



REGION FOCUS: WORLDWIDE

BECOME AN AI DISRUPTOR: Improve and Extend Your F500/G2000 Ranking Longevity



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Executive Summary

Waves of interconnected economic, political, and social disruptions threaten to batter enterprises around the world for the next several years, fracturing business plans. IT leaders in digital-first organizations will rapidly adapt to these unsettled conditions, slicing through the storms of disruption by transforming into a resilient digital business where value creation is based on the effective use of fast-evolving and innovative technologies. Technology is the foundation for overcoming the storms of disruption.

Alongside the maturation of digital transformation (DX), business leaders and investors are looking for ongoing viable growth through digital-first technology. As such, artificial intelligence (AI) has become an integral part of enterprise operations, driving growth and innovation, with spending expected to reach \$301 billion by 2026, according to IDC's 2022 *Worldwide Artificial Intelligence Spending Guide*.

The impact of AI on enterprises is unmatched. Enterprises are actively sourcing ways that AI can both automate their efforts and give them a competitive edge. For example:

- ✓ Walmart uses AI and machine learning (ML) to optimize its supply chain workflows and anticipate customer demand. IDC's *Industry AI Path Survey* found that 75% of retailers consider AI critical for supply chain operations and management.
- ✓ Morgan Stanley invests in AI and machine learning to provide exceptional client experiences, including an AI-powered dashboard used by 15,000 financial advisors that assesses and recommends financial engagement strategies for clients.
- ✓ FedEx launched FedEx Dataworks to use AI, machine learning, and data science to “make the FedEx network operate more efficiently, give customers more visibility and control over their supply chains, and solve ecommerce-related challenges.”

To look deeper into how enterprises are leveraging AI, this study by IDC, in partnership with Intel, surveyed more than 2,000 enterprise leaders to understand AI adoption across industries. Key findings indicate positive impacts of AI boosting operational efficiency, improving innovation, increasing revenue, enhancing customer experience, and driving sustainability.

Organizations in the highest tier of AI maturity (known as “Disruptors”) are able to gain major efficiencies and capitalize on market opportunities due to more advanced AI practices. Disruptors report a 20–30% improvement in business outcomes due to AI implementation, enabling them to achieve a higher valuation and greater staying power in Fortune 500 (F500)/ Global 2000 (G2000) rankings.

Organizations that adopt AI stand to gain a competitive advantage in the marketplace. And, as use cases continue to expand, enterprises that invested early may stand to gain the most.

About This Study

In partnership with Intel, IDC conducted this study on the business drivers and inhibitors for AI solutions development and deployment. In addition, the study focused on understanding the key attributes, key performance indicators (KPIs), and best practices of AI Disruptors, the highest tier of maturity in IDC's index. This study, conducted in April 2022, is based on a global survey of more than 2,000 leaders in IT, operations, and dedicated AI development and support. Respondents were in the United States, Europe, the Middle East, Africa, China, and Asia/Pacific.

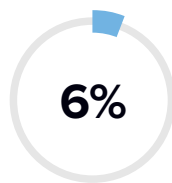
The majority of respondents worked within the medium-sized (1,000–4,999 employees) and large (5,000–9,999 employees) enterprises in financial services, retail, manufacturing, healthcare, IT, education, telco, and government sectors.

In addition, **91% of respondents** were either the primary AI decision maker within their organization or sat on a team of AI decision makers.

Key Findings

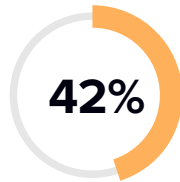
AI Maturity Sets Successful Enterprises Apart

IDC identified five stages of AI adoption maturity:



Laggard

This stage has little awareness of AI for business purposes.



Apprentice

AI is used for isolated projects.



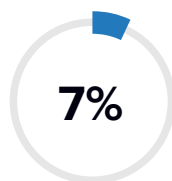
Practitioner

AI strategy and goals are comprehensive but only beginning to be aligned across the entire enterprise.



Transformer

An enterprisewide AI strategy aligned to business goals is in place.

