



Architect an AI advantage

Overcoming overconfidence and oversight to help leaders secure long-term business success

A research report from Hewlett Packard Enterprise

The market size for AI is skyrocketing, so it is no surprise then that organizations across the globe want to tap into this upward trajectory.

Today, the question is no longer if businesses are adopting AI but rather how successfully they are doing so. This is what HPE's latest research sought to understand.

In January 2024, HPE commissioned a cross-industry survey covering 14 global markets, with over 2,400 IT leaders participating. The results show that respondents have broad confidence in their company's AI approach and progress to date. However, a closer look uncovers both worrying gaps — and even complete blind spots — in implementation and insight that could seriously impact future business success.

“Confidence is the company consensus on AI progress, but is it warranted if their strategies have gaps and blind spots?”

To truly realize the benefits of AI, organizations need an end-to-end approach. This requires a holistic AI strategy that stretches from goals to ethical considerations. It necessitates defined roles and responsibilities across the business for leading the AI charge. It means thinking about how AI can deliver against business targets overall, but also what enabling elements are required across the distinct nuances of its lifecycle. These considerations for success serve as a good metric for business performance in this end-to-end pursuit of AI advantage.

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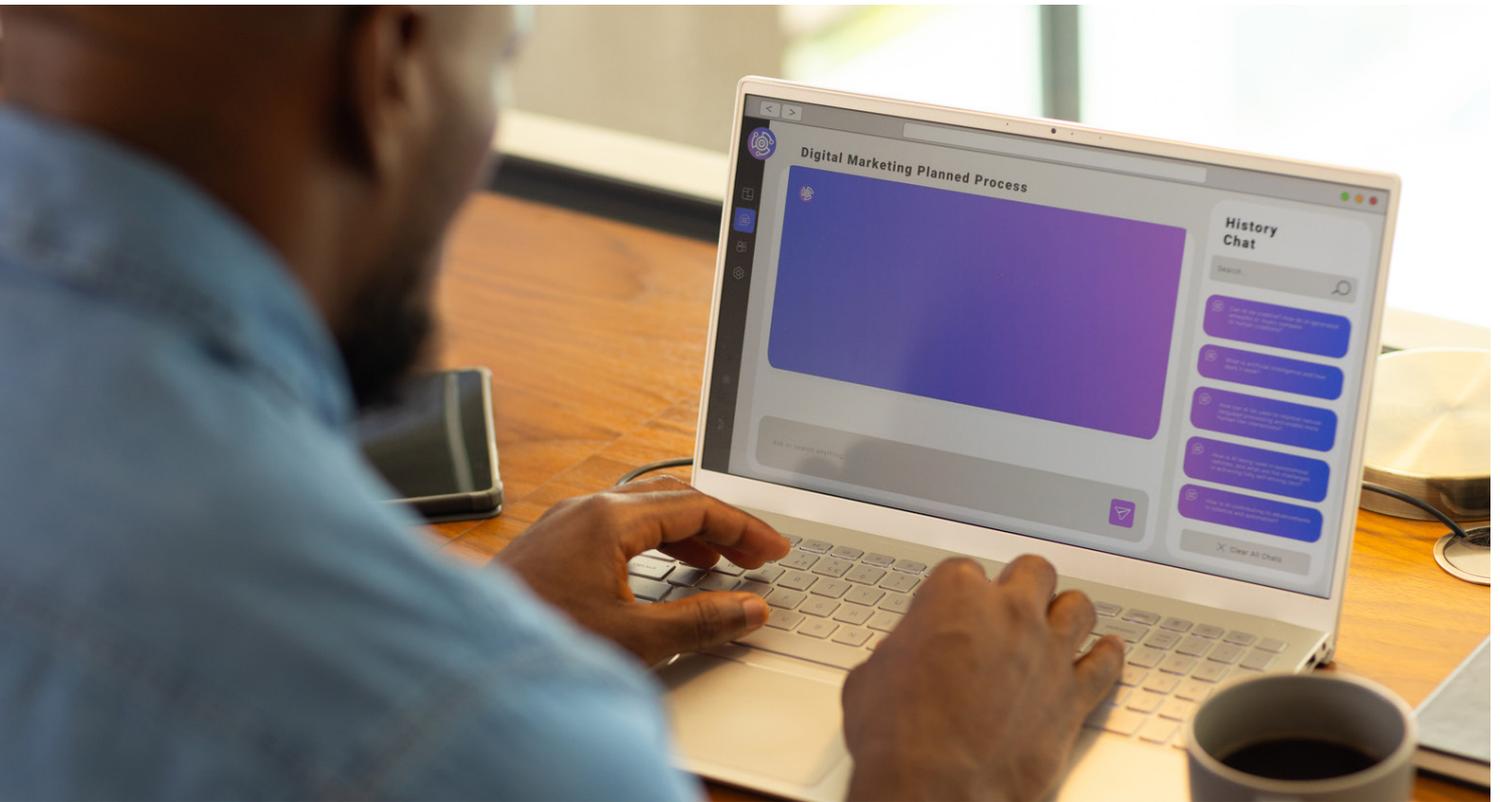
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Chapter 1

