

# AI Priorities

5 ways to go from reality check  
to real-world pay off

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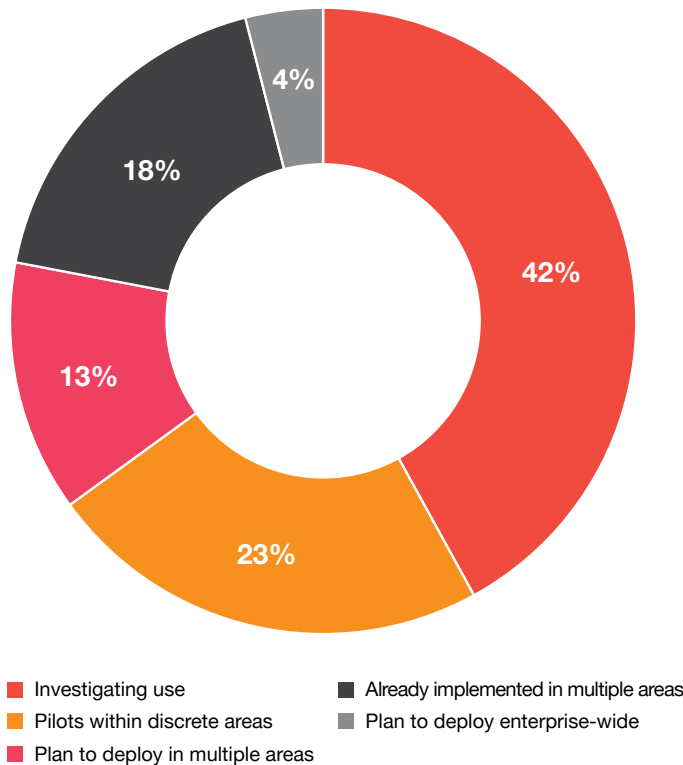


# 5 priorities for AI in 2020

## Five ways to go from reality check to real-world payoff

Is artificial intelligence (AI) really as hard as it seems? Getting a prototype script to run on a laptop is one thing, but wide-spread adoption and overhauling legacy systems is another. The answer to this question, according to business leaders, confirms that industrialising AI is less simple than they first thought. Our [PwC US colleagues](#) have put together their third annual AI Predictions report and illustrates that only 4% of executives surveyed stated they plan to deploy AI enterprise-wide in 2020. This is a significant shift compared to a year ago, where (perhaps optimistically) nearly 20% hoped to do the same.

### Fewer companies will pursue AI at scale in 2020



Q: How far along is your organisation with AI?  
Base: 1,062  
Source: PwC 2020 AI Predictions survey

The annual survey, reveals the primary reason for this retrenchment: the need to focus on fundamentals before enlarging AI projects.

Looking forward, these insights provide lessons in how business and technology executives are overcoming challenges, what their priorities are for AI progress, and how they expect to reap rewards. UK businesses are still focused on capturing the expected [£232 billion in AI gains](#) in the next decade, the vast majority of executives surveyed believe that AI offers more opportunities than risks, and nearly half are expecting AI to disrupt either their geographical markets, the sectors in which they operate, or both.

To support organisations making the right AI moves this year, we have created a list of suggested AI priorities. We predict the businesses that follow this blueprint will position themselves for a more transformative payoff in the years ahead.

# Here are your five AI priorities for 2020:

- 1. Get on board with boring AI**
- 2. Rethink upskilling**
- 3. Lead on risk with responsible and ethical AI**
- 4. Operationalise AI – integrated and at scale**
- 5. Reinvent your business model**



# 1 Get on board with boring AI

In 2020, much of AI's value will come from areas that may sound mundane: incremental but relentless productivity gains for in-house processes. Forty-four percent of survey respondents cited 'operate more efficiently,' and 42% cited 'increase productivity' among the top-three benefits they're expecting from AI investments. Yet, for your company's bottom line, automating routine tasks in administrative functions, such as [tax](#) and finance, is anything but boring. Companies can see remarkable savings from (for example) using AI to [extract information](#) from tax forms, bills of lading, invoices, and other documents that typically require long and tedious hours of human work.

## Top-five AI capabilities companies will cultivate



Q: Which of the following AI capabilities will be most important to your organisation in 2020. Rank 1-3  
Base: 1,062  
Source: PwC 2020 AI Predictions survey

Such quick wins are a good way to start, but AI can do much more, even when it comes to automating routine tasks (something 35% of executives said would be a key capability in 2020). A new breed of enterprise voice assistants, for example, can fundamentally change how people work – navigating myriad systems behind the scenes to quickly deliver needed information, prompting employees to complete tasks, and continually learning and improving.

