White paper

Are Organizations Succeeding at AI and Machine Learning?

Solve

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Did you know that less than 20% of companies wanting great AI and machine learning are actually mature in those? That leaves around 80% still exploring or struggling to make it happen. As AI and machine learning become a staple of modern business, organizations are looking to jump on board. However, defining the right initiatives and measuring clear ROI for AI and machine learning projects is challenging. To find out how organizations are approaching these initiatives, we conducted a global study in December 2020 and January 2021. The study surveyed 1,870 IT leaders in a variety of industries, including manufacturing, finance, retail, government and healthcare across the Americas, Europe, Asia and the Middle East. The survey covered AI and machine learning adoption, usage, benefits, impact and future plans.

In this report, we will discuss the main takeaways, insights and implications from the data we've collected. For businesses starting or struggling to implement AI and machine learning initiatives, this data gives an inside look into potential benefits and pitfalls. Looking at the results, three action steps stand out:

1. **Fill all skills gaps:** Respondents consistently listed expertise, lack of skills and finding talent as hurdles. Before starting your program, assess your in-house skills and determine whether you can fill the necessary roles, are able to re-skill your team or need to enlist an experienced provider.

2. **Address data quality:** An AI and machine learning program requires clean, integrated data. The first step in a successful AI and machine learning program is cleaning up your data and data processes, which includes setting definitions, eliminating data silos, establishing governance and aligning business processes.

3. **Strategy first:** Without solid goals, a roadmap and organizational buy-in, your AI and machine learning journey could waste a lot of money and resources and never become production-ready. Start by gathering the major stakeholders, presenting a strong business case and gaining consensus on deliverables, milestones and timelines to keep your project on track.