Budgets mirror confidence

Substantial investment in AI shows that this technology is clearly a priority for businesses. Nearly all respondents (98%) say their organization has an AI-specific budget. A similar number (94%) say there are plans to increase this amount over the next 12 months — with 43% indicating the increase will be significant.

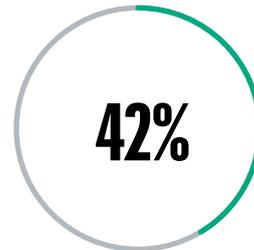
With dedicated budgets showing great ambition to unleash digital innovation, how far are businesses on their AI implementation journey? Beyond the exploration or pilot stage, as many as 44% of organizations have rolled out AI business wide (i.e., productionizing AI, customizing models, running deep learning applications), while an additional 16% have begun operationalizing it — building, training, and tuning their own models.

Perhaps in reflection of this, just under half (44%) of IT leaders already believe their organization is fully set up to realize the benefits of AI. This is a substantial amount, despite AI being a relatively emerging technology for numerous business use cases.

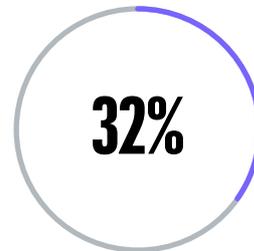
A steady budget flow highlights organizations' belief in their AI progress and ability to deliver a return on investment. But is this belief more akin to overconfidence? Findings from a deeper dive into perceived AI progress reveal worrying risks that many have overlooked or underplayed. The learning curve of an end-to-end AI lifecycle isn't as flat as many would like to believe.

“The learning curve of an end-to-end AI lifecycle isn't as flat as many would like to believe.”

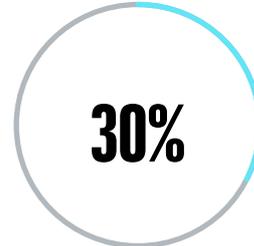
How AI investment has paid off IT leaders list strategic outcomes they have achieved



have boosted **operational efficiency.**



have improved **decision-making.**



have enhanced **customer satisfaction.**





Chapter 2

Gaps in the “why”

Fragmentation in AI strategies and metrics

According to IT leaders, 9 in 10 organizations have an official AI strategy in place. Nearly all (96%) have also set AI goals or are in the process of doing so. These indicators show that businesses not only expect big things from AI, but they plan to monitor and track progress, which is necessary for continued growth and improvement.

“We’ve set very specific goals, tied to business outcomes. Because, candidly, if the technology is not used to deliver something meaningful either for us or our customers, why use it?”

Financial Services LOB Executive, on expected outcomes with AI

The foundation for success seems to be in place, but there is one more consideration: an end-to-end approach. Even if AI is rolled out across several distinct business functions, the implementation and metrics for success should be outlined under a single, consolidated strategy — something that only 57% of organizations currently have. Instead, just over a third (35%) have opted to create separate strategies for individual functions, which highlights a fragmented approach.

Only **57%**

of organizations currently have a single, consolidated AI strategy.

Equally, while it bodes well that 42% of organizations have collaborated on a single set of AI goals, 32% have chosen to set (or are in the process of setting) separate goals for different functions. This compounds the fragmented approach, which could dilute the businesses’ AI strategy.