Managing risk, fraud and cybersecurity, supporting decision-making, and gathering forward-looking intelligence (cited as top AI capabilities by 38%, 31% and 30% of survey respondents, respectively) are great examples of how AI can augment complex processes. This kind of 'practical AI' – ranging from chatbots to recommendation engines and advanced modeling methods for business processes and better decision-making – will become more widespread.

Soon, AI will go even further. When asked about the AI-related scenarios respondents considered among the top-three threats over the next five years, the answer was clear: a full 46% cited disruption, whether of their geographical markets or of the sectors in which they operate. Yet, when we asked which benefits they were hoping to achieve with AI, only 12% said they were planning to disrupt their own or other industries. In other words, nearly four times as many respondents fear disruption as plan to be disrupters themselves.

Considering the [size of the AI prize](#), the disruption of markets and industries is simply a matter of time – and the clock is ticking. So, companies that take the right steps to make AI payoffs a reality have an opportunity to use AI to create the disruption their competitors fear.

## Your 2020 to-do list

- 1. Be strategic.** Create an 'intake strategy' to identify where AI can have the greatest business impact, and build the capabilities (including [data](#) and [workforce](#)) that AI needs to succeed. Look for tasks that are common across the business so you can share scarce talent efficiently and develop reusable AI solutions.
- 2. Get organised.** To make sure that AI solutions really add value to your business, they must be well specified, effectively governed and capable of being integrated smoothly with existing systems. Businesses should create [centralised oversight](#) that covers not just AI, but data, analytics, and automation.
- 3. Set the metrics.** To support the adoption of AI (and other elements of the next digital revolution), create enterprise-wide KPIs that include measures of efficiency, effectiveness, and the disruption/innovation of existing business processes.

## Additional insights

[How AI will transform the CFO's role](#)

[A practical guide to responsible AI](#)

[Could robotics be the key to UK prosperity?](#)



## 2 Rethink upskilling

Upskilling is the new corporate mantra, and unless you're running an AI-only startup (and maybe even then), your workforce needs it. But the old kind of upskilling – offering learning opportunities focused on a siloed technology – is not enough to get your employees or your company ready for AI at scale.

True upskilling requires more than offering training courses. As executives in our survey recognised (50%), you also need to give immediate opportunities and incentives for people to **apply** what they've learned, so that knowledge turns into real-world skills that improve performance. [Transforming tech from threat to opportunity](#) with citizen-led approaches is the most effective way to teach tech competency like generating appropriate data sets, building a machine learning model, or using Python or R notebooks.

Companies also need **cross-skilling**: giving specialists in one area (such as data science) enough basic skills in another (such as corporate strategy) so they can speak each other's language. Such cross-skilling is critical not just for collaborating on AI-related challenges, but also for deciding which problems AI can solve. Your teams should be 'multilingual,' integrating multiple tech and non-tech skills.

While the trend of democratising AI – making it accessible to your entire workforce – is a positive one, data scientists and AI specialists will still need to maintain expert supervision and control in areas such as AI model development and training, data and model governance, and engineering for production. Thirty-eight percent of survey respondents said they are implementing credentialing programmes for data scientists and more advanced AI skills.

### Building an AI-ready workforce starts with a citizen-led approach to upskilling



Q: How is your organisation planning for how the nature of work will change as a result of AI in 2020. Rank 1-3

Base: 1,062

Source: PwC 2020 AI Predictions survey

## Your 2020 to-do list

### 1. Plan to offer opportunities.

Most of what companies call 'upskilling' is really just 'up-knowledging.' Turning knowledge into performance that benefits the business requires first identifying what skills are needed, then giving employees opportunities (including a digital platform) to apply, perfect, and share what they've learned.

### 2. Create a citizen-led culture.

That comes from business leaders setting direction and goals, then standing back: giving employees the tools, platform and incentives (through both compensation and recognition) to learn skills then use them in new ways to perform their work.

