

Responsible AI + Predictions for 2019

Six AI priorities you can't afford to ignore

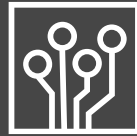
ISACA NE 2019



PwC's 2019 AI Predictions report

Six AI priorities you can't afford to ignore

Insights on where business leaders are focusing their AI efforts in 2019 and the six priorities that should drive their AI strategy.



1,001

AI-savvy executives
in the US



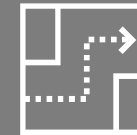
42%

C-level, president,
or partner



74%

with revenue \$1 billion+



43%

Functions
outside of IT

This year, we're not just highlighting what is likely to happen with AI. Instead, we call out what business leaders **must make happen.**

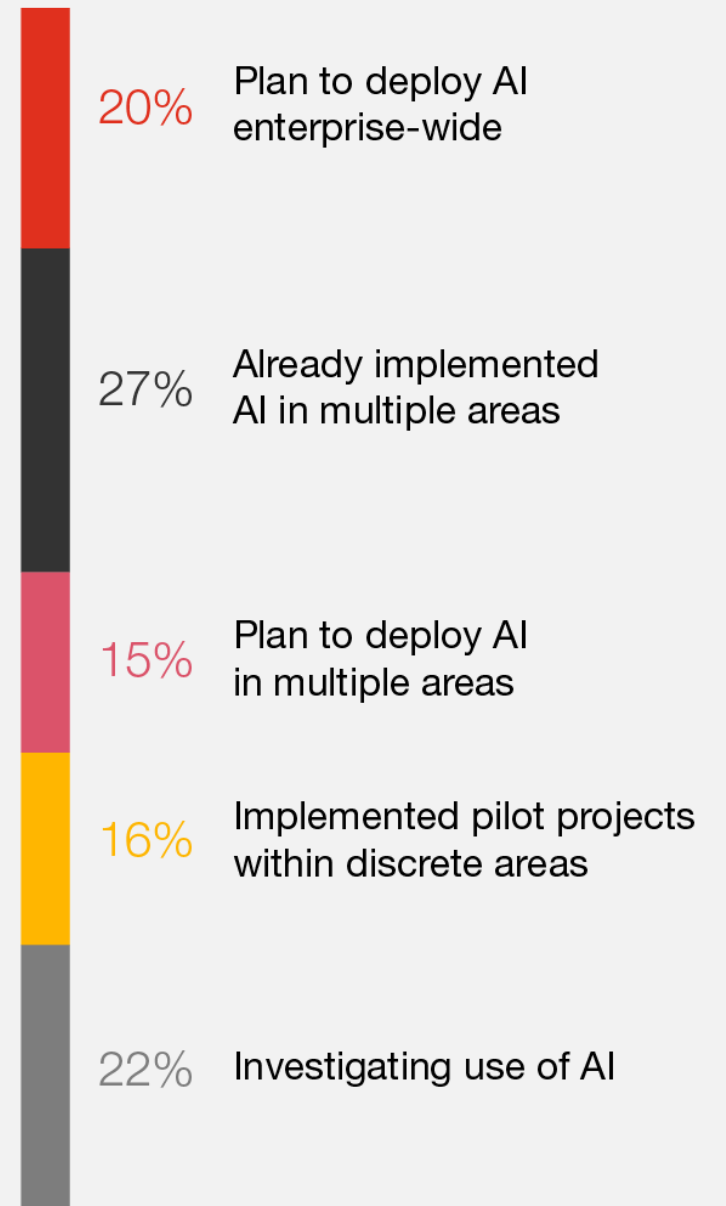
Our big prediction for 2019? Those companies that focus on these six priorities will be leading the pack this time next year.



Executives have ambitious plans for AI: 20% say their companies will roll it out across the business in 2019.

