Deloitte.

Fueling the AI
transformation:
4 key actions powering
widespread value from
AI, right now.

State of AI in the Enterprise report, 5th Edition | October 2022

Content
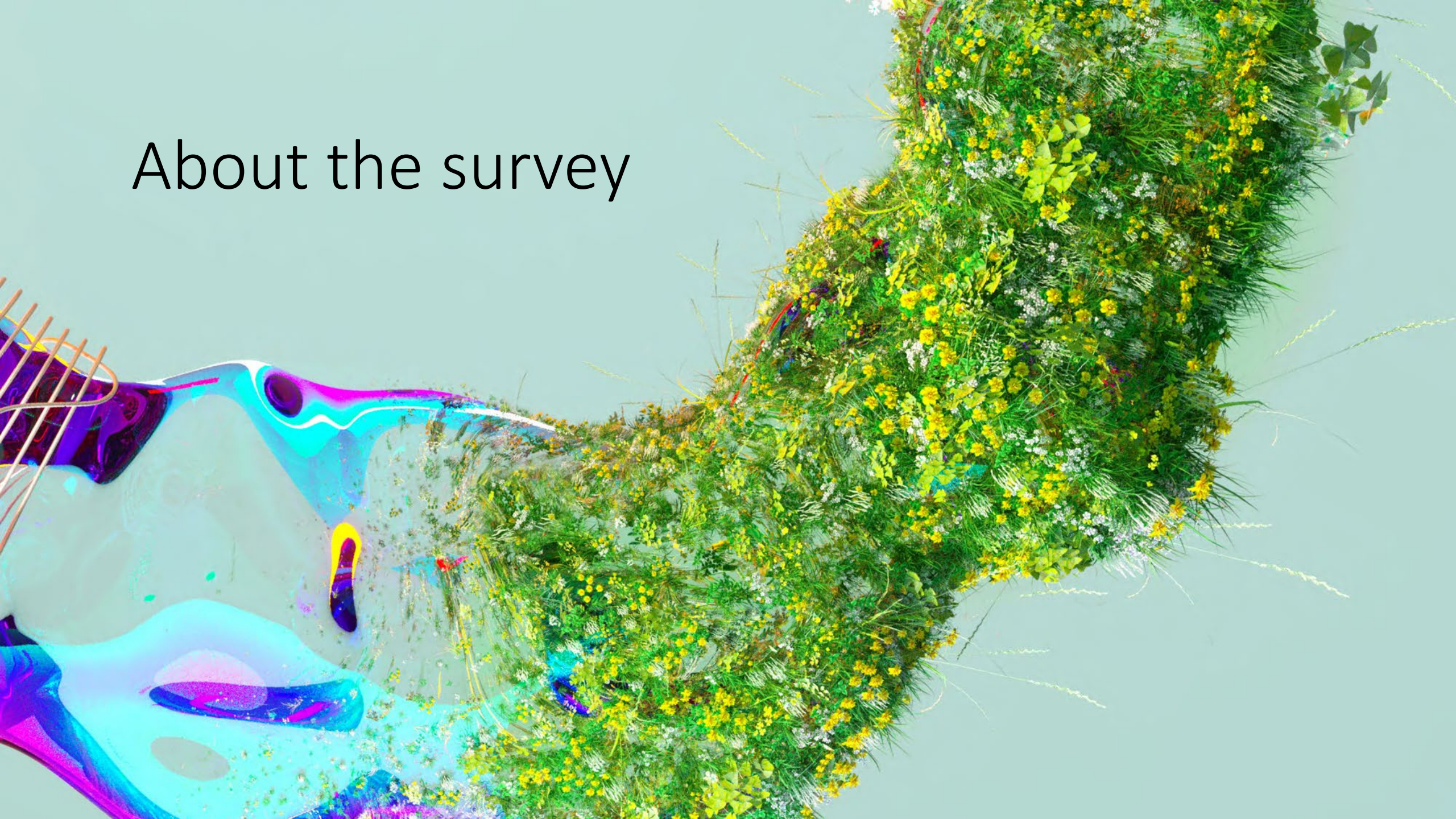
About the survey

Executive summary: The era of value

Today's race is no longer about adopting AI or automating processes for efficiency. It is now about realizing value, driving outcomes, and unleashing the potential AI holds to drive new opportunity for our businesses, for our employees and for our society at large. It is about cracking open the constraints of how we have done business before.

This 5th edition of our annual State of AI in the Enterprise research explores just that: how businesses are forging a path to a new future, filled with today unrealized sources of value. In it, we explore four critical actions that business leaders are taking to harness AI's potential, and drive value at scale across their enterprises:

- **Invest in culture and leadership**

- **Transform operations**

- **Orchestrate tech and talent**
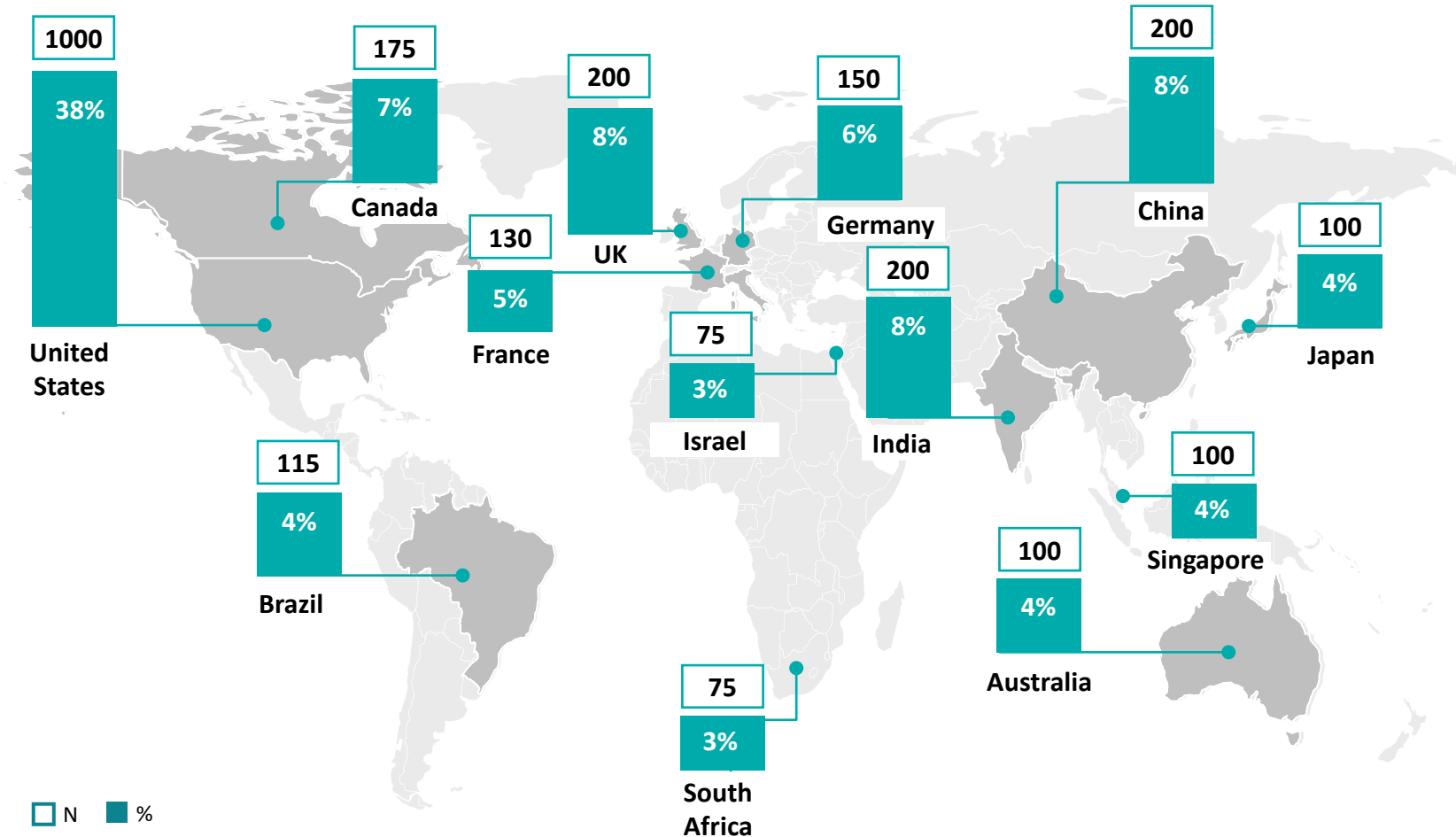
- **Select high-value use cases**

To learn how organizations are exploiting the potential of AI in actual practice, we surveyed 2,620 business leaders from 13 top global economies. We asked them about a wide variety of behaviors—from their overarching AI strategy and leadership to their technology and data approaches, to how they are each helping their workforce to operationalize AI. We identified a leader group by analyzing the survey responses based on how many types of AI applications a company has deployed full-scale <u>and</u> the number of outcomes achieved to a high degree. Then, we looked at which behaviors lead to the greatest outcomes.

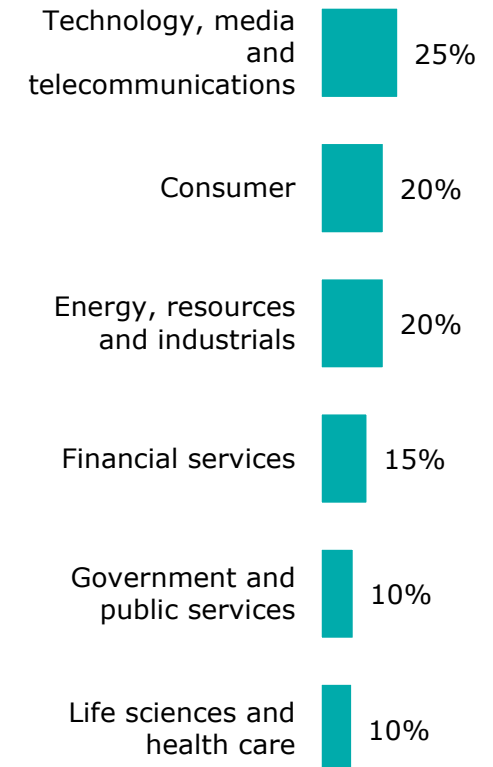**By analyzing these groups, respondents' behaviors most associated with strong outcomes became evident.**

Note: Where applicable throughout this report, percentages may not add to 100% because of rounding.

