SSsas

Data and AI Pulse: Asia Pacific
2024

Research Insights by

IDC

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Jim Goodnight
Chief Executive Officer
SAS
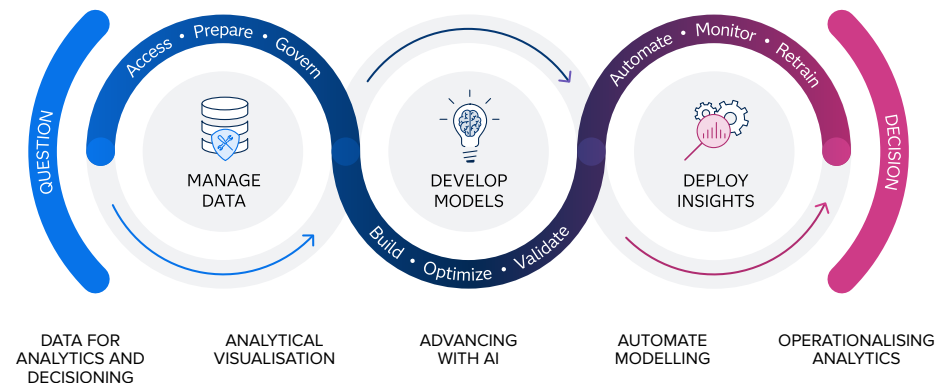
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Executive Summary

The AI gold rush in Asia Pacific: A fear of missing out or a sign of a lack of AI maturity?

Asia Pacific organisations are rushing to jump onto the AI bandwagon, with nearly half (43%) planning a large investment increase of over 20% in the next 12 months. A more telling sign of their belief in this technology is that 40% expect their AI initiatives to at least triple their return on investment (ROI).

But is Asia Pacific overly optimistic about the AI gold rush? Or is it a sign of the lack of AI maturity in the region? IDC's *Data and AI Pulse: Asia Pacific 2024* study, commissioned by SAS, seeks to answer this question, looking at the current state of data and AI and the future plans of organisations.

For the study, IDC surveyed slightly over 500 enterprises in six markets — Australia, China, India, Japan, South Korea and Southeast Asia (Malaysia, Singapore and Thailand) — and sampled key industries, including financial services, insurance, health care and life sciences, and government.

The study reveals that 18% are still in the investment planning phase or evaluating AI initiatives, while 45% reported that their AI programmes are focused on functional or short-term projects. Only 18% are considered AI leaders, with long-term investments to use AI to transform the business.

The study showed that most organisations are still in the early to middle stages of AI maturity. It reveals that 18% are still in the investment planning phase or evaluating AI initiatives, while 45% reported that their AI programmes are focused on functional or short-term projects. Only 18% are considered AI leaders, with long-term investments to use AI to transform the business. The lack of AI maturity is also reflected in the use cases that tend to focus on standard productivity-linked ones. AI leaders have moved beyond these to more complex functional and industry use cases.

Moving up the maturity ladder requires organisations to overcome challenges currently hampering their progress, particularly skills shortages, and data governance and management.

This e-book delves deeper into the study, discussing the hurdles organisations face with AI implementation and what they can learn from the 18% recognised as AI leaders.

The promise of AI and GenAI – why now?

AI spending in Asia Pacific will reach US$45 billion in 2024, rising to $110 billion by 2028 at 24% CAGR (2023-28).

Organisations are focusing on improving efficiencies and cutting costs in response to global inflationary pressures. The coming year will see organisations capitalising on AI to enhance the value of their digital platforms and broaden their market reach.

The importance of AI in supporting business strategy and driving value is growing, and organisations must act now to maintain a competitive advantage and differentiation, while ensuring business resilience and flexibility. Asia Pacific organisations must be mindful of balancing the hype around AI with strategic and tactical investment and use case selection to maximise ROI.

Top business outcomes from AI initiatives

● Internally focused goals ● Externally focused goals

1. Improve operational efficiency
2. Improve customer experience
3. Improve business resilience
4. Increase profits
5. Save costs
6. Expand market share

Why now?

The confluence of several factors makes the present moment particularly opportune for the adoption of AI and generative AI.

- **Fear of missing out (FOMO)**: This has driven AI and GenAI spending. Unreasonable two to three times ROI expectations on GenAI investments, economic headwinds, cost pressures and other challenges are putting attention back on making sure AI projects are tied to business value and outcomes.

- **Technological advancements**: Rapid progress in AI technologies and increased computational power have made AI solutions more accessible and effective.

- **Economic and competitive pressures**: Organisations are seeking innovative ways to remain competitive and resilient in a fluctuating global economy.

- **Regulatory support**: Governments across the Asia Pacific region are increasingly active in enacting policies and regulations that support AI innovation and adoption.

→ **Despite FOMO and the resultant huge increases in AI investments, economic, regulatory and technological uncertainties require enterprises to remain flexible.**

Note: AI spending figures in Asia Pacific are sourced from IDC Worldwide AI and GenAI Spending Guide Forecast, AP, (August 2024 v2)
Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What will it take to scale your AI projects?

Organisations need to move past the GenAI scramble, grow in AI maturity and establish themselves as an AI-fuelled business.

EXPERIMENTATION

The GenAI Scramble
2023–2024

Phase characterised by:

- Rapid, chaotic adoption of various proof of concepts (POCs).
- Disparate strategies and technologies.
- Focus on productivity use cases, where AI was "bought" rather than "built."

Strategy · Governance · AI platform · Data · Applications · People · Infra-structure
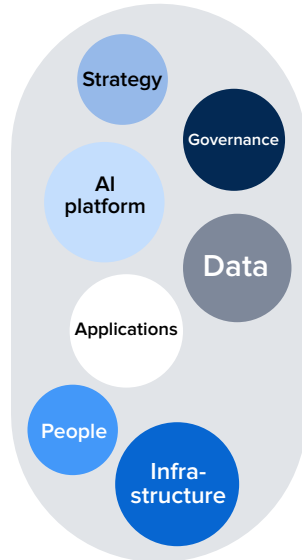
ADOPTION

The AI Pivot
2025–2026

Phase for growing AI maturity through:

- Greater focus on data foundation and better governance to enhance the value of their digital platform.
- Wider use of platform and infrastructure strategy and supporting technologies.
- Building a more bespoke AI tech stack, with models created and fine-tuned in-house, with an enterprise intelligence architecture.
- Selecting and implementing a portfolio of AI use cases with strong alignment to business value creation.

Applications · Data · Governance · AI platform · Strategy · People · Infra-structure
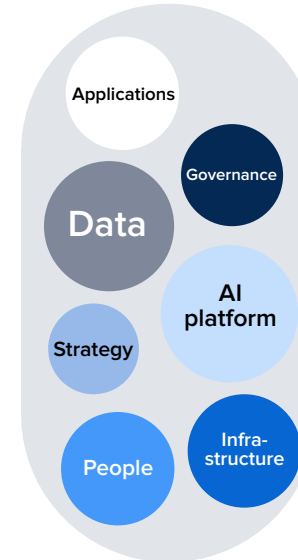
ACCELERATION

The AI-Fuelled Business
2027 and beyond

An AI-fuelled business integrates AI across most use cases, leveraging it to transform operations, accelerate innovation and enhance customer engagement. By embedding AI into its core processes, the organisation works smarter and adapts more quickly to changing demands.

AI-fuelled business model
- AI-fuelled business strategy.
- AI-augmented work.
- Unified AI governance model.

AI technology operating model
- AI platform orchestrator.
- Autonomous processes.
- Data and models managed like a product.
- Fit-for-purpose infrastructure.

Applications · Data · AI platform · Governance · Strategy · People · Infra-structure
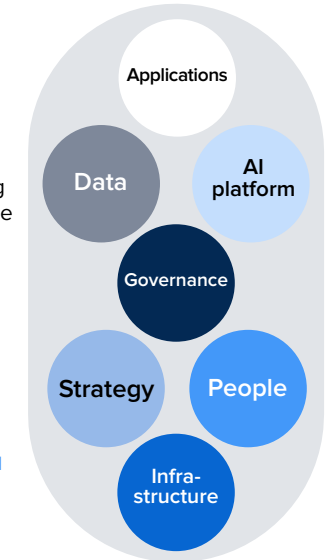
→ **Scaling AI requires enterprises to pivot and develop several new capabilities.**

Source: IDC AI Adoption Model Train Presentation, 2024

How mature are Asia Pacific organisations in AI?

Most organisations in the early to mid-stage of maturity are focused on functional, short-term projects and establishing a business case.

Organisations need to evolve from early experimentation and mature from a tactical approach to implementing strategic AI initiatives that can have a transformative impact. This requires consistent investment and skills development. Few organisations are at the latter stage, meaning integrating and scaling AI is more challenging than expected.

Maturity in AI implementation requires five core principles: robust technology systems and platforms, data-centric and model-centric processes, strong governance, AI talent and ethical expertise, and, most critically, availability of high-quality data. Adopting agile methodologies and continuous improvement practices are essential for successful AI integration.

Status of AI in Asia Pacific organisations (maturity)

Which best describes the status of artificial AI at your enterprise?

Planned: Upcoming AI investments are being planned.
12%

Evaluating: AI initiatives are being evaluated for use cases and ROI.
6%

Functional: AI initiatives are initiated at the function or line-of-business (LOB) level, with some connection to enterprise strategy.
19%

Short-term focus: AI initiatives are enterprise-oriented but typically have a short-term focus.
26%

Integrated: Integrated, continuous enterprise-wide AI innovation is in place with operations and customer/service experiences.
19%

> **AI followers**

Transformative: Longer-term investment plan is in place, with a strategy to use AI to transform markets and customers by creating new business models and product/service experiences.
18%

> **AI leaders**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

Successful AI implementation - 5 factors

Systems and platforms
Transparency and interpretability
Bias mitigation, security and privacy
Policies and risk remediation

Technology

Processes

Data-centric methods
Model-centric methods
Product management
Holistic approach

Data

Oversight and accountabilities
Trade-offs
Data governance
Model governance

Governance

Talent

Ethical expertise
Multi-disciplinary teams
AI knowledge with ethical understanding
Continuous learning and communication

→ **AI is a journey to create business value and requires capabilities in data, technology, processes, skills and governance.**

Why do organisations choose to invest in AI?

