



THE AI JOURNEY: GOING FROM PRACTICAL TO TRANSFORMATIVE

A framework for developing an advanced analytics and comprehensive AI strategy

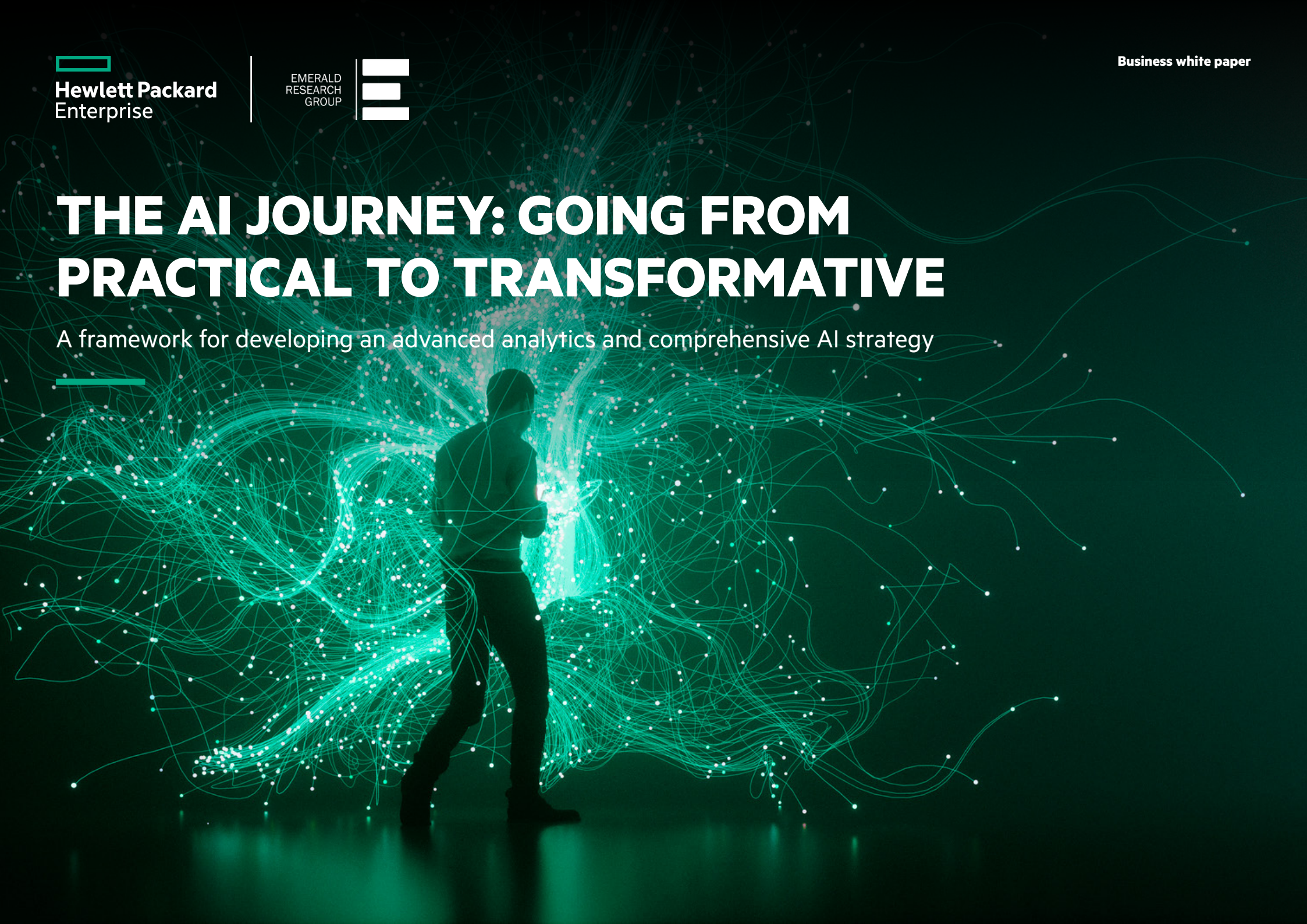




TABLE OF CONTENTS



EXECUTIVE SUMMARY



KEY FINDINGS

- Few organizations pursue AI with the intention to reimagine their businesses from the start; fully realized business transformation comes later.
- Most organizations begin their AI journey by focusing on traditional metrics, like cost efficiencies and improved decision-making.
- Organizations with mature AI strategies have engineered data strategies and tech infrastructure to support them.
- C-suite support for AI initiatives is critical to gain momentum.

Artificial intelligence and machine learning (AI and ML) are no longer the new game in town. As the C-suite continues to focus on shifting technological needs, AI is one of their highest priorities. AI first is a nice catch phrase, but for all the hype the reality of AI today is more often grounded in incremental improvements to standard business

processes. This business white paper seeks to help business leaders navigate the evolving AI landscape, to identify where they are in the typical journey and to provide a framework to help bring their AI strategies to fruition.

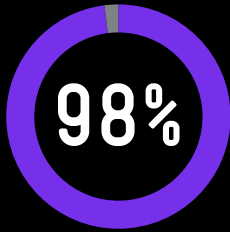
The paper is based on research conducted by Emerald Research Group in June 2021, commissioned by Hewlett Packard Enterprise. Included are findings from the research, expert analysis, and considerations for a successful AI journey.

METHODOLOGY

Emerald Research Group interviewed nearly 2,500 business leaders (IT decision makers [ITDMs], line of business [LOB] executives, business decision makers [BDMs], data scientists, ML engineers, lab directors, and scientists) in large organizations (1,000+ employees). This research is a compilation of results across eight countries (U.S., Asia-Pacific, and Western Europe) and four industries (manufacturing, retail, life sciences, and financial services).

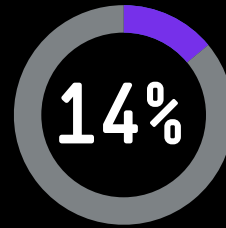


THE AI CUSTOMER JOURNEY



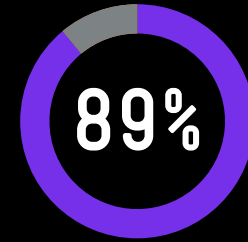
AI/ML is here

98% say they're already using AI in some capacity or conducting proof-of-concept or pilot programs



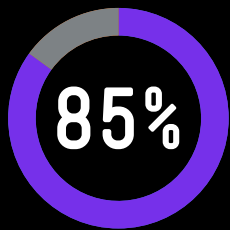
But few have fully realized their AI strategy

Only 14% say they have fully realized their AI strategy



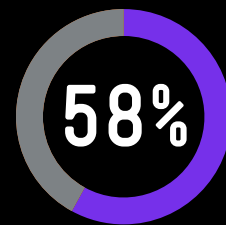
They are facing difficulties realizing AI strategies on their own and need partners to help

89% say they need help scaling AI in production. 82% say their organization is interested in AI as a service (AIaaS)



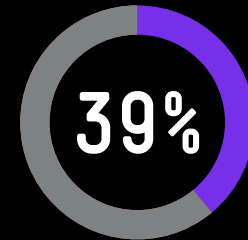
Infrastructure is not a perceived barrier to AI

85% believe their existing tech infrastructure is adequate to enable their initial AI goals. 60% say it can support AI for most or all of what they'd like it to do today.