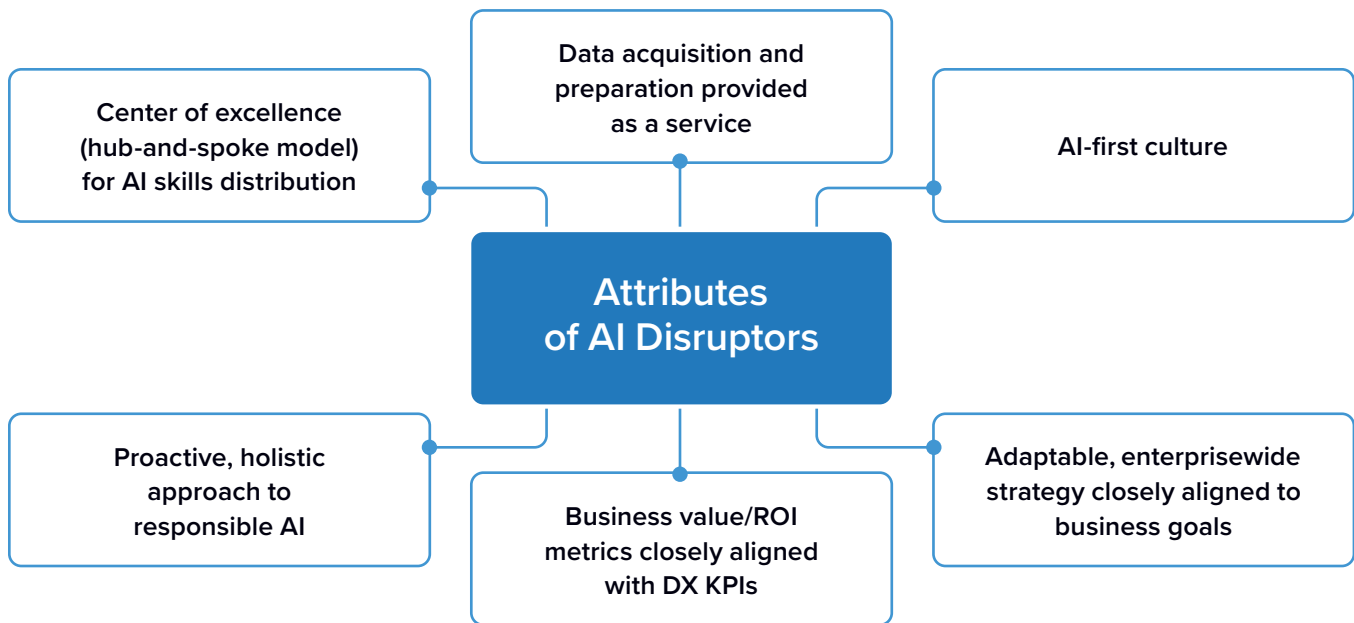


Disruptor

An adaptable and innovative enterprisewide AI strategy is aligned with business goals and success metrics.

AI Disruptors — those that have achieved the highest tier of maturity in the IDC index — show the most significant business outcomes. Disruptors have an adaptable and innovative approach to implementing AI throughout the entire enterprise, and they continually strengthen their capabilities over time by closely monitoring success metrics that align with key performance indicators for digital transformation (see **Figure 1**).

FIGURE 1
The Key Attributes of AI Disruptors



Source: IDC, 2023

Disruptive organizations prioritize using AI in their operations and have built a culture that values and encourages the integration of AI. They are decidedly AI-first and have established centers of excellence dedicated to developing and distributing skills throughout the organization.

AI Adoption Maturity Is Improving

While the majority of respondents (72%) are in the earlier AI Apprentice or Practitioner stages, the data shows that companies are advancing in their AI maturity. For example, 22% of respondents fall into the later stages of AI Transformer or Disruptor — a 57% increase since 2019. IDC posits that growth in stages 4 and 5 is closely tied to accelerated investments in AI.



AI spending is expected to grow to **\$301 billion at a CAGR of 26.5% for 2021–2026.**

Investment in AI and Digital Transformation Is on the Rise

AI and DX are the “dynamic duo” of innovation, often leveraged together to drive business performance and growth. AI plays a vital role in DX by providing organizations with the ability to automate and optimize their digital operations and customer service. For example, Marriott Hotels uses “ChatBotlr” to help Rewards members research and book travel, with 44% reporting successful assistance.

Others are using AI-driven analytics to gain insights from data and drive better decision making. McDonald’s, for example, collects data on its audience through its mobile app, harnessing insights to target promotions and offers.

The AI and DX team is seeing major investment across the board. IDC predicts that direct DX investments will accelerate to a compound annual growth rate (CAGR) of 16.5% for 2022–2024, up from a CAGR of 15.4% for 2019–2024, making up 55% of all ICT investments by the end of 2024. Meanwhile, AI spending is expected to grow to \$301 billion at a CAGR of 26.5% for 2021–2026.