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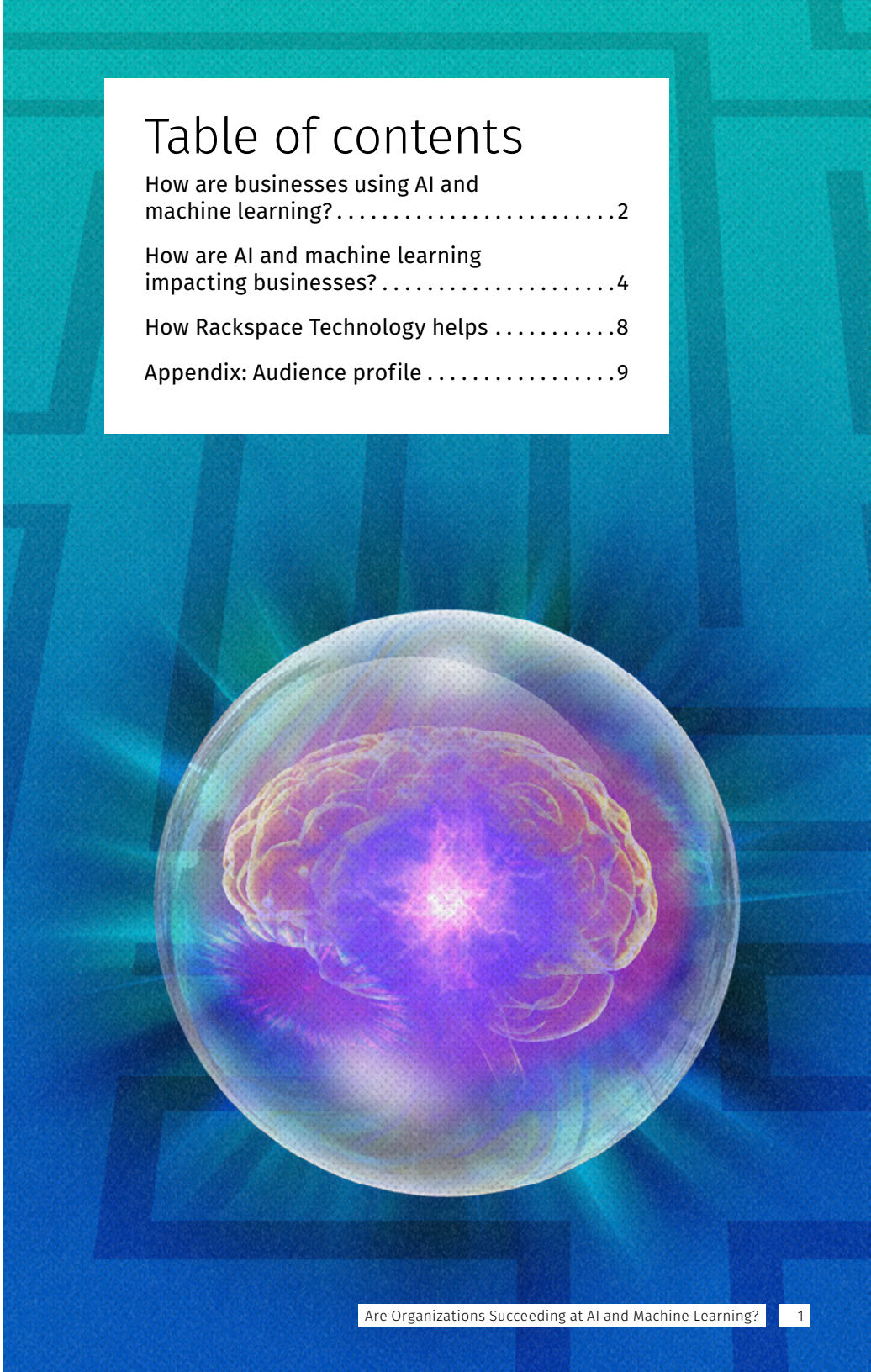
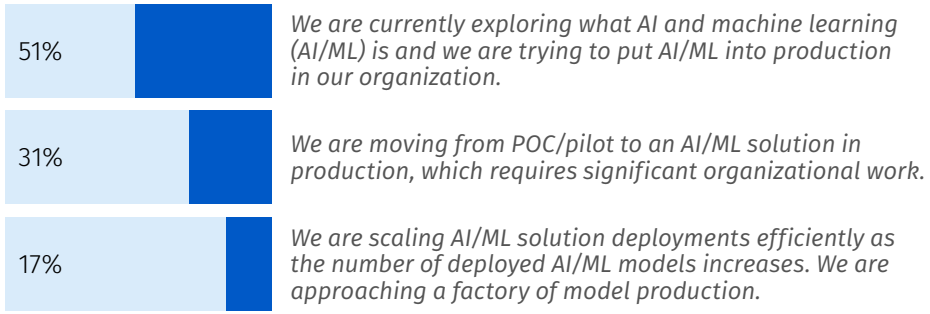
Table of contents



How are businesses using AI and machine learning?

Only 17% of respondents report mature AI and machine learning capabilities with a MLOps framework in place. However, the majority of respondents (82%) are still exploring how to implement AI or struggling to operationalize AI and machine learning models. (Figure 1)

Level of AI and machine learning adoption maturity [Figure 1]