Expertise and skill gaps slow implementation

58% say finding expertise or partners to implement AI is a challenge and rank it among their top 2 barriers to production (along with measuring ROI of AI).



A lack of trust in data impedes further adoption

39% are skeptical of the data they work with. 63% of organizations still in the early stages of AI development are skeptical, compared to only 11% of the most advanced.



INTRODUCTION

While it seems AI startups are popping up everywhere, most organizations with mature AI strategies were around long before AI first became a common catch phrase. Contrary to businesses whose primary value has been its AI since inception, most companies grew alongside AI as it began to permeate the market.

Businesses that have matured in tandem with advancements in AI and developed a successful strategy typically began their journey by focusing on traditional business benefits such as cost efficiencies and improved decision-making. Initially organizations simply sought to do what they already did, but this time with AI. Although AI may have eventually ended up transforming organizations from the ground up while flipping business models on their heads, that was rarely the aspiration.

Organizations that have successfully developed mature AI strategies have engineered their data strategies and leveraged their technology infrastructure to achieve their AI initiatives. Also, they obtained C-suite support early on to help solidify efforts and build internal alignment between departments and to ensure AI initiatives get a line item when time comes to allocate budget.

Less AI mature organizations lack clear alignment between AI strategies and business goals, lack executive sponsorship, and struggle to find dedicated AI budget. Less sophisticated organizations struggle to realize their AI goals because they

are building with highly fragmented data and aging tech infrastructure as their foundation for future success.

Each stage of AI maturity creates unique challenges. Organizations with mature AI strategies typically struggle to scale up their AI solutions for widespread use throughout their organizations. Less mature organizations tend to struggle in justifying AI investments and lack easy access to the data needed for successful AI outcomes.

QUESTIONS THAT NEED ANSWERS

AI is gaining momentum and grabbing the attention of leaders within the marketplace. The timing is right for AI to realize explosive growth. In this research, we explored the following questions:

- Why do some businesses succeed while others struggle to realize their AI value?
- How does technology investment and data impact successful AI strategy?
- What are common misperceptions across the AI journey?



THE CURRENT STATE OF AI



**AI and ML are well established
and growing exponentially**



98%

said their organizations were currently using AI in some capacity

47%

put AI among their organization's top 2 initiatives

75%

of dedicated AI budgets will continue or increase over the next year



Organization's strategic initiatives: Top 2 priorities



While AI certainly has significant mindshare, the depth, sophistication, and level of understanding of AI varies widely across organizations. As we interviewed business leaders across the globe, **we uncovered three distinct types of organizations:**

AI DEVELOPING

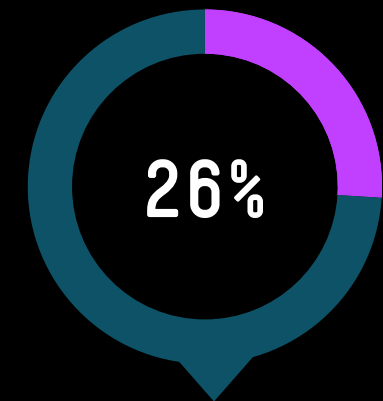
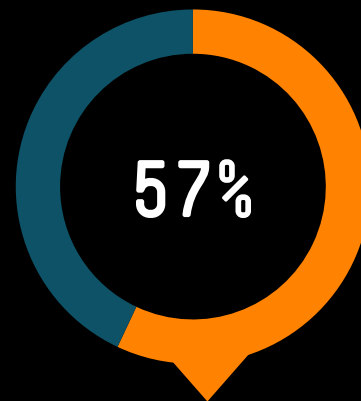
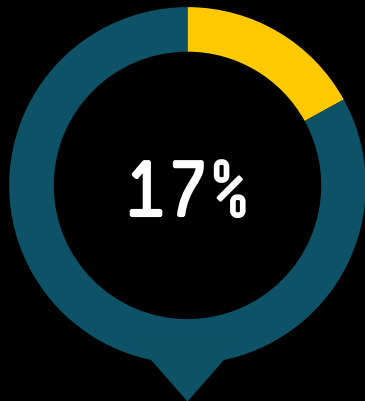
AI developing organizations (represented by 17% of respondents) are where AI is still nascent. Most of them are exploring AI with POC or pilot programs (14% of organizations), but a small group (3% of organizations) have no AI plans or strategy at all.

AI USING

AI using organizations (represented by 57% of respondents) have some AI in place, but it's not yet transforming their businesses. These organizations are split relatively evenly between using AI in production (31% of organizations) and having implemented AI models on an experimental basis (27%).

AI ADVANCED

AI advanced organizations (represented by 26% of respondents) are using AI in ways that have either disrupted traditional business models (20% of all organizations) or use AI as a primary method of generating business value (6% of organizations).



Developing, using, or advanced

Organizations in different phases of their AI maturity face different sets of challenges and, therefore, must focus on different priorities. Prior to discussing these unique needs and challenges, we must first evaluate the current state of AI to understand how organizations mature in their AI strategies.

TYPE	AI DEVELOPING	AI USING	AI ADVANCED
AI / ML maturity	Does not have a strategy or is conducting AI / ML pilots	Experimenting with AI or using it for day-to-day functions	Disruptive AI strategy is core to their business objectives
AI / ML is a top business priority	21%	26%	32%
Defining aspect of a fully developed AI strategy	Insights that improve decision-making	Insights that improve decision-making	Supported by leadership
AI / ML strategy alignment with business objectives	Low	Medium	High
Confidence in organization's data	Low	Medium	High
Interest in AlaaS	63%	82%	94%



“80% of our goal with AI is to do things we already do, only better, and maybe only 20% is truly innovative things that only can be accomplished through machine learning and AI.”

– BDM, life sciences / pharmaceutical industry



INITIAL AI ASPIRATIONS ARE MORE PRACTICAL THAN TRANSFORMATIVE

The modern AI narrative is often centered around use cases that provide transformative value, enabling an organization to reinvent themselves to stay relevant and win against the competition. Interestingly, our data suggests that even the most forward-looking organizations are realizing value from AI investments far before delivering business transformation, suggesting that even narrow use cases can have big impact.

When we asked business leaders what it means to have a fully developed AI strategy, we anticipated responses like, “disruptive business transformation” and the creation of new, “intelligent business models.” However, most leaders we interviewed were far more pragmatic and realistic, recognizing that impact is realized throughout the journey.

Business leaders told us these were the indicators of a fully developed AI strategy:

- Improves decision-making
- Enables existing business objectives
- Delivers cost efficiencies

In fact, many of the most forward-looking responses we expected to see rise to the top neared the bottom of the list. Even among the organizations that told us they had a fully developed strategy, few said that it was important for their strategy to reinvent existing business models.