AI leaders want to achieve revenue growth and greater efficiency and profits.

Top three business outcomes organisations want to achieve from their AI initiatives

AI leaders in Asia Pacific are focused on top-line and bottom-line impact: driving new revenue growth, operational efficiency and profits.
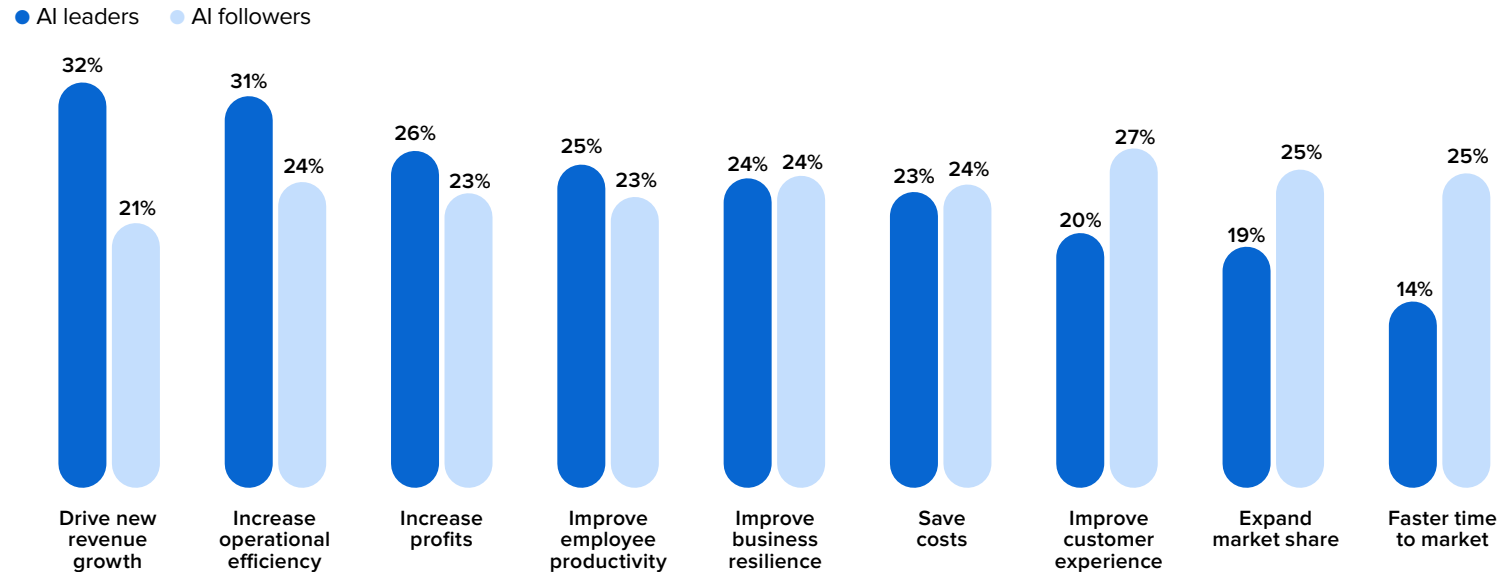
AI followers are experimenting with numerous projects, each focused on varying business outcomes. They will need a clear strategy and roadmap in the coming 12-18 months to justify ongoing investment.

● AI leaders   ● AI followers

	AI leaders	AI followers
Drive new revenue growth	32%	21%
Increase operational efficiency	31%	24%
Increase profits	26%	23%
Improve employee productivity	25%	23%
Improve business resilience	24%	24%
Save costs	23%	24%
Improve customer experience	20%	27%
Expand market share	19%	25%
Faster time to market	14%	25%

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

- The pressure is growing on AI leaders to **deliver ROI** after heavy and ongoing investments in AI over the past few years.

- Organisations are using AI to **improve external outcomes** (customer experience, market share expansion) and **internal performance** (efficiency, employee productivity, business resilience and cost management).

- AI followers are still experimenting, with projects focused on varying business outcomes – the data shows us there are **no clear winners** in terms of business outcomes. There are high expectations but no clarity on results.

- They are in the **experimentation phase**, with some focusing on efficiencies and others on customer experience or productivity. POCs and current use cases are point solutions, largely functional and short-term rather than based on a long-term, integrated and transformative strategy.

→ **Organisations that align technology with business outcomes outperform their peers by enhancing revenue streams and reducing costs.**

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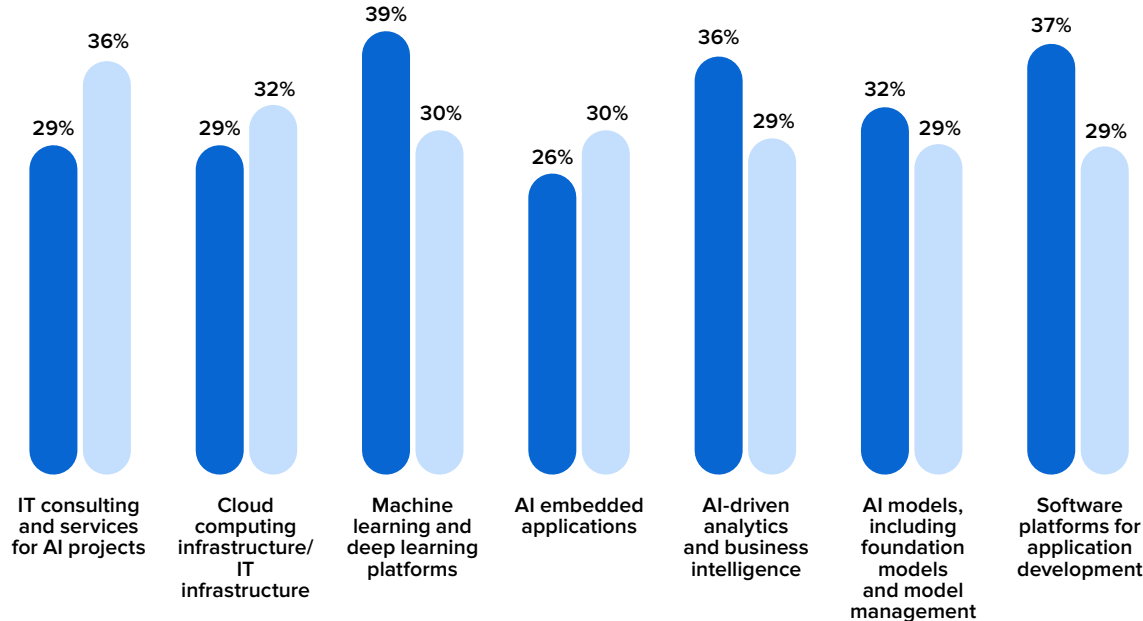# What are organisations' technology investment priorities for AI?

Organisations in APJ are capitalising on machine learning and software platforms to enable data and AI teams to scale and drive efficiency in AI deployments.

Organisations' top tech investment priorities for AI

AI leaders are investing in ML/AI and software platforms   **AI followers** are more externally focused

● AI leaders   ● AI followers

Category	AI leaders	AI followers
IT consulting and services for AI projects	29%	36%
Cloud computing infrastructure/IT infrastructure	29%	32%
Machine learning and deep learning platforms	39%	30%
AI embedded applications	26%	30%
AI-driven analytics and business intelligence	36%	29%
AI models, including foundation models and model management	32%	29%
Software platforms for application development	37%	29%

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

- AI leaders have cultivated in-house expertise and are now focused on enhancing developer productivity, collaboration and performance. They are leveraging advanced platforms for machine learning (ML), AI, business intelligence and application development to drive these improvements.

- AI followers focus on consulting and services (36%) and cloud computing, demonstrating a reliance on external resources to define the right strategy, roadmap and use cases, and to source digital skills they lack internally.

- Asia Pacific organisations' technology investment priorities indicate a balanced approach, combining external expertise (consulting services) with robust internal infrastructure and technical capabilities.

- Organisations will continue to invest in infrastructure and AI technical capabilities such as AI modelling, cloud computing, software development and analytics to raise their AI maturity.

- This shift to a platform strategy is driven by a need for better data management, increased automation, and greater homogeneity in the tools that data and AI teams use to enhance productivity and performance internally.

→ At different stages of AI maturity, enterprises must invest in different technologies – combining external services with internal skills, from embedded AI to AI platforms.

What returns are organisations in Asia Pacific expecting from their AI investments?

Expectations are high with the anticipation that AI projects will deliver two to three times ROI, hence large investment increases in AI are planned for the next 12 months.
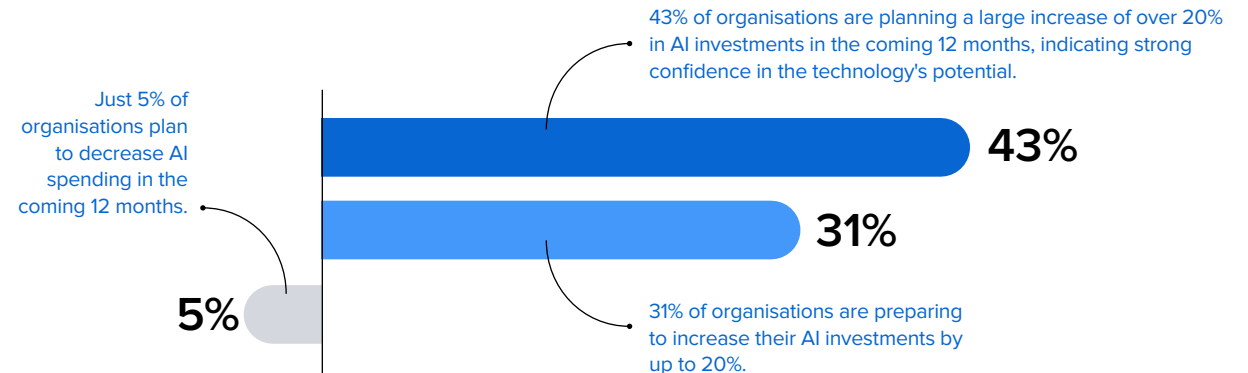
Expected ROI on AI investments

33%
No ROI

~44%
2x ROI

~40%
3x or greater ROI
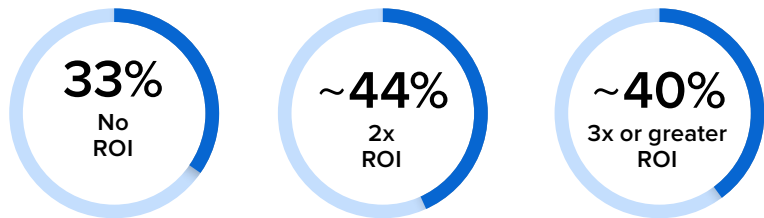
With more use cases deployed, AI offers significant promises on ROI. The numbers highlight the widespread optimism and potential value AI technologies can bring to operations and profitability. However, expectations may not meet reality, with ROI often falling short of management's plans. Board pressures mean executives need to show results quickly, but AI initiatives take time to develop – gathering data, collating learnings and model fine-tuning all mean a longer gestation period.