### 3. Set a multilingual target.

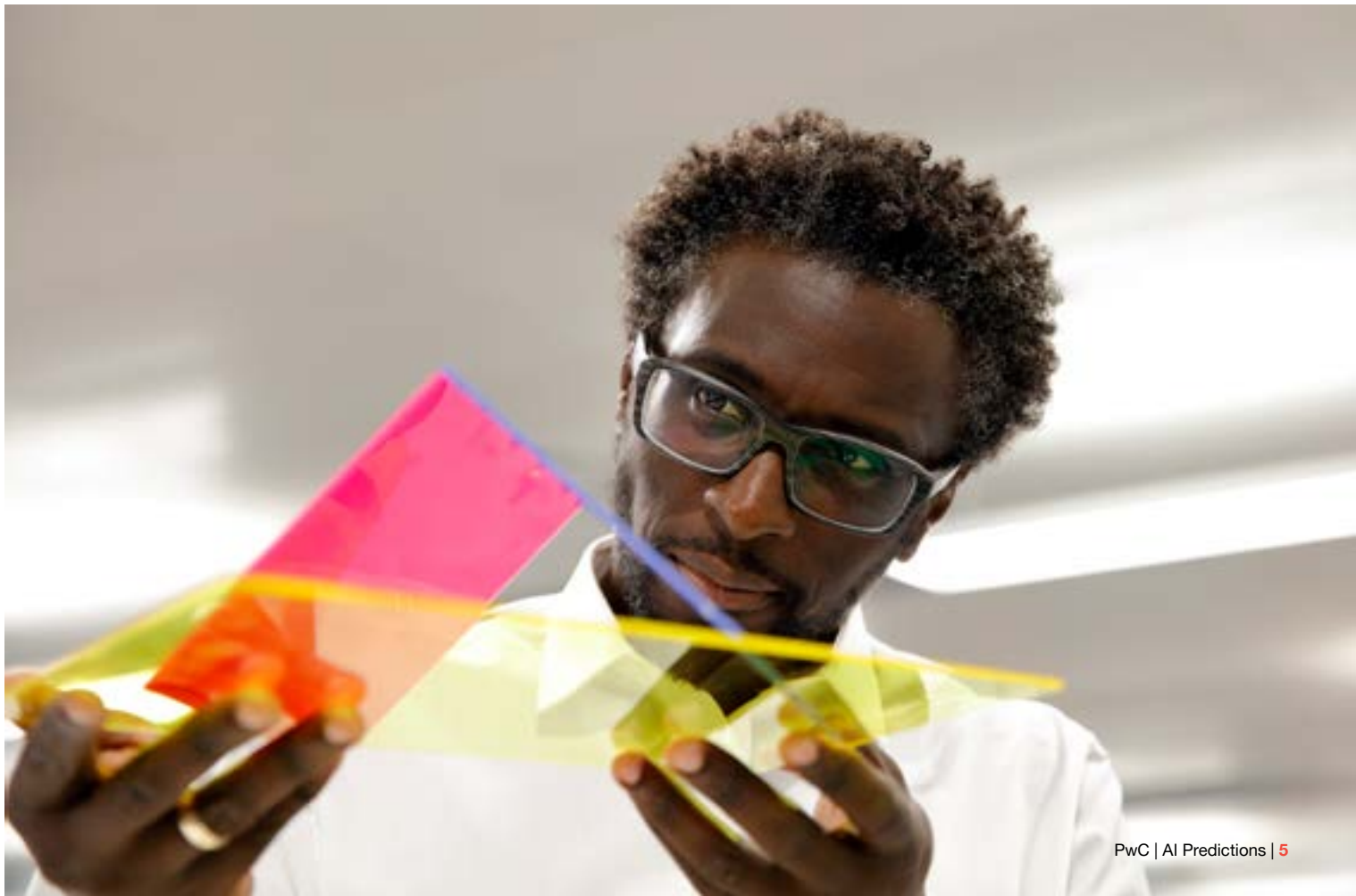
Make it a priority to give different specialists the ability to speak the language of other specialities. For faster cross-skilling and cross-functional collaboration, create 'multilingual' teams, with data engineers, data ethicists, data scientists, and [MLOps engineers](#) part of application development and business teams.