Deloitte surveyed 2,620 global business leaders to understand how organizations are using artificial intelligence (AI) technologies

Country	N	%
United States	1000	38%
Canada	175	7%
UK	200	8%
France	130	5%
Germany	150	6%
China	200	8%
Japan	100	4%
Israel	75	3%
India	200	8%
Brazil	115	4%
Singapore	100	4%
Australia	100	4%
South Africa	75	3%

N   %

Industry:

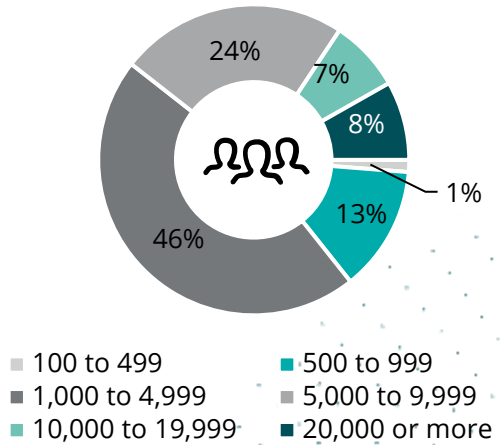|	
Technology, media and telecommunications	25%
Consumer	20%
Energy, resources and industrials	20%
Financial services	15%
Government and public services	10%
Life sciences and health care	10%

Respondent profile

2,620 global business leaders

Company size

24%
7%
8%
1%
46%
13%

- 100 to 499
- 1,000 to 4,999
- 10,000 to 19,999
- 500 to 999
- 5,000 to 9,999
- 20,000 or more

Respondent's title

0%
2%
2%
3%
3%
10%
31%
24%
25%

- Secretary
- Program office leader
- Deputy secretary
- Exec. below C-suite
- C-suite
- EVP / SVP
- VP / Assistant VP
- C-Level Executive
- Sr. Director / Director

Role

36%
LOB

64%
IT

Annual revenue

2%
8%
14%
14%
36%
25%

- $50M - $250M
- $250M - $500M
- $500M - $1B
- $1B - $5B
- $5B - $10B
- $10B+
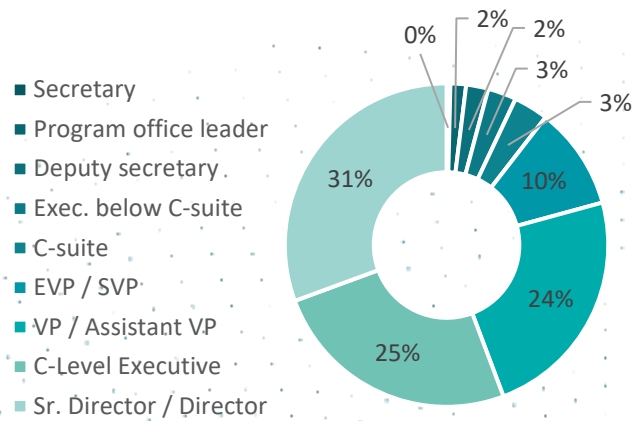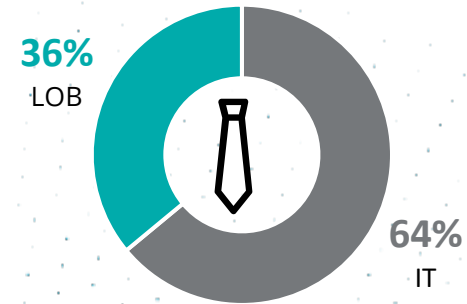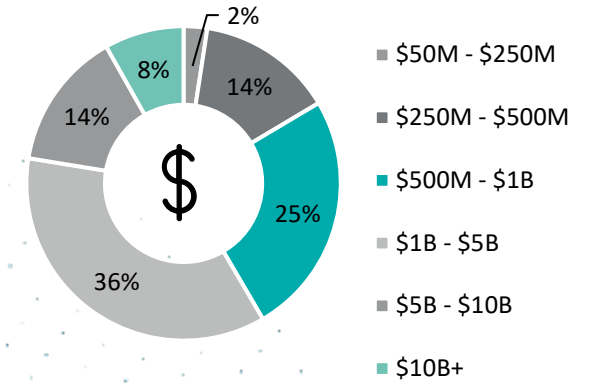
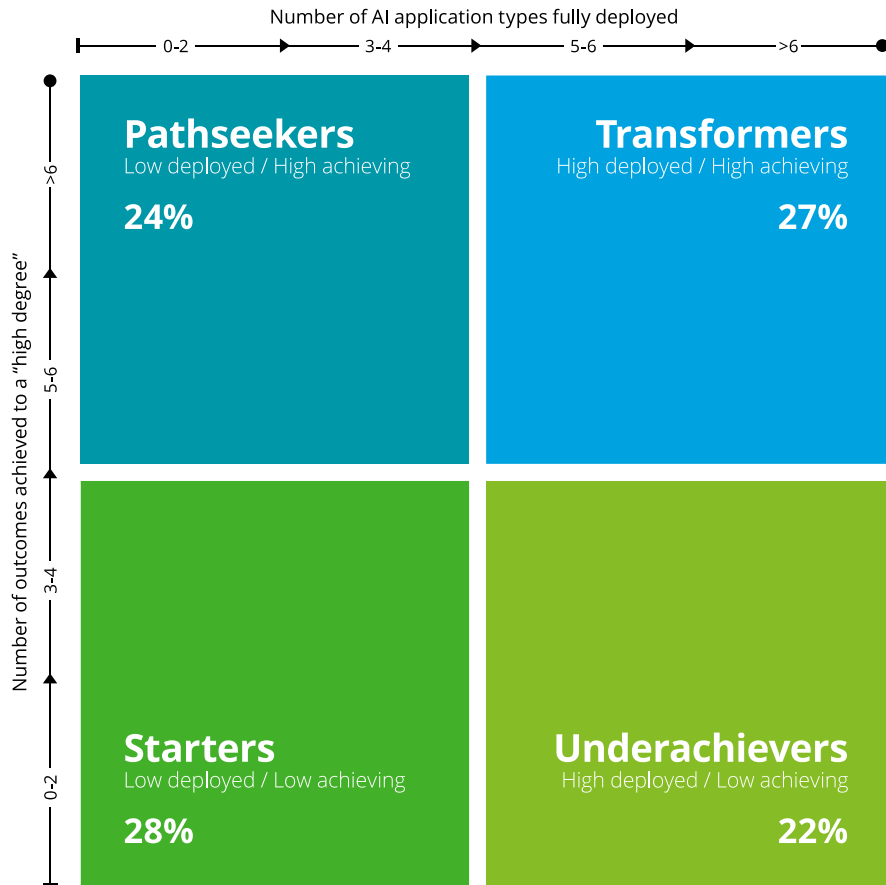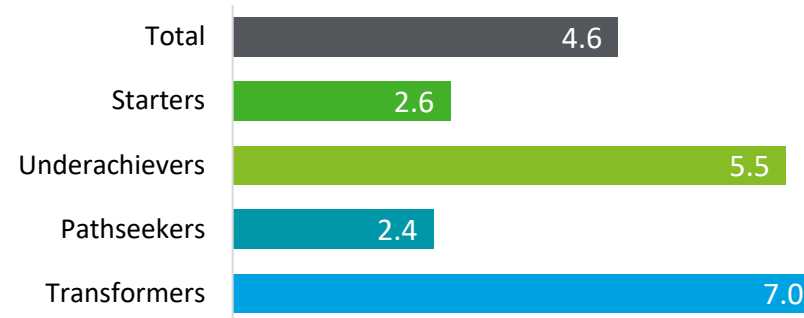# Key insights:
Market maturity

To identify leading practices for exploiting AI's potential, we explored the behaviors of surveyed companies that were **highest-deployed in AI** and **highest-achieving of AI outcomes**
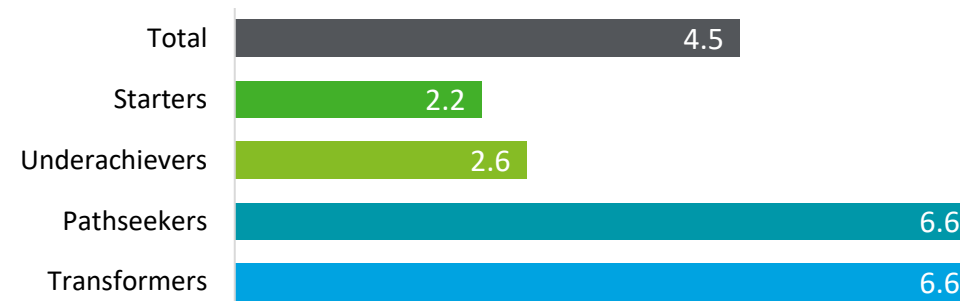
Number of AI application types fully deployed

0-2 → 3-4 → 5-6 → >6

Number of outcomes achieved to a "high degree"

Pathseekers Low deployed / High achieving 24%	**Transformers** High deployed / High achieving 27%
Starters Low deployed / Low achieving 28%	**Underachievers** High deployed / Low achieving 22%

Average number of AI app types in full deployment

Total	4.6
Starters	2.6
Underachievers	5.5
Pathseekers	2.4
Transformers	7.0

Average number of outcomes "achieved to a high degree"

Total	4.5
Starters	2.2
Underachievers	2.6
Pathseekers	6.6
Transformers	6.6

Transformers have:

Deployed the highest number of AI application types at full-scale, and achieved the highest number of AI outcomes

N=2,620 respondents
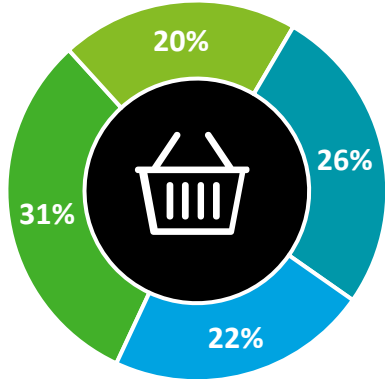
Percentage of segments within each industry

Consumer (N=525)
- 20%
- 26%
- 22%
- 31%
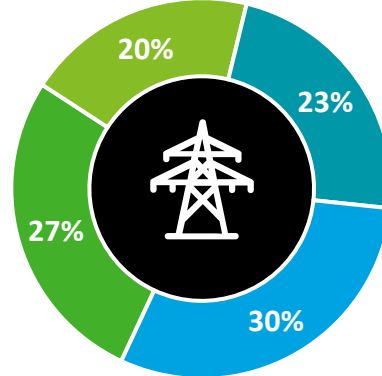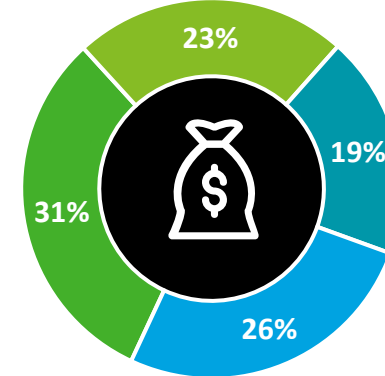
Energy, resources and industrials (N=525)
- 20%
- 23%
- 30%
- 27%

Financial services (N=390)
- 23%
- 19%
- 26%
- 31%

Government and public services (N=275)
- 20%
- 24%
- 24%
- 33%
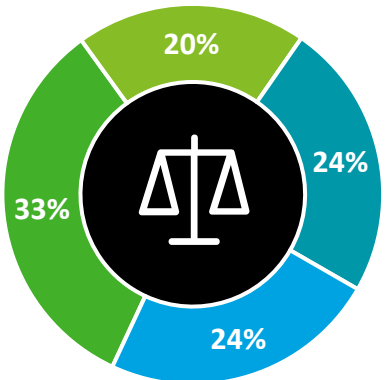
Life sciences and health care (N=260)
- 23%
- 23%
- 30%
- 25%
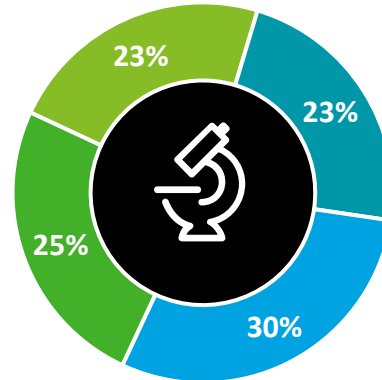
Technology, media and telecommunications (N=645)
- 24%
- 25%
- 29%
- 22%
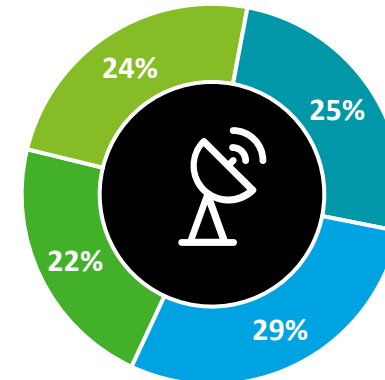
Legend:
- Starters
- Underachievers
- Pathseekers
- Transformers