Investment changes in AI in the next 12 months

The optimism around AI's potential to make substantial improvements to business and operational performance is reflected in the substantial increase in AI investments anticipated for the coming year.

43% of organisations are planning a large increase of over 20% in AI investments in the coming 12 months, indicating strong confidence in the technology's potential.

Just 5% of organisations plan to decrease AI spending in the coming 12 months.

43%

31%

5%

31% of organisations are preparing to increase their AI investments by up to 20%.

First-mover advantage

Organisations in Asia Pacific face the threat of a two-tiered AI development, with AI leaders deriving significant value from AI projects to justify further investment in future initiatives. This leads to a more rapid evolution, economies of scale and better performance, which AI followers will struggle to match.

→ **An AI gold rush? About 40% of companies hope to triple their ROI.**

What might stop organisations from meeting their AI expectations?

For Asia Pacific organisations, the top challenges are a lack of skills and data governance.

Organisations' top 3 challenges in implementing AI technology

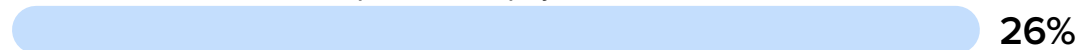**Lack of specialised skilled personnel**

35%

Data foundation lacks sufficient governance processes

28%

Lack of clear evaluation criteria for the AI solutions

27%

Costs associated with AI development and deployment

26%

Concerns about data or IP loss due to improper use of AI

25%

Lack of AI governance and risk management

25%

- The top challenges in implementing AI technology – shortage of skills (35%) and an inadequate data foundation (28%) – all tie back to organisations' lack of development and experience with AI. It stems from the absence of a clear strategy, frameworks, and data governance policies and practices, as well as an inability to prioritise use cases.

- As they mature in their AI journey, their focus shifts to integrating AI into their organisations, maximising ROI and using it to transform their business, and ensuring strict governance of AI use and data.

- Data or intellectual property (IP) loss due to improper use of AI are major challenges, with reputational risk and compliance requirements at the top of the mind of senior executives.
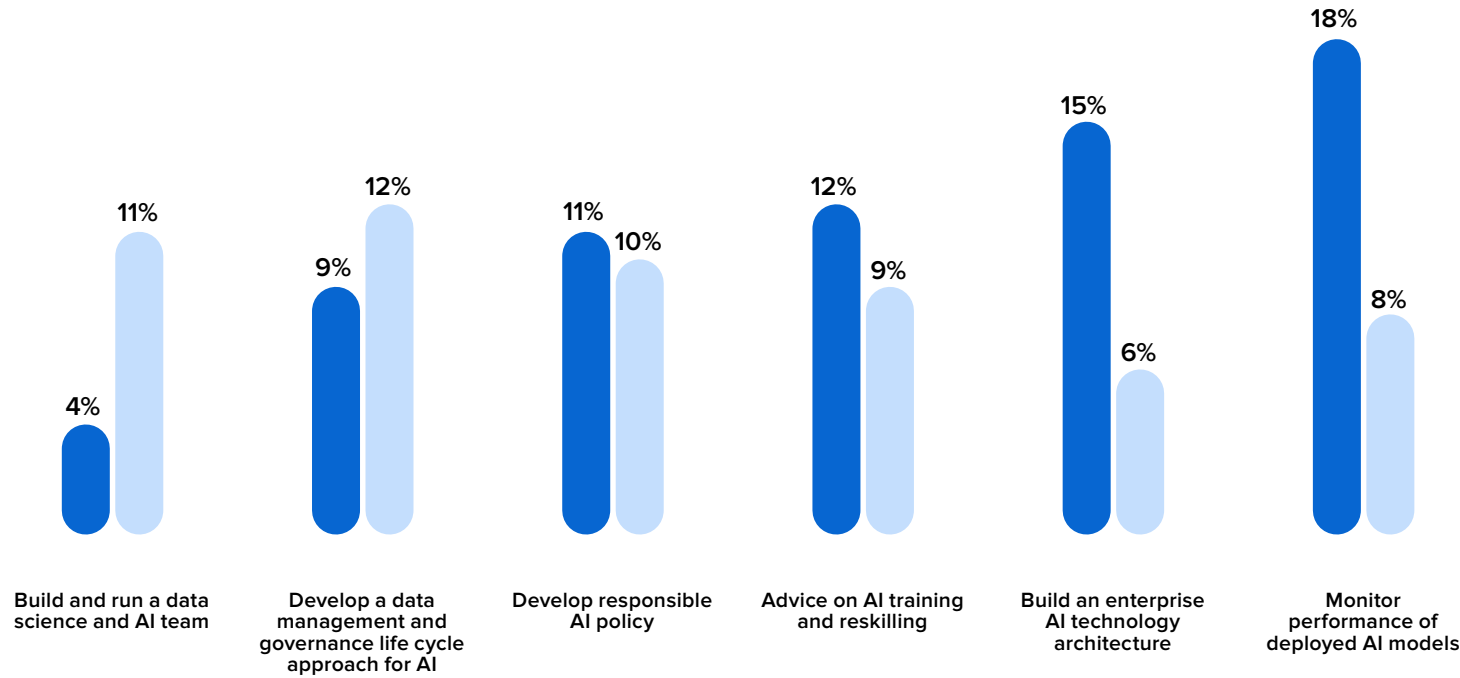
→ Lack of skills as well as data governance and management are major impediments for most AI projects.

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

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What capabilities do organisations need to develop?

Asia Pacific organisations prioritise data governance, skills and model development.

Current top 3 priorities for developing AI capabilities in the organisation

● AI leaders ● AI followers

Build and run a data science and AI team	4% / 11%
Develop a data management and governance life cycle approach for AI	9% / 12%
Develop responsible AI policy	11% / 10%
Advice on AI training and reskilling	12% / 9%
Build an enterprise AI technology architecture	15% / 6%
Monitor performance of deployed AI models	18% / 8%

- AI followers recognise the need for strong foundations and are building data science teams, internal skills and a responsible AI policy to ensure they are well placed to scale future projects that move from POC to full production.

- AI leaders have crossed those initial hurdles and have turned their attention to monitoring and maximising the performance of deployed models, and building the enterprise AI technology architecture to scale their AI deployments.

- Leaders and AI followers are both concerned about data management and governance as they face the ongoing challenge to create, maintain and produce high-quality data for AI use cases.

→ **AI leaders are building an enterprise architecture to scale AI deployments. They extract additional value by scaling their ModelOps practices, including model monitoring and optimisation.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What are the current and planned AI use cases?

Asia Pacific organisations are deploying AI functional and productivity use cases such as process automation, with GenAI use cases like code generation more recently coming to the fore.

Top current AI use cases

Functions such as marketing and IT heavily utilise AI, especially GenAI for copywriting, DevOps, testing and cybersecurity. Similarly, FSI industry prioritises AI, particularly predictive AI for risk and fraud detection.

Copywriting
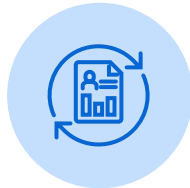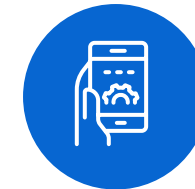
Automating business processes and workflows

Code generation

Fraud detection and cybersecurity

Predictive analytics and forecasting

Product and service innovation

Data augmentation

Top future (within 1 year) AI use cases

Enterprises planning to adopt AI within the next 12 months focus on data-driven use cases like predictive analytics, fraud detection and product/service innovation rather than code generation or copywriting. This emphasis on predictive analytics suggests a lack of AI maturity in the region, as sophisticated AI users typically move beyond standard use cases. As AI maturity develops, organisations may shift to GenAI-driven applications such as marketing, knowledge management, product innovation, R&D and data augmentation.

→ **AI followers develop *individual* use cases. AI leaders create strategic use case *portfolios*.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)
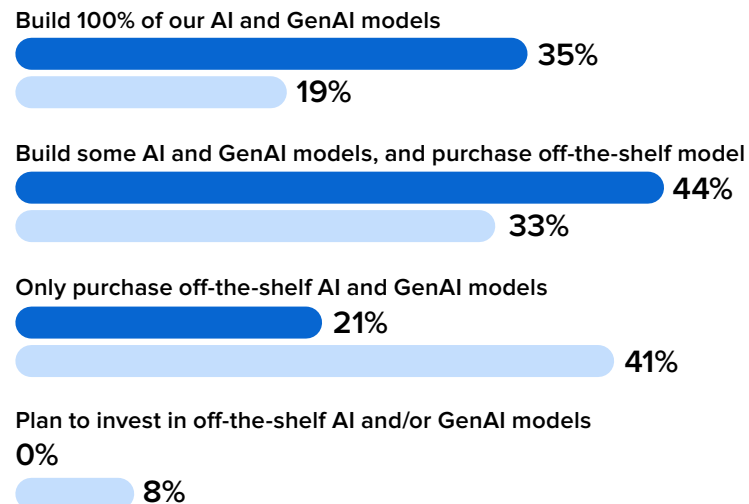
How are organisations deploying AI and GenAI?