## Additional insights

[23rd Annual CEO Survey – UK Cut](#)

[Digital Transformation](#)

[10 principles of workforce transformation](#)



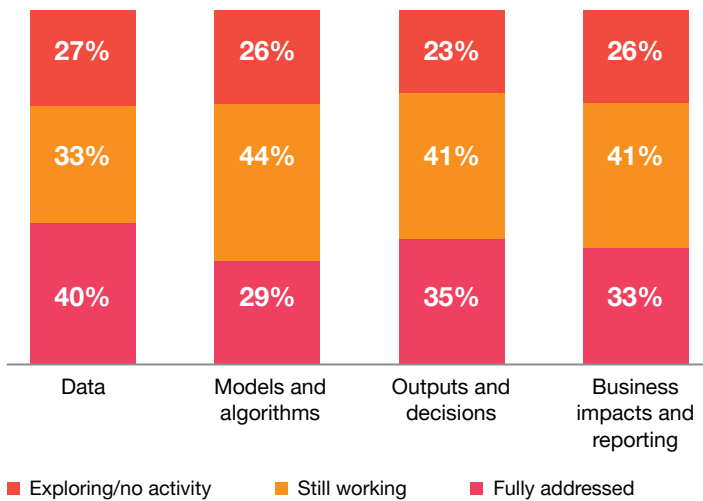
# 3 Lead on risk with responsible and ethical AI

You may have seen sensational headlines about AI's dark side, but business leaders remain unfazed: 85% of those surveyed (executives actively working with AI) said their companies are taking sufficient measures to protect against AI's risks. However, this finding may suggest an underappreciation for the true level of effort needed to responsibly capitalise on AI. And when it comes to backing up those words with actions, such as implementing controls around decisions or data, there's still a long way to go.

Only about one-third of respondents have fully tackled risks related to data, AI models, outputs, and reporting. Considering the growing public concern over issues such as [bias in algorithms](#) or [facial recognition tools](#), and AI-powered 'deepfakes.' A significant amount of regulatory, industrial, governmental and academics have focused on scoping out the field over the last several years. [Regulators](#) have made important headway, beginning with providing industry and other relevant stakeholders signals and guidance on the here-and-now, and what lies ahead.

Rigorous risk management becomes more and more important with AI increasingly present (and often not immediately visible to users) in [everyday business processes](#) and in vendor-supplied solutions.

## Progress, but still work to do in addressing AI risks



Q: Thinking about risks and controls related to your organisation's AI activities, how would you assess your organisation's progress in addressing...

Base: 1,027

Source: PwC 2020 AI Predictions survey

While you can't eliminate these risks, you can mitigate them through the five pillars of [responsible AI](#). Integrating processes, tools, and controls needed to address critical areas like bias, explainability, security, accountability and other ethical principles. And responsibility applies to your workforce, too: as AI takes tedious tasks off your employees' shoulders, you should invest in [upskilling and cross-skilling](#) your people, so they learn to welcome AI as an opportunity to perform higher-value work and understand its ethical implications.

In our survey, the leading area that executives are working on is making AI [interpretable and explainable](#): half of them are taking steps around explainability for those building and operating the system, while a similar proportion are focused on explainability for those affected by the system. We also see companies beginning to realise that addressing larger issues around [data and tech ethics](#) requires collaboration with customers, industry peers, regulators, and tech companies.

Encouragingly, most survey respondents have company-wide AI governance, whether through a new and specialised AI center of excellence (18%), an existing data and analytics group (18%), an organisation-wide AI leader (16%), outside providers (16%), or an existing automation group (15%). Yet, 16% are delegating AI strategy and governance to individual business units and functions.

Unless strict precautions are taken, that approach threatens to limit AI's potential benefits and makes it harder to manage and secure potential risks.





## Your 2020 to-do list

### 1. Take a multidisciplinary approach.

Whichever [governance structure](#) your company chooses, its team must include leadership, procurement, compliance, human resources, technology and data experts, as well as process owners from different functions.

### 2. Build up your AI risk confidence.

Ensure – with the help of risk and compliance functions – that you have the right AI policies, standards, controls, tests, and monitoring for all [risk aspects of AI](#).

### 3. Act to maintain performance.

Good governance and risk management don't have to mean slow going. The right level of explainability, for example, will depend on each AI model's level of risk and required accuracy levels, allowing for quicker progress in some areas than others. It's also possible to automate many governance processes, such as capturing data in model sheets and automatically determining risk ratings for possible human review.

