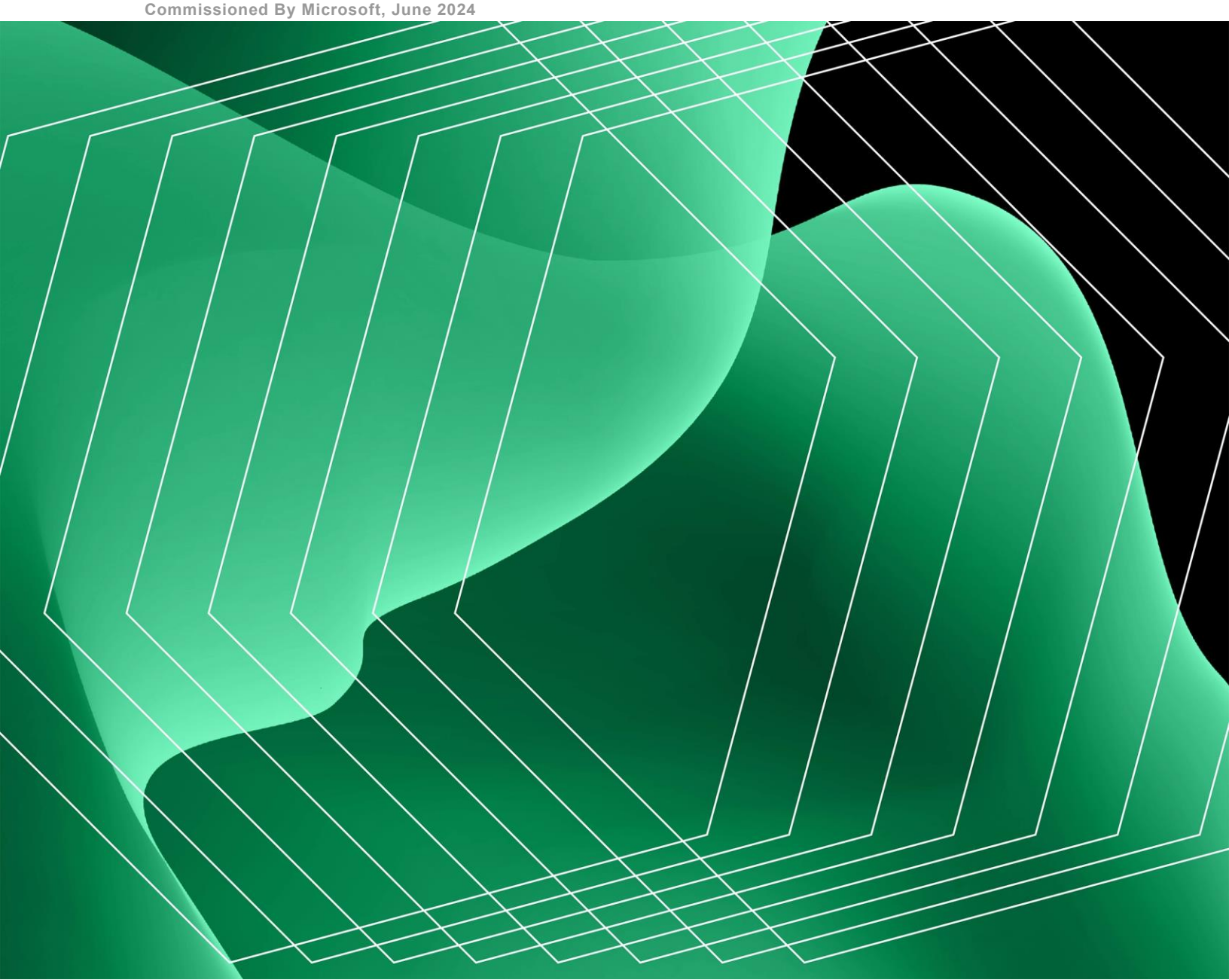
FORRESTER®

The Total Economic Impact™ Of Migrating To Microsoft Azure For AI-Readiness

Business Benefits Enabled By Migrating To Azure For AI-Readiness

A Forrester Total Economic Impact™ Study
Commissioned By Microsoft, June 2024



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Consulting Team:

Elizabeth Preston

ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute their specific priorities using a unique engagement model that ensures lasting impact. For more information, visit forrester.com/consulting.

Executive Summary

Artificial intelligence (AI) is transforming the world of business, and organizations are eager to invest in technologies that allow them to take advantage of this rapidly evolving technology. Having the right infrastructure to support AI is a critical consideration for organizations as they evaluate their need for scale, stability, and flexibility today and the potential for change moving forward.[1] Forrester found that migrating from on-premises infrastructure to Azure can support AI-readiness in organizations with lower costs to stand up and consume AI services plus improved flexibility and ability to innovate with AI.

The Azure cloud platform comprises more than 200 products and services to help build, run, and manage applications and provides purpose-built, AI-infused infrastructure. Microsoft's "Migrate to innovate" approach helps organizations migrate to products such as Windows Server, Azure SQL, Azure VMware Solution, and Azure Arc to support innovation initiatives.

Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential benefits and financial impacts enterprises may realize by migrating to Azure for AI readiness.[2]

To better understand the benefits and risks associated with this solution, Forrester interviewed seven representatives at five organizations and surveyed 322 respondents with experience deploying AI and machine learning (ML) either with on-premises infrastructure or on Azure cloud infrastructure. For the purposes of this study, Forrester aggregated the experiences of the interviewees and survey respondents and combined the results into a composite organization that is an enterprise that uses AI and ML.

Most of the interviewees' organizations migrated to Azure from on-premises infrastructure while a minority moved to Azure from other cloud providers. The interviewees said their organizations previously struggled with stability, scalability, the capital costs of infrastructure, and challenges with end-of-life legacy systems. They noted their organizations spent a great deal of time managing infrastructure rather than supporting strategic business solutions, and they theorized that the time, effort, and expertise required to pursue current AI/ML efforts would not have been feasible in the prior environments.

There are many benefits associated with migrating to the cloud, and Forrester has detailed those associated with migrating to Azure in other TEI studies, some of which can be found in Appendix C.

Interviewees for this study noted improved stability and scalability and reduced costs. Focusing on AI, they explained that migrating to Azure infrastructure enabled their organizations to take advantage of AI technology in more ways than they had anticipated. They said it promoted a culture of innovation that allowed them to reinvest in and upskill resources previously focused on infrastructure to instead focus on new AI initiatives, and provided the flexibility to build and change AI applications with lower risk than they may have had previously. These findings are supported by survey data that shows significantly higher confidence in the flexibility and ability to innovate with Azure infrastructure compared to on-premises infrastructure.