AI Use Cases Are Rapidly Expanding

AI is being adopted across a wide range of business functions, from IT automation and financial account reconciliation to human resources and supply chain management. As computing power continues to rise, it’s becoming easier for businesses to implement AI solutions. AI usage is also fueled by greater public awareness about the power of these technologies.

IDC projects that the application of AI will continue to evolve, with respondents planning inroads into areas including robotics, touchless expenses, and regulatory intelligence within just two years (see **Figure 2**, next page).

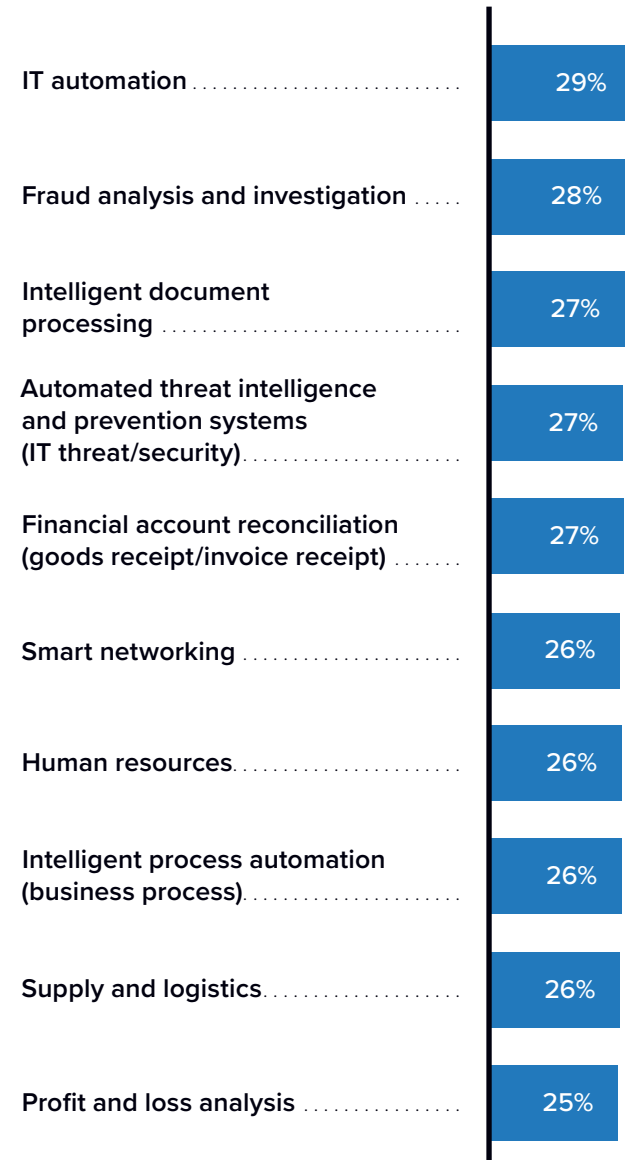
FIGURE 2

AI Use Cases Expanding Across Industries and Business Functions

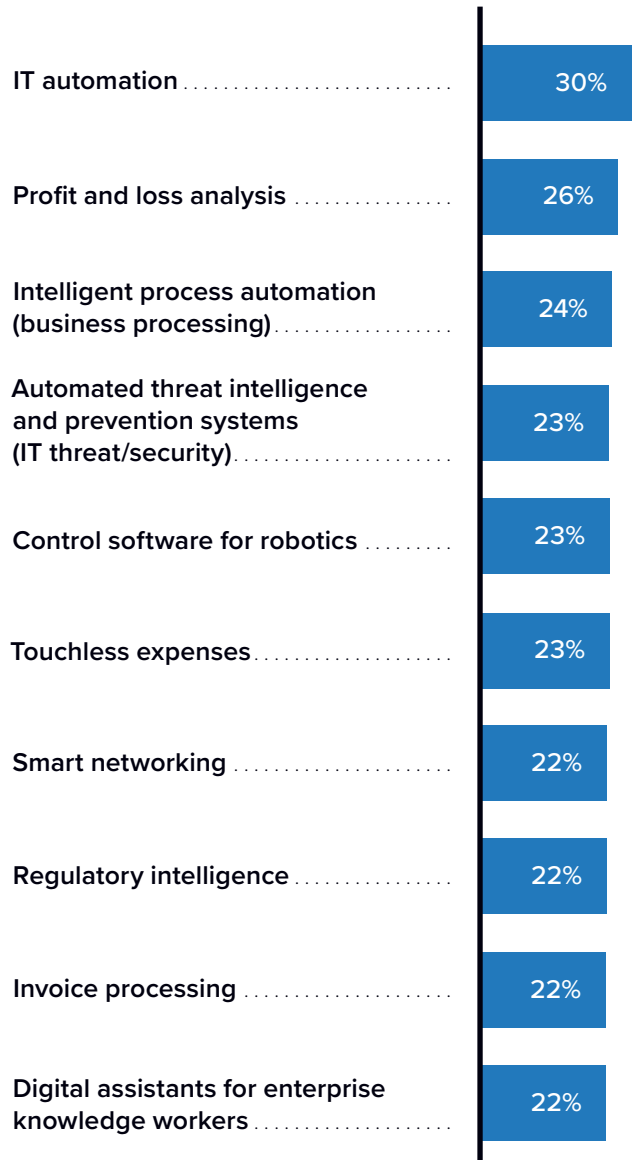
What are the main use cases for AI applications/solutions your organization is currently deploying, building, or investigating, today and in two years?