AI leaders favour a mix of build and buy for their AI and GenAI models; AI followers prefer off-the-shelf solutions.

The build versus buy conundrum: 72% of Asia Pacific organisations prefer off-the-shelf or a mix of in-house build and off-the-shelf AI models. Due to inadequate skills and maturity, organisations lack confidence in building their own AI/GenAI models. Organisations increasingly prefer a mix of off-the-shelf solutions and building their own AI models to accelerate time to market, especially for those at an early stage of AI maturity. These prebuilt solutions are cost effective, easy to use, can quickly integrate AI into existing systems, and are ideal for organisations without the expertise or data to build custom models.
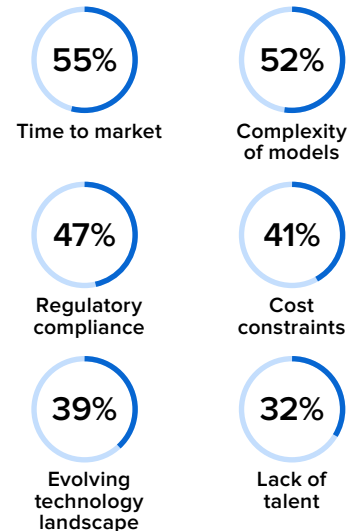
Conversely, AI leaders with more advanced capabilities are more likely to develop their own AI models. Hence, 35% plan to build 100% of their models in-house and leverage off-the-shelf models to fully capitalise on enterprise data through advanced techniques like retrieval-augmented generation.

APJ organisations' approach to deploying and using AI models

● AI leaders   ● AI followers

Build 100% of our AI and GenAI models
- AI leaders: 35%
- AI followers: 19%

Build some AI and GenAI models, and purchase off-the-shelf model
- AI leaders: 44%
- AI followers: 33%

Only purchase off-the-shelf AI and GenAI models
- AI leaders: 21%
- AI followers: 41%

Plan to invest in off-the-shelf AI and/or GenAI models
- AI leaders: 0%
- AI followers: 8%

Main drivers for organisations to buy off-the-shelf models

- **55%** Time to market
- **52%** Complexity of models
- **47%** Regulatory compliance
- **41%** Cost constraints
- **39%** Evolving technology landscape
- **32%** Lack of talent

→ **AI leaders often prefer a combination of building their own solutions and adopting off-the-shelf models, balancing governance with scalability and flexibility.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

How has AI investment changed?

AI is more than GenAI, but the latter is driving a spike in AI spending in the region.

2024 investment allocation for AI-related development, data and infrastructure

AI is an overarching term that can be categorised into three classes of capabilities: predictive AI, interpretive AI and GenAI.

Predictive AI
- Utilises historical data and provides future predictions.
- Use cases: risk forecasting and financial fraud detection.

● 2023
● 2024

34% (2023)
34% (2024)

Interpretive AI
- Enhances human efforts, advancing tasks such as image and voice recognition.
- Use case: cancer detection.

47% (2023)
32% (2024)

Drastic change in AI investment allocation

GenAI
- Creates new content/code using previously created content/code.
- Examples: ChatGPT and developer copilots.

19% (2023)
34% (2024)

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

- GenAI is rapidly gaining traction with a tremendous surge in spending between 2023 and 2024, now solidly accounting for one-third of total AI investment. An overwhelming **87%** of organisations in Asia Pacific stated that **GenAI has been a driver for IT spending increases**.* A big shift from interpretive AI to GenAI has taken place, with companies in this study saying they have funded GenAI projects by moving budget from other AI initiatives.

- Interpretive and predictive AI have already demonstrated well-established use cases with proven ROI, particularly across health care, finance and manufacturing. Looking ahead, the future of AI will increasingly require the integration of all three types of AI to unlock new, more complex use cases. While there is a surge in GenAI spending due to its transformative capabilities, this trend will not overshadow the importance of interpretive and predictive AI.

*Sources: GenAI ARC, 2023; FERS, Wave 1, 2024 (AP n = 252), FERS Wave 9 - 2023

→ **Despite the explosive growth in GenAI spending, it is unlikely to overshadow predictive and interpretive AI.**

Where is the money for GenAI coming from?

Organisations are reallocating budgets to GenAI projects from infrastructure/software modernisation and digital transformation projects and also relying on fresh funding from IT and lines of business.

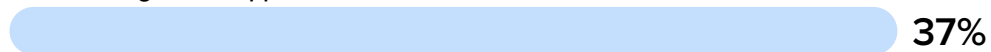## How organisations are funding new investments in GenAI in 2024

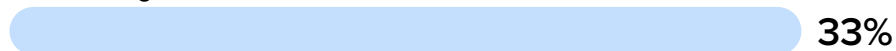**Increase the overall IT budget to ensure timely investments**
36%

Primarily relied on new funding by individual business units
24%

● **New budget**

Shifted budget from application modernisation efforts
37%

Shifted budget from infrastructure modernisation efforts
33%

Shifted budget from digital transformation efforts
31%

● **Reallocated budget**

Shifted budget from AI projects in other areas
24%
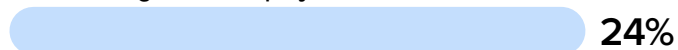
- Innovation is prioritised over maintenance in IT budgets as demonstrated in the shifting of funds from traditional IT projects, such as application and infrastructure modernisation to AI initiatives. Similarly, digital transformation, which was a top priority just a few years ago and has made significant strides, is now eclipsed by growing interest in AI initiatives. This move once again reflects the high hopes that GenAI will deliver greater value and faster returns than incremental improvements in existing systems.

- Companies are also reallocating budgets from other AI projects, mostly interpretive AI, in response to the growing focus on GenAI, reflecting a more tactical and reactive approach.

- Along with budget reallocation, companies have also raised their overall IT budgets to accommodate AI investments. New funding sources that come from individual business units show a decentralised funding approach due to the growing importance of LOB-driven use cases.

→ **Innovation is prioritised over maintenance in IT budgeting as companies are shifting budgets from traditional IT projects to GenAI initiatives.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)
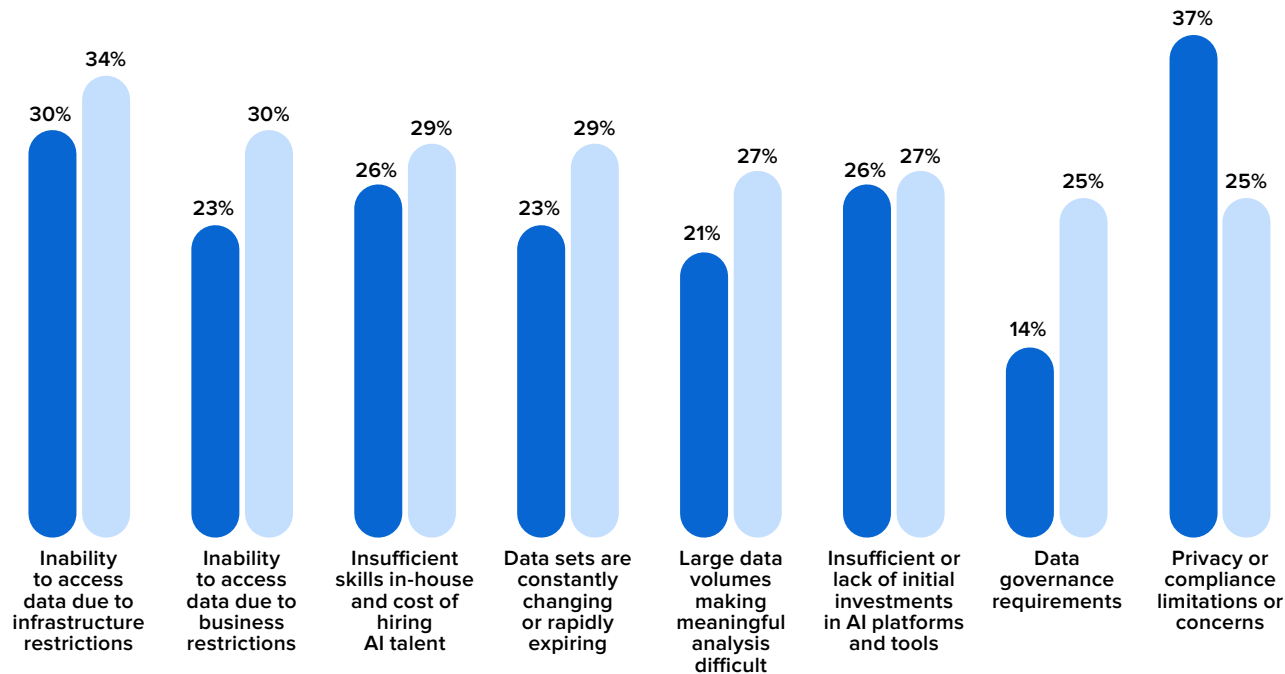
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Why do some AI initiatives fail?

AI followers point to data restrictions, poor data management and skill gaps as reasons for falling short of their AI goals.

Key factors contributing to AI initiatives failing to meet initial expectations

Data-specific challenges lead to failure of AI initiatives

● Leaders ● Followers

- **Inability to access data due to infrastructure restrictions:** Leaders 30%, Followers 34%
- **Inability to access data due to business restrictions:** Leaders 23%, Followers 30%
- **Insufficient skills in-house and cost of hiring AI talent:** Leaders 26%, Followers 29%
- **Data sets are constantly changing or rapidly expiring:** Leaders 23%, Followers 29%
- **Large data volumes making meaningful analysis difficult:** Leaders 21%, Followers 27%
- **Insufficient or lack of initial investments in AI platforms and tools:** Leaders 26%, Followers 27%
- **Data governance requirements:** Leaders 14%, Followers 25%
- **Privacy or compliance limitations or concerns:** Leaders 37%, Followers 25%

- Despite substantial and rapid investments in Asia Pacific, **half of organisations reported that up to 29% of their AI/ML projects have failed**. Similarly, approximately 30% of GenAI POC projects were unsuccessful in the past year.*

- The critical barriers to AI success include restricted access to quality data, which is essential for building effective models, and a shortage of in-house talent needed for AI development and maintenance. Additionally, rapidly changing data can quickly render AI models outdated, which makes scaling pilots to enterprise-wide implementation difficult. These issues are more prominent for followers as they are just starting to invest in data assets and building skills.