> "The cloud has given us the ability to enable a lot of capabilities that we couldn't have easily enabled in the past. We've been able to spin up instances, for instance, using AI. We didn't really have that capability before."
>
> **HEAD OF CLOUD SECURITY, BANKING**

KEY FINDINGS

Benefits. Benefits for the composite organization include:

- **Reduced costs to deploy and operate AI and ML.** The composite organization deploys AI use cases for $558,000 less over three years than if they deployed on-premises.
    - Deployment costs are 17% lower for AI and ML on Azure cloud than they would be with on-premises infrastructure.
    - Ongoing costs are 15% lower to enable and maintain AI and ML on Azure cloud than they would be with on-premises infrastructure.
- **Ability to scale and innovate AI and ML.** The composite organization sees benefits in this area. When survey respondents were asked about their organizations' flexibility to build and improve AI and ML applications and innovate, those from organizations on Azure cloud responded confidently at more than twice the rate of those from organizations with on-premises infrastructure.
    - Ninety percent of survey respondents from organizations with Azure infrastructure agreed or strongly agreed they have the flexibility to build new AI and ML applications compared to 43% from organizations with on-premises infrastructures.
    - Eighty-one percent of survey respondents from organizations with Azure infrastructure agreed or strongly agreed they have the flexibility to change and improve AI and ML applications compared to 25% from organizations with on-premises infrastructure.
    - Seventy-seven percent of survey respondents from organizations with Azure infrastructure agreed or strongly agreed their current environment makes it easy to innovate with AI/ML compared to 34% from organizations with on-premises infrastructure.
- **New employee and organizational opportunities.** Migrating to Azure changes business needs for the organization and brings a culture of innovation.

- The composite organization can invest in training resources previously focused on infrastructure management to build new capabilities around cloud technology and AI.
- Moving to Azure provides access to new resources and capabilities that make it easy for people to test new technologies.

> "When it comes to AI, you can't get anything better than what Microsoft offers out there at all. … [Microsoft] made their AI strategy really easy to adopt for many different things. Even in the early days … it was just so easy to test and play with. The ease with which someone can get into something that is profoundly technical is almost gimmicky. [Microsoft is] very smart that way, and that's worked for us."
>
> HEAD OF R&D, TECHNOLOGY

Benefits PV:

$558K

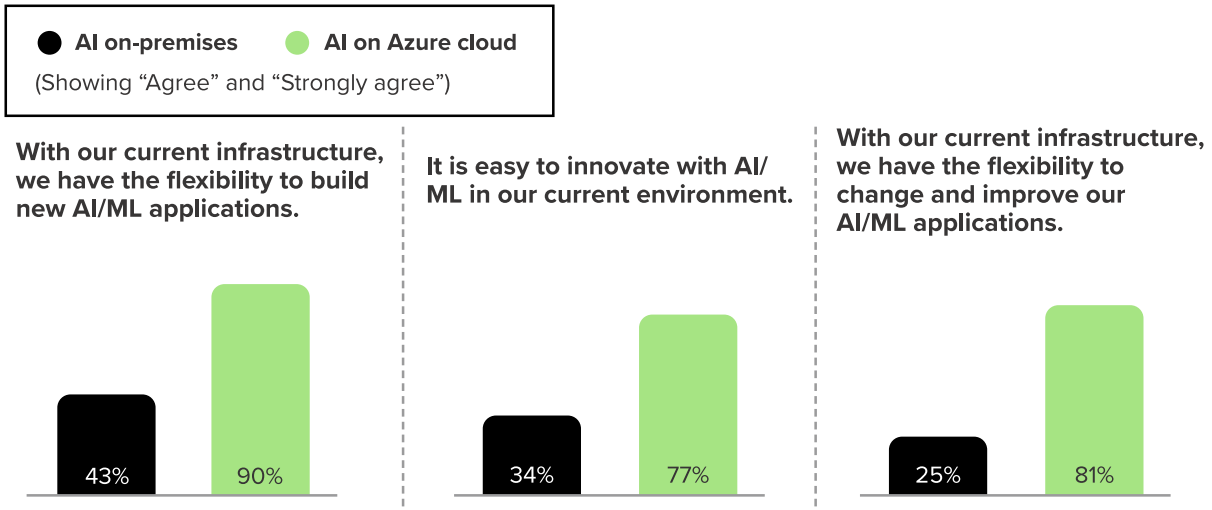
Lower costs to deploy AI & ML on Azure cloud:

17%

Lower costs to enable and maintain AI & ML on Azure cloud:

15%

Azure Cloud Enables AI And ML Innovation And Scale



Base: 218 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews and survey, Forrester constructed a Total Economic Impact™ framework for those organizations considering migrating to Azure for AI readiness.

The objective of the framework is to identify the benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that migrating to Azure for AI readiness can have on an organization.

DISCLOSURES
Readers should be aware of the following:

This study is commissioned by Microsoft and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential benefits that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of migrating to Azure for AI readiness.

Microsoft reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

Microsoft provided the customer names for the interviews but did not participate in the interviews.

Forrester fielded the double-blind survey using a third-party survey partner.

1. Due Diligence
Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to migrating to Azure for AI readiness.

2. Interviews And Survey
Interviewed seven representatives at five organizations with experience migrating to Azure and using AI/ML and surveyed 322 respondents at organizations with experience deploying AI/ML either on-premises or on Azure infrastructure to obtain data with respect to benefits and risks.

3. Composite Organization
Designed a composite organization based on characteristics of the interviewees' and survey respondents' organizations.

4. Financial Model Framework
Constructed a financial model representative of the interviews and survey using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees and survey respondents.

5. Case Study
Employed fundamental elements of TEI in modeling the investment impact: benefits, flexibility, and risks. Given the increasing sophistication of analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Customer Journey Of Migrating To Microsoft Azure For AI-Readiness

Drivers leading to migrating to Azure infrastructure

KEY CHALLENGES AND INVESTMENT OBJECTIVES

Forrester interviewed seven representatives at five organizations and surveyed 322 respondents with experience using AI and ML and/or migrating to Azure at their organizations. For more details on these individuals and the organizations they represent, see Appendix B.

Interviewees shared that their organizations migrated to Azure to address common challenges such as:

- Aging infrastructure that was expensive and challenging to maintain or replace.
- Infrastructure instability that impacted business continuity and profitability.
- Lack of scalability that could necessitate infrastructure investments for capacity that was only needed a small fraction of the time.
- Difficulty adapting to changing business needs.
- High costs of capital.