## Additional insights

[A practical guide to responsible AI](#)

[AI in financial services – are you meeting the regulators' expectations?](#)

[Ethical AI: Building a foundation of leadership and trust](#)



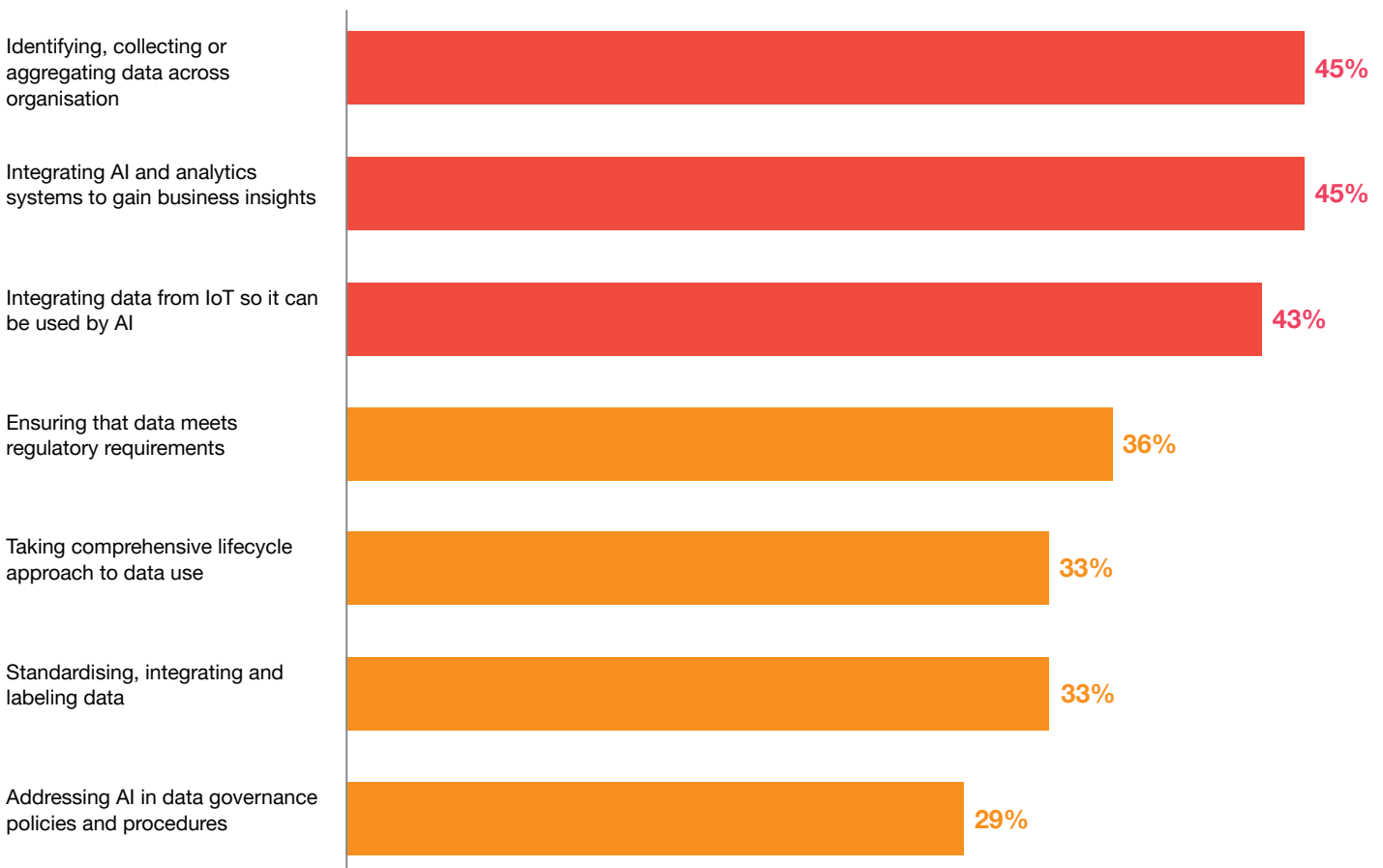
# 4 Operationalise AI – integrated and at scale

AI doesn't do its best work when it's isolated from other technologies, or when it's siloed in a lone function or business line. AI needs data, and as it gets more quality data from more sources, it gains power. Companies sometimes find AI hard to classify because it spans existing silos: Data generated by the business is stored by IT, but requires technology skills and infrastructure, along with input on the business problem to unlock value,

Some of AI's most valuable uses come when it works 24/7 as part of broader operational systems, such as marketing or finance. AI leaders are therefore operationalising AI, across multiple functions and business units, in full integration with broader automation initiatives, data analytics, or both.

Given that approach, it's no surprise that the top-three AI data-related challenges all have to do with different kinds of integration: integrating data from across the organization (45%), integrating AI and analytics systems (45%), and integrating AI with IoT and other tech systems (43%). To solve these and other challenges as you make AI operational it is critical to realise that while there are a number of ways that the software delivery life-cycle can inform AI development, it has many important differences and requires additional tools and a change in approach and mindset.