- AI leaders, who have progressed beyond addressing data and skills challenges, have shifted the emphasis to privacy and compliance concerns, and investing more in AI platforms and tools, signalling an awareness of the risks and complexities related to evolving regulations and the need to protect critical data.

*Source: IDC's AP Data, AI, GenAI and Insights Survey, Future Enterprise Resilience Survey Wave 4, 2024

→ **For successful AI, companies must build internal skills, improve data access and quality, and address any data privacy and compliance issues.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What are the challenges in managing data?

Eliminating unused data sets and expired data and removing storage-related bottlenecks will ensure AI modelling performance, delivering faster insights and improved accuracy.

Data challenges

Data privacy and compliance challenges

Eliminating unused or unneeded copies of data sets across the data infrastructure

Data storage-related bottlenecks slowing down AI modelling

Inclusion of old or expired data in AI modelling

Data quality issues impacting model accuracy
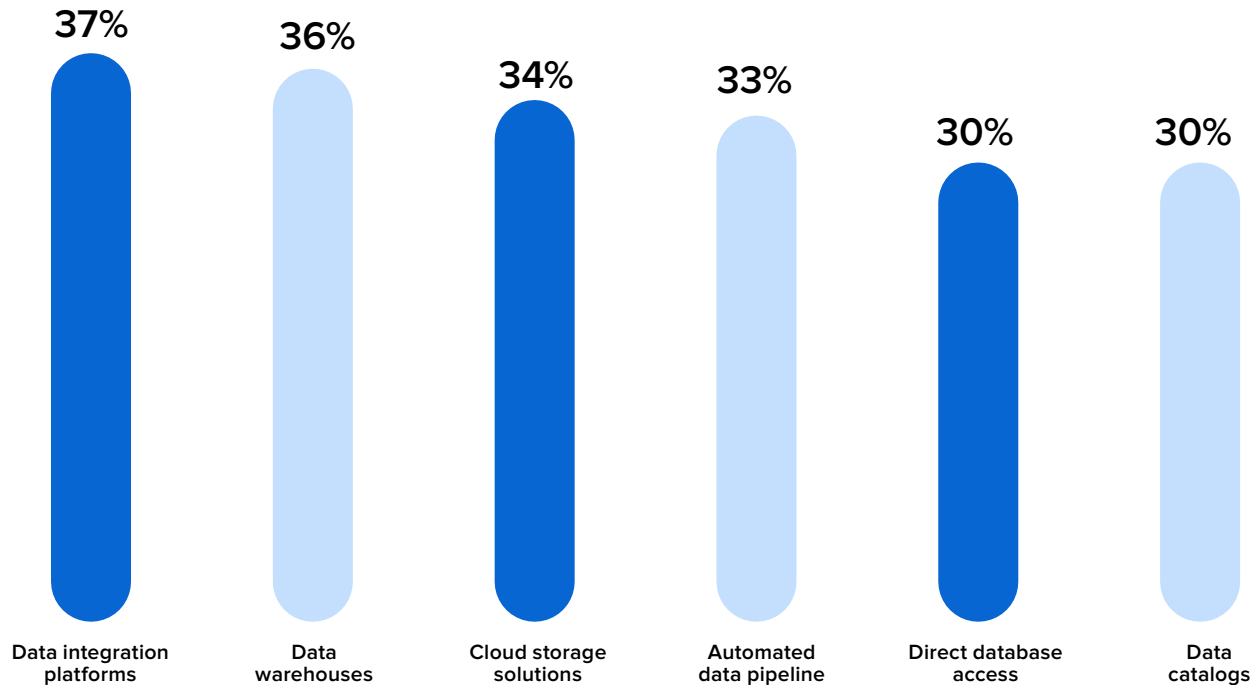
Difficulty in accessing relevant data sources

- The survey highlights a lack of capability in proper management across the data layer. Organisations will need to invest greater time and resources to clean up their data.

- To mitigate data challenges, Asia Pacific organisations can invest in data governance platforms that streamline data management and eliminate redundant data sets. AI data cleansing tools can also ensure that only relevant and current data is used in AI modelling, maintaining the accuracy and reliability of AI outputs.

- In addition, high-performance data storage solutions, such as those provided by cloud/hybrid cloud providers, help overcome storage bottlenecks, ensuring efficient data flow and faster AI processing.

- The selection of expert partners and vendors will be crucial for ensuring the data layer has been updated and prepared for AI use case implementation.

→ Organisations need to put in time and resources to clean up their data.

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

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What type of data assets are companies using?

Overcoming data challenges requires a hybrid data asset strategy, integration of disparate data sources, and leveraging each platform's unique strengths for scalability and flexibility.

Primary data assets used by Asia Pacific organisations

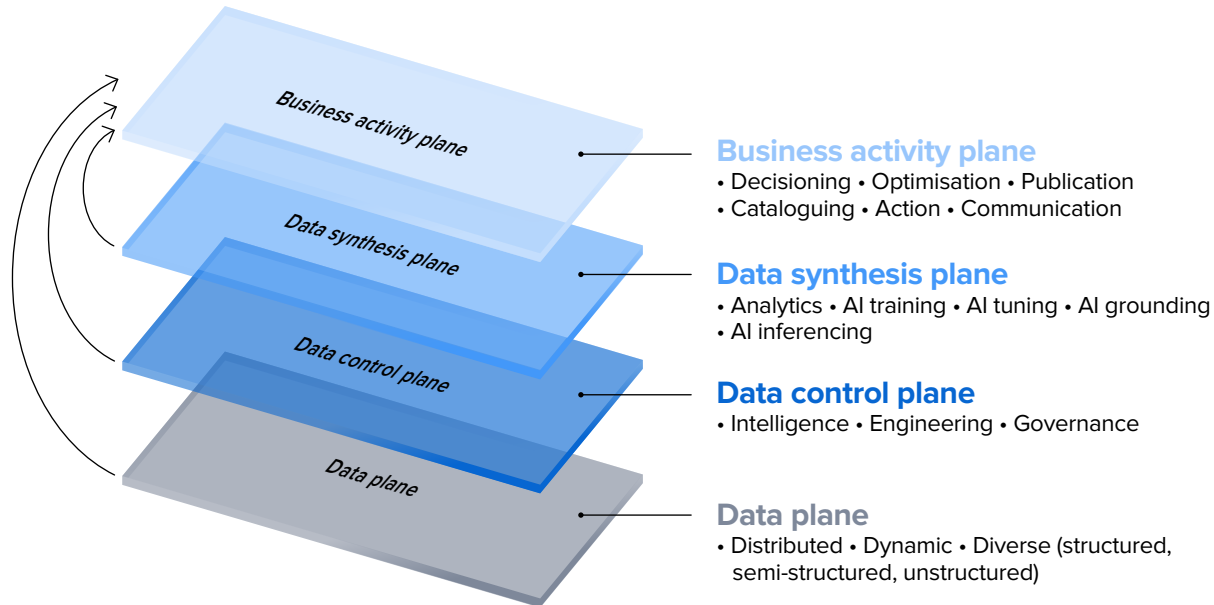| 37%	36%	34%	33%	30%	30%
Data integration platforms	Data warehouses	Cloud storage solutions	Automated data pipeline	Direct database access	Data catalogs

- Most organisations use a mix of data assets – data warehouses, direct database access and cloud solutions – to take advantage of the strengths of each platform, effectively managing diverse data types and workloads.

- As data volumes continue to grow, advanced platforms like hybrid and multicloud storage, edge computing, and AI-integrated data lakes will become increasingly dominant. In Asia Pacific, with its complex multi-country operations and regulatory demands, robust data integration solutions are essential for consolidating information.

- This hybrid approach addresses the region's needs for data consolidation, analysis and accessibility. It also supports digital transformation and addresses skills deficiency by democratising data access.

→ **Scaling AI means building an integrated data infrastructure that supports hybrid data assets.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What is an enterprise intelligence architecture?

Organisations must build capabilities across the four data planes for better decision making, efficient data/AI model management, improved data quality and governance, and robust data integration.

The enterprise intelligence architecture supports business activities with a data platform

Business activity plane
• Decisioning • Optimisation • Publication
• Cataloguing • Action • Communication

Data synthesis plane
• Analytics • AI training • AI tuning • AI grounding
• AI inferencing

Data control plane
• Intelligence • Engineering • Governance

Data plane
• Distributed • Dynamic • Diverse (structured, semi-structured, unstructured)

Source: IDC AI Adoption Model Train Presentation, 2024

Top benefits of using data platform

Streamlined decision-making processes
30%

Improved data accessibility and availability
26%

Real-time data insights and analytics
25%

Improved user experience
17%

Enhanced collaboration across teams
17%

A robust data platform is critical for AI development, as it ensures efficient data management, high data quality and scalability, providing essential tools for data integration, security and compliance. It supports the entire AI life cycle, improves data accessibility, provides real-time advanced analytics, improves user experience and, ultimately, drives strategic decision making.

→ **AI leaders use data platforms to support scalable AI across every aspect of the business.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

How do we make AI more trustworthy?