AI at scale? How far along companies will be in 2019

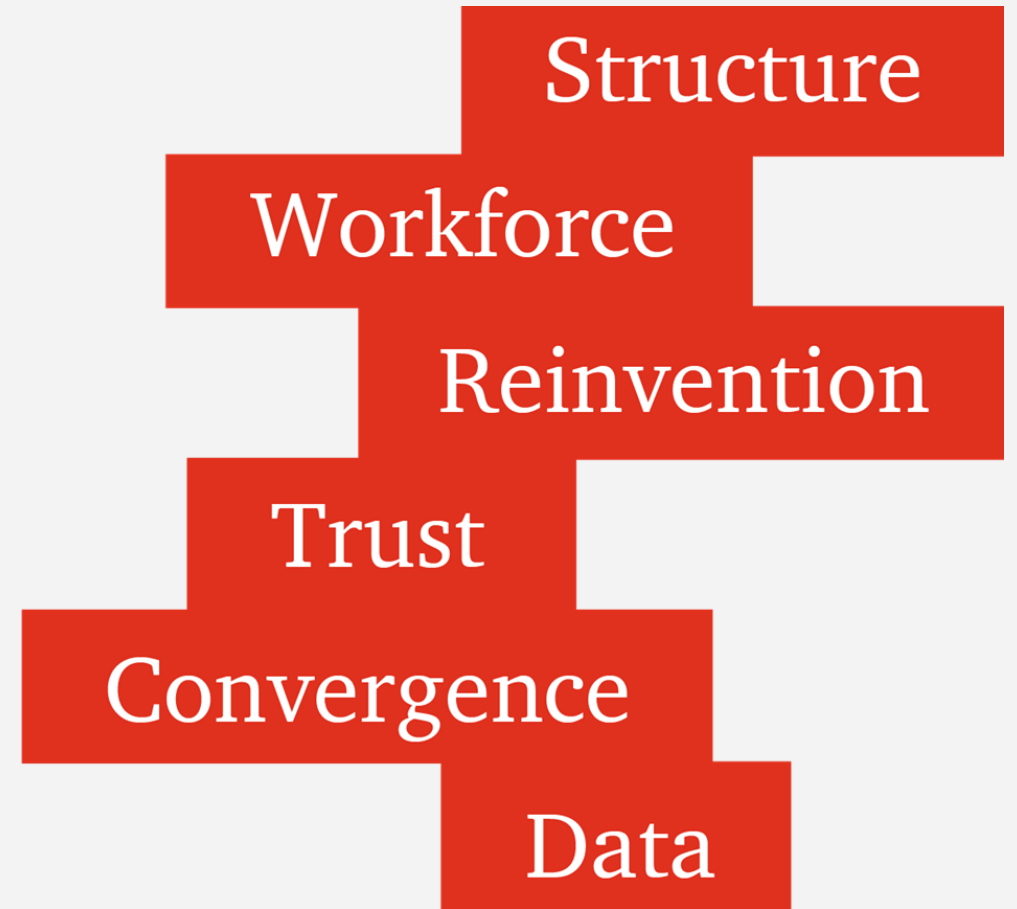
Source: PwC 2019 AI Predictions
Base: 633
Q: How far along is your organization with AI? Select one.



6 AI priorities you can't afford to ignore

In 2019, AI will need:

- its own organizational structure and workforce plans
- trustworthy algorithms and the right data to train them
- a plan to grow revenue and profits with AI
- integration with existing and emerging technologies