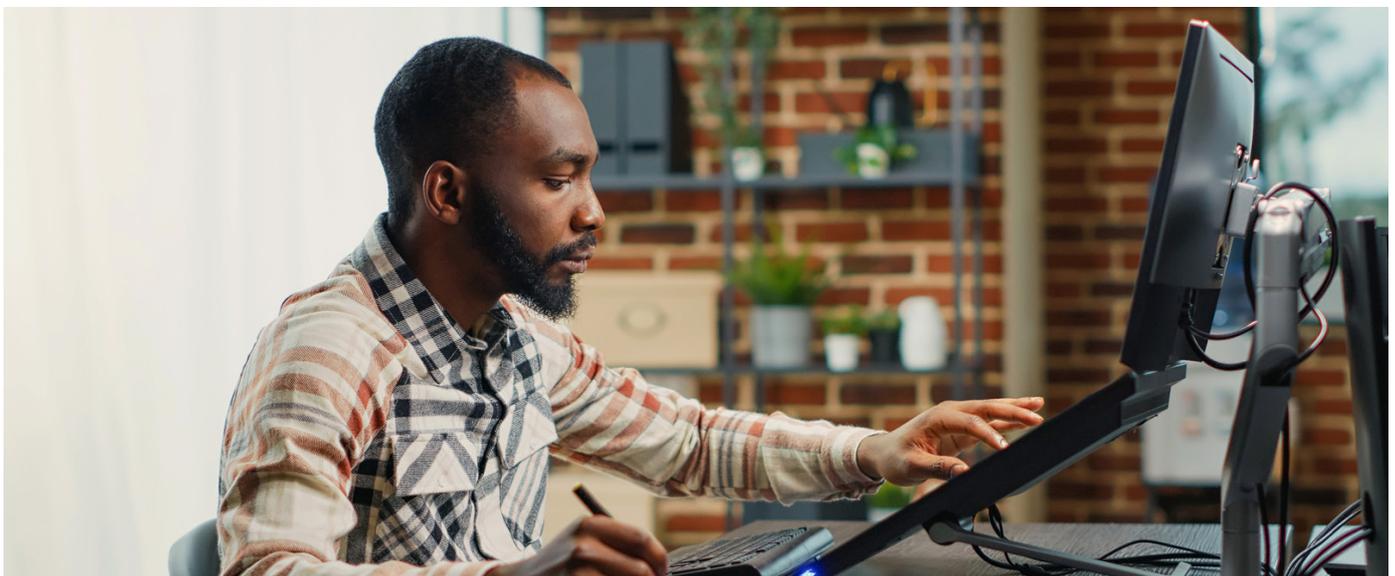
¹The European Parliament and The Council of the European Union, Directive (EU) 2022/2464 of the European Parliament and of the Council. Official Journal of the European Union, December 2022.

²California Legislative Information, Senate Bill-253 Climate Corporate Data Accountability Act. Legislative Counsel’s Digest, published September 2023.

Positive progress: Sustainability considerations

When asked where they are directing their AI investment, 35% of businesses called out sustainability efforts as a focus. Even more encouragingly, 92% indicated that their organization has actively taken steps to reduce the energy consumption of its AI. Most (57%) use energy-efficient hardware, while a similar number (52%) choose vendors who use renewable energy or have implemented energy-aware scheduling themselves.

There is one significant opportunity for improvement relating to sustainability efforts: only 44% are monitoring their AI-related energy consumption. The ability to track progress, and measure how they have performed against targets, will become increasingly important for businesses who want to stay compliant (and continue to earn the loyalty of customers and employees). This is because more and more countries are introducing sustainability regulations that both large and small operators will need to meet. Examples include the EU’s Corporate Sustainability Reporting Directive (CSRD),¹ which came into force in 2023, and the Climate Corporate Data Accountability Act² that will be enforced by 2026 in California (the first US state to enact such a law).





Chapter 3

Gaps in the “who”

Leadership disconnects could spell disaster

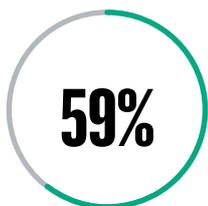
The confidence displayed in AI progress is reflected once again in the teams that businesses have chosen to champion it. In fact, 97% of IT leaders believe the right people are currently involved in their organization’s AI strategy conversations.

Those surveyed stand firmly behind the involvement of a broad spectrum of roles, including the C-Suite, IT leads, AI/ML engineers, data scientists, and network managers among others. The question is how do businesses strike a balance between decision-makers and influencers?