(% of respondents)

Today



In Two Years

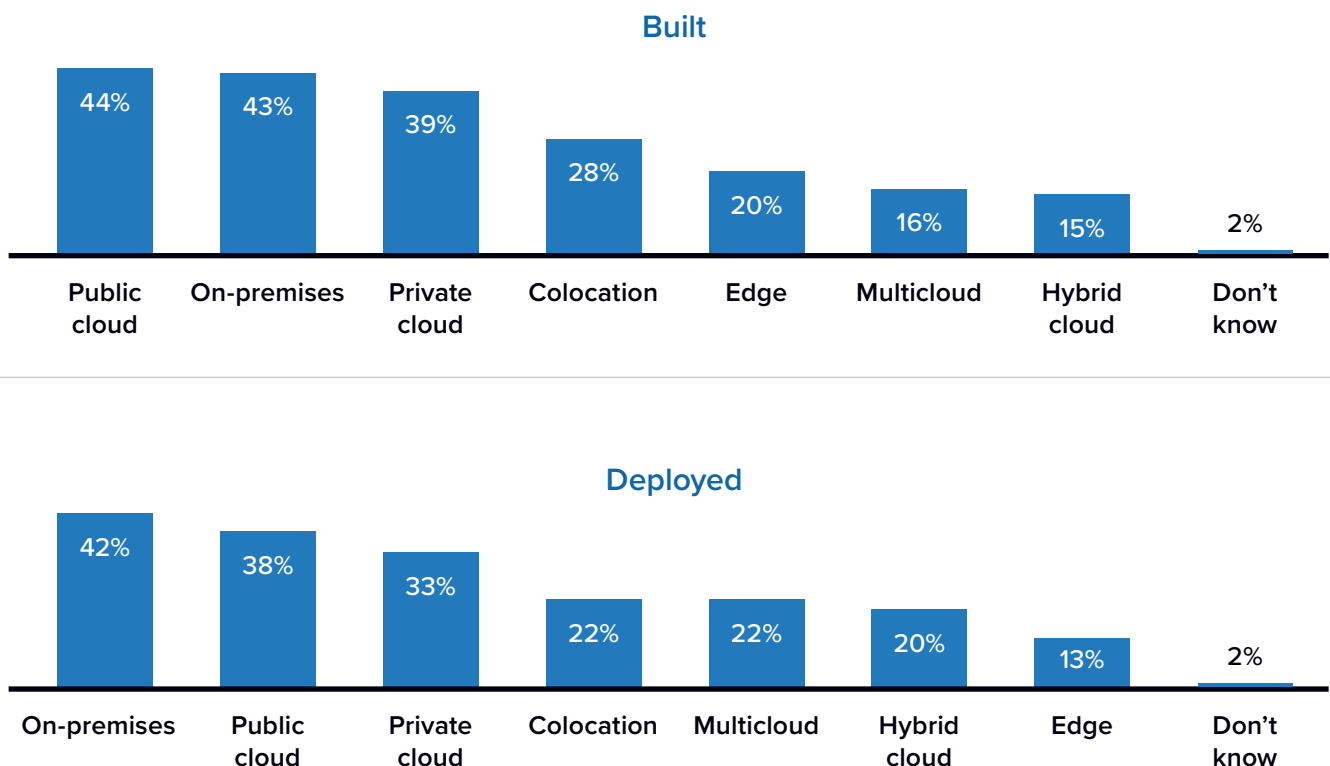


n = 2,022; Source: IDC's MaturityScope Benchmark: Intel Artificial Intelligence Adoption Maturity Survey, April 2022