Survey respondents from organizations with on-premises infrastructure also noted that lack of scalability was a common challenge, and they said that infrastructure lacked scalability with existing systems when deploying AI and ML at 1.5 times the rate of those from organizations with Azure cloud infrastructure. Forty-seven percent of respondents from organizations that tried and failed to deploy AI on-premises said lack of scalability was a key factor.

Interviewees said their organizations sought a solution that would reduce operational overhead and allow IT and infrastructure teams to focus on providing solutions to the business and end users rather than focusing on maintenance. They also looked to modernize and improve the stability, scalability, and flexibility within their organizations.

Some interviewees noted their organizations chose to move to Azure infrastructure to complement other Microsoft technologies already in use. They anticipated synergistic benefits by having their organization's solutions in the same ecosystem.

Some interviewees also saw Microsoft's investments in AI technology as a potential future benefit at the time of their migration. Among the 116 survey respondents from organizations that have Azure cloud infrastructure, 75% said migrating to the cloud was either necessary or significantly reduced the barriers to adopting AI and ML.

75%

Survey respondents from organizations with Azure infrastructure who said migrating to the cloud was necessary or significantly reduced the barriers to enabling AI/ML

"If you don't have good quality, well-organized, well-understood data platforms, you can't lay ML on top of it and hide that ugliness underneath. We are able to move fast from an AI perspective because we have that foundation in place. It's in the cloud, it's well-organized, it's customer-centric, it's omnichannel, and it's near real-time data. All of those things make it so much easier for us to take advantage of what the big tech companies are building from an AI and ML perspective."

VP OF AI PLATFORMS, FINANCIAL SERVICES

COMPOSITE ORGANIZATION

Based on the interviews and survey, Forrester constructed a TEI framework, a composite company, and a benefits analysis that illustrates the areas financially affected. The composite organization is representative of the seven interviewees at five organizations and the 322 survey respondents, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite is a global enterprise organization that migrates from on-premises to Azure infrastructure and deploys AI and ML. Its Azure infrastructure includes Azure Virtual Machines, Azure SQL Managed Instance, Azure SQL Database, and Azure Cosmos DB. Its AI use cases include ML, natural language processing (NLP), deep learning, and computer vision.

Key Assumptions

Global enterprise organization

Azure infrastructure includes Azure Virtual Machines, Azure SQL Managed Instance, Azure SQL Database, and Azure Cosmos DB

AI use cases include ML, NLP, deep learning, and computer vision

Interview Spotlight: Head of R&D, technology

"Where Microsoft really stands out is that they don't look at something [like AI] and say, 'Okay, well, that's good. We're just going to throw money at the company that develops it and get first access to it.' Where they really differentiate themselves is by looking at the base of it and saying: 'Well, this is amazing. But in order for real-world companies to be able to adopt and use it in a compliant way, what do we need to do?' And that's what they've done. … [Microsoft's] entire approach is to create this tenancy around AI services, so you've got these boundaries that your data is constrained to and you're able to restrict it.

For example, we're building an assistant for our products. I don't want a situation where one of my client's operators thinks it's funny to have a weird discussion with the assistant I've developed to help them be productive, and then we become a meme. We're trying to build a real-world tool that goes into a line of business application, and Microsoft has come in and provided those layers over and above everything out of the box to be able to filter for violence [and] sexual content [and] create an assistant with customized functions. Their approach is to look at something and ask how their clients can build new real-world functionality within existing apps, and they provide all the underlying infrastructure to host it. They provide the AI technology and these additional layers so that when I go to build an assistant, my real-world turnaround time from proof of concept to first iteration into a production app might be close to three to four months. And it's an assistant that's got the right relevant functionality for the user, and it's not going to engage in any weird and wonderful conversations or answer inappropriate questions. I would say it would have taken us closer to 14 months without that assistance, and we would have had one or two very embarrassing teething problems."

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits							
Ref.	**Benefit**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Lower initial costs to deploy AI and ML on Azure	$189,000	$0	$0	$0	$189,000	$189,000
Btr	Lower ongoing costs to enable and maintain AI and ML on Azure	$0	$148,500	$148,500	$148,500	$445,500	$369,298
	Total benefits (risk-adjusted)	$189,000	$148,500	$148,500	$148,500	$634,500	$558,298

LOWER INITIAL COSTS TO DEPLOY AI AND ML ON AZURE

Evidence and data. Survey respondents were asked about the costs to deploy AI and ML at their organizations. Results were analyzed for 102 respondents from organizations with on-premises infrastructure and 116 respondents from organizations with Azure cloud infrastructure. Response group sizes were similar, and respondents' organizations have similar firmographics.

- Data and infrastructure costs include data center and infrastructure management, on-premises hardware, cloud infrastructure, data storage and transfer, compute, and egress costs required to deploy AI and ML. Survey respondents from organizations with Azure cloud infrastructure reported lower costs for each data and infrastructure cost category than those from organizations with on-premises infrastructure.
- Survey respondents from organizations with Azure cloud infrastructure reported lower professional services and premium support costs to deploy AI and ML than those from organizations with on-premises infrastructure.
- Internal labor and training costs include engineering, data science, development, training, and change management activities required to deploy AI and ML. Survey respondents from organizations with Azure cloud infrastructure reported

lower costs for each category compared to those from organizations with on-premises infrastructure.

Modeling and assumptions. Based on the interviewees and survey respondents, Forrester assumes the following about the composite organization:

- The composite's initial data and infrastructure costs to deploy AI and ML on Azure are $495,000. They would be $565,000 with on-premises infrastructure.
- The composite's initial professional services and support costs to deploy AI and ML on Azure are $320,000. They would be $410,000 with on-premises infrastructure.
- The composite's initial internal labor and training costs to deploy AI and ML on Azure are $245,000. They would be $295,000 with on-premises infrastructure.
- The composite's total initial costs to deploy AI and ML on Azure are $1.06 million. They would be $1.27 million with on-premises infrastructure.

Risks. An organization's realization of costs to deploy AI and ML on Azure infrastructure will vary based on a number of factors, including:

- Existing infrastructure and infrastructure requirements.
- AI and ML use cases, usage, and variance in compute and storage consumption.
- Maturity of existing processes and the level of change needed to deploy AI and ML.
- Unique organizational requirements, processes, or technology complexities that could limit or lengthen implementation.
- The size, expertise, skill sets, and labor costs of existing technical and business user resources and internal deployment teams as well as the training method and delivery system.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $189,000.