Transformers — High-deployed / High-achieving

707 leaders | 27% total survey population
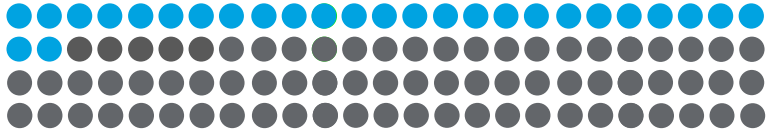
> **Innovating products and generating revenue from AI.**

7.0
AI applications fully deployed, on avg. **Highest of all segments.**

6.6
Outcomes achieved to a high degree, on avg. **Highest of all segments.**

Most experienced with AI

- 61%
- 21%
- 7%
- 1%
- 10%

■ Less than 1 year   ■ 1-2 years
■ 3-6 years   ■ 7-10 years
■ More than 10 years

Expected investment change in next fiscal

- 2%
- 25%
- 73%

■ Decrease somewhat/significantly
■ Stay mostly the same
■ Increase somewhat/significantly

Key profile highlights:

- Most likely to report AI-ready cultural characteristics such as dedicated leadership and high cross-organizational collaboration
- Most likely to have established AI centers of excellence
- Highest score on workforce optimism for the possibilities of AI
- Actively nurturing and retaining AI professionals

Pathseekers — Low-deployed / High-achieving

616 leaders | 24% total survey population

> **Adopting what's proven and aligning to best practices.**

2.4
AI applications fully deployed, on avg. **Lowest of all segments.**

6.6
Outcomes achieved to a high degree, on avg. **Highest of all segments.**

Significant time developing AI

- 50%
- 16%
- 6%
- 1%
- 28%

Legend:
- Less than 1 year
- 1-2 years
- 3-6 years
- 7-10 years
- More than 10 years

Expected investment change in next fiscal

- 3%
- 16%
- 81%

Legend:
- Decrease somewhat/significantly
- Stay mostly the same
- Increase somewhat/significantly

Key profile highlights:

- Lowest in number of deployments, but highest in number of applications in active development
- Most likely to believe that AI empowers people at the organization to make better decisions
- Most likely to feel very confident the organization will act responsibly in deploying different AI initiatives

Underachievers — High-deployed / Low-achieving

570 leaders | 22% total survey population

> " Despite deployments, they've yet to generate consistent value and impact. "

5.5
AI applications fully deployed, on avg. **Second highest of all segments.**

2.6
Outcomes achieved to a high degree, on avg. **Second lowest of all segments.**

Significant time with AI: (similar to Pathseekers)

- 55%
- 15%
- 8%
- 1%
- 20%

■ Less than 1 year ■ 1-2 years
■ 3-6 years ■ 7-10 years
■ More than 10 years

Expected investment change in next fiscal

- 75%
- 22%
- 2%

■ Decrease somewhat/significantly
■ Stay mostly the same
■ Increase somewhat/significantly

Key profile highlights:

- Least likely to say that AI highly improves collaboration throughout the organization
- Despite lack of success, most apt to put policies in place to guide ethical use of AI; care more about potential model bias and explainability than other cohorts
- Lack of success may drive lower expectations of quick payoffs from AI investment than others

Starters — Low-deployed / Low-achieving

727 leaders | 28% total survey population
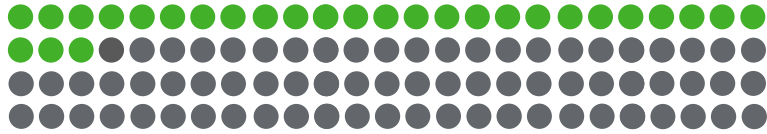
> Late adopters, yes, but can rapidly advance based on investment choices. "

2.6
AI apps fully deployed, on avg. **Second lowest of all segments.**

2.2
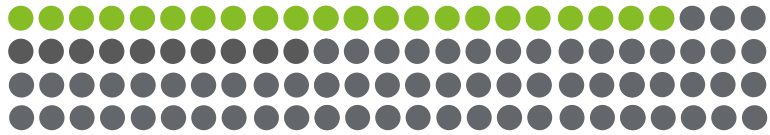Outcome achieved to a high degree, on avg. **Lowest of all segments.**

Fewest years of AI experience
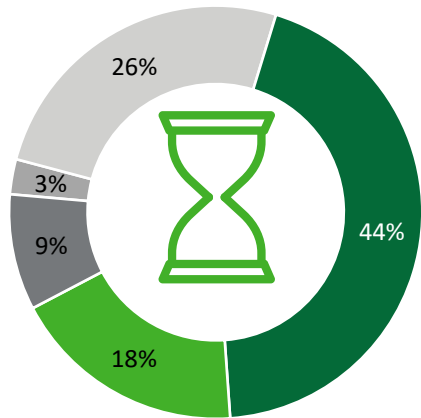
- 26%
- 3%
- 9%
- 18%
- 44%

■ Less than 1 year   ■ 1-2 years
■ 3-6 years   ■ 7-10 years
■ More than 10 years

Expected investment change in next fiscal

- 76%
- 4%
- 2%
- 19%
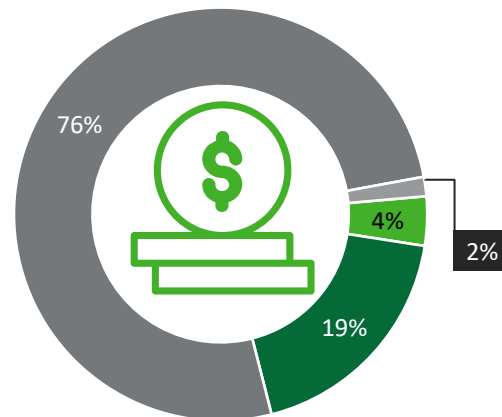
■ Decrease somewhat/significantly
■ Stay mostly the same
■ Increase somewhat/significantly
■ Unsure

Key profile highlights:

- More than any other cohort views lack of executive commitment as biggest roadblock to starting AI projects
- Most likely to see data privacy issues and consent management as AI ethical concerns
- Most likely to rely on third-party professional firms and partnerships with other companies
- Least likely to significantly change workflows to take advantage of emerging technologies

Investing in AI
is critical to success

Investing in AI is critical to success

94% of business leaders surveyed see AI to be critical for organization's / agency's overall success over the next five years

Importance of AI solutions for organization's / agency's overall success

1%

5%

94%

■ Very important/Important

■ Somewhat Important

■ Not at all important/Not very important
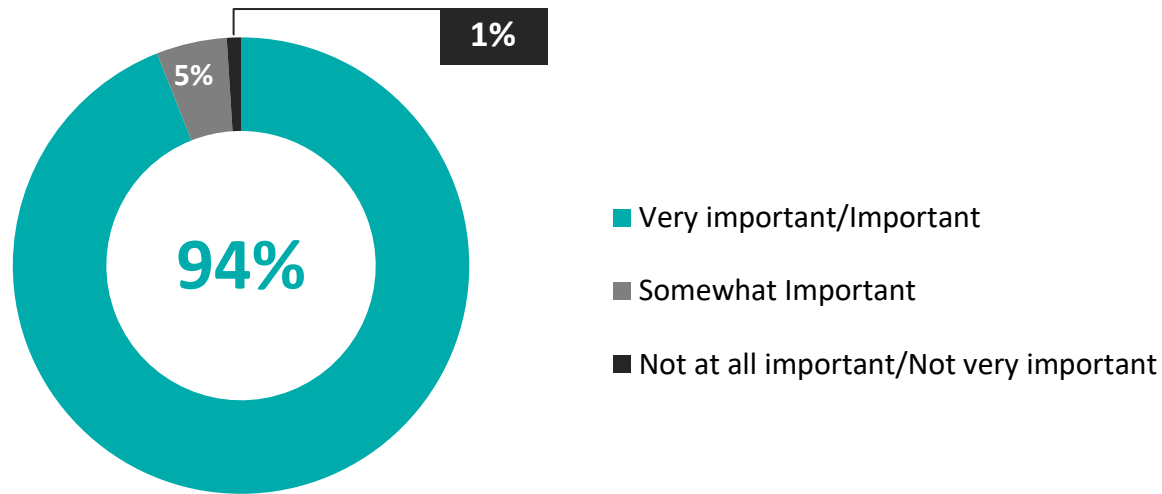
Q. In your view, how important are artificial intelligence (AI) solutions for your overall organization / agency over the next 5 years?

N=2,620 respondents

76% of leaders surveyed plan to increase their AI investments in the next fiscal year—with purpose

Average breakdown of AI investments (by purpose)

- 31%
- 25%
- 22%
- 21%

■ Improving operations / Reducing costs or improving efficiency

■ Differentiating offerings/services in the marketplace / Creating new products or services

■ Generating new revenue or opportunities

■ Constituent experience / Improving customer/partner experience

76%

Increasing investment

of surveyed companies are expected to **increase their investment** next fiscal year by more than 5%.

Q1. What percentage of your AI investments are focused on improving operations (e.g., manufacturing, customer service, marketing) vs. being built into your core [service / products or services to differentiate your offerings in the marketplace]?
Q2. How do you expect your organization's investment in AI technologies to change in the next fiscal year?

Future of AI investments
Some three-quarter of respondents plan to increase AI investments in the next fiscal year—impacting budgets.

Anticipated changes to AI technology investments in the next fiscal year (by budget impact)

Legend: ■ Unsure ■ Decrease significantly ■ Decrease somewhat ■ Stay mostly the same ■ Increase somewhat ■ Increase significantly

Category	Decrease somewhat	Stay mostly the same	Increase somewhat	Increase significantly
Total (n=2,620)	2%	20%	59%	17%
Starters (n=727)	3%	19%	61%	15%
Underachievers (n=570)	2%	22%	58%	17%
Pathseekers (n=616)	2%	16%	57%	24%
Transformers (n=707)	2%	25%	57%	15%
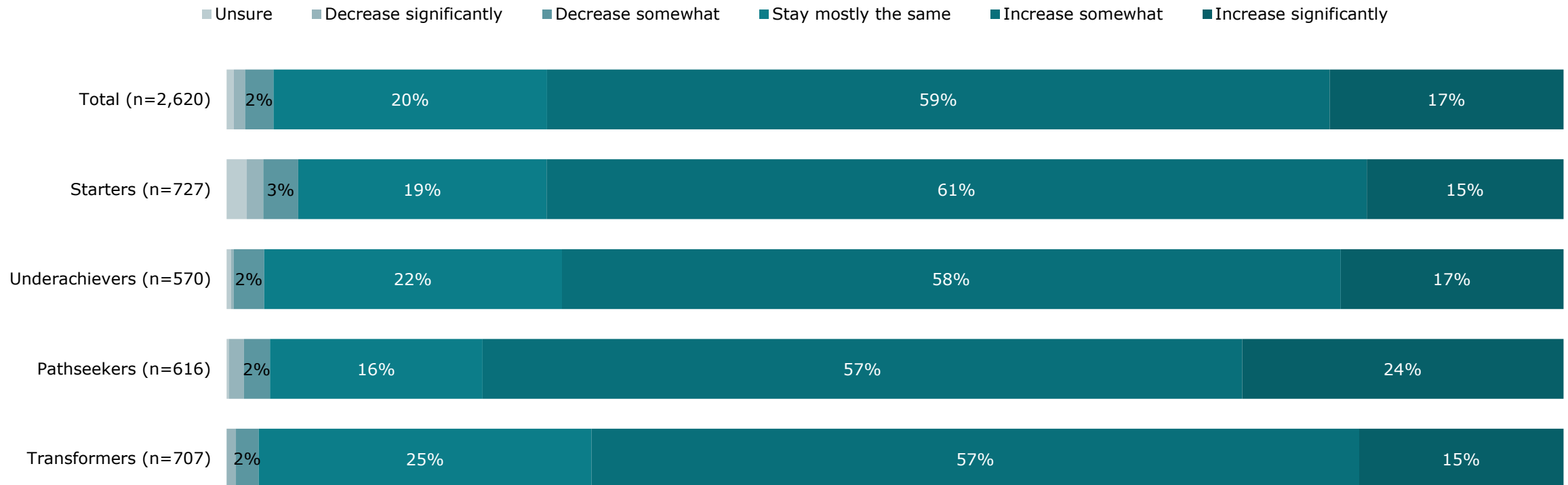
Q. How do you expect your organization's investment in AI technologies to change in the next fiscal year?