Businesses Use a Mix of Public Cloud and On-Premises for Building Applications and Deployment

IDC found that 44% of businesses prefer public cloud for building AI applications, while 42% of businesses prefer on-premises solutions for deployment (see **Figure 3**). Many factors, such as scalability, cost-effectiveness, and security and compliance requirements, may influence these decisions (see **Figure 4**, next page). Overall, the choice between public cloud and on premises depends on the specific needs of the business and the characteristics of the application being built. Note that these percentages are not mutually exclusive and that private clouds and on-premises instances can be managed by external service providers.

FIGURE 3
Businesses Prefer Public Cloud for Building Applications But On-Premises for Deployments



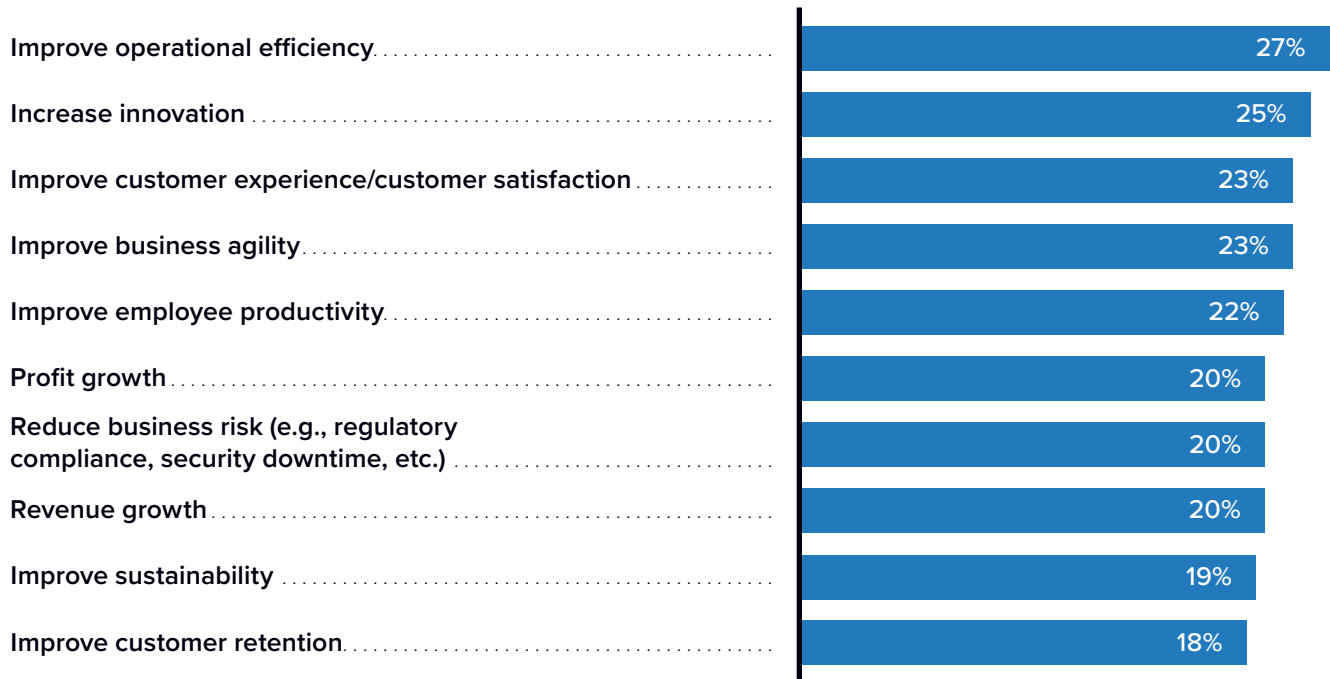
n = 2,022; Source: IDC's MaturityScope Benchmark: Intel Artificial Intelligence Adoption Maturity Survey, April 2022

FIGURE 4

Best Practices for Artificial Intelligence and Machine Learning

What are the primary business objectives for using AI/ML for your projects/initiatives?