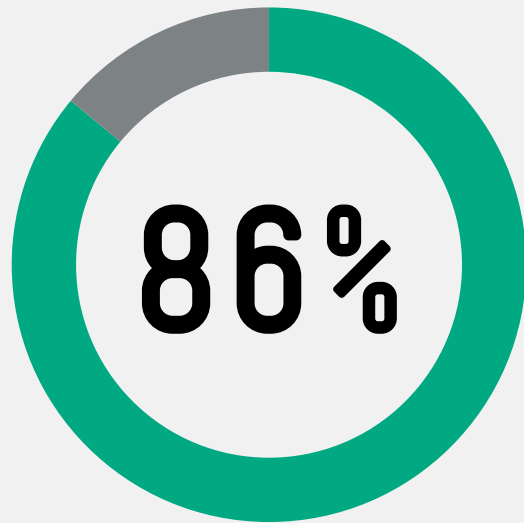
This suggests that business transformation is not the primary goal that drives most AI strategies, nor does transformation define the success of most AI strategies. Rather, AI becomes firmly established in organizations by improving core business processes and driving cost efficiencies. Initial AI investments must show near-term ROI to garner future support from leadership and the organization broadly.

“**Think big, start small, scale fast.**”

– ITDM, retail industry



Business transformation is the result of a well-executed AI strategy, not the initial driver for investment



**Have not fully implemented their
AI strategy**

Top 10 most important aspects of a fully developed strategy

1. Produces insights to improve decision-making
2. Supported or initiated by senior leadership
3. Improves competitive differentiation
4. Delivers cost efficiencies to improve bottom line
5. Expressly enables an existing business objective
6. Includes effective change management processes
7. Grows its revenue
8. Reimagines a core business process
9. Reinvents existing business models
10. Integrates with its other key strategies



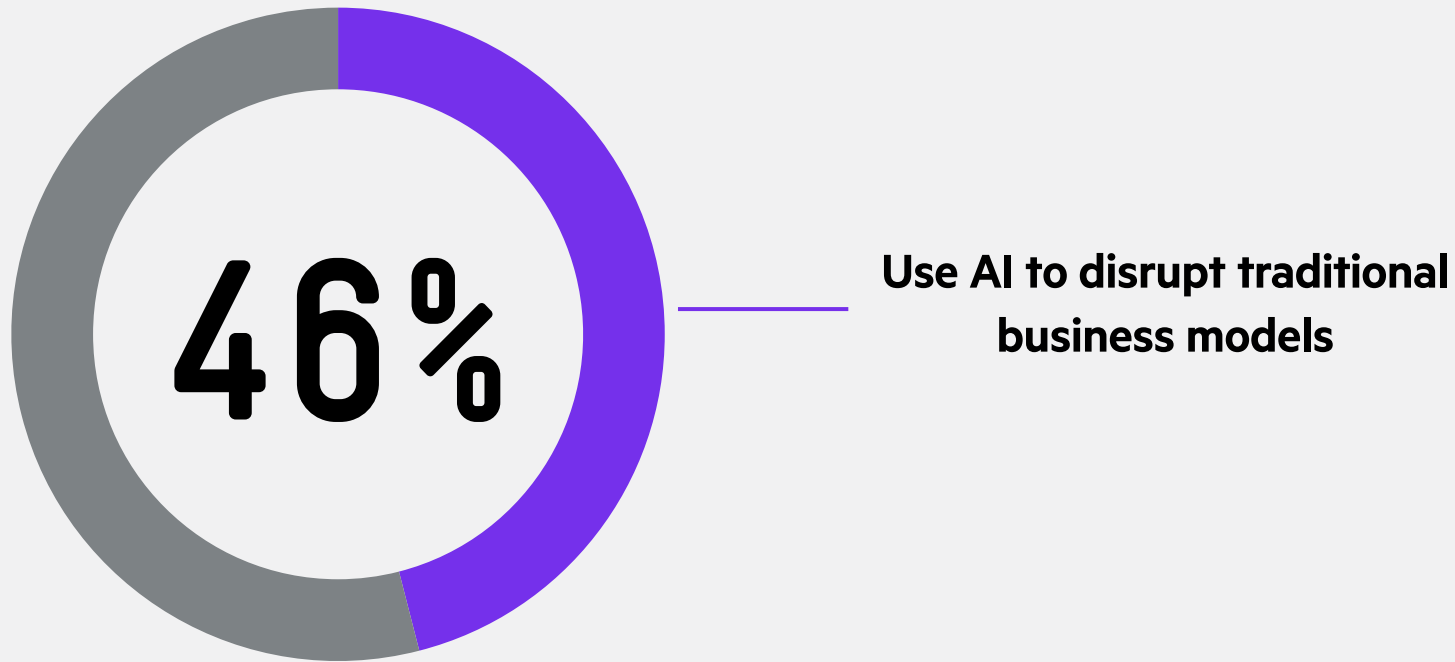
Business white paper

That said, once in place, AI may end up transforming business processes and disrupting traditional business models. Even among the advanced group, less than half said AI was disrupting traditional business models a year ago versus three-quarters who say it is transforming their businesses today.

Transformation through AI happens organically over time. **Total business transformation or reinvention of business models can be the result of AI, but it's rarely the up-front goal of a successful AI strategy.**

AI strategy: One year ago

(Among advanced organizations)



ALIGNMENT BETWEEN AI INITIATIVES AND BUSINESS OBJECTIVES IS KEY

If organizations that are advanced in their AI strategies rarely get started with ambitions to reinvent or transform their businesses, we should question:

“How can an organization with more ambitious AI goals develop an advanced strategy?”

Fortunately, our research uncovered key markers of organizations that have successfully implemented more advanced AI strategies. Organizations aspiring toward an advanced strategy can accelerate their AI maturity by adopting these principles to build their initiatives.

Organizations with advanced AI strategies:

- Understand the need for C-suite support of AI initiatives from the start
- Focus on achieving alignment of AI strategies and business outcomes across roles in their organizations
- Develop well-conceived data strategies to feed AI the data needed to produce results
- Invest in tech infrastructure when needed to accelerate AI strategies
- Embrace edge computing, plan for end-to-end AI solutions,* and build with AaaS and the cloud
- Leverage external partners to fill knowledge and skills gaps