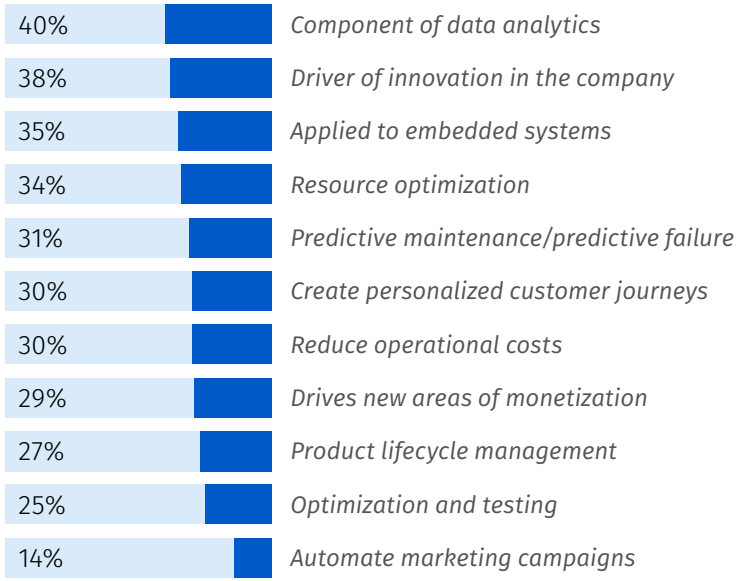


We found that companies are spending an average of $1.06M per year on AI and machine learning initiatives. That spend is spread across the organization on current and planned projects to grow revenue, drive innovation, increase productivity and enhance user experience.

$1.06M: What the average company spends annually on AI and machine learning initiatives

The most common ways that businesses report using AI and machine learning functionality are: as a component of data analytics (40%), a driver of innovation (38%) and through its application to embedded systems (35%). (Figure 2) These point to the need for businesses to innovate and drive differentiation, and illustrate how AI and machine learning technologies can be used to drive an innovation engine.

Current use of AI and machine learning [Figure 2]



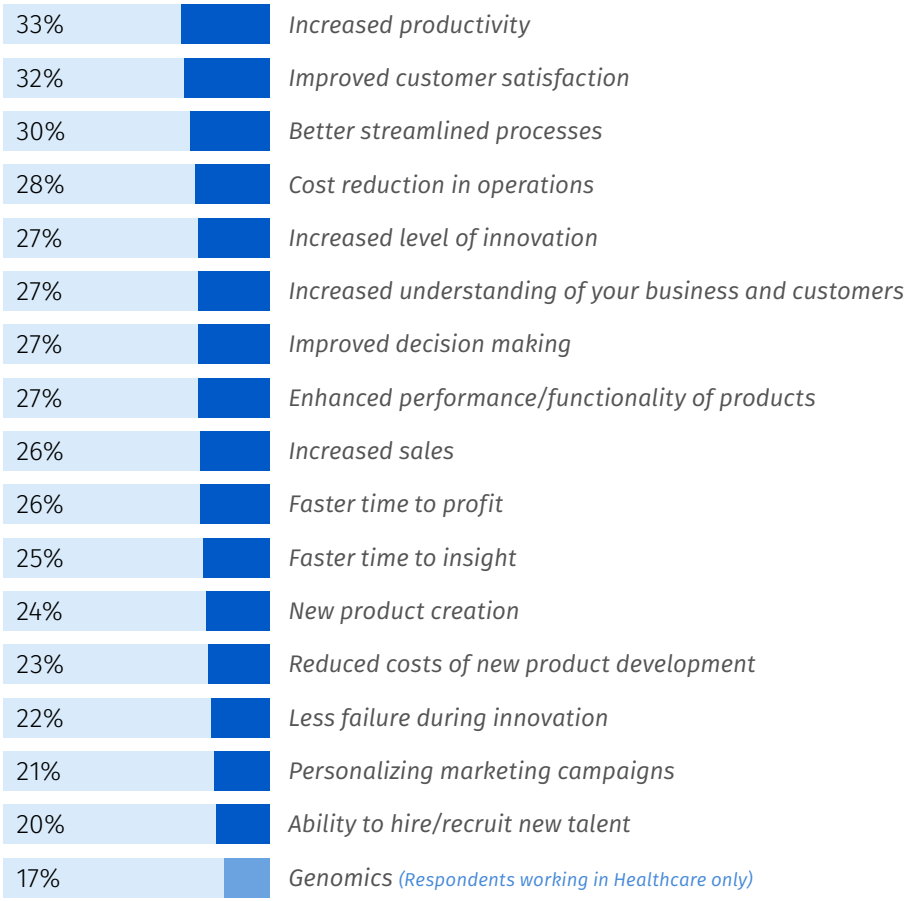
That spend is also supporting upcoming AI and machine learning initiatives. AI and machine learning projects currently in the planning phase lean more toward customer experience enhancements, with four of the top ten ranked areas specifically focused on improving customer relationships: offering new services (38%), understanding customers better (36%), delivering personalized content for our customers (33%) and understanding the effectiveness of our content marketing channels and content (29%). (Figure 3)