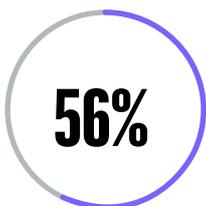
Decision-making around AI strategy sits lower down on the leadership ladder than many might expect. 59% say it falls to their Chief Technology Officer, 56% say it rests with the Chief Information Officer, and only 52% say it is

the Chief Executive Officer's responsibility. Interestingly, the IT Director outranks all C-Suite members in ultimate AI decision-making (true for 63%). This order of influence reflects where the budget lies — AI is still primarily viewed as an IT cost, which is true for the bulk of respondents (42%). It could also reflect the limitations of its current outcomes, in that AI is used more for driving efficiency and automation in IT systems than on business-led projects such as insights and analytics. As evidence of this, only 44% of IT leaders believe the C-Suite is willing to act on insights delivered by AI investments.

Where does AI strategy sit on the leadership ladder?



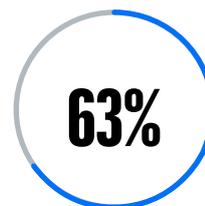
falls to their
Chief Technology Officer



rests with the
Chief Information Officer



responsibility of the
Chief Executive Officer



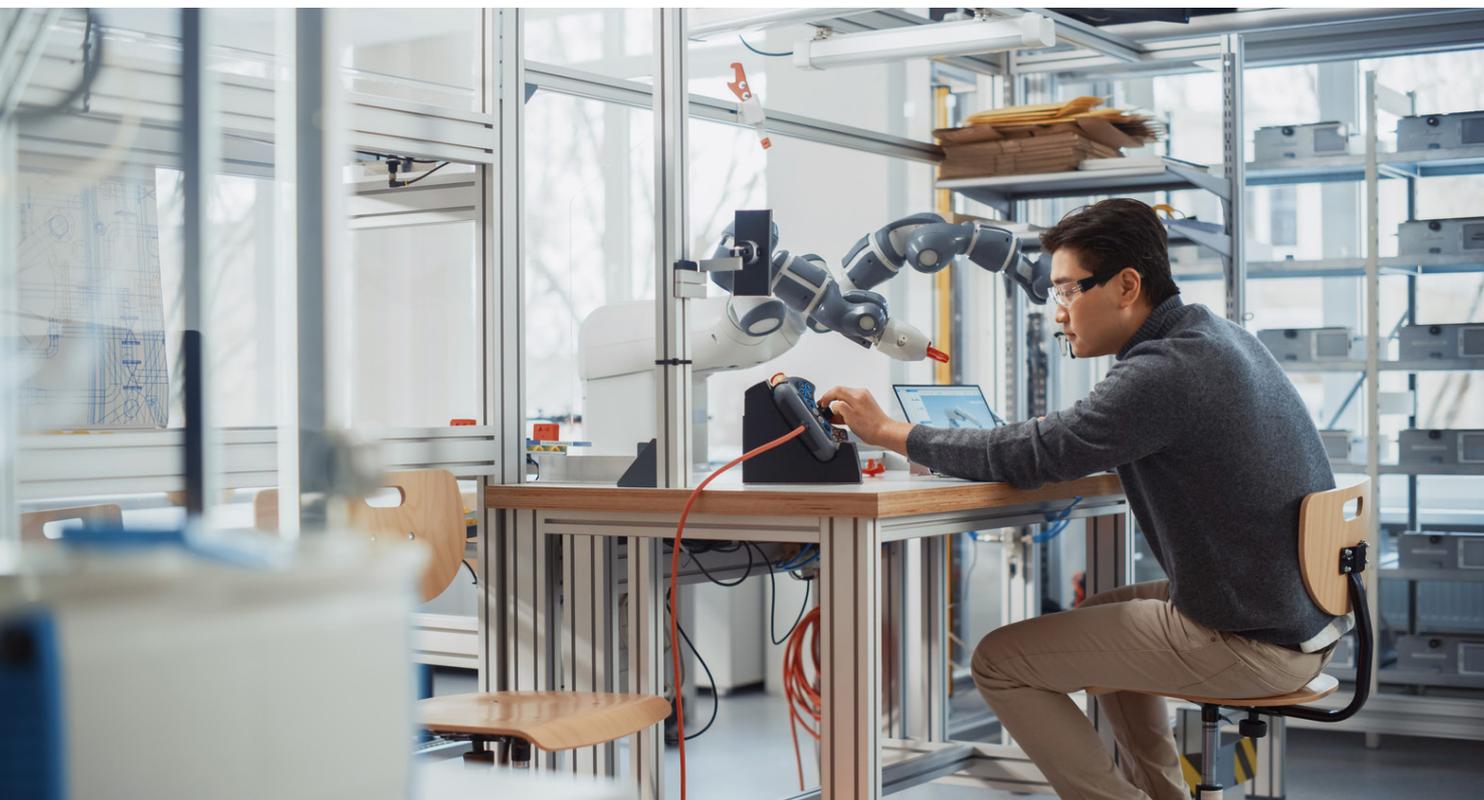
say that the
IT Director is the ultimate AI decision-maker