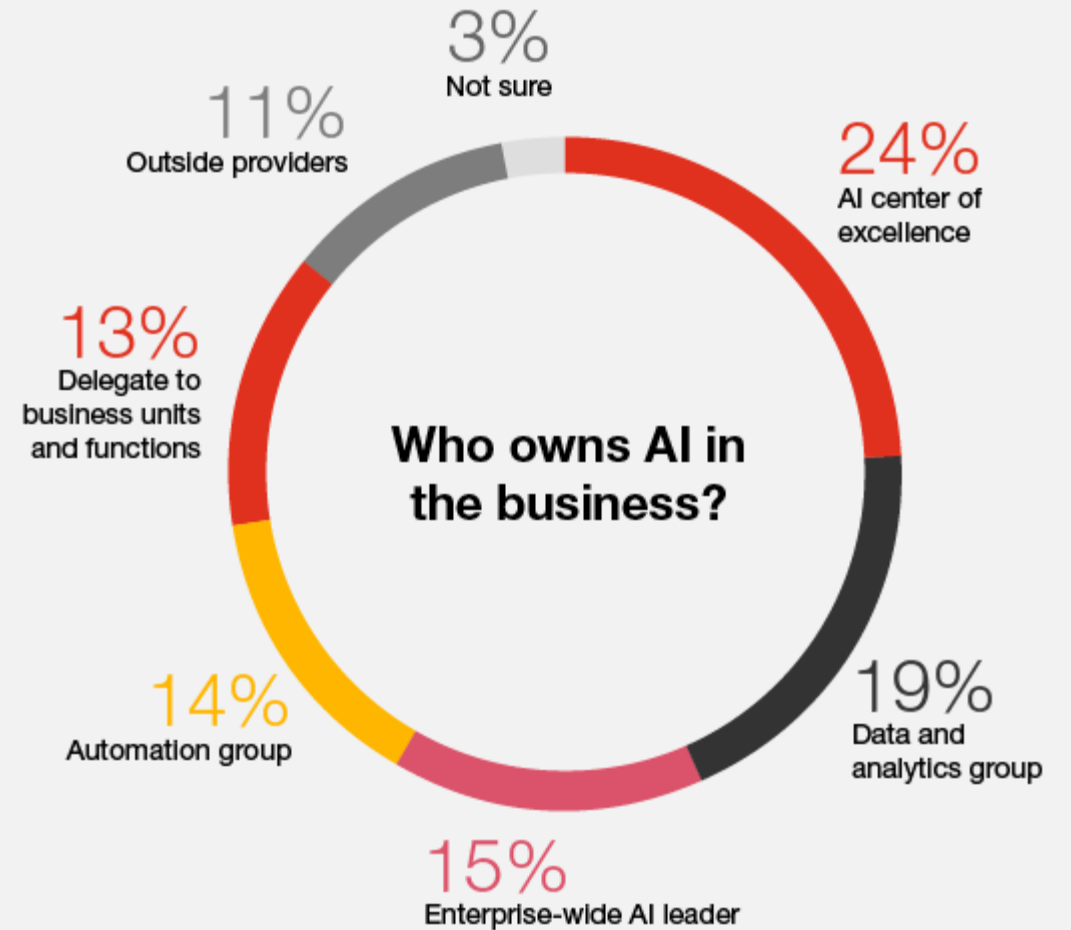
1

Structure: Organize for ROI

Bring together AI, IT, and business leaders, such as in a CoE, to manage priorities, data strategy, resources.

Create a digital platform with self-service tools and a collaborative environment.

Focus on common tasks and develop reusable AI building blocks.



Source: PwC 2019 AI Predictions
Base: 1,001
Q: How will you implement and govern AI in 2019?

2

Workforce: AI citizens and specialists

AI needs three kinds of employees — and ways for them to work together effectively:

Citizen users: The majority who'll use AI-enhanced applications

Citizen developers: Power users who will identify use cases and data sets

AI specialists: Data scientists who will create and manage AI applications

38%

of executives say AI will create more jobs in their company in 2019.

56%

will develop a plan to identify new roles and skills as a result of AI.

Trust: Make AI responsible

Create roles, accountability, and metrics in the five areas of responsible AI:

1. fairness
2. interpretability
3. robustness and security
4. governance
5. system ethics