Current plans for using AI and machine learning [Figure 3]

How are AI and machine learning impacting businesses?

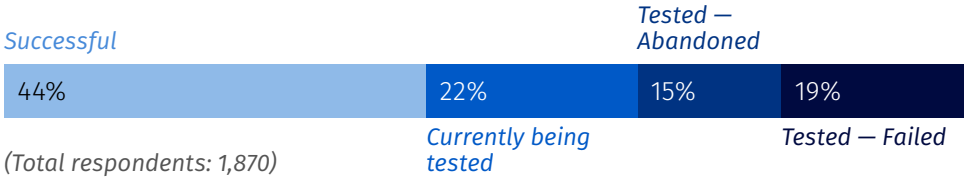
Organizations that have successfully implemented AI and machine learning programs report increased productivity (33%) and improved customer satisfaction (32%) as the top benefits. (Figure 4)

Benefits of AI and machine learning [Figure 4]



44% of respondents report that their AI and machine learning R&D efforts have been successful. However, 34% report R&D that has been tested and abandoned or failed. (Figure 5)

Success of AI and machine learning R&D [Figure 5]



The failures underscore the complexities of building and running a productive AI and machine learning program. More than just implementing an application, successful AI and machine learning initiatives tie together a complex ecosystem of data, business processes and new skill sets. It's no surprise that the top causes for failure speak equally to both technical factors (34%) and human factors (34%). (Figure 6)

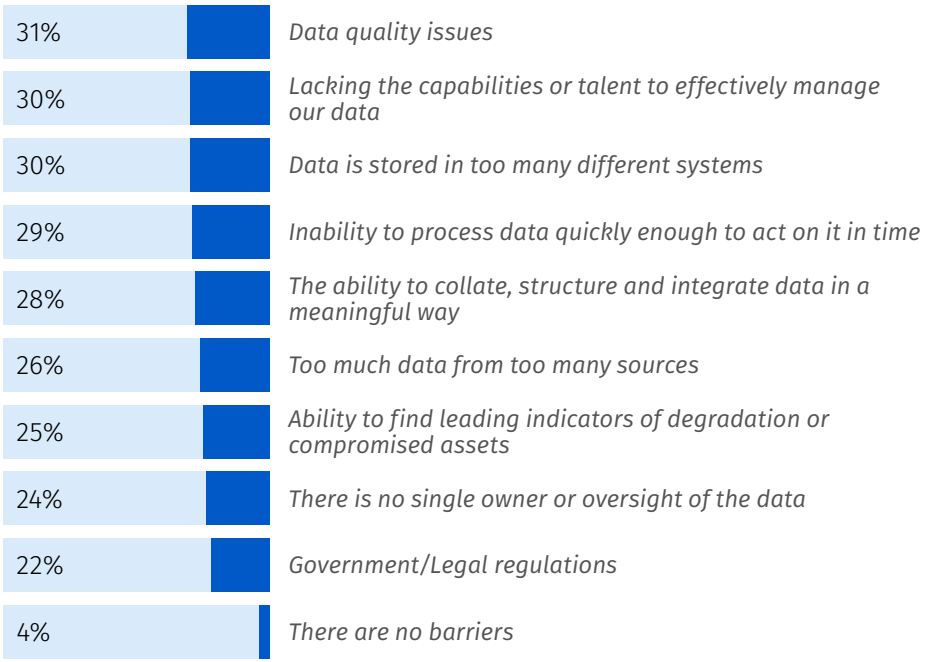
Reasons for AI and machine learning R&D failures [Figure 6]

When evaluating the success or failure of AI and machine learning projects, more than half of respondents consider revenue growth a leading KPI. (Figure 7) Along with the difficulty of deploying AI and machine learning projects comes the difficulty of measurement. Monetary measures likely rise to the top because metrics, like process improvement and time to insight, are more difficult to calculate, yet more closely reflect the true value of real-time AI and machine learning capabilities.