Investing in AI is critical to success

Building successful AI programs takes time

A majority of the market has been developing AI for 3-6 years. However, almost one third of the combined Pathseekers and Transformers have been developing AI for 7 or more years, a share that is likely to grow as the technology matures.

Time spent in developing and deploying AI solutions
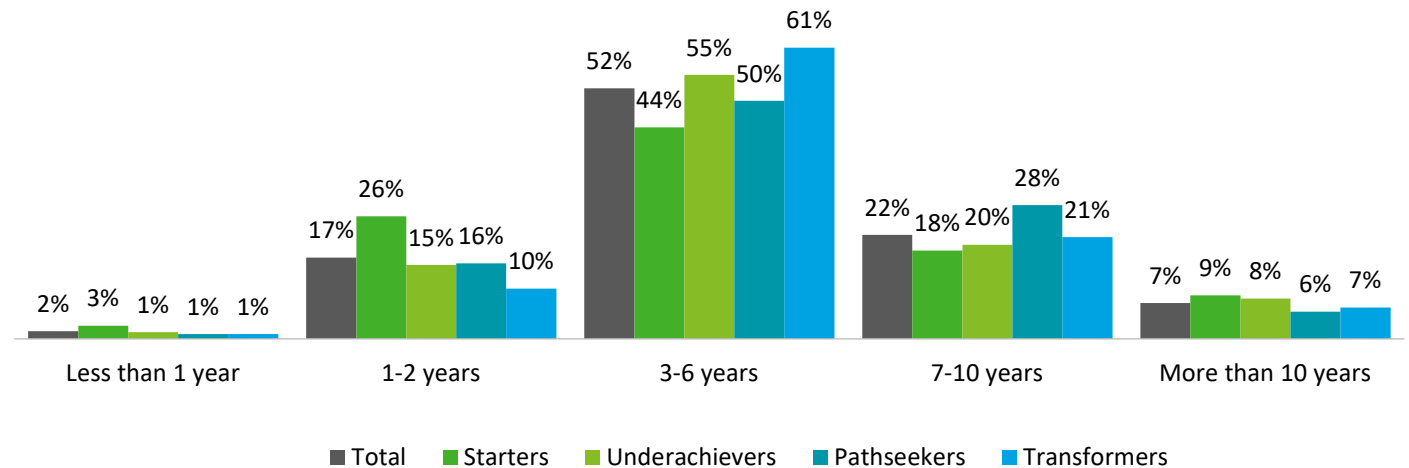
Q. How long has your organization been developing and deploying AI solutions?

Although AI deployments continue, outcomes are lagging and challenges remain widespread

Achieving outcomes

High-outcome organizations (Transformers and Pathseekers) lead in achieving outcomes, especially on reducing costs, improving collaboration across business functions/organizations, and creating new products/programs and services.

AI goal achievement ("Achieved to a high degree" shown)

	Lower costs	Improve collaboration across business functions / organization	Enter new markets / expand services to new constituents	Create new products / programs and services	Enable new business / service models	Discover valuable insights	Customize or improve existing products / programs, services or offers	Make organization processes more efficient	Activate the potential of talent management	Increase revenue	Predict demand	Improve constituent engagement	Improve decision-making	Anticipate constituent needs
High-outcome organizations*	55%	53%	50%	48%	48%	48%	47%	47%	45%	45%	45%	45%	42%	41%
Total	37%	34%	33%	32%	32%	34%	33%	33%	30%	31%	32%	30%	32%	28%
Low-outcome organizations*	19%	14%	15%	15%	16%	20%	18%	19%	14%	16%	18%	16%	21%	15%

*High-outcome organizations include Transformers and Pathseekers, whereas Low-outcome organizations include Starters and Underachievers.

Q. Since you began implementing AI, please indicate the degree to which your organization has achieved the following outcomes.

N=2,620 respondents   State of AI in the Enterprise 5th Edition   20

Actual payback compared to expected payback period

A meaningfully higher proportion of Pathseekers (31%) and Transformers (23%) are expecting payback quicker than expected than less-advanced cohorts, suggesting higher performance yields higher expectations.

Actual vs. expected payback period
(Single choice)

	Slower than expected	In line with expectations	Quicker than expected
Transformers	6%	71%	23%
Pathseekers	7%	61%	31%
Underachievers	16%	69%	15%
Starters	23%	58%	20%
Total	13%	65%	22%

N=2,620 respondents

Q. For your AI investments, how does the typical actual payback period compare to the typical expected payback period?

Confidence in deploying AI initiatives in a Trustworthy way

High-outcome surveyed organizations (Transformers and Pathseekers) have significantly higher confidence in deploying AI across the six pillars of Trustworthy AI™, compared to low-outcome organizations (Starters and Underachievers).

Confidence in ability to deploy AI initiatives ethically / securely
(% Very confident shown)
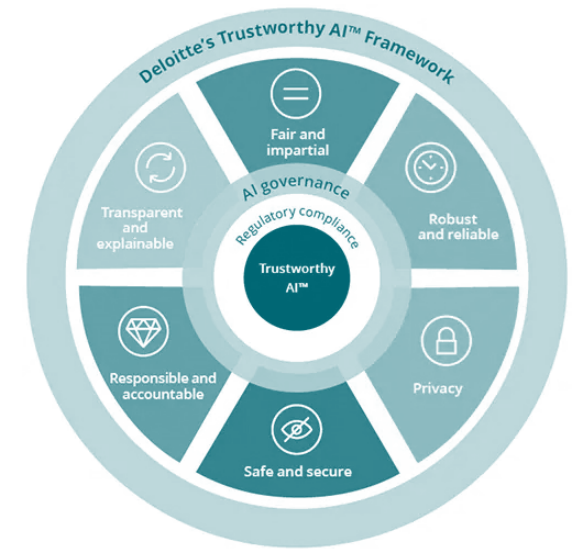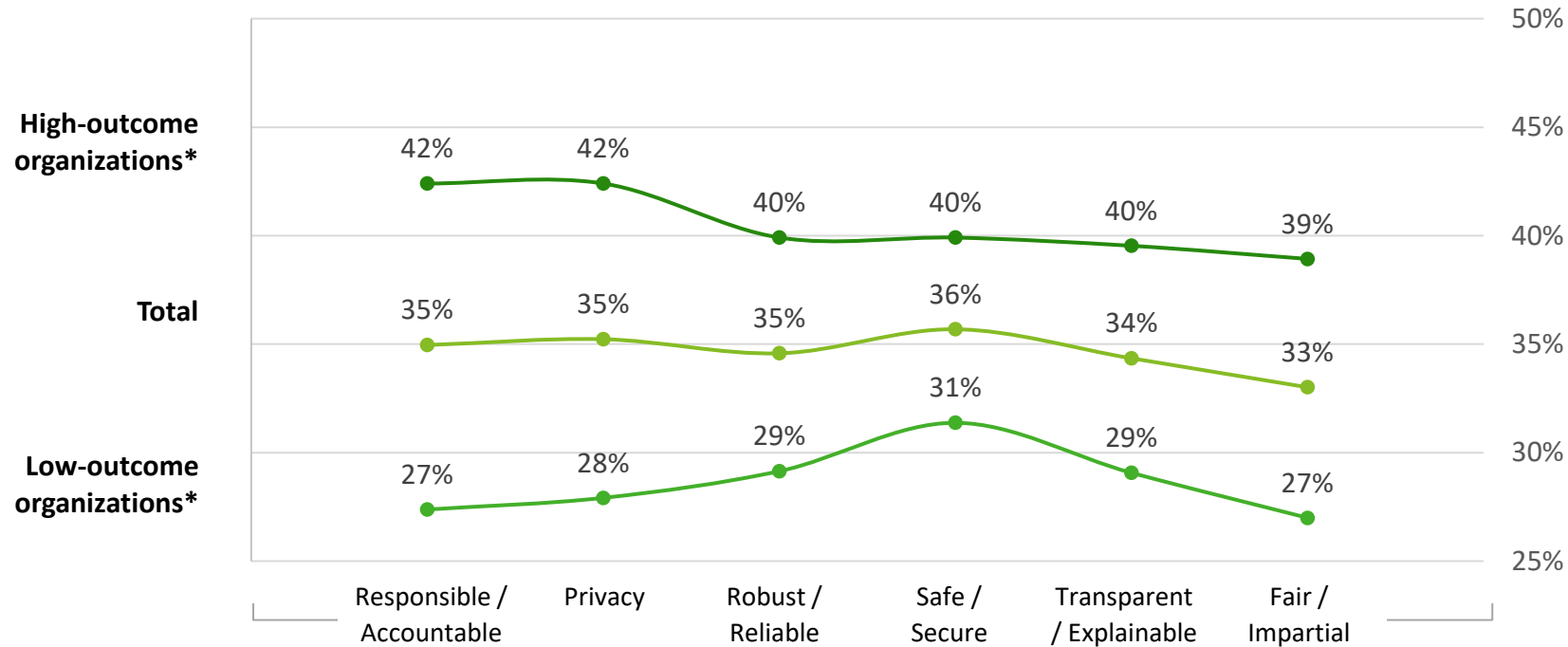
High-outcome organizations*: 42% 42% 40% 40% 40% 39%

Total: 35% 35% 35% 36% 34% 33%

Low-outcome organizations*: 27% 28% 29% 31% 29% 27%

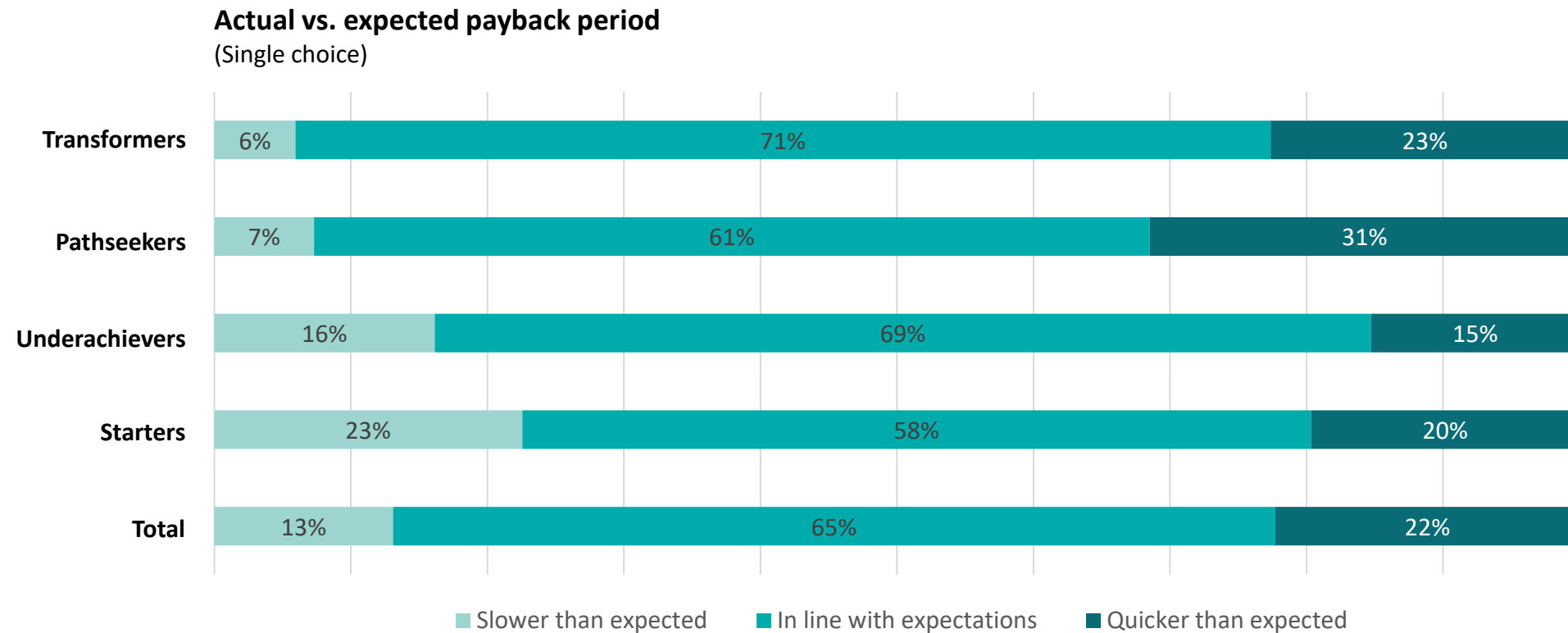Categories: Responsible / Accountable, Privacy, Robust / Reliable, Safe / Secure, Transparent / Explainable, Fair / Impartial

*High-outcome organizations include Transformers and Pathseekers, whereas Low-outcome organizations include Starters and Underachievers.