(% of respondents)



n = 2,022; Source: IDC's *MaturityScope Benchmark: Intel Artificial Intelligence Adoption Maturity Survey*, April 2022

CASE STUDY: HITACHI

Hitachi is using AI inference to help manufacturers speed visual inspection and reduce human error on the shop floor. Developed in collaboration with Intel, Hitachi's CE50-10A Industrial Edge Computer CE series Embedded AI model is designed to help workers make faster decisions and take more immediate action.

The Hitachi CE50-10A performs image analysis using onsite data to accelerate product inspection and fault detection. It can provide more efficient defect detection by performing image analysis directly on shop floor equipment (instead of waiting for data to be sent to the cloud), higher productivity and increased accuracy by allowing earlier action to be taken on quality issues, and shorter time to value since the CE50-10A comes preinstalled with the Intel distribution of the OpenVINO toolkit, allowing developers to easily train, deploy, and optimize deep learning models or use preexisting models for faster deployment.

AI's Impact on Business

In response to “digital deflation” reducing the cost of digital goods and services, companies are recognizing the importance of investing further in AI to maintain competitiveness (see back to **Figure 4**). Through the integration of AI, organizations are targeting a variety of business objectives, such as:



AI Disruptors have enjoyed 20–30% improvement in business outcomes by employing AI.

- ✓ Boosting operational efficiency (the top objective across all regions)
- ✓ Breaking down barriers to information processing and improving innovation through creative and exploratory thinking
- ✓ Increasing revenue from new markets, products, and customers (especially in Asia/Pacific)
- ✓ Improving customer experience/satisfaction through personalized interactions
- ✓ Driving sustainability (the fastest-growing business objective for large firms)

AI Disruptors see better outcomes

While many companies seek to reach these business objectives from their AI strategy, Disruptors are in the best position to achieve them. By employing AI, Disruptors report a 20–30% improvement in business outcomes, with 25% reporting an increase in revenue from new markets, products, and/or customers. Similarly, according to *The 4P Transformation of Enterprise Software: Spotlight on Artificial Intelligence Software* (IDC #US48133321, August 2021), early adopters report an improvement of almost 25% in customer experience, accelerated innovation, increased competitiveness and margins, and better employee experience (EX) with the rollout of AI solutions.

CASE STUDY: BMW GROUP

BMW Group's goal is to democratize AI, making it accessible to all employees with “AI on every employee PC.” BMW collaborated with Robotron and Intel to develop an AI-based application for automated image processing and quality control using Intel's distribution of the OpenVINO toolkit.

The application uses deep learning to process large volumes of visual data, enabling efficient and accurate identification of defects in production.

As a result of the collaboration, BMW Group has been able to enable not only data scientists but also employees in manufacturing to use AI workloads for quality control.

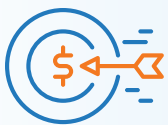
Use cases are revolutionizing almost every industry. Samsung Medison used Intel's Geti, a computer vision AI platform, to identify nerve structures in real time during the application of anesthesia. SSE Energy Solutions is developing AI-powered optical sensors that help cities meet their environmental goals. Bravent developed an efficient and flexible AI-based computer vision solution to reduce human error in complex machinery assemblies.

Disruptors have made greater strides across almost all business areas by prioritizing AI within their organizations and closely aligning AI strategy with top-level business objectives, leading to top-line, bottom-line, and green-line growth.

Challenges of AI Innovation

AI represents an almost limitless opportunity for technological innovation — but as with most new technologies, there are challenges that need to be addressed for enterprises to fully realize the benefits.

Nearly a third of all respondents shared these top challenges faced by enterprises as they adopt an AI strategy (see **Figure 5**, next page):



Cost

Implementing AI can be expensive, including the extensive costs of integrating AI-based technology with existing systems.



Scale

Large amounts of data and advanced infrastructure are required to support scaling processes, increasing technical complexity across the enterprise.