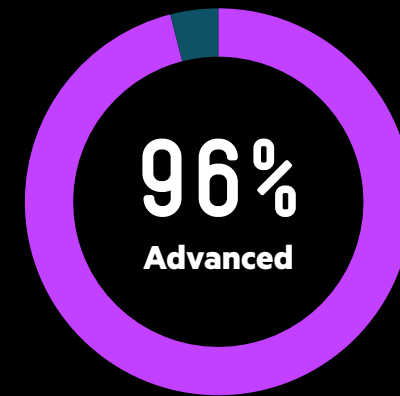
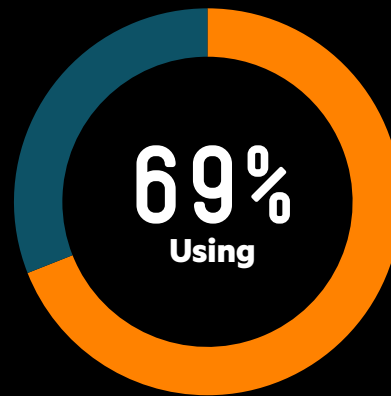
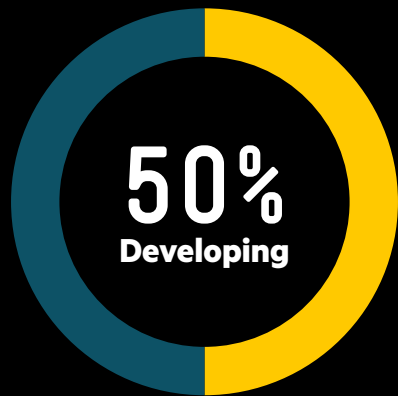
* End-to-end AI solution defined as a single platform (sometimes as a service) that connects, protects, analyzes, and acts upon your data insights no matter where it lives in your infrastructure (edge, on-premises, colocation, or in the cloud).

“**What really got us started down the AI path was an executive with an interest came in and pushed for investment.**”

– BDM, life sciences industry



AI strategies are aligned with key business objectives



Because AI is a top strategic initiative for advanced organizations, it's less of a struggle to secure budget for AI investments. Also, those budgets are less likely to be cut when things are tight. When the business value of AI is well established among leadership, it gets the priority it needs to grow. For example, despite the challenges that COVID presented to organizations across the globe, **only 14% of advanced organizations said COVID stopped or slowed their AI efforts. On the other hand, 53% of advanced organizations said COVID accelerated it.**



Since COVID, at least two companies that I worked with have significantly changed their strategic imperatives with a significantly greater focus on AI and machine learning.”

– BDM, data and analytics



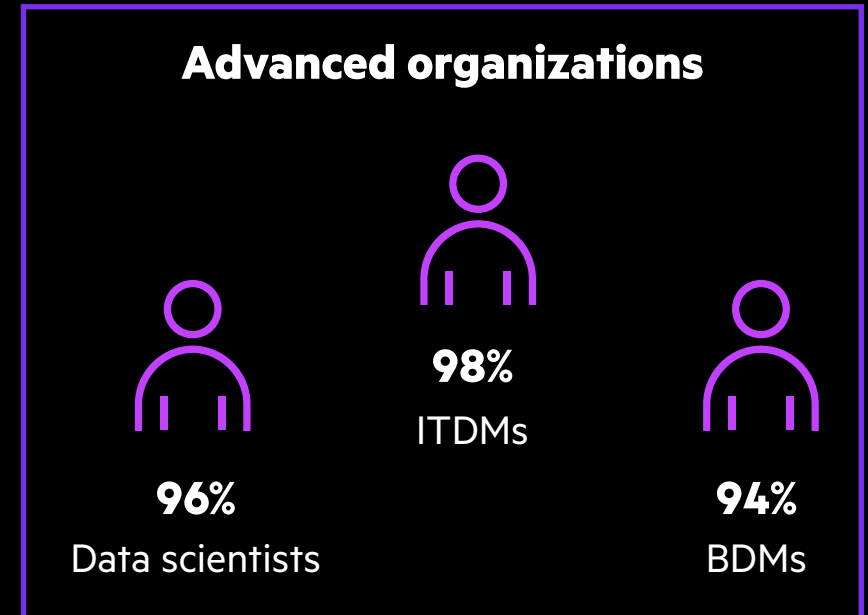
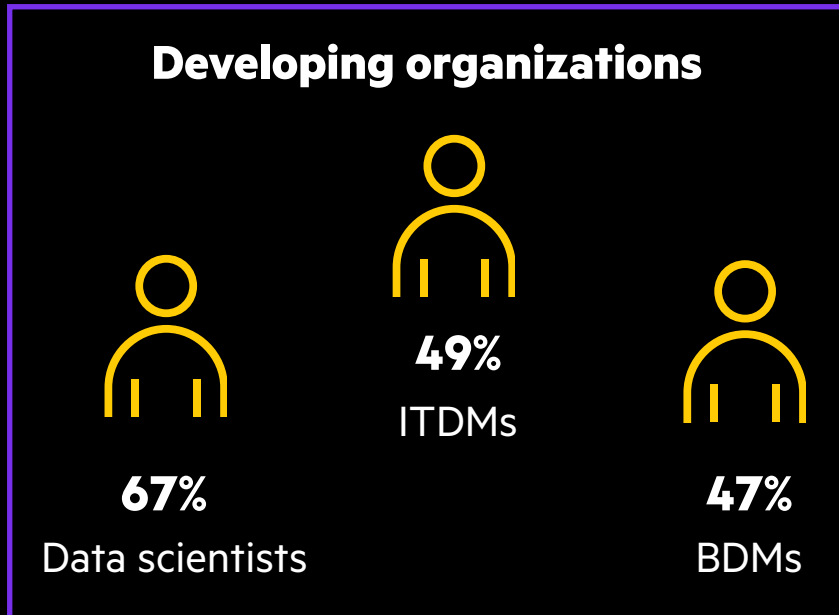
COVID has been a double-edged sword for AI. On the one hand, we had to close a lot channels that make money for the company. On the other hand, it accelerated things that the company was planning on doing, but in normal circumstances, couldn't bring itself to do.”

– BDM, data and analytics



Data scientists believe AI and business strategies align; BDMs and ITDMs **are not convinced**

Majority agree
AI strategies and business strategies are well-aligned



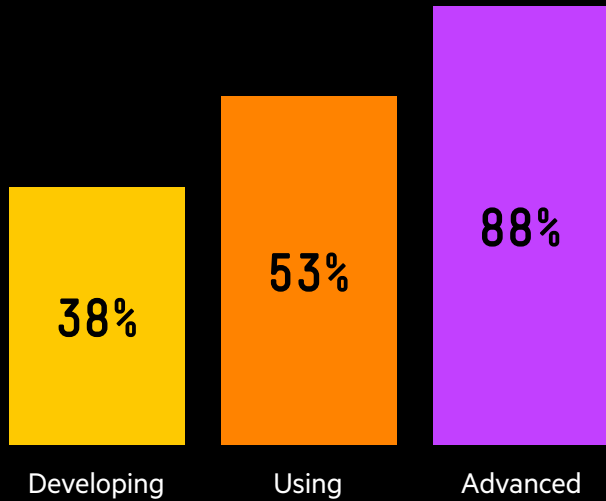
Advanced organizations not only focus on aligning AI strategies with key business objectives but also focus on achieving alignment between departments. Nearly all data scientists (96%), ITDMs (98%), and BDMs (94%) in advanced organizations agree their AI strategies and business strategies are well-aligned. Our research suggests that in developing organizations data scientists are typically first to seek alignment between AI and business objectives (67%), but ITDMs and BDMs tend to lag in connecting AI strategies with their business needs (49% and 47% respectively), likely slowing business impact.



