Global Tech Report 2024: Beyond the Hype: Balancing Speed, Security and Value," Aug. 2024, p. 19.

4 Culture: Adopting a data-driven culture and governance

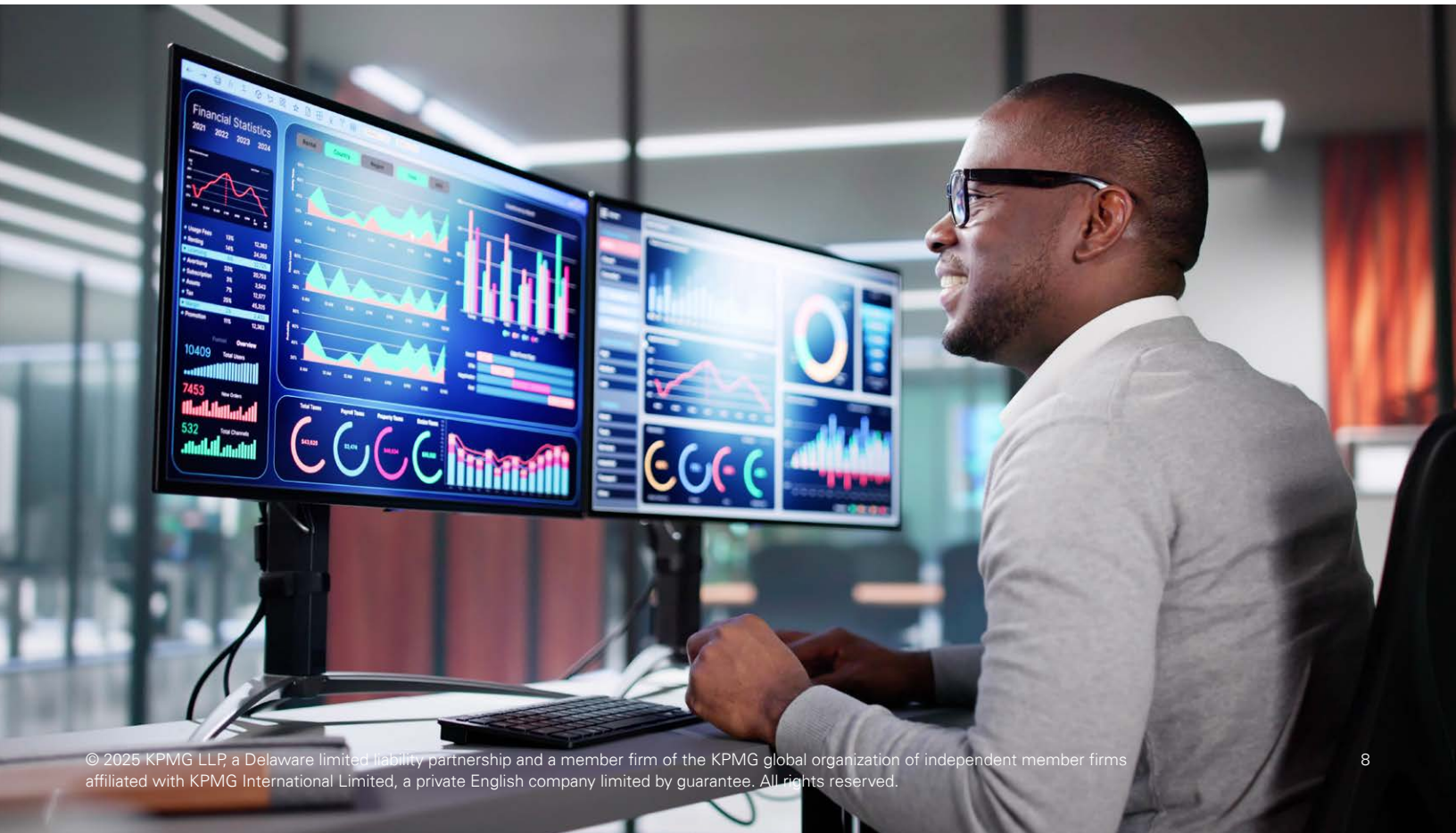
Outperformers across industries are fostering organizational cultures that prioritize responsible, data-driven decision-making. Making the shift can be challenging for many companies, teams and individuals, especially those who have been highly successful without it. But in almost any competitive realm today, from poker to grocery product assortment, decision-makers armed with vast quantities of data and modern tools will consistently outperform competitors relying only on their experience, intuition, and 20th-century tools such as spreadsheets.