KPIs used to measure success [Figure 7]

At the heart of any AI and machine learning project is the desire to generate and act on insights from data. However, data quality and management challenges have historically plagued organizations, and these same challenges often stand in the way of AI and machine learning adoption. Organizations identified a number of issues preventing access to actionable insights, with data quality (31%), technical capabilities and talent (30%), and disparate data silos (30%) topping the list. (Figure 8)

Barriers to actionable insights [Figure 8]

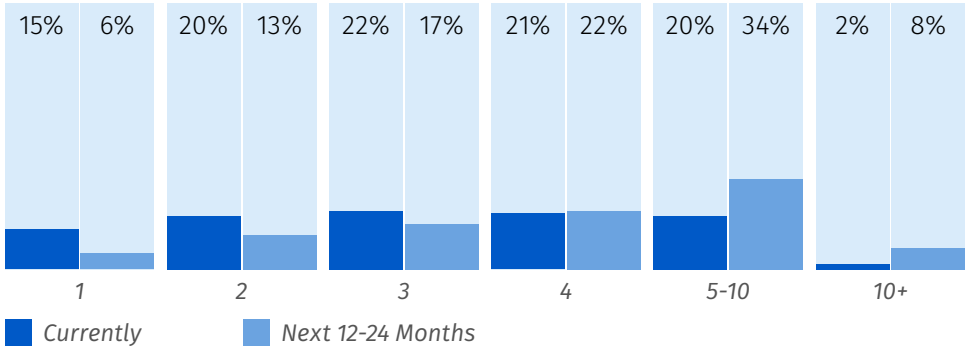


These barriers fall mainly into the categories of data hygiene, governance and processes. Organizations going into AI and machine learning projects without plans to complete the requisite work around cleaning up data and streamlining governance and management are often destined to fail. AI and machine learning can help companies leverage data for innovative new use cases, but they can't inherently clean up dirty data or realign data collection and governance policies.

What's the vision for AI and machine learning?

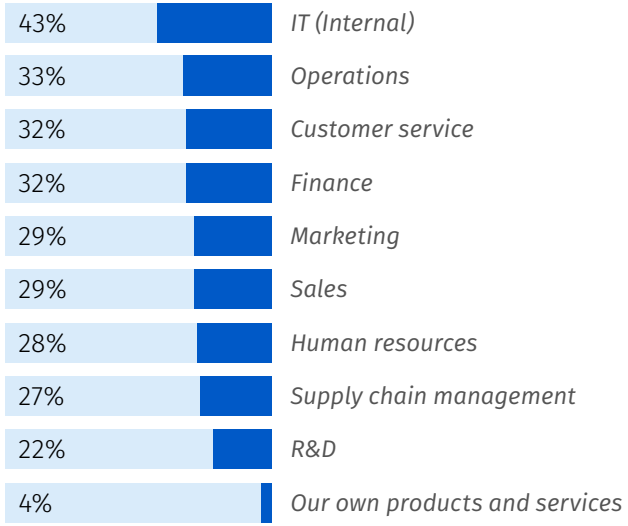
On average, respondents have four AI and machine learning R&D projects in place now. Just over one third (34%) of respondents project launching up to ten AI and machine learning projects over the next two years. (Figure 9)

Current AI and machine learning projects [Figure 9]



As organizations look to the future, IT and operations are the leading areas where they plan on adding AI and machine learning capabilities. The data reveals that organizations see AI and machine learning potential in variety of business units.