17%

Lower costs to deploy AI and ML on Azure cloud compared to on-premises infrastructure

Lower Initial Costs To Deploy AI And ML On Azure						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
A1	Initial data and infrastructure costs to deploy AI and ML on-premises	Survey	$565,000			
A2	Initial professional services and support costs to deploy AI and ML on-premises	Survey	$410,000			
A3	Initial internal labor and training costs to deploy AI and ML on-premises	Survey	$295,000			
A4	**Subtotal: Initial costs to deploy AI and ML on-premises**	**A1+A2+A3**	**$1,270,000**			
A5	Initial data and infrastructure costs to deploy AI and ML on Azure	Survey	$495,000			
A6	Initial professional services and support costs to deploy AI and ML on Azure	Survey	$320,000			
A7	Initial internal labor and training costs to deploy AI and ML on Azure	Survey	$245,000			
A8	**Subtotal: Initial costs to deploy AI and ML on Azure**	**A5+A6+A7**	**$1,060,000**			
At	Lower initial costs to deploy AI and ML on Azure	A4-A8	$210,000	$0	$0	$0
	Risk adjustment	↓10%				
Atr	Lower initial costs to deploy AI and ML on Azure (risk-adjusted)		$189,000	$0	$0	$0
	Three-year total: $189,000			**Three-year present value: $189,000**		

> "We didn't have to go and build an AI capability. It's up there, and most of our data is in the cloud, as well. And from a hardware-specific standpoint, we don't have to go procure special hardware to run AI models. Azure provides that hardware today."
>
> EXECUTIVE HEAD OF CLOUD AND DEVOPS, BANKING

LOWER ONGOING COSTS TO ENABLE AND MAINTAIN AI AND ML ON AZURE

Evidence and data. Survey respondents were asked about the costs to enable and maintain AI and ML at their organizations. Results were analyzed for 102 respondents from organizations with on-premises infrastructure and 116 respondents from organizations with Azure cloud infrastructure. Response group sizes are similar, and respondents' organizations have similar firmographics.

- Survey respondents reported similar numbers of AI active and in-development models whether their organization has Azure cloud infrastructure or on-premises infrastructure.
- Data and infrastructure costs include data center and infrastructure management, on-premises hardware, cloud infrastructure, data storage and transfer, compute, and egress costs required to enable and maintain AI and ML. Survey respondents from organizations with Azure cloud infrastructure reported lower costs for each data and infrastructure cost category than those from organizations with on-premises infrastructure.
- Survey respondents from organizations with Azure cloud infrastructure reported lower professional services and premium support costs required to enable and

maintain AI and ML compared to those from organizations with on-premises infrastructure.

- Internal labor and training costs include engineering, data science, development, training, and change management activities required to enable and maintain AI and ML. Survey respondents from organizations with Azure cloud infrastructure reported lower costs for each category than those from organizations with on-premises infrastructure.
- Survey respondents were asked about the number of employees and hours per employee required for activities related to building AI and ML at their organization. They provided data for the following activities: data engineering, feature engineering, model development, model validation, documentation, deployment, monitoring, and model retraining.
- The total number of hours across all employees required for these activities was 11% lower for respondents from organizations with Azure cloud infrastructure compared to those from organizations with on-premises infrastructure. Total reported effort with Azure cloud infrastructure was lower for data engineering, model development, model validation, and deployment. It was higher for monitoring and similar for the remaining categories.

Modeling and assumptions. Based on the interviewees and survey respondents, Forrester assumes the following about the composite organization:

- The composite's average annual data and infrastructure costs to enable and maintain AI and ML on Azure cloud infrastructure are $495,000. They would be $565,000 with on-premises infrastructure.
- The composite's average professional services and support costs to enable and maintain AI and ML on Azure cloud infrastructure is $250,000. They would be $305,000 with on-premises infrastructure.
- The composite's average annual data and infrastructure costs to enable and maintain AI and ML on Azure cloud infrastructure is $210,000. They would be $250,000 with on-premises infrastructure.

- The composite's total annual costs to enable and maintain AI and ML on Azure cloud infrastructure are $955,000. They would be $1.12 million with on-premises infrastructure.

Risks. An organization's realization of costs to enable and maintain AI and ML on Azure infrastructure will vary based on a number of factors, including:

- AI and ML use cases, usage, and variance in compute and storage consumption.
- The complexity of the organization's workflows, data environment, and scope of AI/ML deployment.
- Unique business needs such as regional compliance or governance.
- The level of quality assurance or human oversight required for usable model output.
- Frequency of updates to training data and model retraining required.
- Compensation amounts and structures for each employee involved.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $369,000.

15%

Lower costs to enable and maintain AI and ML on Azure cloud compared to on-premises

Lower Ongoing Costs To Enable And Maintain AI And ML On Azure						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
B1	Average data and infrastructure costs to enable and maintain AI and ML on-premises	Survey	$0	$565,000	$565,000	$565,000
B2	Average professional services and support costs to enable and maintain AI and ML on-premises	Survey	$0	$305,000	$305,000	$305,000
B3	Average internal labor and training costs to enable and maintain AI and ML on-premises	Survey	$0	$250,000	$250,000	$250,000
B4	**Subtotal: Average costs to enable and maintain AI and ML on-premises**	**B1+B2+B3**	**$0**	**$1,120,000**	**$1,120,000**	**$1,120,000**
B5	Average data and infrastructure costs to enable and maintain AI and ML on Azure	Survey	$0	$495,000	$495,000	$495,000
B6	Average professional services and support costs to enable and maintain AI and ML on Azure	Survey	$0	$250,000	$250,000	$250,000
B7	Average internal labor and training costs to enable and maintain AI and ML on Azure	Survey	$0	$210,000	$210,000	$210,000
B8	**Subtotal: Average annual costs to enable and maintain AI and ML on Azure**	**B5+B6+B7**	**$0**	**$955,000**	**$955,000**	**$955,000**
Bt	Lower ongoing costs to enable and maintain AI and ML on Azure	B4-B8	$0	$165,000	$165,000	$165,000
	Risk adjustment	↓10%				
Btr	Lower ongoing costs to enable and maintain AI and ML on Azure (risk-adjusted)		$0	$148,500	$148,500	$148,500
	Three-year total: $445,500			**Three-year present value: $369,298**		

> "The time to implement these new technologies is a lot quicker [with Azure,] and it's zero cost until you consume it. Before, [we'd] have to … invest in infrastructure to be able to run it. We don't need to do that now. It's all done on a service. You do pay transactionally, but it's there, and you just surface that infrastructure into your Azure organization. Today, it's more of an information problem than a technical problem. In the old days, the questions would be: 'How are we going to surface the information [and] get it there?' and 'have we got the bandwidth?' Now, those problems don't even come on [our] radar anymore."
>
> CTO, HEALTHCARE