Many organizational leaders underappreciate the importance and challenges of the mindset and cultural shifts required to drive the adoption of data-driven decision-making in transformation initiatives. In a 2024 survey of 100 CEOs of large US companies, only 6 in 10 said they were prepared to address employees' resistance to using GenAI, and only 1 in 4 cited employee resistance as a top challenge in deploying GenAI across the enterprise.

But data has no value if users resist adopting new systems and approaches. We often find that data maturity initiatives have the full support of strategy-minded senior leaders and insight-hungry frontline teams but are held back by the "frozen middle"—managers accustomed to a handful of familiar processes and tools, such as Excel.

Encouraging adoption among managers typically requires improving their data literacy, providing them with strong foundational skills, and running pilots that show the value of data products. A manager who typically struggles with large spreadsheets for 20 hours a week, for example, might need only four hours to do the same work with the help of generative AI–giving her 16 more hours each week to focus on more productive tasks.

Data governance is a vital element of organizational culture because it defines how data is collected, handled, and used. It builds trust and transparency and helps all stakeholders— users, managers, and leaders—understand their roles and responsibilities and remain accountable for their actions. Governance frameworks serve as consistent and rigorous guardrails, and an effective data governance strategy helps ensure the safe, ethical, and compliant use of data while mitigating regulatory, legal, and reputational risks. Regular training programs and audits can help maintain adherence to governance standards.



Key recommendations

Invest in data

Wise data investments, with a focus on governance frameworks, comprehensive strategies, and infrastructure improvements, will define the outperformers in the years ahead.

Develop talent and culture

Invest in upskilling programs to improve data literacy across all levels, focusing on the "frozen middle" layer of management. Create incentives that encourage data-driven decision-making.

Focus on value creation

Expectations for returns on investment should be high, with clear performance metrics tied to business outcomes, including financial returns and operational improvements.

Strengthen governance

Establish clear data governance frameworks that balance accessibility with security, advancing risk mitigation and compliant and ethical use of data while maintaining decision-making agility.

Build data usability

Accessible, well-structured data products enable business users to derive actionable insights without extensive technical expertise. Usability requires robust data quality controls and user-friendly interfaces.

Embrace automation

Harness GenAI and other advanced tools to automate data quality improvements, routine analytics, and reporting tasks, freeing up teams for higher-value activities.

Break down silos

Integrate data across the organization by implementing centralized platforms and creating comprehensive data catalogs that make information discoverable and usable across departments.

Monitor and measure

Implement robust tracking of data initiatives' return on investment through clear metrics tied to business outcomes, including financial returns and operational improvements.

How KPMG can help

As a trusted collaborator, KPMG partners with clients throughout their entire performance improvement journey. Leveraging extensive industry knowledge and experience, we adopt an integrated approach to optimize performance, digitize processes, and drive growth, even amidst economic volatility. Our clients gain access to invaluable insights from industry experts across diverse sectors, helping to identify inefficiencies and provide tailored guidance for success and growth. Our expertise in change management emphasizes the importance of people and communication in performance improvement.

We conduct diagnostics to uncover improvement potential, offering actionable steps to optimize operations and achieve goals. KPMG supports clients in building business cases to strategically allocate investments for maximum value. By leveraging data and emerging technologies like generative AI, we help develop effective strategies for continuous improvement.

From strategy to execution, we deliver measurable improvements to revenue, operating margins, cost structures, and working capital positions.

Data modernization is a key enabler of improving business performance. KPMG helps clients update and optimize data use, governance, operations, and value delivery through modern cloud architectures and transformation in people, technology, and processes.

By managing data as a strategic asset, KPMG empowers clients to unlock the full potential of their data, driving business value and innovation. Our industry-centric approach, modern data platform, and trusted AI framework ensure that our data modernization efforts address unique business challenges, creating high-quality, reusable data products that can be effectively monetized.

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