Taking steps toward responsible AI

64%



Boost AI security with validation, monitoring, verification

61%



Create transparent, explainable, provable AI models

55%



Create systems that are ethical, understandable, legal

52%



Improve governance with AI operating models, processes

47%



Test for bias in data, models, human use of algorithms

3%



We currently have no plans to address these AI issues

Source: PwC 2019 AI Predictions

Base: 1,001

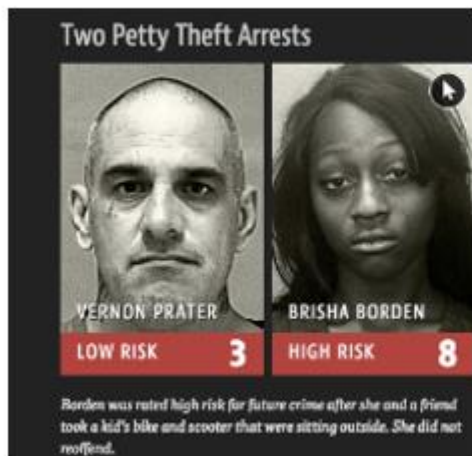
Q: What steps will your organization take in 2019 to develop and deploy AI systems that are responsible, that is, trustworthy, fair, and stable?

3 Trust

Robust AI: Performance, security and control risks

Performance

- Risk of Errors
- Risk of Bias
- Risk of Opaqueness
- Risk of stability of performance
- Lack of feedback process



Security

- Cyber intrusion risks
- Privacy risks
- Open source software risks
- Digital, Physical, Political security



Control

- Risk of AI going 'rogue'
- Inability to control malevolent AI
- Swarm drones



3 Trust

Another example



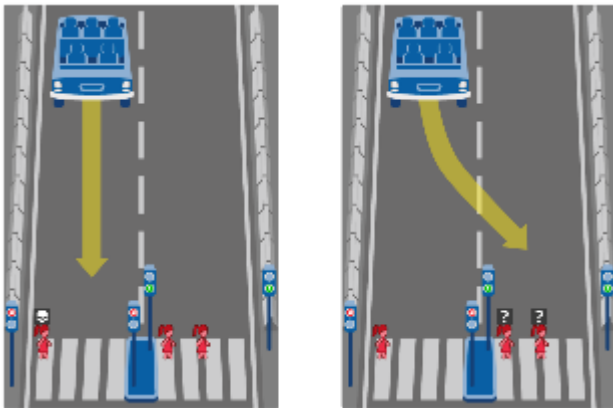
Images: [Evtimov et al](#)

3 Trust

Beneficial AI: Ethical, economic, and societal risks

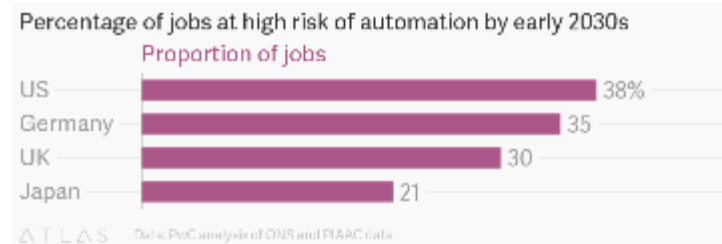
Ethical

- ‘Lack of Values’ risk
- Value Alignment risk
- Goal Alignment risk



Economic

- Job displacement risks
- ‘Winner-takes-all’ concentration of power risk
- Liability risk