“We must take it to the Board from a profit and competition standpoint — saying it’s going to cost us this now, this is what it will do for us, and this is how it will help us in the long run.”

Retail LOB Executive, on varied levels of AI understanding across the leadership team

However, the fact that ultimate responsibility for AI decisions rests with IT is positive because it illustrates that the C-Suite values subject matter experts. It also protects businesses against rushed implementations — a very real danger considering that 50% of respondents admitted their leadership team has unrealistic expectations for how quickly they can deliver results from their AI investments. But there are downfalls to an unequal balance between leadership and IT, underpinning the importance of collaboration. Technology shouldn't be implemented in the absence of a clear business case to do so, aligned with strategic outcomes. Here, the C-Suite's insight could be better leveraged to help inform tech investment by IT leaders.





Chapter 4

Gaps in the “how”

Exploring AI enablement

To ensure AI’s optimal performance, organizations must review their technology setup for enabling AI processes across the AI lifecycle, which requires consideration of multiple elements from skills resources to software, data management and more. The findings revealed multiple enablement gaps, particularly around data preparedness and actual resource requirements.

Concerns around data preparedness

Garbage in, garbage out. A simple mantra, but this captures how critical data is to the AI equation. An organization's AI output will only be as good as the data input, which is why enablement investment should first be channeled into data systems — something 61% of organizations are doing. Data management is also considered one of the top three elements critical to AI success, alongside security and data protection.

Organizations clearly understand data's pivotal role for AI deployment. And yet, in reality, data maturity levels were shown to be relatively low. A mere 7% of respondents can run real-time data pushes/pulls to enable innovation and external data monetization, and only a quarter (26%) have set up data governance models and can run advanced analytics.

If Only **7%**

of businesses can access real-time data, how relevant will their AI insights be?

Furthermore, fewer than 6 in 10 respondents said their organization is completely capable of handling any of the key stages of data preparation — accessing, storing/

protecting, processing, and recovering — for use in AI models. And that's despite many organizations having already boosted flexibility by using hybrid cloud as their primary IT operating model and to run their AI workloads.

AI excellence demands that a business is able to handle all stages of data preparation. Even though it's a key starting point, fewer than

6 in 10

respondents can meet this need.

On a related note, it is also worrying that only 37% of IT leaders have set up shared data models with centralized business intelligence. This mirrors previous findings in HPE's 2022 survey about inadequate data capabilities,³ where 34% of respondents shared that their company's data was isolated in individual applications or locations. One of the key learnings from the 2022 survey was that removing data siloes across hybrid architectures is critical to success, and slow progress on this front — despite the apparent move to hybrid — is cause for concern. Best practice requires an overarching data and analytics architecture that consolidates all data across applications and locations. The goal is to provide unified access to real-time data across the organization, no matter where it resides.

³Hewlett Packard Enterprise (NYSE: HPE), Lack of data capabilities impedes organizations' success, global survey finds. December, 2022.