Start the data and AI journey with trust from day one – supported by technology, processes, talent and governance.
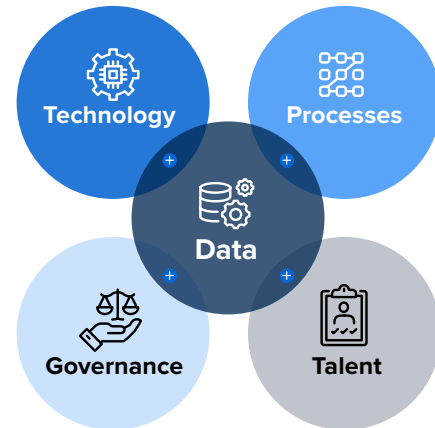
AI ethics

AI ethics provide the philosophical foundation and considerations to align AI usage with user expectations, organisational values, and societal laws and norms.

AI ethics guide the development, deployment, and use of AI across the enterprise and its ecosystems.

Responsible AI capability

- Systems and platforms
- Transparency and interpretability
- Bias mitigation, security and privacy
- Policies and risks remediation

Technology

Processes

- Data-centric methods
- Model-centric methods
- Product management
- Holistic approach

Data

- Oversight and accountabilities
- Trade-offs
- Data governance
- Model governance

Governance

Talent

- Ethical expertise
- Multi-disciplinary teams
- AI knowledge with ethical understanding
- Continuous learning and communication

Trustworthiness

- Reliability and safety
- Fairness and non-discrimination
- Transparency and explainability
- Privacy and security
- Accountability and responsibility
- Ethical alignment
- Social and environmental well-being

- Responsible AI (RAI) practices offer protection against data bias and data loss, ensure strong governance and processes, and are at the heart of trustworthy and safe AI solutions.

- The entire C-suite has a role to play in leadership, due diligence, navigating workplace changes, and considering internal and external partners.

*IDC defines **responsible AI** as the practice of designing, developing and deploying AI in a way that ensures fairness, reliability and safety, privacy and security, inclusiveness, transparency, and accountability.*

Operationalise ethical alignment by:

➕ Developing AI with fairness in mind to avoid bias.

➕ Ensuring that AI systems are transparent, and that their decisions can be explained.

➕ Incorporating mechanisms for accountability and reparation if AI systems cause harm.

Source: IDC, 2024

→ **Neglect of AI ethics is not just a moral quandary; it is a significant business risk that compromises AI trustworthiness, fairness and accountability.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

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What are AI risks and the critical aspects of an RAI platform?

RAI policies protect organisations from liabilities and risks that would harm company reputation, incur costs and impede wider AI adoption. Embedding human-centric perspectives in AI development ensures RAI.

Top concerns that RAI protects organisations against

1 Liability concerns

2 Ethical violations, unintended biases and discrimination

3 Regulatory risk/ non-compliance

- Successful AI projects prioritise a human-centric approach, focusing on employee needs rather than solely on technological advancements.

- This emphasis on human-centric design and ethical considerations helps organisations navigate the complexities of AI, ensuring trust, fairness and compliance.

- Key concerns in the region include the diverse regulatory landscape, cultural and ethical sensitivities, liability issues, and the need to build and maintain trust with stakeholders.

- These challenges highlight the importance of developing AI solutions that are not only advanced but also ethically sound and legally compliant – crucial for sustaining long-term success and reputation in the region.

Most critical aspects of an RAI platform

1 Human oversight

2 Bias mitigation

3 Governance and policy control

4 Explainable AI and transparency (XAI techniques)

- Asia Pacific organisations are investing in RAI platforms – crucial for maintaining AI explainability and transparency – and enabling fair and trustworthy outcomes. This requires organisations to prioritise human insight and judgment in AI applications to deliver transparent and ethical results.

- AI leaders say that AI privacy and security (30.2%), and governance and policy control (30%) are the most critical aspects of an RAI platform. With wider use case adoption, AI leaders need to maintain user confidence in their solutions with strong data privacy performance.
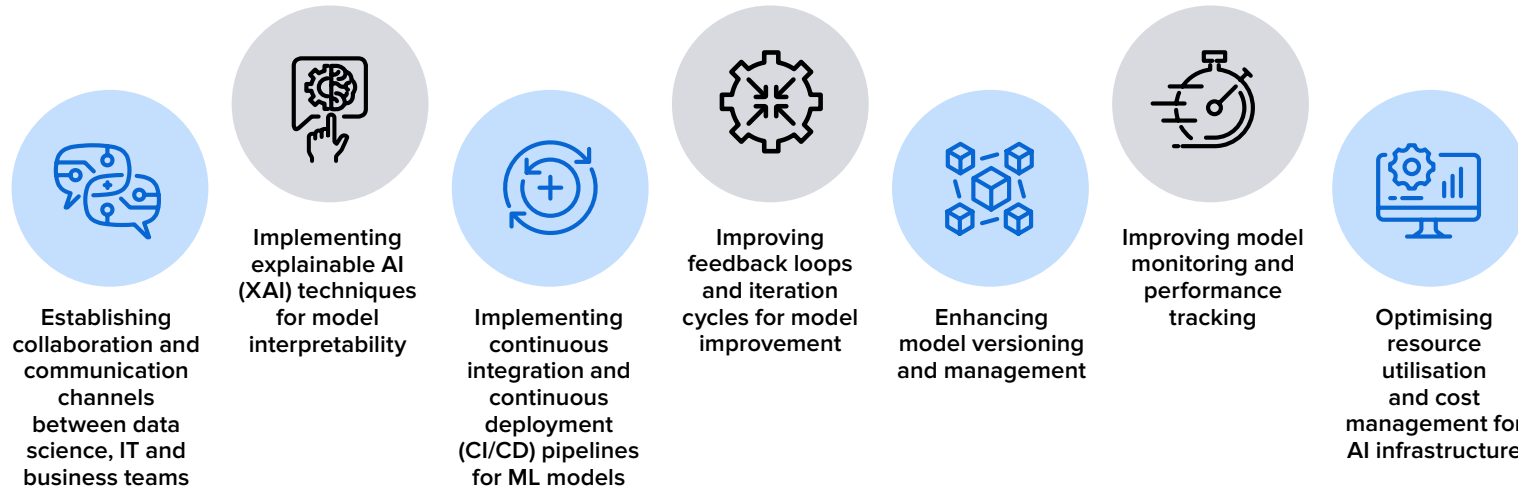
→ **Building trustworthy AI shields organisations from risks and liabilities, safeguards reputation, and ensures ethical fairness.**

→ **Trustworthy AI means designing processes with humans and AI in mind. It cannot be an afterthought – AI's success depends on users' confidence in AI outputs.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

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How do robust ModelOps practices support trustworthy AI?

Disciplined and systematic ModelOps capabilities that develop and manage AI at scale make all the difference.

Asia Pacific organisations' top ModelOps priorities

Establishing collaboration and communication channels between data science, IT and business teams

Implementing explainable AI (XAI) techniques for model interpretability

Implementing continuous integration and continuous deployment (CI/CD) pipelines for ML models

Improving feedback loops and iteration cycles for model improvement

Enhancing model versioning and management

Improving model monitoring and performance tracking

Optimising resource utilisation and cost management for AI infrastructure

- Trustworthy AI is the goal, but it can only be achieved through rigorous ModelOps practices. Embedding explainable AI techniques in ModelOps enables models to articulate the reasoning behind their predictions, making them more interpretable and trustworthy for users. These techniques ensure that AI models adhere to ethical standards and regulatory requirements.

- Key priorities also include implementing CI/CD, model management and monitoring in ModelOps, which ensure the seamless and efficient deployment of AI models, reduce the risk of errors, and maintain model performance over time.

- In addition to technical priorities, collaboration is a central focus for ModelOps. Organisations are working to enhance communication between data science, IT and business teams to ensure that AI models are aligned with business goals and operational requirements.

→ **ModelOps delivers accountable and fair and balanced insights that build confidence in AI-driven decisions.**

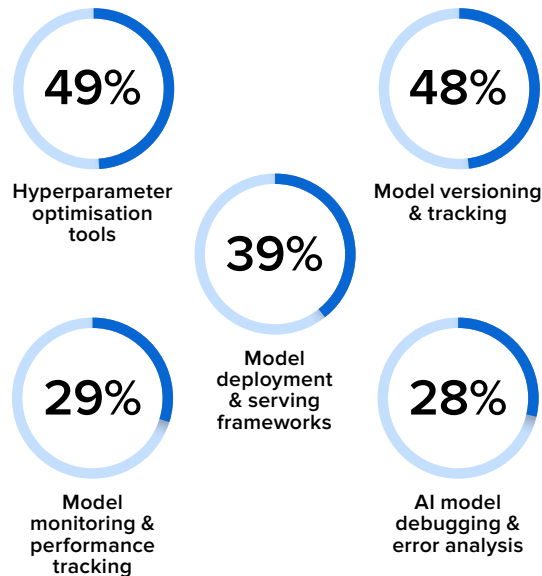Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What are the tools for ModelOps performance?

Leaders maximise low-code/no-code in ModelOps – streamlining processes, unlocking customisation and ensuring seamless scalability.

In ModelOps, critical tools like hyperparameter optimisation and model versioning systems are essential for maximising performance and effectively managing ML models throughout their life cycles.

The focus is increasingly on automation, integration and scalability, with a shift towards unified platforms that streamline the entire model life cycle, and efficiently handle large-scale AI operations, especially in cloud environments.

Top tools for ModelOps performance in the next 12 months

49%
Hyperparameter optimisation tools

48%
Model versioning & tracking

39%
Model deployment & serving frameworks

29%
Model monitoring & performance tracking

28%
AI model debugging & error analysis

Low-code/no-code platforms are utilised in ModelOps more extensively by AI leaders than followers. These solutions allow data scientists to set up and run optimisation processes with minimal coding, and simplify versioning and tracking, giving them more time to focus on activities with higher demand for customisation or requiring the usage of yes-code.

AI leaders often have complex, established operations and a diverse range of users with varying coding skills. Low-code/no-code platforms offer the scalability needed to integrate seamlessly with existing systems and support both technical and non-technical users.