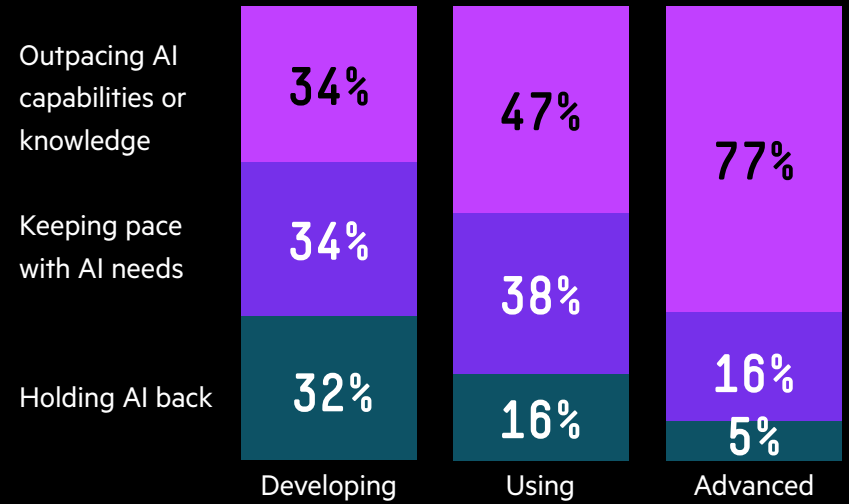
Tech infrastructure can increase AI efficiencies and accelerate adoption, but is rarely a barrier to entry

Existing tech infrastructure investments are often adequate for most organizations to begin their AI journey through POCs and pilots. Organizations that have invested in tech infrastructure in the past will realize the benefits as their journey is accelerated. Our data suggests that advanced organizations were able to leverage their existing investments to move quickly and were also able to leverage their C-level support to make new tech investments along the way.

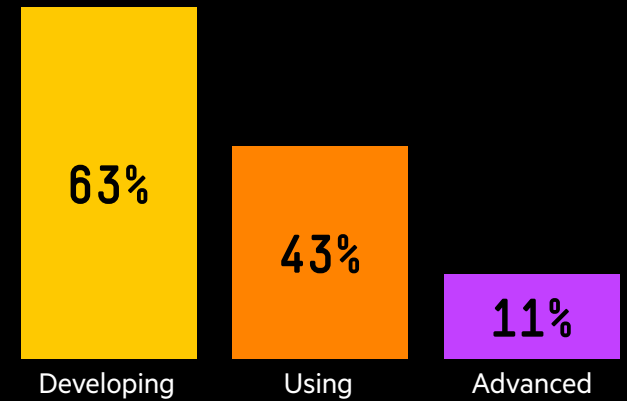
Tech infrastructure is ready for AI
(% Mostly ready / Ready)



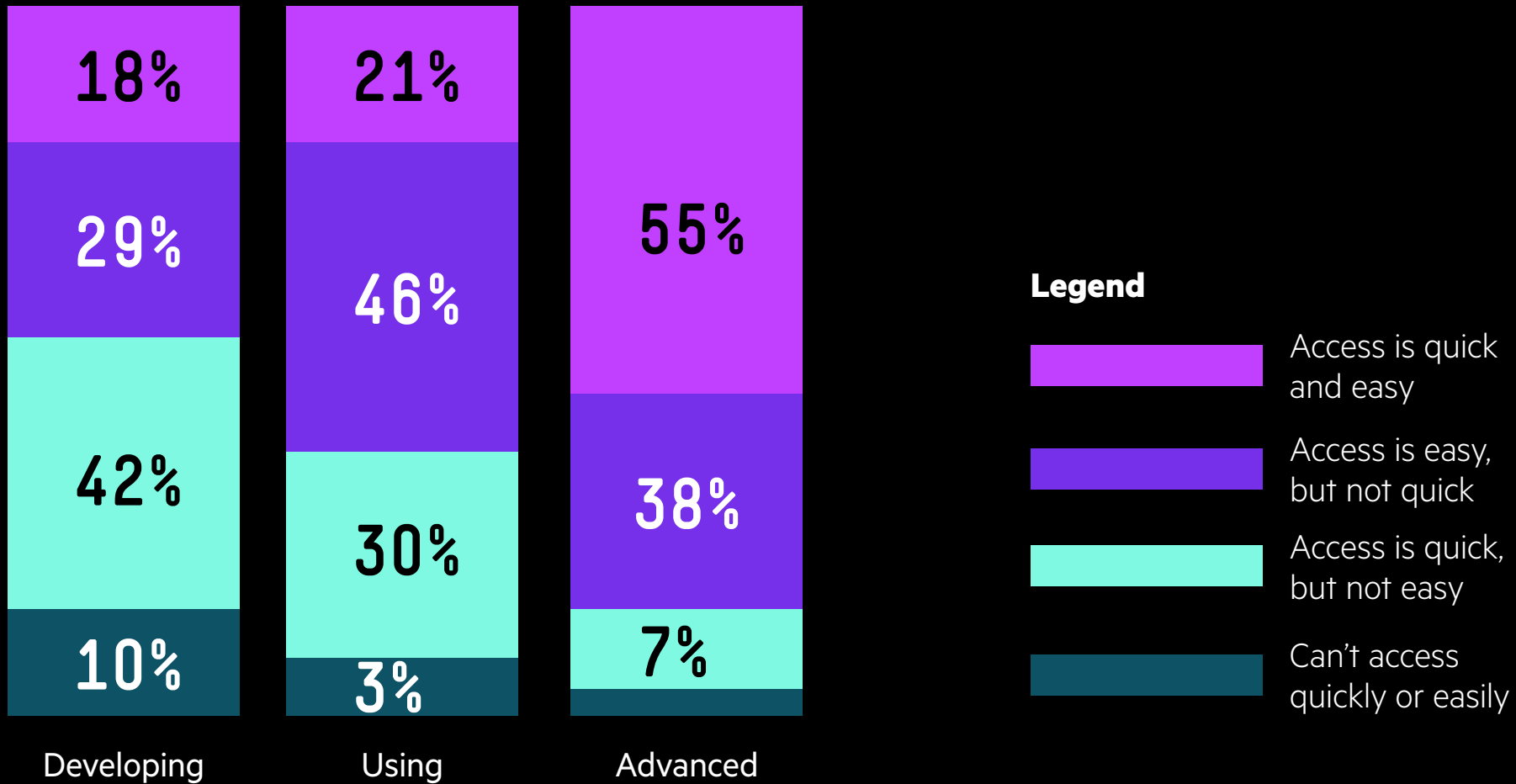
Is tech infrastructure aligned with AI needs?