Q. How confident are you that your organization can deploy AI initiatives in the following manner?

Primary challenges in scaling AI solutions

Managing risk and lack of executive support stand at the top of leading challenges in scaling AI initiatives.

Top challenges in scaling AI initiatives

Barriers

Managing AI-related risks — **50%**

Implementing AI technologies — **42%**

Proving business value — **40%**

Obtain needed data or input to train model — **44%**

Insufficiencies

Executive commitment — **50%**

Alignment between AI developers and the business problem / need / mission — **42%**

Training to support adoption — **44%**

Technical skills — **41%**

Funding for AI technologies and solutions — **38%**

Maintenance or ongoing support after initial launch — **50%**

Difficulties

Integrating AI into the organization's daily operations and workflows — **46%**

Integrating with other organizational / business systems — **44%**

Choosing the right AI technologies — **38%**

AI solutions were too complex or difficult for end users to adopt — **44%**

Identifying the use cases with the greatest business value — **42%**

Q. What are the main challenges in launching, scaling and ensuring adoption of AI solutions? – Scaling projects

N=2,620 respondents

Four key actions powering widespread value from AI, right now

Rewards can be lucrative for organizations that take action

AI has entered the era of value creation. Based on Deloitte's analysis of the behaviors and responses of respondents from surveyed high- and low-outcome organizations, this section offers detailed recommendations or the actions that leaders should consider in order to help improve results of their AI efforts.

1 — **2** — **3** — **4**

Action 1
Invest in culture and leadership

The workforce is increasingly optimistic, and leaders should do more to harness that optimism for culture change, establishing new ways of working, and to drive greater business results with AI.

Action 2
Transform operations

An organization's ability to build and deploy AI ethically and at scale largely depends on how well it has redesigned operations to accommodate the unique demands of new technologies.

Action 3
Orchestrate tech and talent

Technology and talent acquisition should no longer be considered separate. Organizations should strategize their approaches to AI based on the skill sets they have available, whether they derive from humans or prepackaged solutions.

Action 4
Select use cases that can help accelerate value

Selecting the right use cases to fuel your organization's AI journey depends largely on the value drivers for your business, influenced by your sector and industry context. Learn about some of the top use cases driving change for your industry.

"Doing the actual AI is the easiest part of these projects. The hardest part is helping everyone involved understand what the problem is that we're trying to solve."

– VP of data science, innovation and operations
Commercial data analytics and business insights company

Action 1:
Invest in culture and leadership

Culture is often key to success, and the workforce is increasingly optimistic about AI opportunities

When it comes to successful AI deployment and adoption, leadership and culture matter. A lot.

Transformer respondents were the most likely to report AI-ready cultural characteristics, such as:
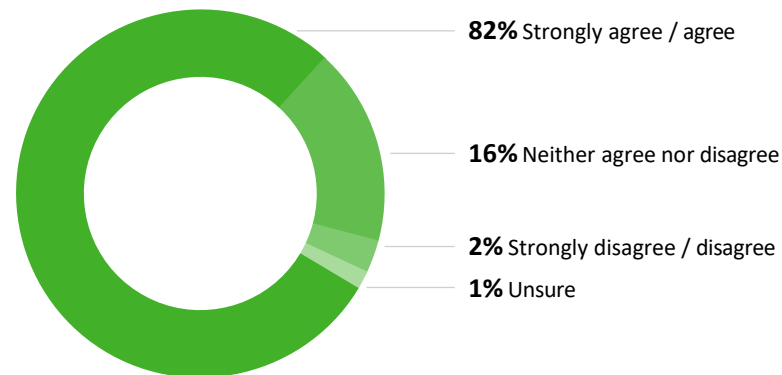
- High cross-organizational collaboration.
- Workforce optimism for the possibilities of AI.
- Actively nurturing and retaining AI professionals.

Respondents across all maturity segments reported that agility and willingness to change combined with executive leadership around a vision for how AI will be used are the most important factors in the development of an AI-ready culture (42% and 40% reported this as extremely important, respectively). This reinforces the importance of thoughtful change management as a foundational element of successful AI transformation; surveyed high-outcome organizations were more than 55% more likely to invest in change management compared to low-outcome organizations.

Despite frequent underinvestment in change management, workforces are showing increasing optimism toward the possibilities AI could offer their careers: 82% of respondents indicated employees believe that working with AI technologies will enhance their performance and job satisfaction.

82% of respondents surveyed indicated their employees believe that working with AI technologies will enhance their performance and job satisfaction.

Do respondents believe working with AI technologies will enhance their performance and job satisfaction?

82% Strongly agree / agree

16% Neither agree nor disagree

2% Strongly disagree / disagree

1% Unsure

Respondents selecting "Achieved to high degree" / "Strongly agree"

56% Transformers report significantly improving collaboration across business functions / organizations

45% Transformers "strongly agree" that employees in their organizations believe that working with AI technologies will enhance their performance and job satisfaction

44% Transformers "strongly agree" that their organizations actively work to nurture, train and retain AI-skilled professionals

Q1. Since you began implementing AI, please indicate the degree to which your organization has achieved the following outcomes.
Q2 Regarding the impact of AI on your organization, how much do you agree or disagree with each of the following statements?

N=2,620 respondents

"People always underestimate the change management aspect, what's going to be required. They think it's always going to be easier."

— Organizational design consultant

Action 1: Invest in culture and leadership

# However, there remain gaps in harnessing increased workforce optimism

- This growing workforce optimism may be the result of a shift in thinking in recent years. Many organizations have begun to realize the benefits of using AI to augment the workforce, rather than replace as many jobs as possible.[1] In fact, a minority of surveyed organizations (30%) indicated a strong desire to automate as many jobs as possible.

- Many organizations are taking action to support a human-machine collaboration strategy: 43% of all respondents reported their organization has appointed a leader responsible for helping workers collaborate better with intelligent machines.

- Despite this, data also shows a significant gap in further actions needed to enable the hybrid human-machine workforce. Of all respondents only 21% reported actively educating workers on when to apply AI most effectively, 25% reported providing access of user-friendly AI systems to nontechnical / nonspecialized workers, 30% reported including workers in participative design of AI, and 36% reported redesigning organizational practices in light of a mixed human and machine workforce.

- One of the biggest opportunities organizations may have for driving greater value with AI is redesigning work itself.[2]

While **43% of respondents** report appointing a leader responsible for effective human and AI collaboration, concrete actions are lagging:

% orgs redesigning talent practices for mixed workforce

36%
Redesigning talent practices for mixed workforce

64%
Not redesigning talent practices for mixed workforce

% orgs providing user-friendly AI systems to workforce

25%
Providing user-friendly AI systems to workforce
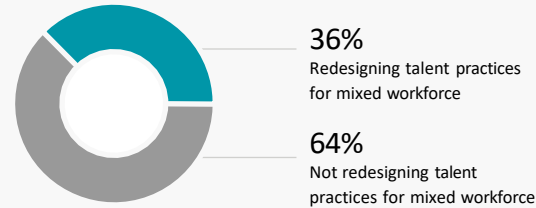
75%
Not providing user-friendly AI systems to workforce
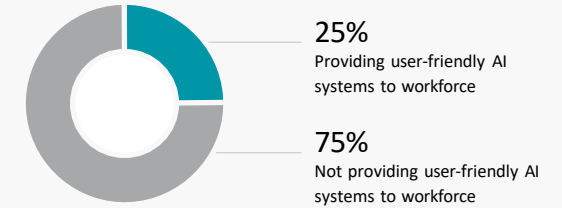
% orgs investing in human / machine collaboration

30%
Making investments

70%
Not making investments

% orgs educating workers to apply, use AI effectively

21%
Educating workers to apply, use AI effectively
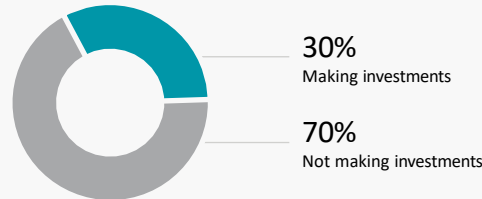
79%
Not educating workers to apply, use AI effectively

% orgs involving workers in participative design of AI

30%
Involving workers in participative design of AI
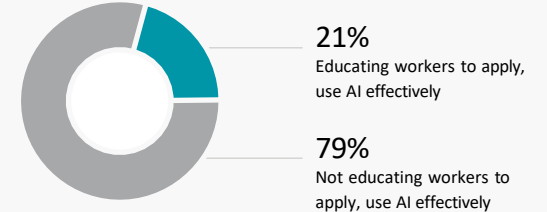
70%
Not involving workers in participative design of AI
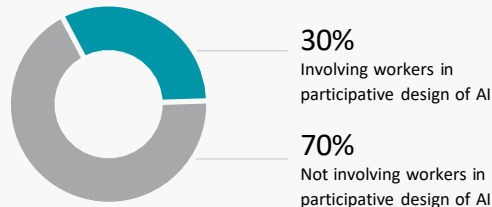
N=2,620 respondents

"Culture is still a big barrier, and also the way that the organization used to operate. Working around that is still a very big barrier."

– Group CIO

Multinational oil & gas company

What's needed in developing an AI-ready culture

Willingness to change and executive leadership lead the most important factors in creating an AI-ready culture.

(% selecting "Extremely important")

Agility and willingness to change	42%
Executive leadership around a vision for how AI will be used	40%
Data fluency - understanding how to evaluate and use data to make better decisions	36%
Transparency around the value created by/with AI	36%
Talent practices and leadership that support human and AI collaboration	35%
A clear set of ethical guidelines around appropriate and inappropriate uses of AI	34%
High penetration of AI technical or professional skills across the workforce	33%
Communicating the value the human workforce brings when working with AI	33%
Dedicated incentives and KPIs aligned to AI goals	33%
Confidence/trust that adoption of AI will not put jobs at risk	33%
Broad employee acceptance that AI is important to their day-to-day jobs	23%

Q. Which of the following aspects are important to the development of an AI-ready culture?

N=2,620 respondents

Action 2: Transform operations

Action 2: Transform operations

If you're not changing how you work, you're leaving value on the table

You can't just "adopt" AI and expect to derive real value from it. Clear processes should be established and roles around AI redefined to get the most out of AI. Still, there has been little movement toward this end.