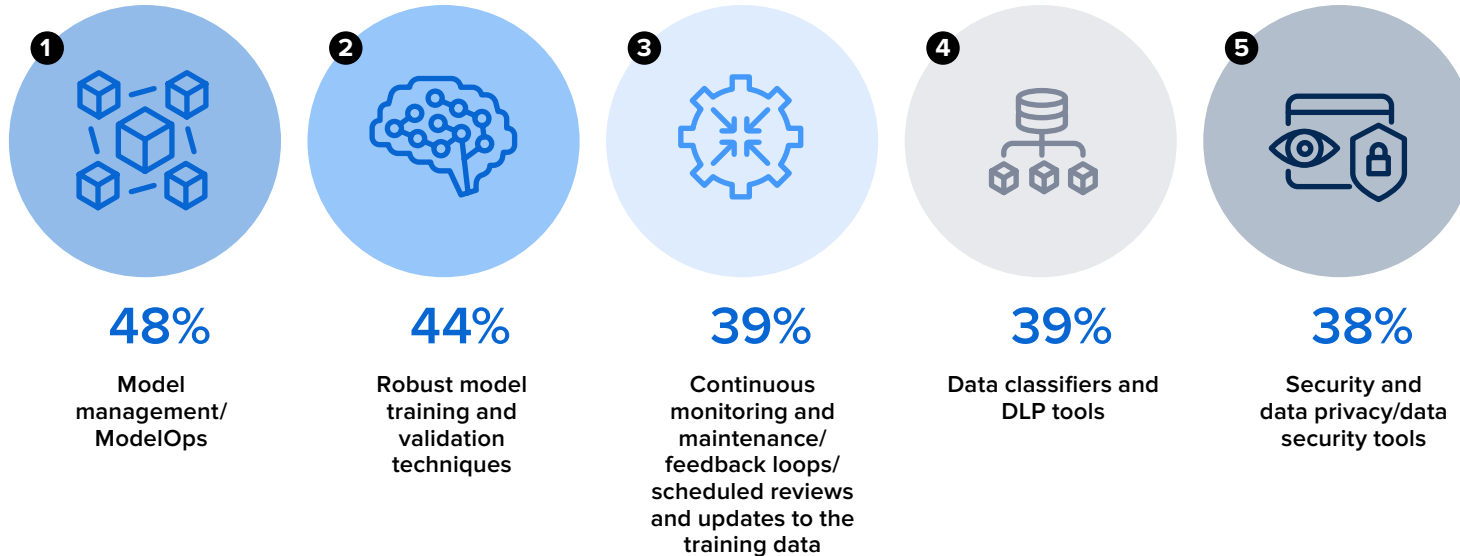**Use of low-code/no-code vs. yes-code tools**

Yes-code ← → Low-code/no-code

44%	Leaders	49%
60%	Followers	35%
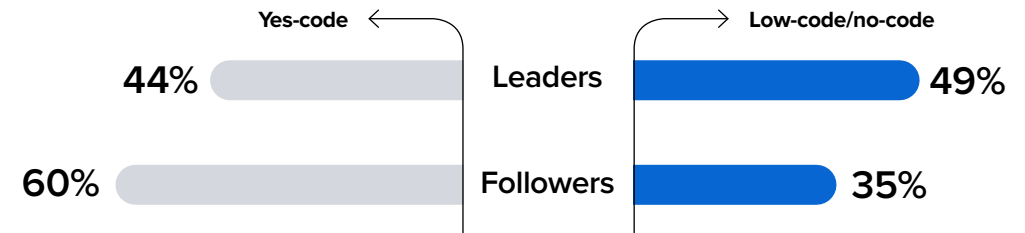
→ **AI leaders use low-code/no-code and ModelOps tools in combination with programming solutions to accelerate AI performance.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

What are the critical factors for AI performance?

ModelOps and model validation and monitoring are the most critical for AI performance.

Top 5 factors critical to AI performance

1 — **48%**
Model management/ ModelOps

2 — **44%**
Robust model training and validation techniques

3 — **39%**
Continuous monitoring and maintenance/ feedback loops/ scheduled reviews and updates to the training data

4 — **39%**
Data classifiers and DLP tools

5 — **38%**
Security and data privacy/data security tools

→ **Managing data and models, ModelOps, and security are critical to ensuring AI performance.**

- The most critical factor for AI success is model management/ ModelOps, as it encompasses the full life cycle management of AI models, ensuring they remain effective, scalable and aligned with business goals. Without robust ModelOps practices, AI models may quickly become obsolete or fail to deliver the expected results, leading to operational inefficiencies and a loss of trust in AI systems.

- Other factors such as robust model training, continuous monitoring, data loss prevention, and security and data measures are interdependent and, collectively, are essential for optimal AI performance.

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

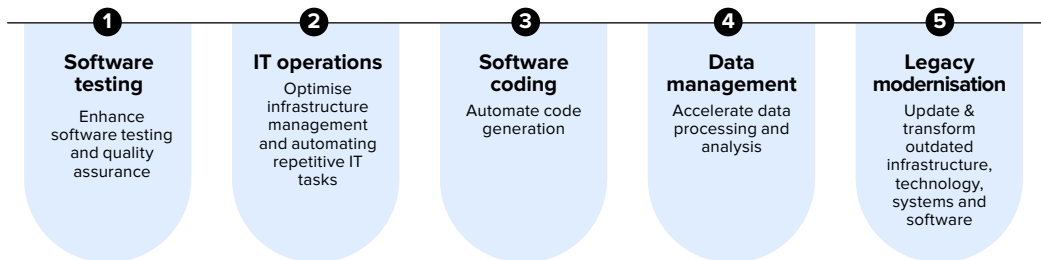# How do AI and GenAI enhance IT and data teams' productivity?

AI and GenAI promise a productivity boost by automating operations and ensuring effective data management.

Automating IT tasks is among the top AI use cases that deliver the greatest ROI to 48% of Asia Pacific companies.* GenAI can automate key processes like coding, testing and IT operations, reducing development time, minimising human error and lowering operational costs, thereby driving greater overall efficiency in IT functions.

There is a growing recognition that IT initiatives must directly contribute to organisational goals such as revenue growth, cost reduction and customer satisfaction to justify investments. Leaders strongly emphasise outcomes and operational efficiency for metrics such as business impact, feature engineering efficiency and time to deployment. Followers, on the other hand, are fixed on their processes and infrastructure rather than optimising for business results.

*Source: GenAI ARC, 2023, n = AP 605

GenAI's impact on productivity metrics in IT

① Software testing
Enhance software testing and quality assurance

② IT operations
Optimise infrastructure management and automating repetitive IT tasks

③ Software coding
Automate code generation

④ Data management
Accelerate data processing and analysis

⑤ Legacy modernisation
Update & transform outdated infrastructure, technology, systems and software

Metrics that Asia Pacific organisations use to measure data scientists' and ModelOps engineers' productivity
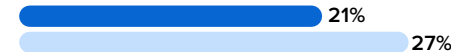
● Leaders   ● Followers

Model iterations
Leaders: 26%
Followers: 33%
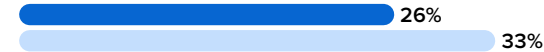
Business impact, e.g., revenue generated, cost savings, customer retention
Leaders: 49%
Followers: 28%

Infrastructure utilisation
Leaders: 21%
Followers: 27%

Feature engineering efficiency
Leaders: 44%
Followers: 26%

Collaboration and communication
Leaders: 33%
Followers: 26%

Time to deployment
Leaders: 35%
Followers: 18%
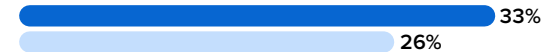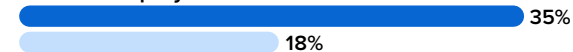
→ AI leaders are increasingly using business outcome-driven metrics for IT and data science team productivity, with GenAI enabling more efficient and cost-effective operations.

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024, (n=509)

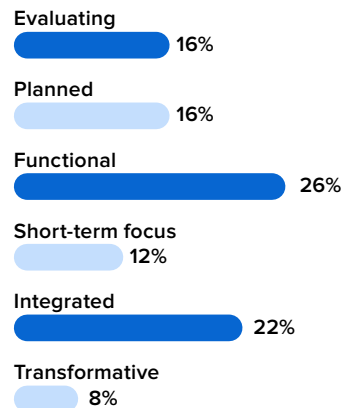# What is the impact of AI on banking?

47% of banking organisations expect up to two times, and 46% over three times, return on AI investments.

The banking sector is strongly expected to continue investments in AI due to its ability to significantly enhance operational efficiency, reduce fraud and improve customer experiences. But to deliver the promise of revenue growth, cost reduction and higher profits, banks must overcome the lack of data governance across their processes and a shortage of specialised personnel skilled in AI.

- Banks need to shift from a short-term tactical approach to strategically integrating AI across the value chain by aligning with business goals, investing in scalable infrastructure and fostering cross-functional collaboration.
- Inconsistent data foundations from diverse sources and formats have hindered legacy AI projects; stronger data governance and data management is crucial for improving integrity.
- Tech focus has shifted to AI model management and performance, AI-embedded apps, and AI skills improvement for internal staff, and delivering trusted AI solutions that incorporate strong governance and policy controls, data control, and privacy enhancements.
- To comply with Basel III, banks prioritise AI-driven use cases like liquidity risk management and ALM. These require top-tier security for sensitive data to maintain compliance and accuracy, and enhance decision-making capabilities.
- Ongoing AI investments offer banks opportunities to modernise outdated systems, with GenAI promising improvements in software testing and overall IT productivity.

AI maturity in the banking sector

- Evaluating **16%**
- Planned **16%**
- Functional **26%**
- Short-term focus **12%**
- Integrated **22%**
- Transformative **8%**

Top 3 challenges in implementing AI technology

1. Data foundation lacks sufficient governance processes
2. Lack of compelling business case/unable to realise ROI
3. Lack of specialised skilled personnel

Nearly a third of organisations said they faced **specific data challenges**: inconsistent or incomplete data entries, difficulty accessing relevant data sources, high costs associated with data storage and processing, and inefficient data integration from multiple sources.