Performance

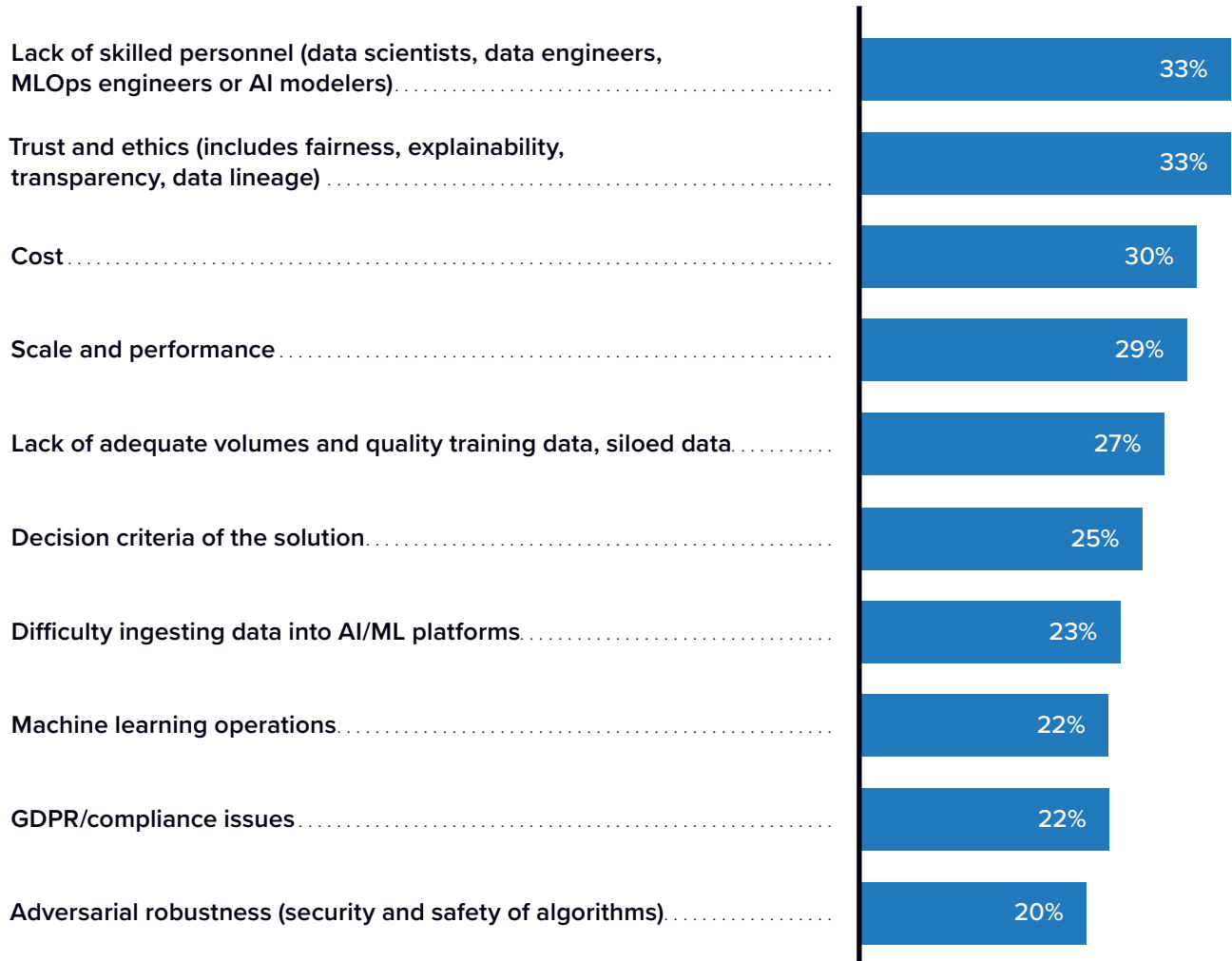
AI systems depend on high-quality data to be accurate and effective. Monitoring and maintaining AI to achieve peak performance requires ongoing investment and expertise.

FIGURE 5

Challenges Inhibiting the Success of AI Projects

What challenges and/or barriers did your organization face that created problems with the success of your AI projects?

(% of respondents)



n = 2,022; Source: IDC's *MaturityScope Benchmark: Intel Artificial Intelligence Adoption Maturity Survey*, April 2022

Best Practices from Disruptors

Enterprises seeking to overcome these challenges have much to gain from observing Disruptor organizations that have aligned AI investments with their overall strategy. Disruptors have seen success in establishing governance groups and implementing clear policies for the use of AI, adhered to by IT, business, and compliance functions. In addition, they leverage the latest automation and digitization processes to maximize the ROI of AI projects.

To truly maximize ROI, organizations will need to closely track AI initiatives by monitoring KPIs tied to DX. This will provide valuable insights into the impact of AI projects, allowing enterprises to make data-driven decisions, refine their strategies, and continuously improve results.