Only about one-third of companies are *always* following MLOps, redesigning workflows, and documenting AI model life cycles, levels similar to last year's survey.

Despite that lack of progress in consistently adopting operational leading practices, some evidence from this year's survey appears to reaffirm that high-outcome organizations are significantly more likely to adopt additional operational leading practices including:

- Tracking the ROI of deployed models and applications (86% high-outcome vs. 71% low-outcome).
- Having a documented process for governance and quality of data put into AI models (77% high-outcome vs. 62% low-outcome).
- Following documented MLOps procedures (76% high-outcome vs. 63% low-outcome).
- Following a documented AI model life cycle publication strategy (84% high-outcome vs. 66% low-outcome).
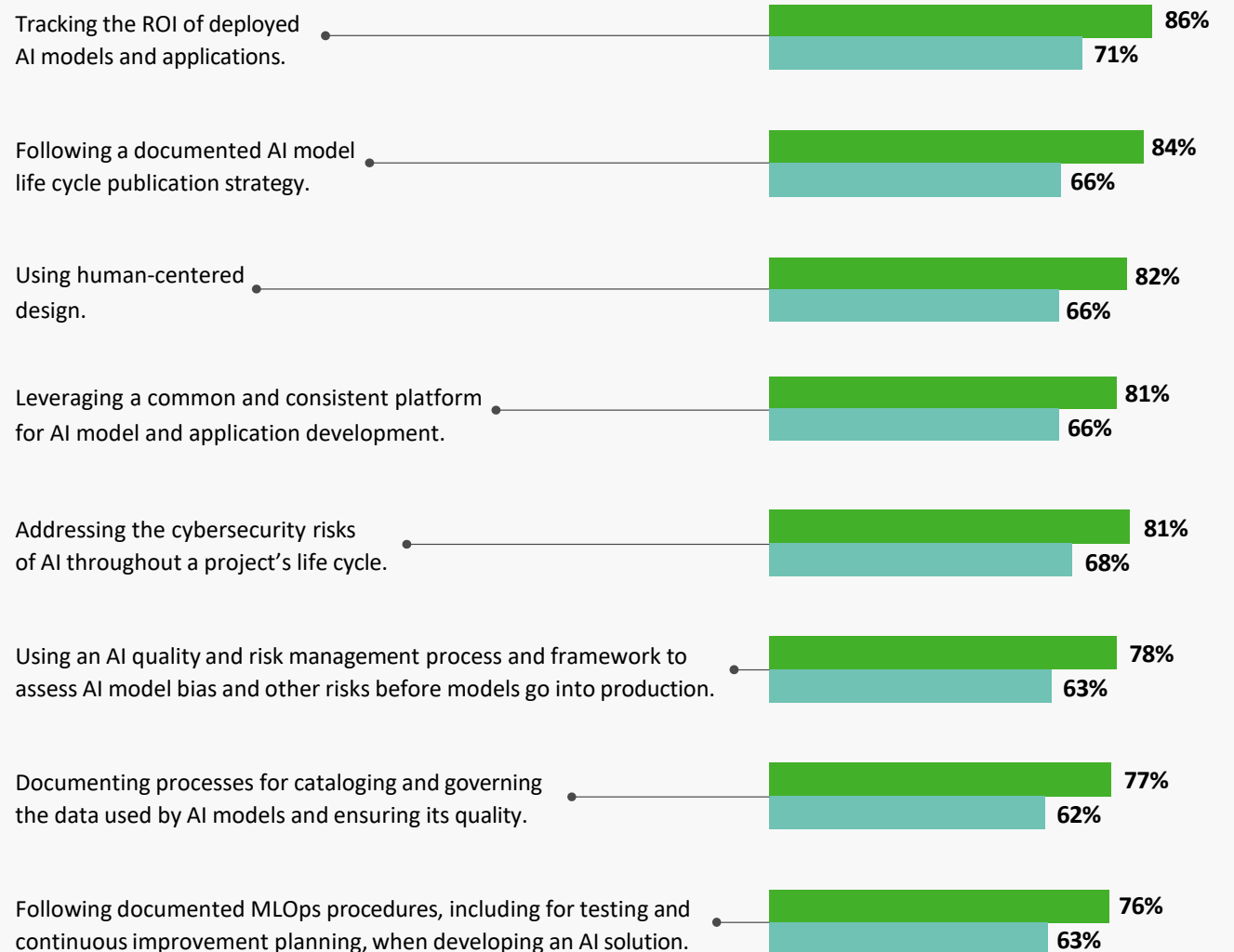
These findings suggest that taking and sustaining these and other similar actions may result in better AI outcomes. Such is especially relevant given that a clear majority (60%) of surveyed organizations view AI solutions as strategically "very important" for their organizations' success, including more than 55% of surveyed low-outcome organizations.

High-outcome organizations include Transformers and Pathseekers, whereas low-outcome organizations include Starters and Underachievers.

Operations leading practices—High- vs. Low-outcome organizations
(Respondents selecting "Usually" or "Always")

Tracking the ROI of deployed AI models and applications. — 86% / 71%

Following a documented AI model life cycle publication strategy. — 84% / 66%

Using human-centered design. — 82% / 66%

Leveraging a common and consistent platform for AI model and application development. — 81% / 66%

Addressing the cybersecurity risks of AI throughout a project's life cycle. — 81% / 68%

Using an AI quality and risk management process and framework to assess AI model bias and other risks before models go into production. — 78% / 63%

Documenting processes for cataloging and governing the data used by AI models and ensuring its quality. — 77% / 62%

Following documented MLOps procedures, including for testing and continuous improvement planning, when developing an AI solution. — 76% / 63%

Q. To what degree does your organization adhere to the following AI practices?

High-outcome Low-outcome   N=2,620 respondents

"To be competitive, you have to challenge operations and processes."

– Group manager

Multinational engineering and technology company

That includes how you are managing AI risk

Engaging in specific risk-mitigation steps can also help drive better outcomes. Our survey found that risks around lack of explainability and transparency in AI decisions, data privacy or consent mismanagement, and safety concerns about AI systems, among others, all loom large as ethical risks that concern organizations.

To that end, organizations typically achieve better outcomes when they adopt an ethical AI framework that aligns with Trustworthy AI principles. Across all attributes in the survey, high-outcome organizations tend to have more of these operational processes in place, which helps to increase confidence that their AI solutions are meeting ethical and quality standards.

Managing these risks can have a major impact on an organization's AI efforts:

- 50% of respondents cited management of AI-related risks as one of the top inhibitors to scaling AI projects.
- Still, only 33% of respondents have aligned their AI risk management with the organization's broader risk management efforts.
- However, 33% of high-outcome surveyed organizations and 29% of low-outcome surveyed organizations do engage outside vendors to independently audit their AI systems.

By and large, surveyed organizations rely heavily on training as a key to mitigating AI risk. In fact, respondents' top two risk mitigation strategies are training AI developers to recognize and resolve AI ethical issues (35%) and training / supporting employees to foster productive, positive relationships to AI (34%).

Risk mitigation strategies—
High- vs. Low-outcome organizations

Training practitioners who build AI systems how to recognize and resolve ethical issues around AI

High-outcome **32%**
Low-outcome **37%**
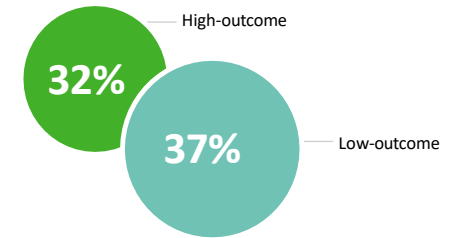
Providing training / support to help employees foster productive, positive relationships to AI

High-outcome **34%**
Low-outcome **34%**
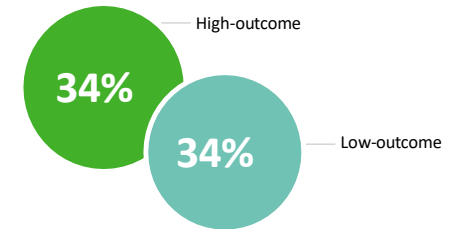
Collaborating with external parties on leading practices around AI ethics

High-outcome **34%**
Low-outcome **33%**
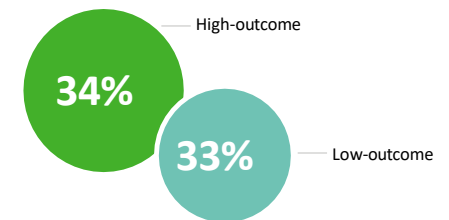
N=2,620 respondents

Q. What is your organization currently doing to actively manage the risks around your AI implementations?

Action 3:
Orchestrate tech
and talent

Technology and talent acquisition come together in the era of AI

- Organizations should make their AI technology and talent investments in tandem, looking at each as a source of critical skill sets—their unified human and machine workforce.

- This is a major challenge. The shortage of skilled talent is well understood. AI training sets have helped alleviate this challenge, but what truly differentiates an organization and helps drive its success lies in its ability to bring *and retain* qualified talent in-house.

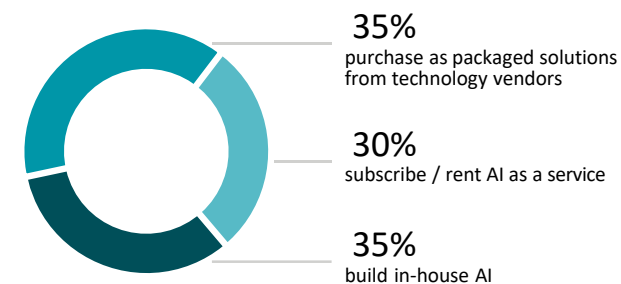- This appears to drive a pattern as organizations mature: Organizations early in their AI journeys tend to bring in external talent—either through acquisition of smaller companies with ready AI talent or through targeted hiring. They also typically rely on external partners / vendors. However, once a baseline of AI talent is established within the organization that AI-skilled in-house talent can train existing personnel, which can help the company more effectively implement ecosystem solutions and work with external partners.

- Consistent with this, it appears a significant majority of the survey respondents acquire AI as a product or service (65%) rather than attempting to build their own AI solutions in-house (35%), leaning particularly on off-the-shelf solutions at the beginning of their journeys. Co-development also remains a common practice for AI solutions, with organizations teaming up with their vendors to create customized systems and processes. Since AI is still an emerging technology, many vendors continue to offer kit-like platforms rather than fully baked solutions.

- While early entrants may have found implementing off-the-shelf solutions enough to differentiate themselves five years ago, the increasing maturity of the market is spurring organizations to develop and train more customized in-house solutions that offer greater differentiation. Survey data bore this out: Organizations with more years of AI implementation experience tend to be more likely to try building their own AI solutions, while organizations with fewer years under their belt depend on packaged solutions.

- This convergence of technology and talent has opened up many questions about how these more vertical capabilities and solutions sit within an organization. In the last two years of the survey data, it appears there is no consensus yet on which models drive stronger outcomes. But it is an important question for organizations to entertain as they scale their AI implementations.

Acquiring AI talent

53% — Hiring experienced professionals with AI skills

34% — Re-training internal resources on AI

Acquiring AI solutions

35% purchase as packaged solutions from technology vendors

30% subscribe / rent AI as a service

35% build in-house AI

N=2,620 respondents

Q1. For your organization's AI initiatives, where do your AI skills primarily come from?

Q2. Does your organization build its AI systems internally, consume AI as a service (subscribe or rent), or buy AI technology as a product from vendors?