Skeptical of most or all data the organization uses for AI



Data accessibility can slow AI initiatives



As developing and using organizations strive toward realizing their AI strategies, they tend to struggle with quick and easy access to data. Moreover, many are skeptical about the veracity of the data they work with. **Organizations earlier in their AI journeys wishing to build a successful AI strategy must first address their data requirements.**



HOW TO BUILD A SUCCESSFUL AI STRATEGY

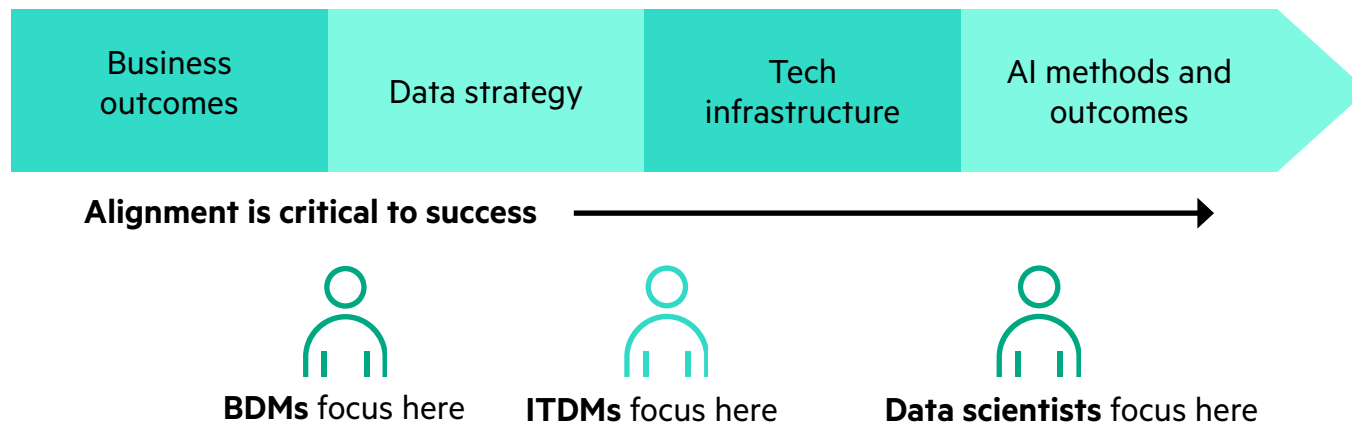
Our research suggests that successfully implementing an advanced strategy begins with a clear articulation of business objectives. As stated earlier, these business objectives are rarely transformative but simply iterations of what the business is already doing today.

This is quickly followed by developing a comprehensive data strategy. A mature data strategy that prioritizes quick and easy access is the foundation for advanced AI. Before they understood how to extract business value from their data, organizations that have successfully navigated the transition from developing to advanced achieved critical mass

in understanding their data. For many organizations, it simply takes too much time to train internally and experienced partners can bring data expertise to develop this critical mass more quickly.

Tech infrastructure that enables the data strategy is critical for successful AI outcomes. Therefore, carefully designed infrastructure that supports the AI strategy is critical to success, even when implementing on a small scale (for example, sandboxing or proof-of-concept exercises).

Framework for a successful AI strategy





While advanced organizations start with envisioning clear business outcomes from AI and architect their AI solutions to achieve those outcomes, less sophisticated businesses may be going about AI the wrong way. They may be trying to prove its value by asking data scientists to discover favorable business outcomes using the data they already have. While it seems reasonable for the C-suite to ask data scientists to prove the value of AI using data they have on hand, this can be an uphill battle because the data needed to produce favorable outcomes is neither quick nor easy to access and may be of questionable quality if it exists at all.

Proponents of AI may want to shift the dialogue away from “show us what you can do and then we’ll invest” and toward “appropriately fund targeted pilots/POC programs to prove business value.” However, that requires a clear vision for specific business outcomes that AI can uniquely deliver, the data needed to support them, the infrastructure to supply that data, and the expertise needed to conceive and build it. That expertise and experience may not exist within these organizations, which is where strong, enterprise-grade partners can play a significant role.

“I would focus 75% of my time on showing the value of AI today to stakeholders and 25% on the long-term vision. The vision is important, and you communicate it, but you have to show immediate value.”

– BDM, retail industry



EDGE-TO-CLOUD SOLUTIONS PAVE THE WAY FOR TOMORROW



Advanced organizations are strong believers in edge-to-cloud AI solutions

Specifically, this group is much more likely to:

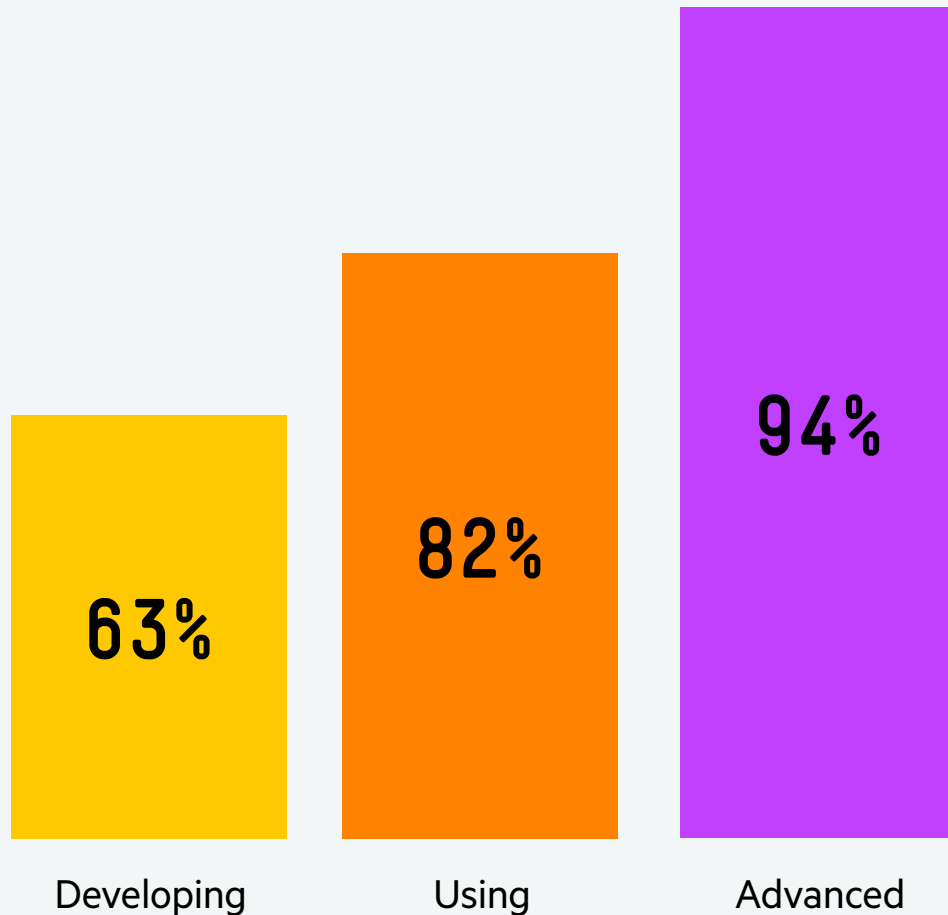
- Think that edge computing is essential or important to achieving the AI goals
- Believe that having end-to-end AI solutions is either a must-have or a key part of success with AI
- Have interest in AlaaS because they want to benefit from cloud capabilities
- Prioritize an edge-to-cloud architecture as a criteria, when selecting AI services

Advanced organizations leverage the edge to uncover actionable insights more quickly and automate responses, developing a powerful competitive advantage. Advanced organizations bring the edge and AI together to create the intelligent edge, enabling them to outperform their competitors while organizations that wait to build an AI strategy and invest in edge solutions risk falling behind.