Survey respondents reported that their top best practices were:



Organizationwide AI governance



Use of newer business processes



Overall methodology to measure ROI closely tied to DX KPIs

IDC Guidance for AI Success

AI holds tremendous promise for enterprises that are willing to embrace its potential and apply an exploratory mindset to its role across business functions. While best practices from Disruptors help guide the way, IDC also recommends additional considerations for the successful adoption of AI within an organization:

- ▶ **Partner with a trusted and innovative technology supplier to address AI inhibitors.** Working with a technology supplier that has a proven track record of delivering AI solutions and a deep understanding of the challenges can help mitigate issues that arise during implementation and increase the chances of success.
- ▶ **Cocreate with other strategic partners to accelerate time to value.** Making partnerships within the AI ecosystem can enable more rapid product development and deployment. A recent survey found that many European businesses have already launched a co-creation initiative, with 57% saying it transformed their company's approach to innovation. One example of co-creation among enterprises is NVIDIA and AstraZeneca, which have partnered on an AI initiative to speed up research and improve patient care with a new drug discovery model. By collaborating, they combine their expertise and resources to accelerate the development of a model trained on over 50 million interactions with 2 million patients.
- ▶ **Look for hardware-software optimization to maximize ROI.** The right mix of technology can support rapid response and increase the efficiency of AI systems.
- ▶ **Adopt AI responsibly.** Enterprises must follow ethical and regulatory guidelines, ensure transparency and accountability in their AI processes, and implement regular audits of their systems. Intel, for example, is committed to responsible AI, following international standards, conducting research to address pain points, conducting rigorous review processes, and promoting privacy and security. IDC also found that Disruptors established AI responsibility enterprisewide by forming centers of excellence.
- ▶ **Tightly align your AI success metrics with digital transformation KPIs.** Enterprises that map their AI goals to overall business objectives show a 20–30% improvement in key outcomes. Bank of America, for example, is a pioneer in using AI for its digital transformation efforts. The financial enterprise uses AI to analyze data and provide personalized insights that increase customer engagement and satisfaction. One of its major AI initiatives is the development of Erica, an AI-powered virtual assistant that uses natural language processing to better understand and respond to customer queries.

Why Intel?

With built-in accelerators, data infrastructure, and flexible scale, Intel is helping organizations worldwide unlock their AI transformations. In addition, Intel is focused on reducing cost inhibitors to AI adoption by lowering hardware costs, reducing IT staff time, and streamlining development. According to an IDC study, enterprises, on average, see \$245,300 in cost savings per developer working in Intel-optimized software.

Among the benefits of Intel, enterprises can harness:

- ▶ **AI software:** Build and deploy everywhere with oneAPI-powered tools and framework optimizations to accelerate the AI journey.
- ▶ **Compute platform:** Run any AI workload on Intel Xeon processors optimized for end-to-end AI performance.
- ▶ **Solutions and partnerships:** Implement prebuilt solutions and access an extensive partner ecosystem and products for faster time to solution.



According to an IDC study, enterprises, on average, see **\$245,300** in cost savings per developer working in Intel-optimized software.

Conclusion

Disruptors have paved the way for AI and its transformative impact on business. Are you ready to join their ranks?

By leveraging AI, organizations can drive digital transformation, lower costs, and secure their future in a rapidly changing market. Those that have fully embraced AI with an adaptive and innovative approach are poised to become the Disruptors of the digital age, with results on customer engagement, competitiveness, and margins.

According to Optum, a division of UnitedHealth Group, its use of AI helps to improve healthcare delivery and patient outcomes while reducing costs, leading to a 21% year-over-year growth rate.

While the opportunities are limitless, realizing the full potential of AI requires a long-term investment in cost reduction, responsible growth, and the acquisition of the right talent and infrastructure. Trust and reputation are crucial to success, making responsible practices an absolute necessity.

Now is the time to build these investments and a commitment to AI into your organization. The path to becoming a Disruptor is not easy, but the rewards are substantial. There's no doubt — organizations that cultivate a culture of innovation will shape the future of business.

About the IDC Analyst



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Ritu Jyoti is group vice president, covering worldwide artificial intelligence and automation research with IDC's Software Market Research and Advisory practice. Ritu is responsible for leading the development of IDC's thought leadership for AI research and managing the research team. Her research focuses on the state of enterprise AI efforts and global market trends for the rapidly evolving AI and machine learning innovations and ecosystem. She also leads insightful research that addresses the needs of AI technology vendors and provides actionable guidance on how to crisply articulate their value proposition, differentiate, and thrive in the digital era.

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