UNQUANTIFIED BENEFITS

Interviewees and survey respondents mentioned the following additional benefits that their organizations experienced but were not able to quantify:

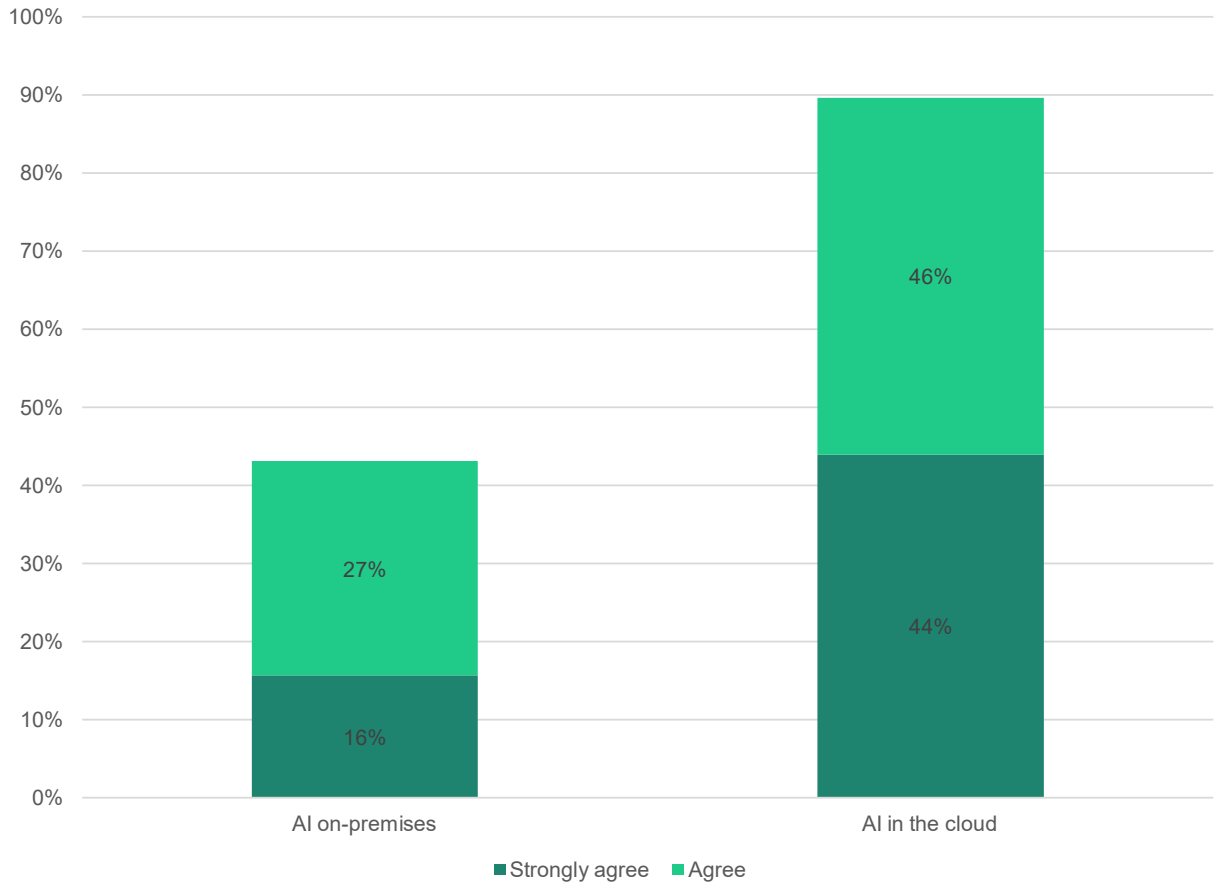
- **Flexibility to build new AI and ML applications.** Ninety percent of survey respondents from organizations with Azure cloud infrastructure agreed or strongly agree their company has the flexibility to build new AI and ML applications compared to 43% of respondents from organizations with on-premises infrastructure. And interviewees shared that migrating to Azure gave their organizations easy access to new AI services and the scalability they needed to test and build them out without worrying about infrastructure.

  A CTO for a healthcare organization said: "[After migrating to Azure,] all the

infrastructure problems have disappeared, and that's generally been the problem when you're looking at new technologies historically. … The scalability [of Azure] is unsurpassed, so it adds to that scale and reactiveness we can provide to the organization." They also said: "When we were running on-prem, AI was not as easily accessible as it is from a cloud perspective. It's a lot more available, accessible, and easy to start consuming, as well. It allowed the business to start thinking outside of the box because the capabilities were there."

A head of cloud and tooling for a transportation services organization said: "[When my firm migrated to Azure,] suddenly we had an environment available with a lot of options that we didn't have before we migrated. Now, we can go to the marketplace and say we need AI. We can experiment [and] make a proof of concept, and if it works and it's valuable for the money, we can decide to go to production more easily."

“With our current infrastructure, we have the flexibility to build new AI/ML applications.”