Concerns around nuanced resource needs

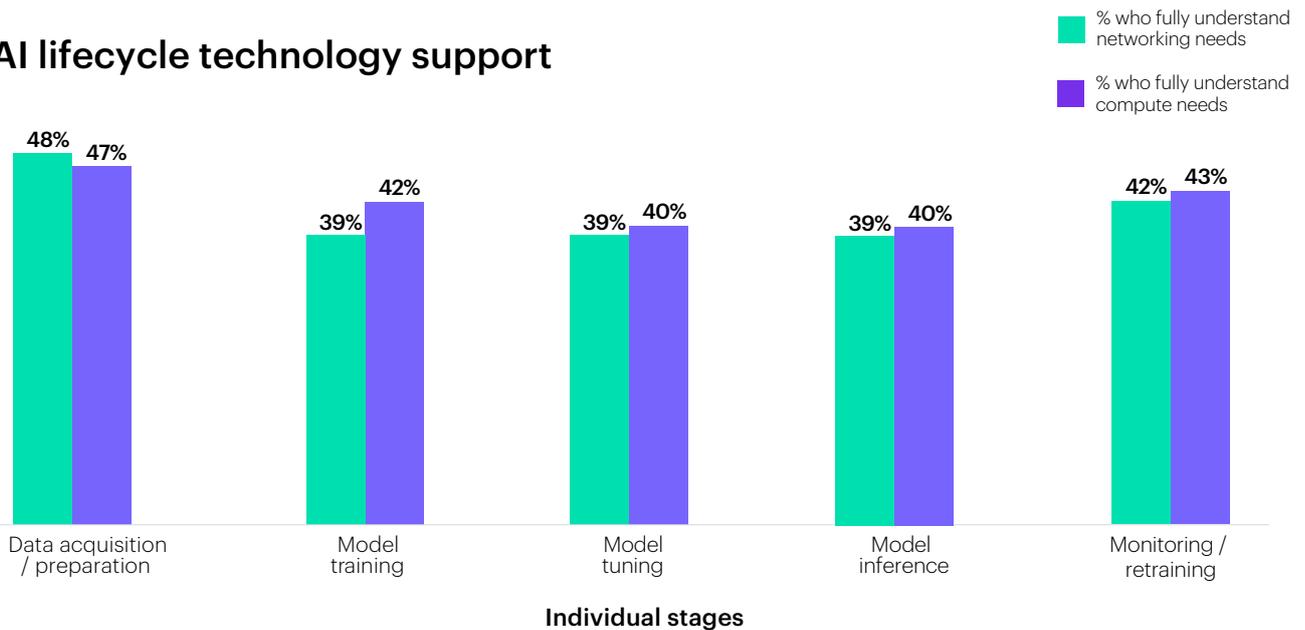
With the data building blocks in place, businesses should seek to understand AI's specific networking and compute requirements. Again, on the surface, confidence levels are high regarding enablement: 93% of IT leaders believe their network infrastructure is set up to support AI traffic, while 84% agree that their systems have enough flexibility in compute capacity to support the unique demands across different stages of the AI lifecycle.

With

80%

of organizations running their AI models on owned architecture, we expect enablement readiness to be high. Worryingly, this isn't the case.