Planned use of AI and machine learning [Figure 10]



The challenges around integrating AI and machine learning into future projects align closely to the reasons for AI and machine learning failures mentioned above. Talent and data quality pose challenges throughout the journey, from R&D through planning and operationalization. (Figure 11)

Challenges on the AI and machine learning journey [Figure 11]

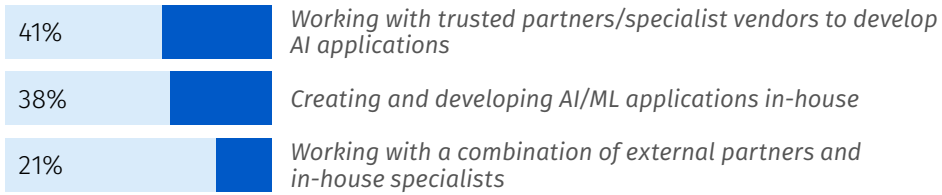
Organizational challenges in implementing AI and machine learning also center on talent acquisition, but span further into the IT department. Costs (26%), security (24%) and infrastructure (24%) were identified by about a quarter of respondents as the top obstacles, but human issues, like fear of job loss (19%) and executive buy-in (17%), also impact the journey. Strategic concerns, like identifying use cases (23%), aligning strategies (23%) and defining a business case (18%), reiterate the importance of starting with a strong plan when embarking on an AI and machine learning program. (Figure 12)

Now what? How can AI and machine learning efforts be successful?

Barriers to AI and machine learning adoption [Figure 12]

To address these obstacles, the majority of organizations (62%) are, to some degree, working with an experienced provider to navigate the complexities of AI and machine learning development. (Figure 13) Taking this route gives organizations access to expertise and technology that can accelerate development and increase the overall success of a project.

AI and machine learning algorithmic development [Figure 13]



A mature provider can bring everything from strategy to implementation to maintenance and support over time. Strategy can sidestep the areas where AI and machine learning efforts may lose momentum or get lost in complexity. Hands-on experts can also spare organizations from the messy work of cleanup and maintenance. Such expertise, taken together, can make all the difference in finally achieving success.

Implications for your AI and machine learning journey

For businesses starting or struggling to implement AI and machine learning initiatives, this data gives an inside look into potential benefits and pitfalls. Looking at the results, three action steps stand out:

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How Rackspace Technology helps

Rackspace Technology offers a portfolio of services to support your AI and machine learning journey — from data hygiene and business process transformation to operationalizing your data models. Our team of data scientists and cloud experts can help you deploy AI and machine learning for leading use cases such as:

- **Forecasting and prediction:** Use historical data to build models that predict future outcomes.
- **Machine vision:** Rely on images or video to collect data including tracking objects, detecting changes over time and facial recognition.
- **Language processing:** Involve speech or text including interpreting, translation and sentiment and keyword analysis.
- **Extended reality (XR):** Deploy advanced human-machine interfaces, such as chatbots or AR/VR/XR with real time-human interaction as a key element.
- **Anomaly & pattern detection:** Identify clusters of commonality or normal/anomalous distinctions such as segmentation and categorization.

About Rackspace Technology

Rackspace Technology is the multicloud solutions expert. We combine our expertise with the world's leading technologies — across applications, data and security — to deliver end-to-end solutions. We have a proven record of advising customers based on their business challenges, designing solutions that scale, building and managing those solutions, and optimizing returns into the future.

As a global, multicloud technology services pioneer, we deliver innovative capabilities of the cloud to help customers build new revenue streams, increase efficiency and create incredible experiences. Named a best place to work, year after year according to Fortune, Forbes, and Glassdoor, we attract and develop world-class talent to deliver the best expertise to our customers. Everything we do is wrapped in our obsession with our customers' success — our Fanatical Experience™ — so they can work faster, smarter and stay ahead of what's next.