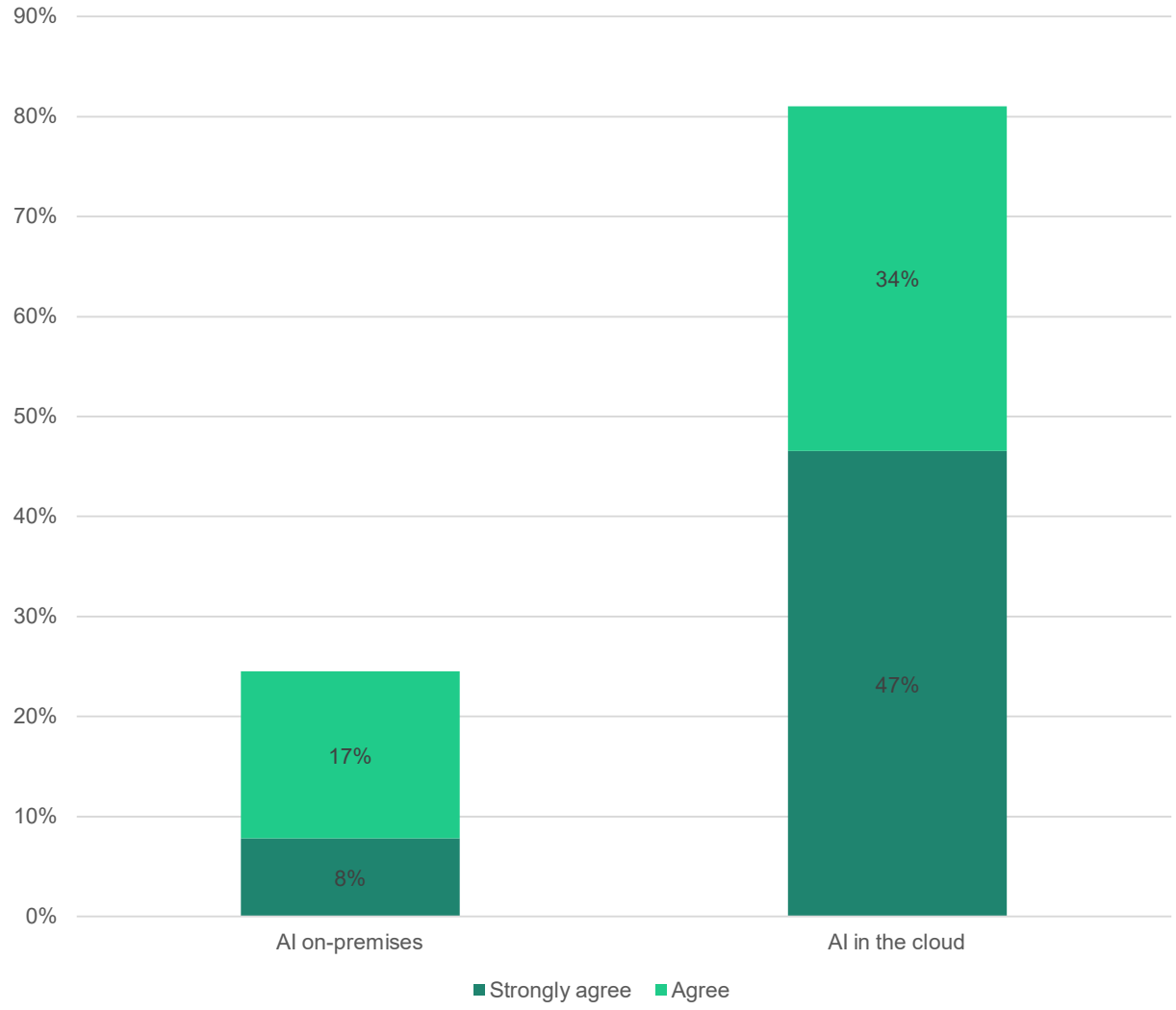
Base: 218 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

- **Flexibility to change and improve AI and ML applications.** Eighty-one percent of survey respondents from organizations with Azure cloud infrastructure agreed or strongly agreed their company has the flexibility to change and improve its AI and ML applications compared to 25% of respondents from organizations with on-premises infrastructure. And similar to finding that Azure provides flexibility to build new AI/ML applications, interviewees said Azure makes it easier to continue evolving and changing their applications.

  A head of cloud security for a banking organization said: “[By having data and AI co-located], it’s easier for us to incorporate that data into an environment and then use an LLM (large language model) to produce prompts. … In the cloud, the

way it works and the access to resources has helped us to significantly speed up the build and make it a much easier, simplified process."

"With our current infrastructure, we have the flexibility to change and improve our AI/ML applications."



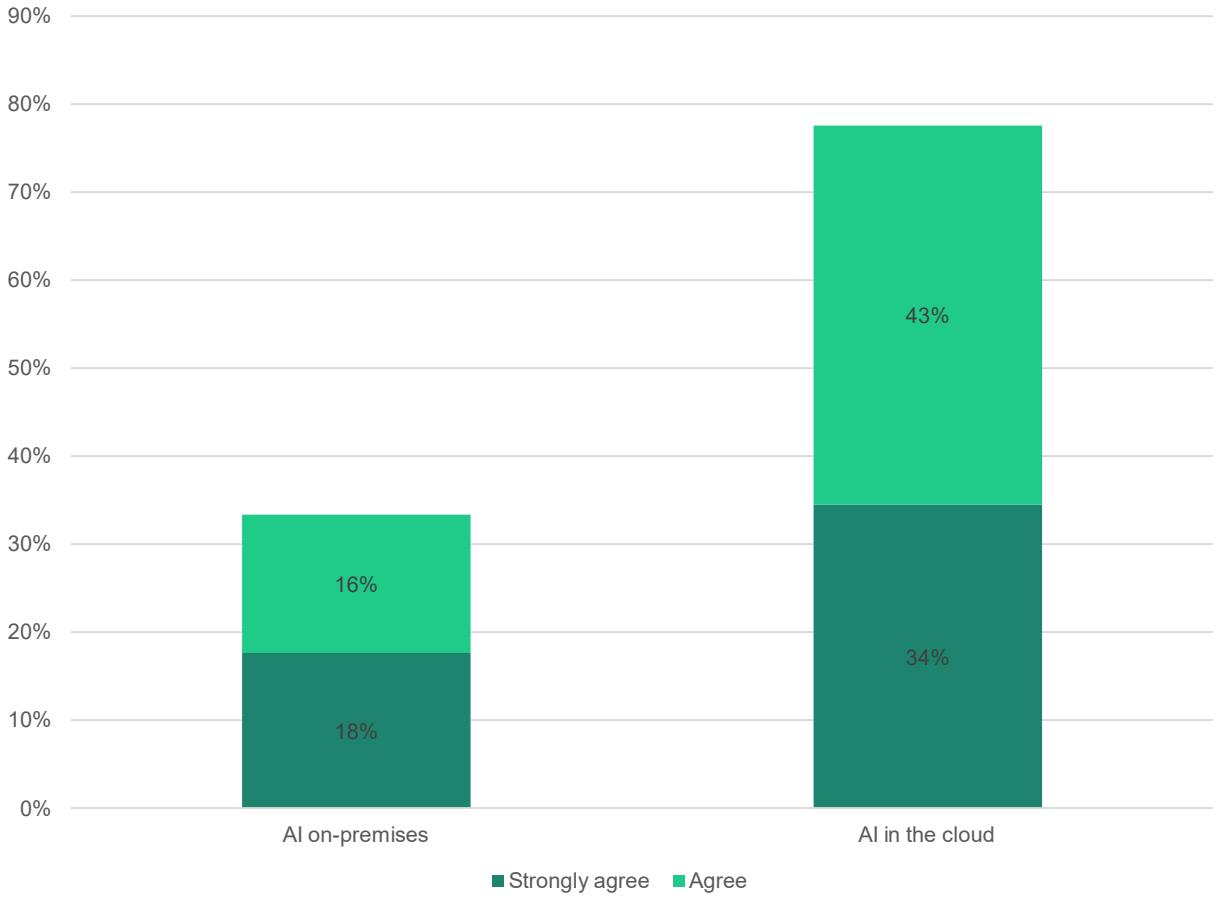
Base: 218 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

- **Ease of innovation with AI and ML in the current environment.** Seventy-seven percent of survey respondents from organizations with Azure cloud infrastructure agreed or strongly agreed that it's easy to innovate with AI and ML

in their company's current environment compared to 34% of respondents from organizations with on-premises infrastructure. And interviewees said migrating to Azure makes innovating with AI easier.