AI lifecycle technology support

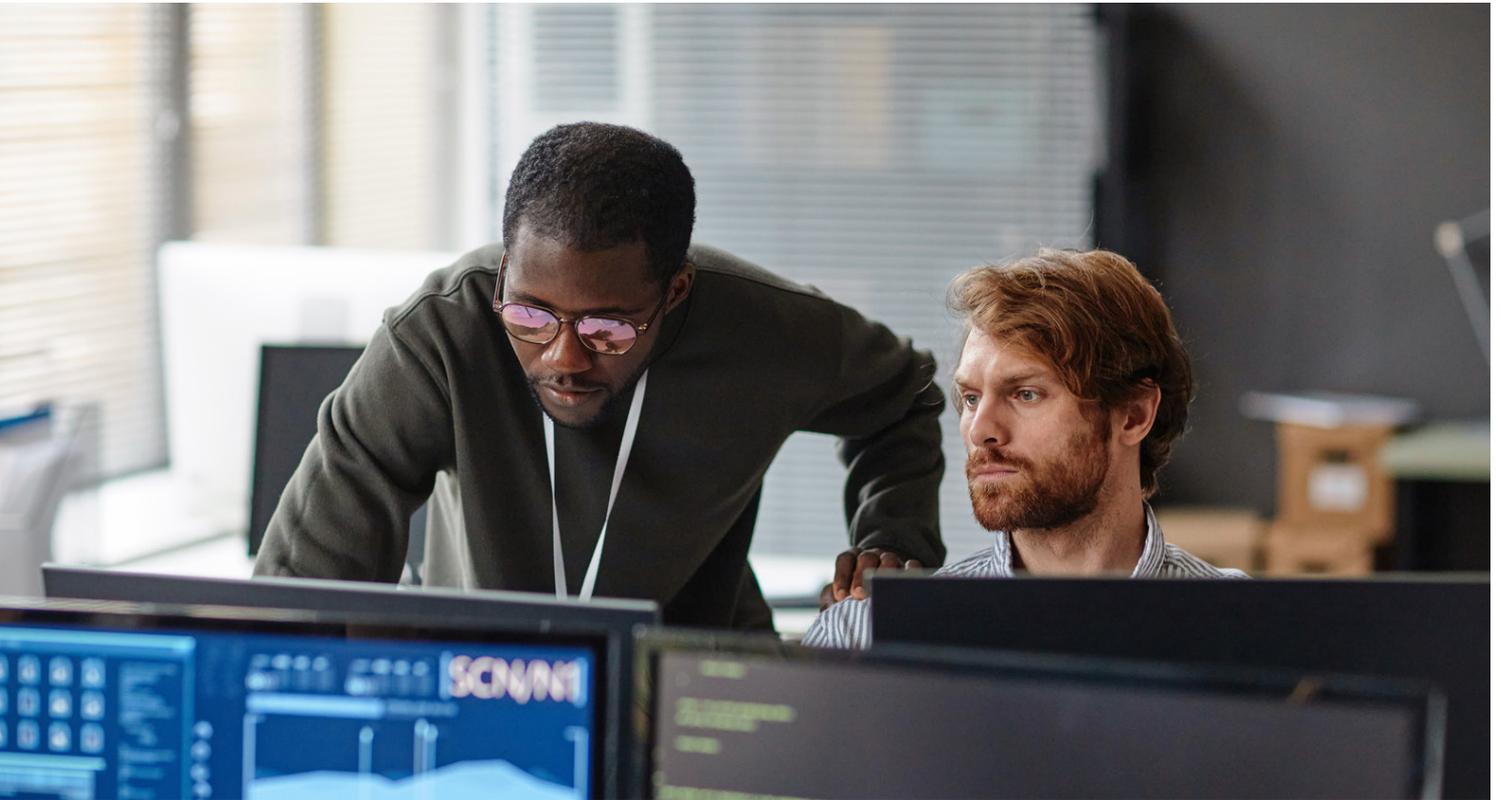


Zeroing in that end-to-end lifecycle, however, the results revealed that respondents have likely oversold this enablement readiness. Across the five individual stages, less than half of surveyed IT leaders have a firm understanding of the nuanced needs for networking or compute power.

Businesses deploying AI in the public cloud rely on the AI management expertise of the cloud provider. However, with nearly a third running AI models in a private (30%) or hybrid cloud (33%), the management onus seems to rest primarily in the hands of organizations themselves. This could potentially undermine AI success, considering the highlighted knowledge gap in these organization's perceived readiness and the actual nuanced AI requirements.

Positive progress: Software considerations

It is encouraging to find that AI software is a priority for businesses. Software is one of the top three areas that IT leaders are choosing to direct AI budget toward. An important piece of the end-to-end-lifecycle puzzle, software is vital for several reasons, including its ability to enable inference, and the fact that it allows non-developer resources to run applications.



Chapter 5

Serious about safety

Pessimism or realism: security a top priority

Organizations appear clear on the potential cyber dangers of AI adoption — with 94% of IT leaders saying it has increased their security risks, and 4 in 10 going as far as predicting that they will be victimized by an AI-generated attack within the next six months.

When asked which security considerations most concern them, respondents identified data leakage (34%), lack of trust / transparency (29%), infrastructure / platform security (29%), and data manipulation (29%) as the top dangers. But they are also worried about securing access to their AI datasets and the privacy implications of a failure to do so.

Pessimism or realism?

4 in 10

IT leaders predict their organization will fall victim to an AI-generated attack in the next six months.

Respondents consider security as the most critical element to AI success, which is why it also ranked as the second highest AI-investment priority after data management. In recognition of this, organizations are turning to a wide variety of security methods to protect themselves, including deploying data backup and recovery services, using AI-enhanced network monitoring, running security training for internal employees, and implementing Identity and Access

Management solutions. However, with less than half of businesses (47%) including their Chief Information Security Officer (CISO) in AI decision-making, this could be an area of improvement for further bolstering AI security posture.

“Since we are not developing an AI model in house, we are still using models from other organizations. How the data is shared with those organizations/whether it is shared, are privacy concerns. How the data is leveraged is something that we need to be really sure about before we implement the solution.”