Action 3: Orchestrate tech and talent

Hiring experienced AI professionals is most common source of AI skills

Primary source of AI skills for AI initiatives

Hiring experienced professionals with AI skills	**53%**
Acquiring companies with experienced AI talent (non-govt. only)	**39%**
Re-training internal resources on AI	**34%**
Existing internal resources who are already trained in AI	**28%**
Hiring new graduates with AI skills	**25%**
Partnerships with other companies that have AI experts	**14%**
Professional service firms, consultants and other third parties that have AI expertise	**8%**

Q. For your organization's AI initiatives, where do your AI skills primarily come from?

N=2,620 respondents   State of AI in the Enterprise 5th Edition

AI & job roles

AI has profoundly influenced job roles in the organization.

% of respondents who say job roles are changing due to AI implementations, in the following ways:
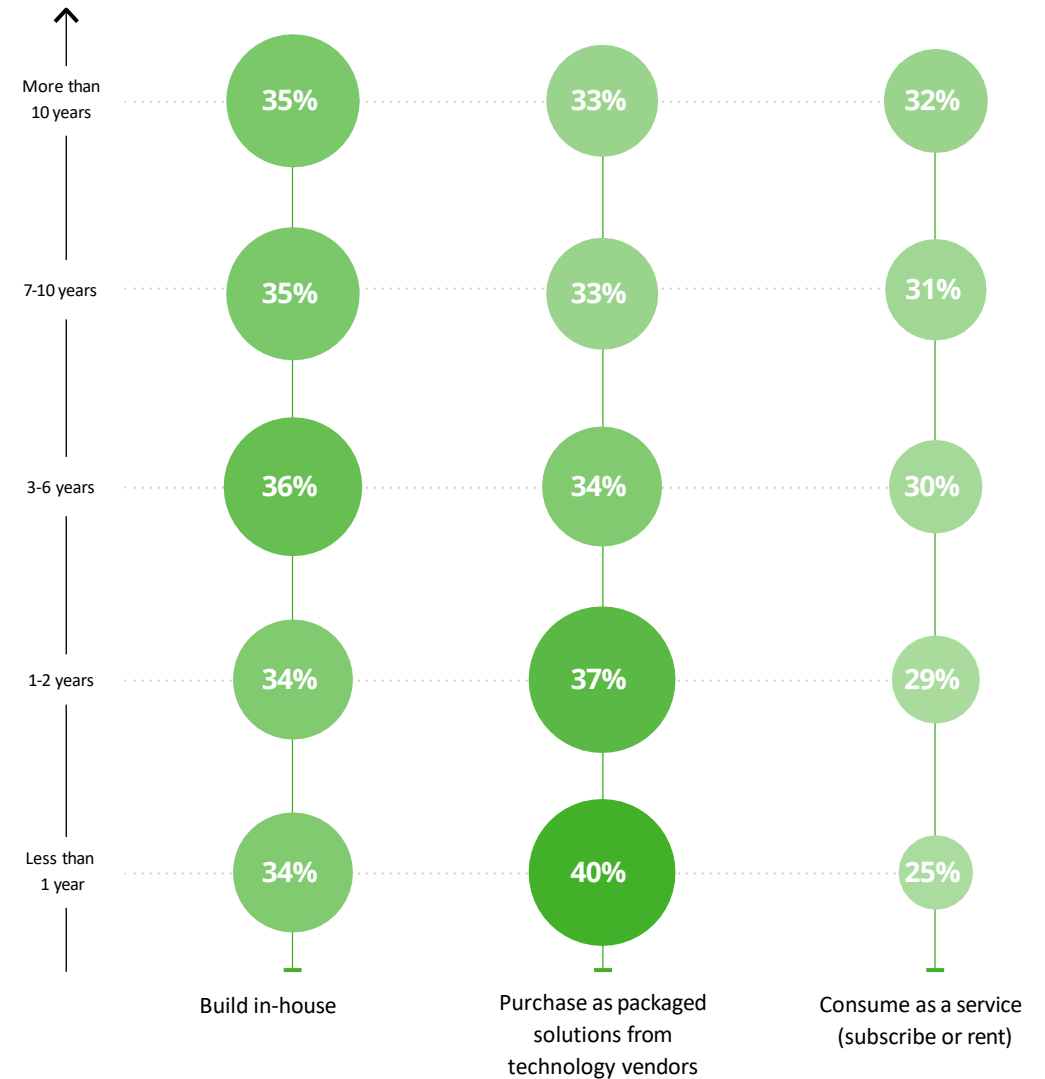

We are hiring new talent specifically for their AI expertise	48%
We have created new AI job roles/ functions to maximize AI advancements	47%
We encourage a wide range of employees to create their own AI with low code/no code AI	46%
We have established an AI center of excellence to help departments gain more AI expertise	42%
We use AI to coach employees in how to do their jobs more effectively	36%
Interaction with AI is the domain of a few, highly specialized employees	27%
We use AI to support employees in making decisions that previously needed to be approved by managers	25%
We have reduced overall employee headcount because AI has replaced many jobs	9%
We are not seeing significant changes in our workforce due to AI	2%

Q. To what extent are job roles in your organization changing as a result of the implementation of AI?

N=2,620 respondents

"If you are just starting with AI, then of course these will be outside experts because you don't have that inside your company. Once you have the seniors who can teach others, then you can build this up within the organization as well."
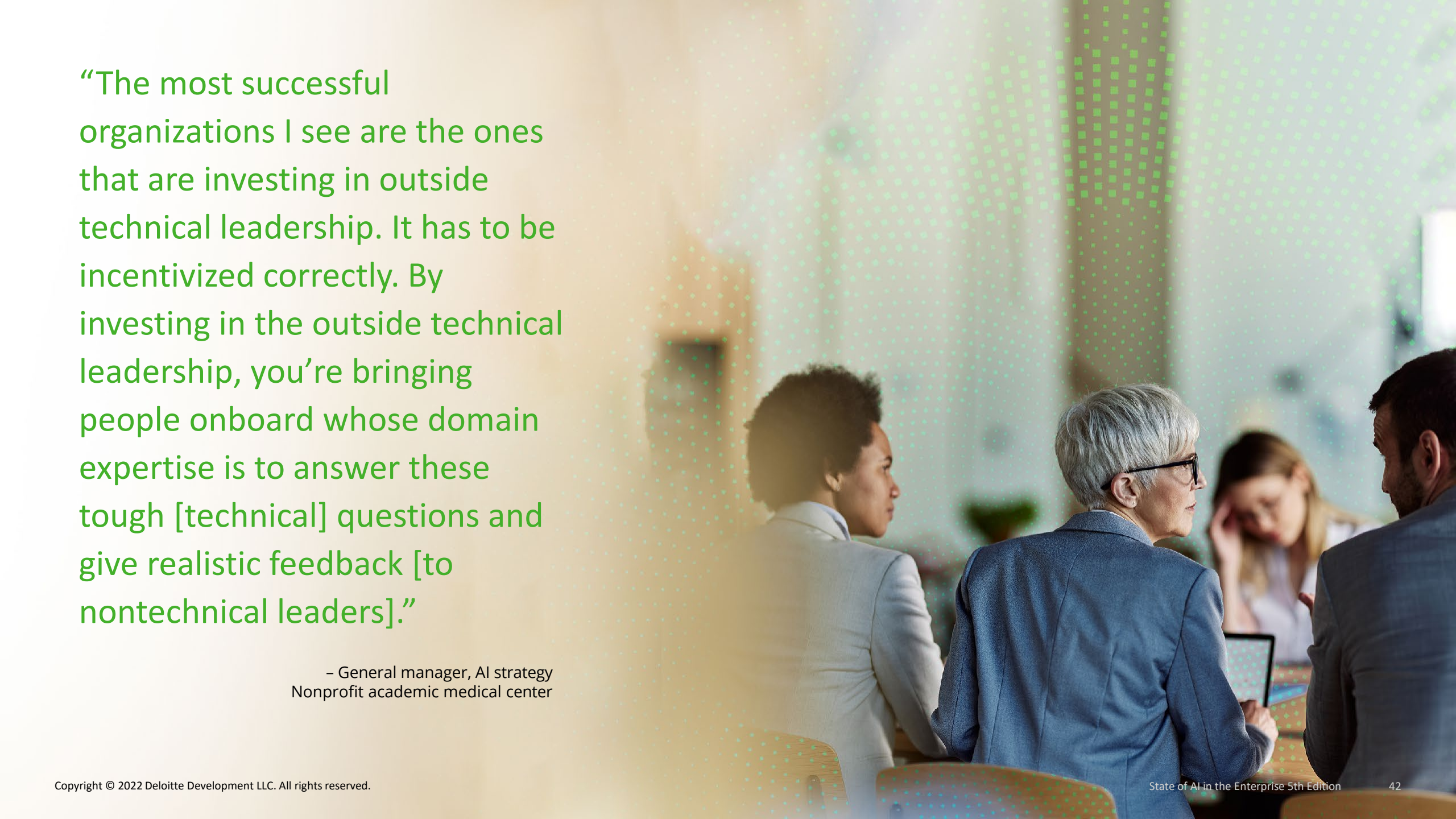
– Head of machine learning
Multinational automotive parts manufacturer

Acquiring AI solutions by AI experience

N=2,620 respondents

	Build in-house	Purchase as packaged solutions from technology vendors	Consume as a service (subscribe or rent)
More than 10 years	35%	33%	32%
7-10 years	35%	33%	31%
3-6 years	36%	34%	30%
1-2 years	34%	37%	29%
Less than 1 year	34%	40%	25%

Q. Does your organization build its AI systems internally, consume AI as a service (subscribe or rent), or buy AI technology as a product from vendors?

"The most successful organizations I see are the ones that are investing in outside technical leadership. It has to be incentivized correctly. By investing in the outside technical leadership, you're bringing people onboard whose domain expertise is to answer these tough [technical] questions and give realistic feedback [to nontechnical leaders]."

– General manager, AI strategy
Nonprofit academic medical center

Action 4:
Select use cases
that accelerate
value

How you start your AI journey can determine where it ends

The choices companies make about which use cases to pursue first could set the trajectory for how quickly and to what degree they will achieve successful outcomes and gain momentum through early efforts.

On the one hand, focusing on use cases that are too challenging or have very long-term or small benefits can reduce a company's enthusiasm to invest more, stifling further innovation and slowing down the transformational changes that AI can bring. On the other hand, starting with use cases that are easier to achieve—or have a proportionally faster or higher return on investment—can create momentum for further investment and make it easier to drive internal cultural and organizational changes that accelerate the benefits of AI.

The processes, practices and regulatory contexts specific to each industry have a large influence on the way that companies in different industries pursue AI investments, and the degree to which the insights from AI are integrated into decision-making:

- Life sciences and health care surveyed companies are the most likely to delegate ownership over AI models to individual lines of business (51%) while technology, media and telecommunications surveyed companies are most likely to centralize this ownership (42%).
- Energy, resources and industrials surveyed companies are most likely to use AI to assist in decision-making at the highest levels of the company (50%), while government is least likely to do so (39%).
- And, technology, media and telecommunications surveyed companies are most likely to have key performance indicators specific to individual AI models (39%), while energy, resources and industrials surveyed companies are least likely to do so (23%).