## Integration, not labeling, seen as top data priority



Q: Which of these AI-related issues will be the top priorities for your organisation in 2020? Rank 1-3

Base: 1,062

Source: PwC 2020 AI Predictions survey

Though data is the key to operationalising AI, labeling it is low on executives' priority list: Only one-third of respondents said it's a 2020 priority, and 13% view it as a key challenge. If you're currently focused on bringing AI to a single function or process, it's essential to begin cultivating secure, quality data from throughout (and outside) the organisation. Likewise, you need to build the skills and the enterprise-wide governance to use that data [responsibly](#).

One way to meet the data labeling challenge is active learning: Data scientists do their work, and – by labeling and revising algorithms' decisions and recommendations – teach machines to start doing it for them. The training process can also be accelerated by taking advantage of [cloud-based services](#) that include existing data sets, or the generation of synthetic data sets from an initial set of actual company data.

## Your 2020 to-do list

- 1. Embed AI into your overall IT stack.** Incorporate AI models that are responsible for automation or key decisions, while interfacing trained AI models into production applications to scale up use. This embedding of AI into IT should also support a common AI services layer that allows any application to integrate with AI models.
- 2. Develop Machine Learning Operations.** The key to making AI part of daily operations is the MLOps capability, which combines expertise in data science with software engineering and IT operations. For an effective MLOps function, most companies will need to hire and upskill talent.
- 3. Make your data trusted data.** To make AI operational at scale, it needs data that is not just accurate, but standardised, labeled, complete, free of bias, compliant with regulations, and secure. Only then can you [trust your data](#) – and the results of AI models based on it.

## Additional insights

[In IoT we trust](#)

[Digital trust insights](#)

[The Essential Eight](#)



## 5 Reinvent your business model

Getting AI technology right is not simple, but as with many corporate change processes the technology is sometimes the easy part. The top AI-related challenges, according to our survey respondents, aren't moving AI initiatives from pilots to production or managing AI's convergence with other tech. Instead, the top challenges are business-and people-oriented: measuring its ROI, getting a budget approved, and training current employees to use AI. Indeed, these challenges reveal why some companies may be scaling back company-wide ambitions in 2020. This highlights the need for a sustained commitment to AI from senior leaders.

It's essential to treat AI not as a silver bullet or singular solution, but as part of your broader automation or business strategy. Depending on the business issue at hand, analytics or simpler forms of automation, such as robotic process automation (RPA), might be the best solution. Or there may be bigger strategic efforts in which AI is a great addition, particularly in looking at how to prepare your company's workforce to be future-ready.

But even if AI's impact will be low profile at first, as it mostly [automates routine tasks](#), it will soon become more transformative as it disrupts and creates new business models. For example, many firms whose business model is based on their employees and processes (such as an insurance claims management) may start by using AI to accelerate tasks within their existing business model. However, they will soon be asking themselves how best to survive and thrive in a world where their business model may be fundamentally transformed by the ability to embed human expertise in AI code. These are challenges on which business leaders need to start working with AI specialists, right now, even if they're currently just looking at AI for incremental efficiency benefits.



## Your 2020 to-do list

- 1. Revisit your business model.** As AI helps automate, assist, and augment your workforce and decision-making, evaluate the consumer surplus or value being generated and determine how you want to share, use or invest this new value.
- 2. Monetise cognitive assets.** As you roll out AI, you should try to create unique data assets and cognitive assets: AI models that encapsulate your company's experience and expertise in a specific domain. Your business must be able to capitalise on the insights and outcomes that these new assets offer.
- 3. Make your strategy work in AI time.** With the rapid changes that AI and other emerging tech are bringing, an annual planning cycle and biannual strategy refresh won't cut it. Build [an AI-driven approach to strategy](#) that is both more dynamic and iterative, and therefore more resilient to continued market changes.

## Additional insights

[How to build disruptive strategic flywheels](#)

[Artificial intelligence and M&A](#)

[Is AI the next frontier for national competitive advantage](#)



## About the survey

PwC's annual AI predictions survey explores the activities and attitudes of business and technology executives across a range of industries who are involved in their organisation's AI strategies. Among this year's 1,062 survey respondents, 54% hold C-suite titles, more than half work in IT and Technology functions, and 36% were from companies with revenues of \$5 billion and up. The survey was conducted by [PwC Research](#), PwC's global Center of Excellence for market research and insight, in October 2019.



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