Manufacturing IT Executive, on enabling technology for securing sensitive data

Security concerns are equally influencing organizations' choice of AI model. Those using pre-trained or pre-set AI models chose to do so with data security in mind (27%). Equally however, businesses who built their own AI model cited data privacy and protection as the top reason for selecting this route (58%).

Which security considerations concern IT leaders the most?



Data leakage



Infrastructure / platform security



Lack of trust / transparency



Data manipulation





Chapter 6

Total blind spots

Overlooked ethics and compliance: dangerous red flags?

Gaps in knowledge and insights are one thing, because there is a level of awareness that simply needs to be built on. On the other hand, blind spots are overlooked considerations, which signals a huge red flag for urgent action. Ethics and compliance are two such considerations.

“There are laws and regulation — so risk must be reduced or eliminated. Everything must be approved by government agencies. That changes your approach. It must be very deliberate, very transparent.”

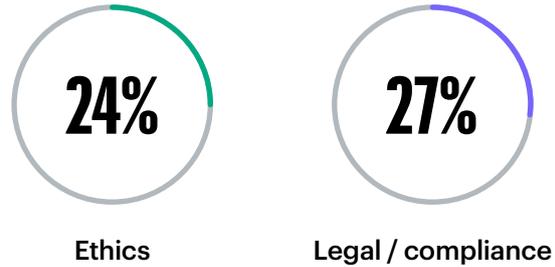
Manufacturing Principal Data Scientist, on building confidence through compliance

Almost 1 in 4 organizations (22%) don't have legal teams involved in their business' AI strategy conversations and, similarly, 1 in 3 respondents (33%) have neglected to involve their HR department. This reflects generally held respondent views that legal or compliance and ethics are the least critical elements for AI success — selected by only 13% and 11% of IT leaders respectively.

The level of AI investment in these areas is telling. Ethics was lowest on the budget priority list (only 24% considered it), with legal / compliance not faring much better (only 27% invested in this).

Excluding ethics and legal or compliance is a concerning blind spot, as these elements will become increasingly important in both consumers' eyes and for the regulatory policies that more and more countries are introducing. For example, a 2023 survey on corporate reputation found that 64%⁴ of consumers hold responsible use of technology — including around customer data — in high regard. Also consider the OECD Principles on AI — a set of guiding standards that promote many value-based principles such as accountability, transparency, and respect for human rights, which companies would be wise to consider in their AI applications.

Level of AI investment



⁴WE Communications, Brands in Motion: The New Rules of Corporate Reputation, 2023.



Key takeaways

HPE guidance

Too many businesses have a false sense of confidence in their AI approach. Short term, decisions taken around AI are likely to pay off. But relevance, innovation, and sustained success require a much deeper understanding of the full AI lifecycle, especially as the technology itself continues to evolve. It is imperative that organizations have an end-to-end AI strategy, approaching this technology with their eyes wide open, fully prepared to identify risks and opportunities.

Tips for tackling the gaps and blind spots:

- Don't rush adoption of AI simply because it's a trending technology. The AI journey should begin with a list of desired business outcomes and leadership input from across the organization on where AI could best help achieve outlined goals.
- Have an overarching AI strategy that is followed business wide to ensure everyone is working towards the same goals, keeping all considerations — from ethics to sustainability goals — top of mind.
- Ensure the C-Suite and IT leaders work collaboratively on the AI strategy, tapping into the business knowledge of the leadership team and the technical expertise of the IT team.
- Demand a nuanced approach that is based on a greater understanding of the AI lifecycle that includes enablement elements from data and compute to software and networking. With hybrid the dominant operating model, organizations are well positioned to optimize their capabilities but may need to leverage external experts if they identify gaps in this knowledge.



With its end-to-end portfolio, strong expertise, and clear consultancy, HPE is uniquely placed to help businesses build the foundations for AI success.

Ready to bolster your end-to-end AI deployment?
Explore solutions by HPE [here](#).

Survey methodology

In January 2024, HPE commissioned Sapio Research, an international full-service market research consultancy, to conduct a survey of 2,453 IT decision-makers (IT leaders) across 14 markets (Australia/New Zealand, Brazil, France, Germany, India, Italy, Japan, Mexico, Netherlands, Singapore, South Korea, Spain, UK/Ireland, and USA). These IT leaders work at companies of 500+ employees, and span industries from financial services to manufacturing, retail, and healthcare.

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