“We are pretty early when it comes to edge computing, but we’re working toward an edge-to-cloud solution.”
– ITDM, financial services industry



Interest in AlaaS (Somewhat or extremely interested)



Advanced organizations have learned the value of end-to-end AI solutions that scale easily. In addition, they seek end-to-end solutions that encompass the following:

- Advisory and professional services
- Configurations
- Consumption models
- Financing
- Technical support services
- Security and protection

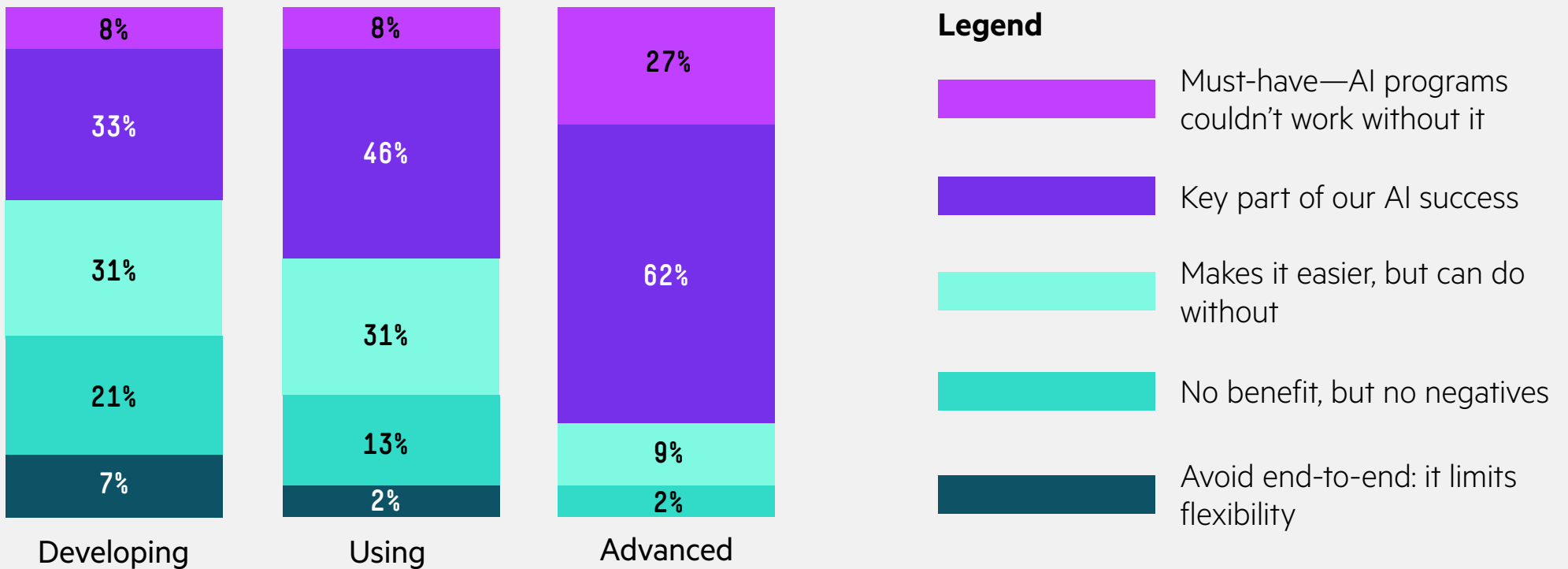
Furthermore, organizations tell us that deployment flexibility and security are among their top criteria in selecting an AlaaS solution. As organizations grow and mature in their AI sophistication, they look to AlaaS to maintain flexibility in where they deploy their solutions whether it is in the cloud or on-premises. Security and protection in an AlaaS solution are considered table stakes and organizations told us this is one of their top concerns regardless of whether they are developing, using, or advanced. In fact, our data suggests that **the more organizations progress and realize their AI strategies, the need for security and protection increases.**



End-to-end AlaaS

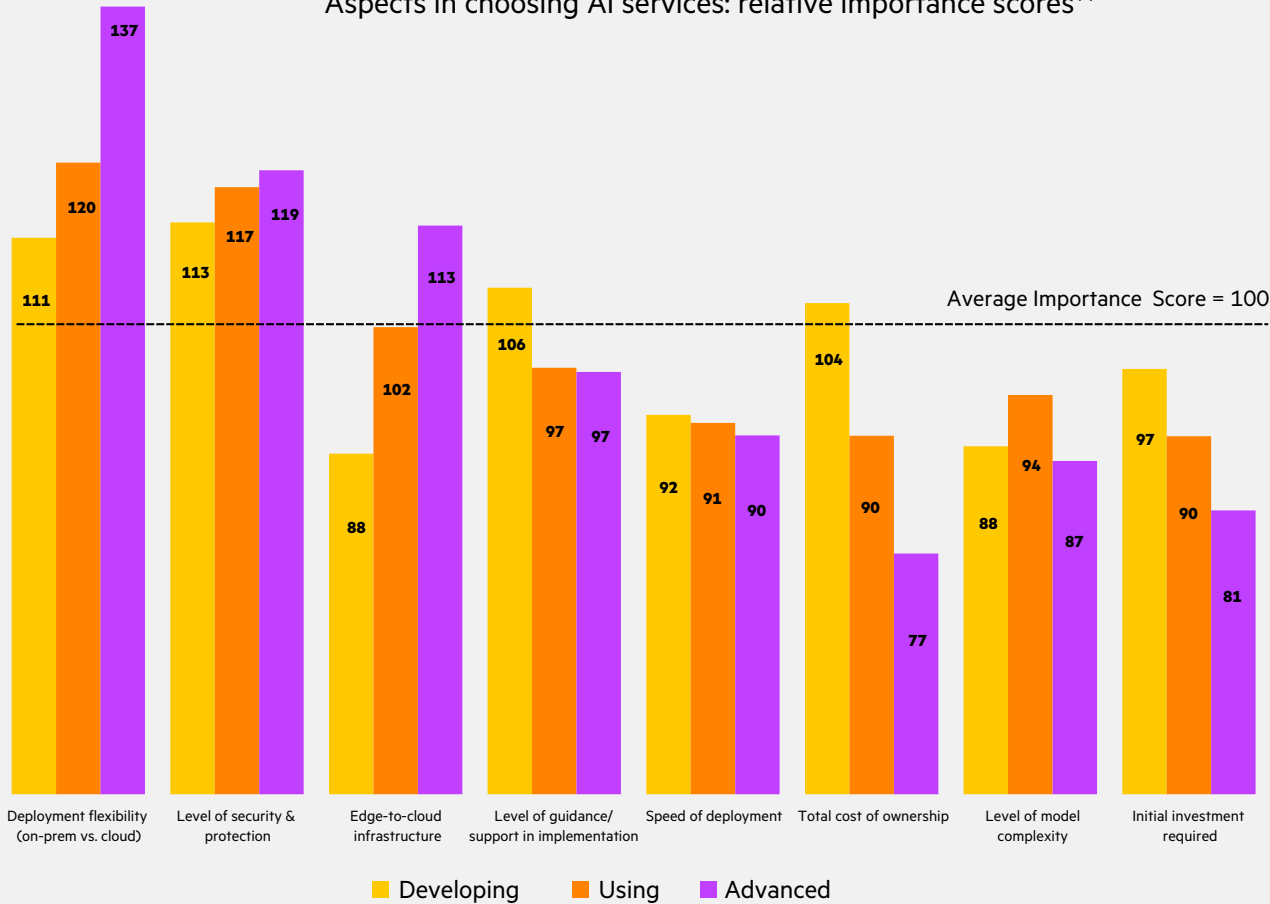
(Includes data use cases such as ingestion, cleaning, inference, exploration, and training)