Societal

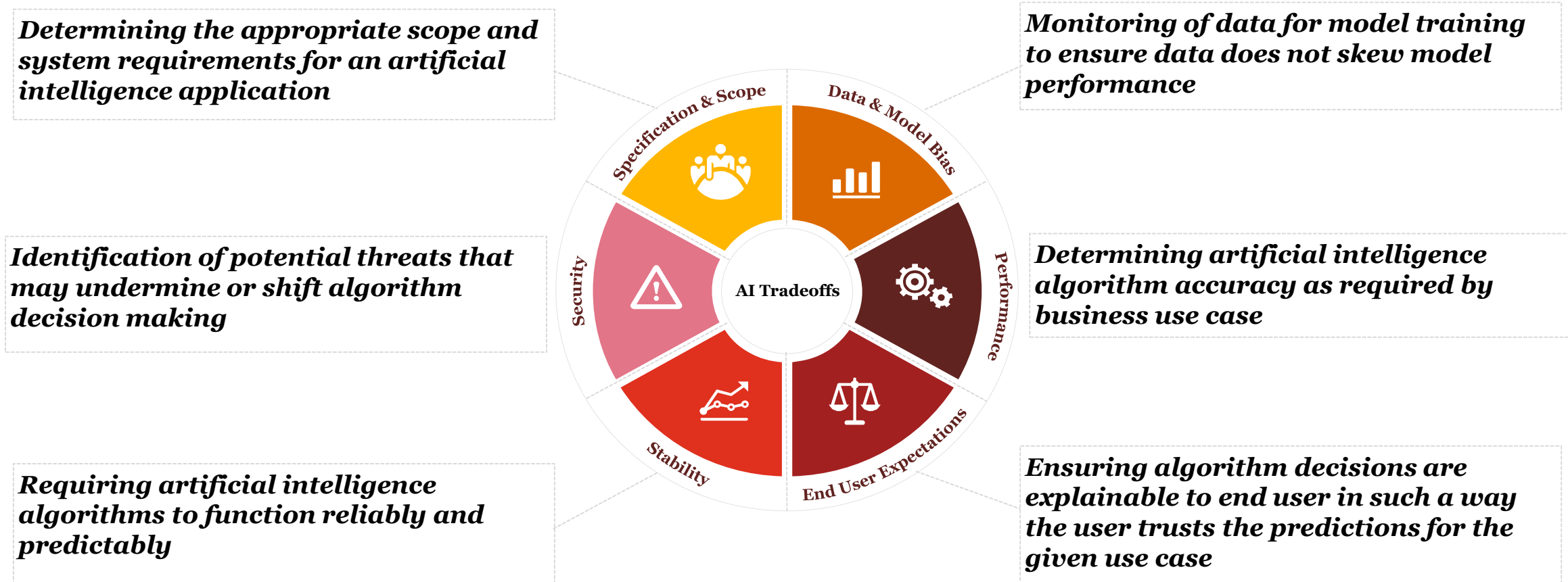
- Risk of Autonomous Weapons proliferation
- Risk of ‘intelligence divide’



3 Trust

Broad risks should be considered when selecting and deploying AI/ML for business decisions

PwC's AI Framework



3 Trust

Assess the “inherent” risk of AI/ML for the specific business use case before making the decision to use AI/ML on decision support

Use Case

AI/ML use cases vary from low risk and little required rigor to high risk with significant rigor required, for example:



Targeting



Fraud Detection



Loan Underwriting

Benchmarking

Risk Monitoring

Regulatory Use

Rigor

For each of these cases, the verification and validation process may require different elements of interpretability depending on the level of rigor required.

Key questions

- What are the show-stoppers in the business case for AI/ML?
- Is there a fit of the AI/ML to support the business case?
- What are the trade-offs in the business use case to use AI/ML?
- What could be the inherent risk of the AI/ML algorithm? What control mechanism to prevent the machine from “spinning off the table”?

4

Data: Locate and label to teach AI

For machine learning to make predictions, it must be trained, and that requires labeled data sets.

Identify the data sets you need to solve specific business problems, then prioritize capturing and labeling that data in line with enterprise-wide standards.

29%

of executives say labeling, standardizing, and integrating data is a priority for 2019.