Top process currently using AI in operational / day-to-day use, per industry

Consumer:
Safety and quality (46%)

Life sciences and health care:
Cloud pricing optimization (47%)

Energy, resources and industrials:
Cloud pricing optimization (46%)

Technology, media and telecommunications:
Cloud pricing optimization (48%)

Financial services:
Voice assistants, chatbots and conversational AI (42%)

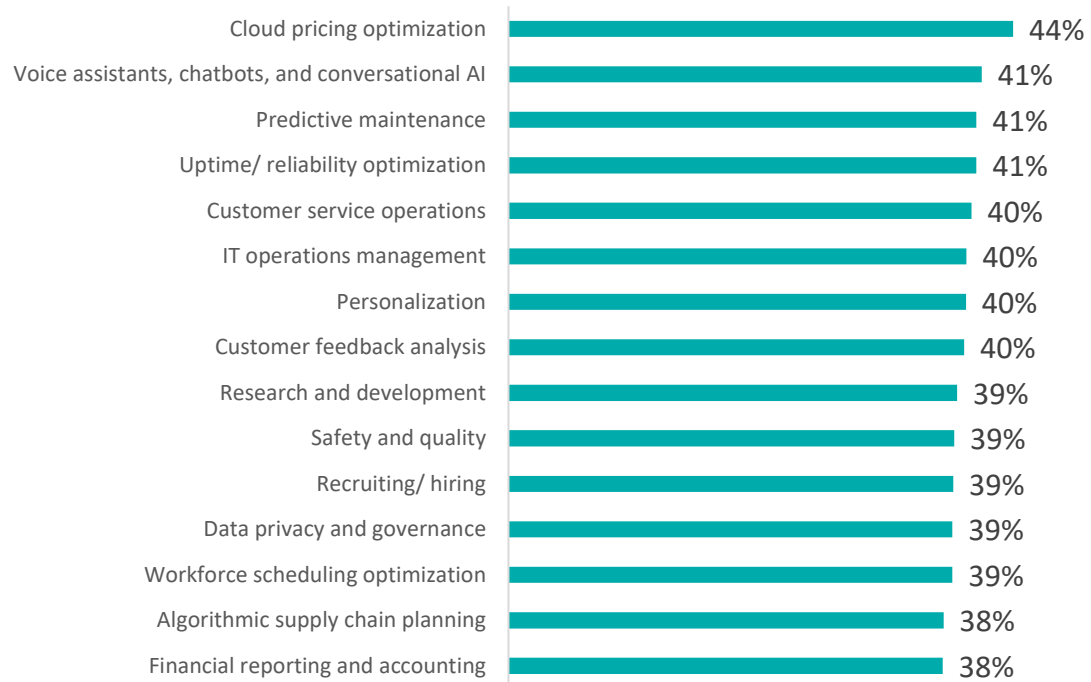**Government and public services:**
Predictive maintenance (43%)

Q1. You mentioned that your organization has one or more existing implementations of artificial intelligence software in place today. Please indicate which of the following processes are using artificial intelligence in your organization.

Q2. You indicated that your organization is part of the industry. Please indicate if artificial intelligence is being used to enable any of the following key industry processes.

Action 4: Select use cases that accelerate value

Overall: Use cases

Processes currently using AI in operational / day-to-day use (Top 15)

Process	%
Cloud pricing optimization	44%
Voice assistants, chatbots, and conversational AI	41%
Predictive maintenance	41%
Uptime/ reliability optimization	41%
Customer service operations	40%
IT operations management	40%
Personalization	40%
Customer feedback analysis	40%
Research and development	39%
Safety and quality	39%
Recruiting/ hiring	39%
Data privacy and governance	39%
Workforce scheduling optimization	39%
Algorithmic supply chain planning	38%
Financial reporting and accounting	38%

Q1. You mentioned that your organization has one or more existing implementations of artificial intelligence software in place today. Please indicate which of the following processes are using artificial intelligence in your organization.

Q2. You indicated that your organization is part of the industry. Please indicate if artificial intelligence is being used to enable any of the following key industry processes.

N=2,620 respondents

Organizational AI strategies

Agreement with statements (% selecting "Strongly agree")

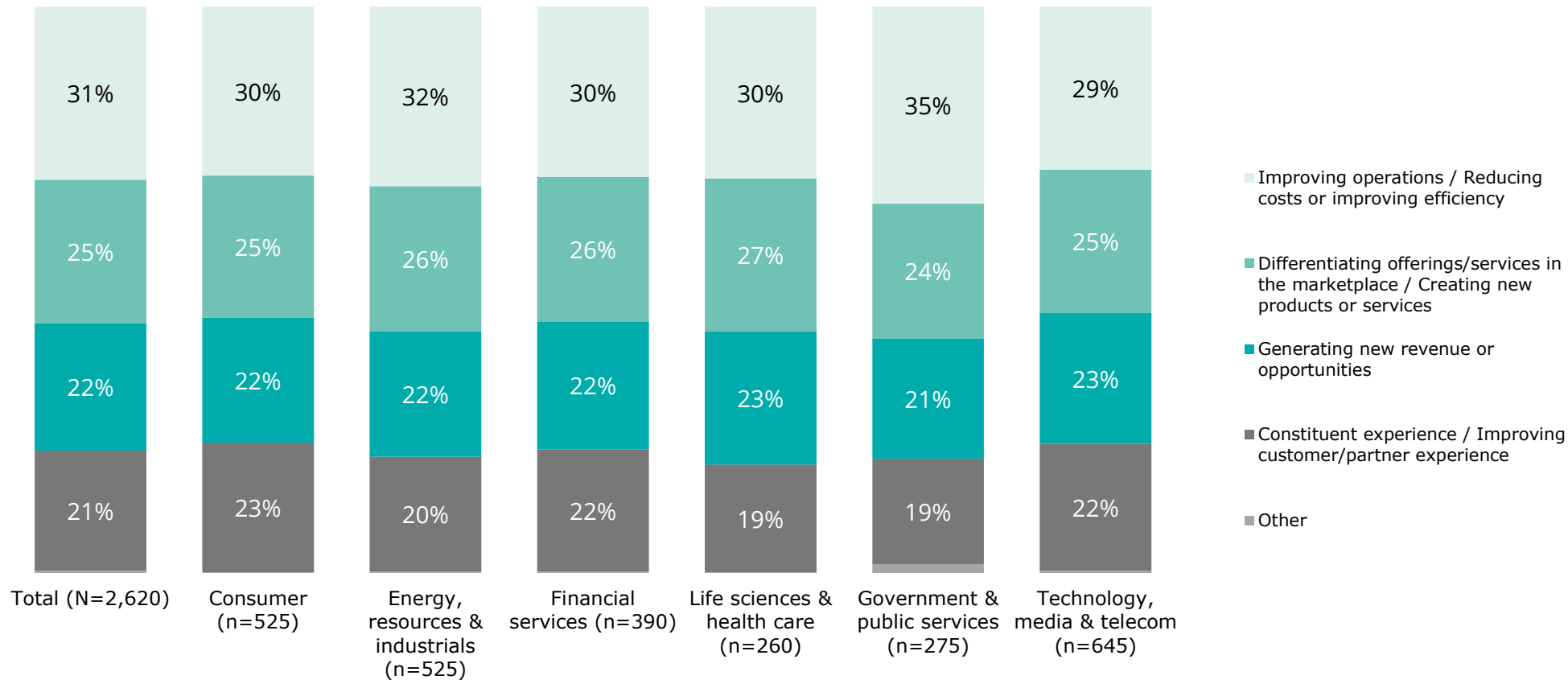|	Total (N=2,620)	Consumer (n=525)	Energy, resources and industrials (n=525)	Financial services (n=390)	Life sciences and health care (n=260)	Government and public services (n=275)	Technology, media and telecom (n=645)
My organization's senior leaders communicate a vision for AI that will significantly change how we operate.	48%	45%	51%	49%	44%	47%	48%
My organization's use of AI differentiates us from our competitors.	46%	41%	51%	48%	41%	48%	47%
My organization's senior leaders have communicated our AI strategy to our [constituents / shareholders and investors].	43%	46%	46%	40%	42%	39%	43%
My organization has an [enterprise / agency]-wide AI strategy integrated with its overall corporate strategy.	40%	43%	38%	34%	28%	34%	48%

Max 51%

Min 28%

Q. Regarding AI initiatives at your organization, how much do you agree or disagree with each of the following statements?

Action 4: Select use cases that accelerate value

Goals of AI investments

Across industries, AI is being used primarily for operational efficiency and product and service differentiation.

Average breakdown of AI investments

	Total (N=2,620)	Consumer (n=525)	Energy, resources & industrials (n=525)	Financial services (n=390)	Life sciences & health care (n=260)	Government & public services (n=275)	Technology, media & telecom (n=645)
Improving operations / Reducing costs or improving efficiency	31%	30%	32%	30%	30%	35%	29%
Differentiating offerings/services in the marketplace / Creating new products or services	25%	25%	26%	26%	27%	24%	25%
Generating new revenue or opportunities	22%	22%	22%	22%	23%	21%	23%
Constituent experience / Improving customer/partner experience	21%	23%	20%	22%	19%	19%	22%

Q. What percentage of your AI investments are focused on improving operations (e.g., manufacturing, customer service, marketing) vs. being built into your core [service / products or services to differentiate your offerings in the marketplace]?

Methodology

Methodology

To obtain a global view of how AI is transforming organizations, Deloitte surveyed 2,620 IT and line-of-business global leaders between April and May 2022. Thirteen countries were represented: Australia (100 respondents), Brazil (115 respondents), Canada (175 respondents), China (200 respondents), France (130 respondents), Germany (150 respondents), India (200 respondents), Israel (75 respondents), Japan (100 respondents), Singapore (100 respondents), South Africa (75 respondents), the United Kingdom (200 respondents), and the United States (1,000 respondents). All participating companies have adopted AI technologies and are AI users. Respondents were required to meet one of the following criteria: responsible for AI technology spending or approval of AI investments, developing AI technology strategies, managing or overseeing AI technology implementation, serving as an AI technology subject matter specialist, or making or influencing decisions around AI technology.

To complement the blind survey, Deloitte conducted qualitative telephone interviews with 15 AI specialists from various industries.

Analysis model: In line with our previous report, we developed an analysis model defining four profiles of organizations based on the frequency of full-scale AI deployments and the outcomes achieved through AI initiatives. For full-scale AI deployments, we calculated the cumulative frequency of respondents who selected "deployed" (achieved at least one full-scale deployment) among the 0–14 types of AI applications. Similarly, we calculated cumulative frequency by counting the number of outcomes achieved to a "high degree" among the 0–19 potential outcomes achieved by respondents. This established the following profile groups of respondents:

Country	N	%
United States	1,000	38%
China	200	8%
India	200	8%
United Kingdom	200	8%
Canada	175	7%
Germany	150	6%
France	130	5%
Brazil	115	4%
Australia	100	4%
Japan	100	4%
Singapore	100	4%
Israel	75	3%
South Africa	75	3%

Industry

Technology, media and telecommunications — 25%

Consumer — 20%

Energy, resources, and industrials — 20%

Financial services — 15%

Government and public services — 10%

Life sciences and health care — 10%

Transformers: (27%, N=707) have achieved five or more high full-scale AI deployments and at least five outcomes to a high degree in their AI initiatives. They are considered the leader group, the most "AI-fueled," within our survey respondents.

Pathseekers: (24%, N=616) have achieved fewer than five high full-scale AI deployments but still achieved at least five outcomes to a high degree through their AI initiatives.

Underachievers: (22%, N=570) have achieved five or more high full-scale AI deployments but still achieved fewer than five outcomes to a high degree through their AI initiatives.

Starters: (28%, N=727) are still developing or exploring AI deployments and have achieved fewer than five full-scale AI deployments. They have achieved fewer than five outcomes to a high degree through their AI initiatives.

N=2,620 respondents

Deloitte.

Sources
1. David De Cremer and Garry Kasparov, "AI should augment human intelligence, not replace it," Harvard Business Review, March 18, 2021.
2. Jeff Schwartz, John Hagel III, and Maggie Wooll, *Redefining work for new value*, Deloitte Insights, December 5, 2019.