A CTO for a healthcare organization shared: "[Being on Azure infrastructure] is helping us innovate faster. It's given us access to the information a lot quicker. If there's a project that needs innovation, we can do that a lot quicker in Azure. Beforehand, we wouldn't have had that scalability."

"It is easy to innovate with AI/ML in our current environment."



Base: 218 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

> “Having everything in one ecosystem makes this work better. It means you’re not conversing across data centers. At an infrastructure level, we would find ways around it, but it’s just something we don’t need to worry about [with Azure].”
>
> HEAD OF R&D, TECHNOLOGY

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might migrate to Azure and later realize additional uses and business opportunities, including:

- **Freeing up resources and changing the types of work needed, which allows organizations to upskill employees and reinvest resources in new initiatives like AI.** Both interviewees and survey respondents expressed difficulty finding skilled resources to support AI and ML initiatives at their organizations. Fifty-three percent of the survey respondents listed a lack of skilled personnel to develop, deploy, and manage AI/ML as a key challenge, and interviewees shared that migrating to Azure freed up resources that could be trained and reallocated to these new AI programs to help build capabilities internally.

  Forrester research says investing in employees to build understanding, skills, and ethics is critical to successfully using AI.[3,4] Forrester research also shows that future-fit organizations must continuously develop technology skills in their employees. [5] Upskilling not only prepares organizations for the future and reduces potential future hiring costs, it also creates organizational agility and demonstrates a commitment to employee experience.

A CTO for a healthcare organization explained: “Overhead management is different [since migrating to Azure]. … The whole service now is not focused on checking hardware or health. It’s reduced the time spent, and those people are now looking forward and looking at solutions and being much more consultative. … We’re much more able to offer solutions-based services rather than maintenance.”

A VP of AI platforms for a financial services organization shared: “As we have gone along this journey, we have not reduced the number of engineers as we have gotten more efficient, but we’re doing more. You could say we’ve invested in AI, but everything we have invested — my entire team — none of these people were new additions. These are people we could redeploy because we’re doing everything else more efficiently.”

An executive head of cloud and DevOps at a banking organization explained that their firm is running an enterprise scaling initiative with Microsoft to upskill its IT employees and train them on cloud technologies. They noted: “Since AI is more democratized, there are a lot more people certifying in AI. … AI has moved away from only being focused on the data space to being across the organization.”

- **Creating a larger culture of innovation.** As new technologies like AI disrupt entire industries, companies need to excel at all levels of innovation to succeed, and that includes embracing platforms and ecosystems that help drive innovation.[6] Interviewees said migrating to the cloud meant that new resources and capabilities were readily available, which made it easier for their organizations to take advantage of new technologies and opportunities.

  An executive head of cloud and DevOps for a banking organization said: “Migrating to Azure changes the mindset from an organization perspective when it comes to innovation because services are easily available in the cloud. You don’t have to go out to the market and look for them. If you look at AI, originally only our data space worked on it. Whereas today, it’s being used across the organization because we were already in the cloud, and it’s readily available.”

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

APPENDIX A: TOTAL ECONOMIC IMPACT

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

BENEFITS PRESENT VALUE (PV)

The present or current value of (discounted) benefit estimates given at an interest rate (the discount rate).

DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

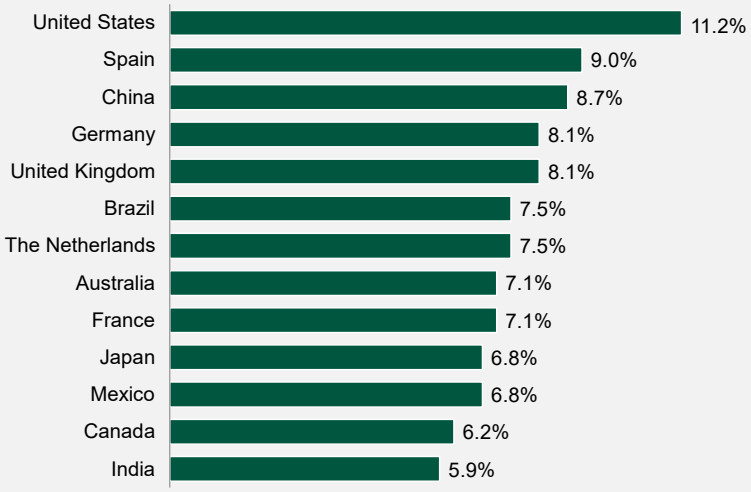
The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total benefit estimate. Sums and present value calculations of the Total Benefits may not exactly add up, as some rounding may occur.

APPENDIX B: INTERVIEW AND SURVEY DEMOGRAPHICS

Interviews			
Role	**Industry**	**Region**	**Revenue**
Vice president (VP) of artificial intelligence (AI) platforms	Financial services	North America	$3.5 billion
Head of cloud and tooling	Transportation services	Europe	$1 billion
Chief technology officer (CTO)	Healthcare	Europe	$800 million
• Executive head of end user experience • Executive head of cloud and DevOps • Head of cloud security	Banking	Africa	$3.5 billion
Head of research and development (R&D)	Technology	Global	$40 million

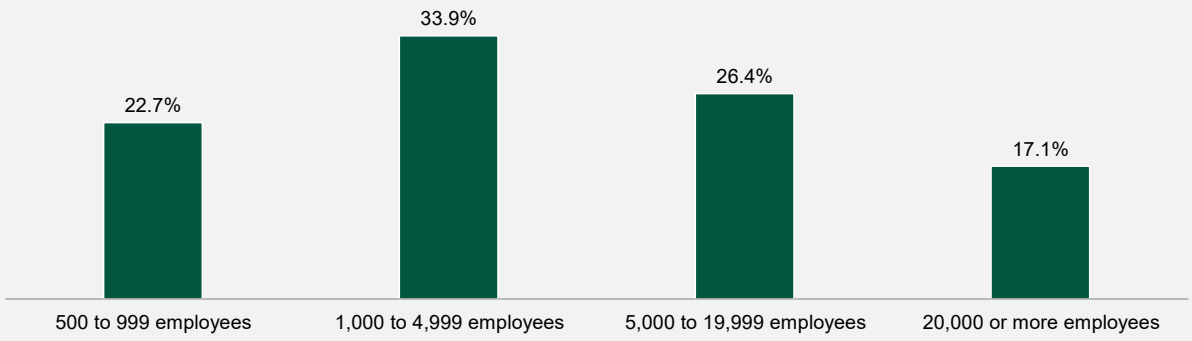
Survey Demographics

"In which country are you located?"