Learn more at www.rackspace.com or call 1-800-961-2888.

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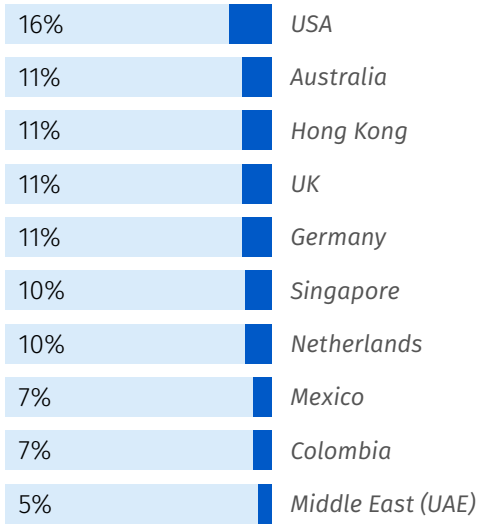
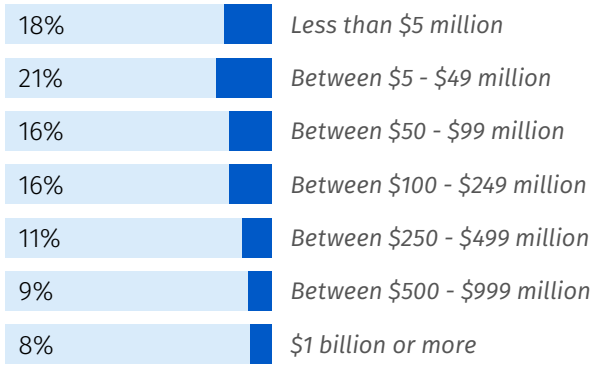
Appendix: Audience profile

Total respondents (1,870)

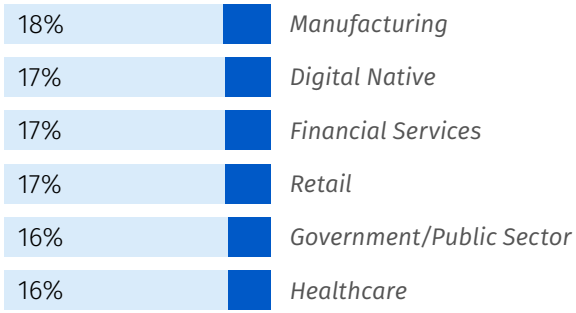
Country



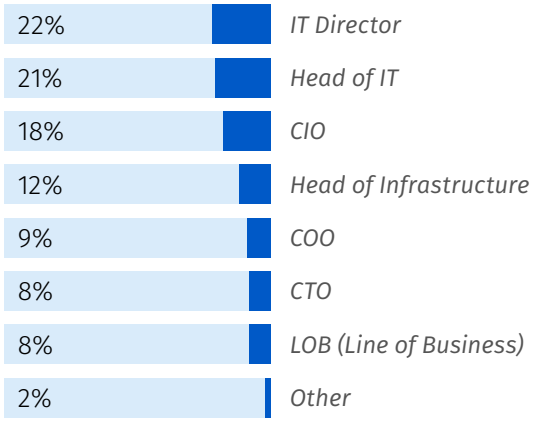
Annual revenue



Sector

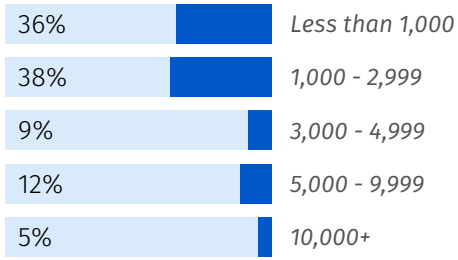


Job title



Decision making (with regard to AI/ML)

Number of employees



Average number of employees: 2,781

Awareness of AI (LOB respondents only)