Importance of end-to-end AI solution



Organizations most strongly value deployment flexibility in AI services

Aspects in choosing AI services: relative importance scores**



From a practical perspective, AI seems to deliver the most value at the edge, where it can analyze data from, and interact with, devices across a wide variety of use cases, from factory floors to oilfields to hospitals. But it's essential to have the right devices at the edge, edge-to-core, or edge-to-cloud (or hybrid) architecture to enable it. Developing and using organizations can set themselves up for future success as they grow into advanced organizations by embracing the edge as early as possible in their AI journey.

** Importance score: These scores are a relative index to the average item, with a score of 100 representing the average. For example, a score of 120 means the item is 20% more important than the average item.



BARRIERS TO AI SUCCESS

While AI has a lot of mindshare and some organizations are transforming their businesses with it, even the most advanced organizations struggle to scale their AI implementations.

The barriers to further AI deployment are different at each stage in the AI journey. The advanced group is looking to scale AI and struggles to find experts needed to scale their strategies and to educate people within their organizations about how to use AI effectively. While they do not typically struggle to find budget, they do want to accurately measure the ROI of AI to better optimize their use of it.

Top perceived barriers to AI today

Developing	Using	Advanced
Finding budget	Finding the expertise/partners to implement AI	Finding the expertise/partners to implement AI
Persuading senior leadership that AI is valuable	Measuring ROI of AI	Educating others about AI
Integrating open-source AI apps	Finding budget	Measuring ROI of AI

The biggest barrier to AI success is finding the expertise and partners needed for implementation.



Demonstrating ROI value is a challenge for most organizations

On the other end of the spectrum, the developing group needs help with the fundamentals of AI and developing a strategic POV on how it should be used. This group uniquely believes they need better integration of open-source AI tools and suggests they are trying to do AI on tight budgets rather than using established, end-to-end AlaaS solutions. **By shifting the internal conversation away from AI itself and toward business benefits, leaders can persuade senior executives to invest in AI and secure the budget needed to properly pilot and implement AI projects.**

In the middle, the using group is a hybrid of the others. They also need help finding experts to implement AI solutions at scale.

However, organizations told us the biggest challenge is finding the right talent and expertise needed to implement their AI strategies. As organizations grow in AI sophistication, they often quickly realize they face a critical skills gap and lack expertise needed to implement their strategies.

In addition, organizations have difficulty in understanding the ROI of AI. The ability to articulate the ROI from AI investment grows as organizations mature in their AI sophistication, the struggle to quantify and measure ROI is almost universal across developing, using, and advanced organizations. While only 8% of advanced organizations tell us they do not have a good understanding of the ROI for AI, over half told us this is still a challenge. Even as organizations gain an understanding of the ROI AI can bring, they still consider it a challenge to measure and quantify despite how advanced their strategies are.

Both using and advanced organizations told us finding the expertise needed was the top barrier to their success. However, many organizations lack resources to source and develop talent internally and decide to turn to enterprise-grade partners to help fill the skills gap and take their AI strategies to the next level.



A partner could bring us wider domain knowledge and use cases... integrating their knowledge and experience across different companies, different domains, different industries. It would be very valuable.”

– Life sciences / Biotech using organization



CONCLUSION: TAKING AI TO THE NEXT LEVEL

The varying degrees of AI maturity among businesses point to the critical role that enterprise-grade partners like HPE can play in helping organizations develop and implement their AI strategies. HPE provides AI technology and expertise, but most importantly can draw on experiences of other customers with industry-specific case studies and technology road maps for AI solutions.

Besides, HPE aids in developing a personalized vision and strategy for how AI can improve unique business outcomes from POC all the way through to full-scale deployment and widespread use within organizations.

The goal is to develop a mature data strategy that prioritizes quick and easy access to data, serving as the foundation for a successful AI strategy. Finally, HPE leverages our experience to garner support at the C-suite level while establishing clear, straightforward goals that align with the business. This alignment can help set realistic expectations for budgets, timelines, and ultimately facilitate the alignment across roles and departments that is the hallmark of a successful AI strategy.



HPE AI CAN HELP YOU UNLOCK THE VALUE OF YOUR DATA

As seen in the research, AI can play a pivotal role in the success of your business. Providing opportunity, growth, and differentiation. HPE has the innovative technology, tailored solutions, and expertise that can help you get into production and start generating results. Our end-to-end AI portfolio includes everything you need to bring your current AI state to the vision that inspired your AI journey in the first place.

HPE POINTNEXT SERVICES

HPE Pointnext Services to identify how data will be used when deploying AI use cases in production and aiding in development of the over-arching AI strategy

AI infrastructure

AI infrastructure systems that meet IT compliance, security, and reliability requirements customized to each enterprise's size, workload, use cases, and scaling needs

High performance computing

Industry-leading HPC systems and expertise to enable complex workloads and handle high-powered AI algorithms

HPE GreenLake

Flexible AI consumption models via HPE GreenLake enabling aaS, pay-per-use, and edge-to-cloud scenarios based on customer needs

HPE Ezmeral ML Ops

HPE Ezmeral ML Ops to help manage how data is used for AI and to set up a real-time environment for AI in production

AI data storage

A complete family of AI storage solutions to support a range of AI and analytics. HPE AI storage balances price and performance to provide a solution for every application and budget



INSIGHT ON DEMAND, AT ANY SCALE, FROM EDGE TO CLOUD

HPE AI makes the AI of tomorrow a reality. When your data is universally accessible, your AI teams are focused on development and deployment, and your IT infrastructure is flexible and unbounded. HPE makes AI that is data-driven, production-oriented and cloud-enabled, available anytime, anywhere, and at any scale.

LEARN MORE AT
hpe.com/ai

Make the right purchase decision.
Contact our presales specialists.



Chat



Email



Call



Get updates