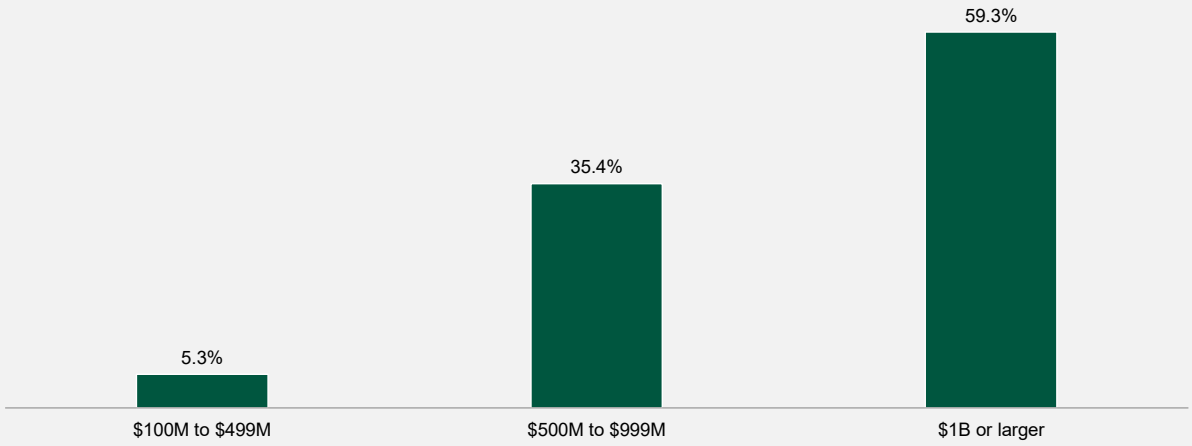
Base: 322 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

“Using your best estimate, how many employees work for your firm/organization worldwide?”



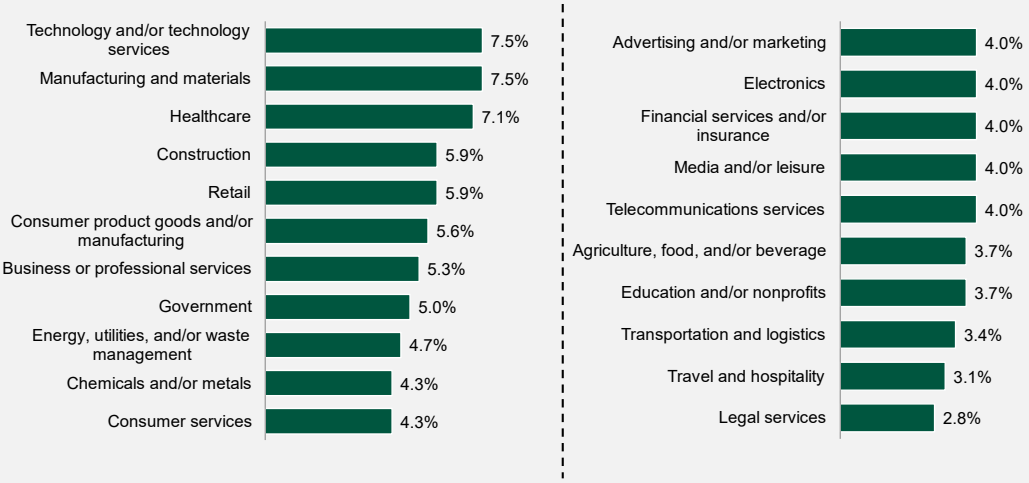
Base: 322 IT decision-makers at global enterprise organizations
Note: Percentages may not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

“Using your best estimate, what is your organization’s annual revenue (USD)?”



Base: 322 IT decision-makers at global enterprise organizations
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

“Which of the following best describes the industry to which your company belongs?”



Base: 322 IT decision-makers at global enterprise organizations
Note: Percentages may not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, May 2024

APPENDIX C: SUPPLEMENTAL MATERIAL

Related Forrester Research

The Executive's AI Primer, Forrester Research, Inc., August 24, 2023.

The State Of Generative AI, 2024, Forrester Research, Inc., January 26, 2024.

How To Accelerate AI In Your Future Of Work Strategy, Forrester Research, Inc., June 23, 2023.

Use Case Prioritization And Feasibility Tool, Forrester Research, Inc., April 26, 2024.

The Forrester Artificial Intelligence Quotient (AIQ) Assessment, Forrester Research, Inc., Mary 27, 2024.

The Employee Experience Maturity Assessment, Forrester Research, Inc., June 29, 2023.

Elevating Your Innovation Habits, Forrester Research, Inc., February 2, 2024.

Related Total Economic Impact Studies

The Total Economic Impact™ Of Microsoft Azure PaaS, a commissioned study conducted by Forrester Consulting on behalf of Microsoft, November 2022.

The Total Economic Impact™ Of Microsoft Azure App Innovation, a commissioned study conducted by Forrester Consulting on behalf of Microsoft, June 2023.

The Total Economic Impact™ Of Microsoft Azure AI, a commissioned study conducted by Forrester Consulting on behalf of Microsoft, April 2023.

The Total Economic Impact™ Of Microsoft Azure Arc For Security And Governance, a commissioned study conducted by Forrester Consulting on behalf of Microsoft, June 2022.

APPENDIX D: ENDNOTES

[1] Source: The Rise Of The AI Cloud, Forrester Research, Inc., March 7, 2024.

[2] Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

[3] Source: J.P. Gownder, Your Employees Aren't Ready For AI – Prepare Them With AIQ, Forrester Blogs, March 27, 2024.

[4] Source: Prepare Your Entire Workforce For AI Now, Forrester Research, Inc., March 27, 2024.

[5] Source: What Makes A Future Fit People Strategy?, Forrester Research, Inc., May 11, 2023.

[6] Source: High-Performance IT Transforms With Emerging Technology And Innovation, Forrester Research, Inc., February 21, 2024.

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