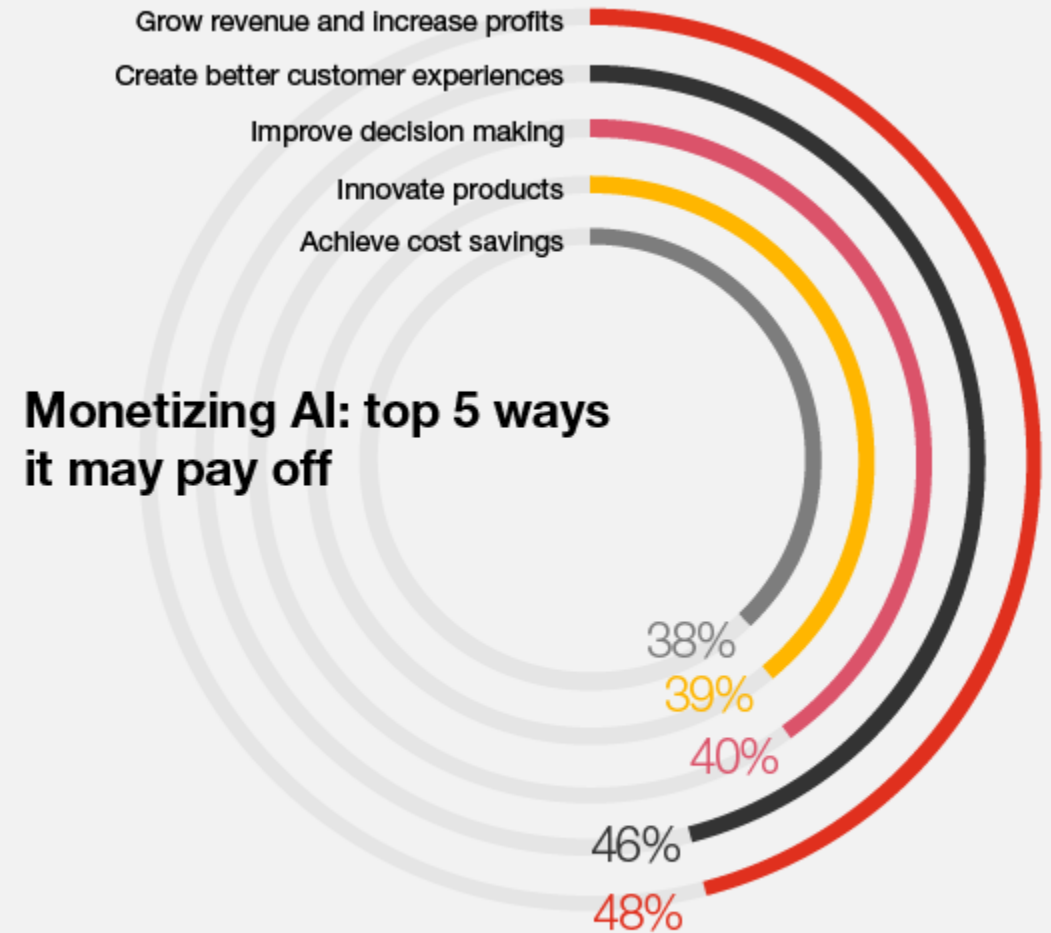
59%

say developing reusable AI models and data sets will be the most important capability to develop in 2019.

Reinvention: Monetize AI

AI can help businesses create and market high-quality, personalized, data-driven products and services.

AI can also inform strategy, simulating new business models and driving strategic decisions.



Source: PwC 2019 AI Predictions

Base: 1,001

Q: What value do you expect from your AI investments? Top-three ranking

6

Convergence: Combine AI with Other tech

AI's power grows when it is integrated with other technologies, including analytics, the IoT, blockchain, and, eventually, quantum computing.

DevOps techniques can help manage this convergence by bringing diverse specialists together to keep projects flowing smoothly.

58%

of executives say integrating AI and analytics systems to gain business insights from data is a top-three data priority for 2019.

36%

say integrating IoT data so it can be used by AI systems is.



To become an AI leader, make this your 2019 priority list.

Here's the payoff you'll see.

1. Build your AI foundation



Set your AI strategy and build the capabilities so you start strong and are well-positioned to scale.

2. Create an AI-ready workforce



Reimagine your HR strategy for the AI age, from upskilling and recruiting to creating the right culture for collaboration.

3. Make your AI trustworthy



Develop responsible AI with security, explainability, model validation, auditing, and regulatory alignment.

4. Turn data into value with AI



Enhance analytics with AI to improve processes, predict problems, and create new revenue.

5. Use AI to drive business strategy



Develop business modeling scenarios, inform product development, and more.

6. Create a smart AI ecosystem



Embed AI into the IoT and other tech to boost productivity and cost savings.



Move quickly... AI is.

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