Top banking use cases leveraging AI tools and platforms

- Liquidity risk management
- Asset & liability management
- Financial crime analytics
- Identity and digital fraud
- Payments fraud

Primary benefits of adopting AI technologies for banking use cases

- Reduce legacy technology burden
- Quicker time to market for new/existing products
- Cost savings from automating existing processes
- Informed risk decisioning
- Contextualised & targeted customer engagement

Top tech investment priorities

- **40%** AI-driven analytics and business intelligence
- **33%** ML and deep learning platforms
- **31%** Cloud computing infrastructure/IT infrastructure
- **31%** Software platforms for application development
- **29%** IT consulting and services for AI projects

→ **Banks should invest in platforms to address data and AI implementation challenges and develop capabilities that will optimise their tech investments, including adopting AI-embedded applications, improving the monitoring of deployed AI models' performance, AI-related employee training and reskilling, and driving productivity initiatives. These capabilities will help bankers generate better ROI from uses cases such as intelligent pricing customisation and drive better business value.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 111 Banking)

What is the impact of AI on insurance?

50% of insurers expect up to two times, and 41% over three to four times, return on AI investments.

The Asia Pacific insurance industry anticipates returns from continued investments in AI because of its potential to enhance operational efficiency, streamline underwriting processes and significantly reduce fraud risk. AI-driven improvements in claims management and personalised customer experiences contribute to both cost reduction and revenue growth. This transformation enables insurers to enhance profitability while improving service delivery, and ensures compliance in a highly regulated environment.

- Insurance companies need to move away from a functional to a strategic approach to integrate AI across their operations, ensure alignment with business objectives, and invest in scalable infrastructure and cross-functional collaboration.

- Fragmented and inconsistent data from various sources has historically hampered AI initiatives; hence, robust data governance is essential to enhance data integrity and drive successful AI implementations, and to account for the highly regulated nature of the industry.

- Insurance is now shifting towards optimising AI model management and performance, AI embedded applications, and cloud while delivering trusted AI solutions through bias mitigation and explainable AI (XAI) techniques.

- To comply with stringent regulatory frameworks and manage underwriting risks, insurers prioritise AI use cases such as insurance claims fraud, necessitating top-tier security for handling sensitive policyholder data.

- Ongoing AI investments provide insurers with opportunities to modernise outdated systems with GenAI (through better software testing and code generation) offering improvements in claims processing and operational efficiency.
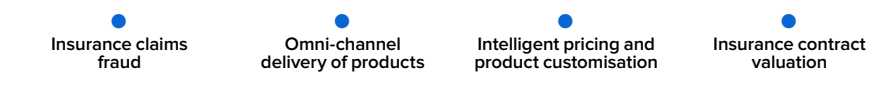
AI maturity in the insurance sector

Evaluating
5%

Planned
23%

Functional
32%

Short-term focus
5%

Integrated
14%

Transformative
23%
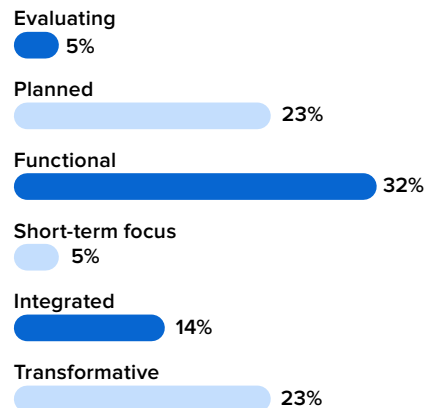
Top 3 challenges in implementing AI technology

1 Data foundation is not centralised or optimised in the cloud

2 Organisation is in a highly regulated industry

3 Lack of specialised skilled personnel

Nearly half of insurers said they faced specific **data challenges**: data quality issues impacting model accuracy, insufficient metadata and data documentation.
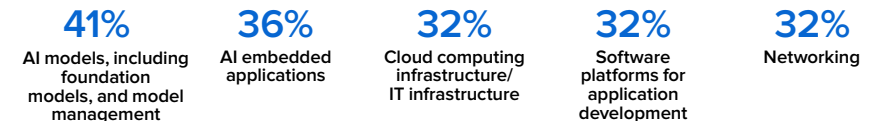
Top insurance use cases leveraging AI tools and platforms

- Insurance claims fraud
- Omni-channel delivery of products
- Intelligent pricing and product customisation
- Insurance contract valuation

Primary benefits of adopting AI technologies for insurance use cases

- Greater automation (in model development and deployment)
- Streamlined, agile decision-making process
- Contextualised policyholder engagement
- Governance and control
- Augmented analytics

Top tech investment priorities

41% AI models, including foundation models, and model management

36% AI embedded applications

32% Cloud computing infrastructure/ IT infrastructure

32% Software platforms for application development

32% Networking

→ **Insurance companies must develop capabilities that will optimise their tech investments. These include building and running a data science and AI team, AI-related employee training and reskilling, and safeguarding the security of AI systems, including compliance with GDPR. These capabilities will help insurers derive better ROI from use cases such as intelligent pricing customisation, enhancing operational efficiency, driving revenue growth or optimising costs.**

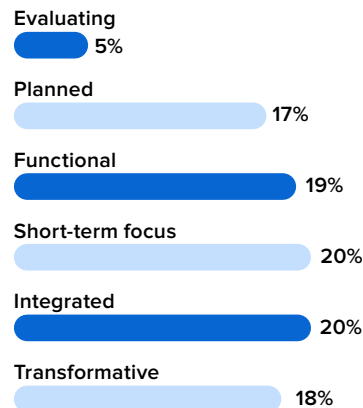# What is the impact of AI in health care and life sciences?

35% of HLS organisations expect up to two times, and 47% over three times, return on AI investments.

Health care and life sciences (HLS) organisations in Asia Pacific are focused on optimising return from investments in AI, leveraging it to enhance operational workflows, improve patient outcomes and reduce fraud in claims processes. AI-driven advancements – supported by end-to-end data management – in personalised care and patient management and safety drive business value. This transformation helps health care providers boost financial performance while ensuring regulatory compliance and data security in a complex environment.

- HLS organisations need to shift from tactical AI deployments to strategically integrating AI across the care continuum by aligning AI initiatives with core objectives, investing in scalable infrastructure and promoting cross-functional collaboration.

- Inconsistent data foundations, stemming from diverse sources such as EHRs, claims data and clinical trials, have hindered legacy AI projects. Improving data governance and management is essential to ensure data integrity and interoperability across systems.

- HLS organisations are focusing on bringing in external expertise from IT consulting partners for AI projects, investing in software platforms and cloud, and upskilling health care professionals to leverage AI tools effectively.

- They are creating trustworthy AI built on robust governance policy and control, strong security measures, and ensuring AI models present fair outcomes for customers and non-discrimination.

- Ongoing AI investments provide opportunities for modernising IT systems with GenAI – through ITOps optimisation and automation, and enhanced software testing – holding promise for advancements in diagnostics and better patient safety.

AI maturity in the HLS sector

- Evaluating **5%**
- Planned **17%**
- Functional **19%**
- Short-term focus **20%**
- Integrated **20%**
- Transformative **18%**

Top 3 challenges in implementing AI technology

1. Lack of specialised skilled personnel
2. Concerns about data or IP loss due to improper use of AI
3. Data foundation lacks sufficient governance processes

Approximately **a third** of HLS companies said they faced **specific data challenges**: eliminating unused or unneeded copies of data sets across data infrastructure, and inclusion of old or expired data in AI modelling.
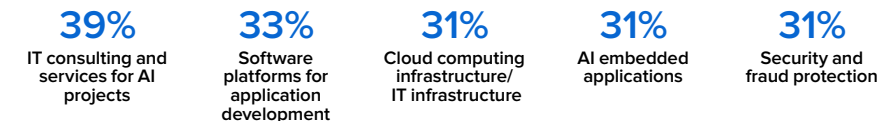
Top health care use cases leveraging AI tools and platforms

- Health care fraud and cost containment
- Use of real world and synthetic data to accelerate regulatory approvals
- Improved real-time patient/ drug safety
- Medical resource optimisation
- Clinical trial design optimisation

Primary benefits of adopting AI technologies for HLS use cases

- End-to-end data management
- Faster time to market
- Synthetic data generation
- Enhanced collaboration across teams
- Streamlined, agile decision-making process

Top tech investment priorities

- **39%** IT consulting and services for AI projects
- **33%** Software platforms for application development
- **31%** Cloud computing infrastructure/ IT infrastructure
- **31%** AI embedded applications
- **31%** Security and fraud protection

→ **HLS organisations must develop capabilities that will optimise their tech investments. These include developing a robust AI strategy, adopting a data management and governance life cycle approach to AI, implementing a responsible AI policy, and improving the monitoring of deployed AI models performance. These will help them achieve better ROI from use cases like health care fraud and cost containment, resulting in improved performance and better patient outcomes.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 75 HLS)
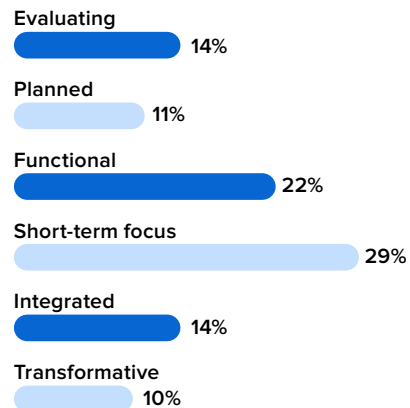
What is the impact of AI in government?

The government sector must overcome a lack of skills to deliver trustworthy AI and high-value use cases.

The government sector in Asia Pacific is using AI technology to streamline operational processes, improve service delivery and enhance overall compliance for public programmes. AI-driven advancements, supported by comprehensive data management systems, boost efficiency in areas like citizen services and public safety. This digital transformation enables government bodies to optimise resource allocation and safeguard data security, ultimately driving greater public value.

- Agencies must evolve from short-term-focused AI deployment to a more strategic integration of AI across public services by aligning initiatives with key governmental objectives, investing in scalable infrastructure and fostering cross-departmental collaboration.

- Disparate data sources, including citizen records, public service data and security logs, have limited the success of legacy AI projects. Strengthening data governance and management is critical to ensuring data integrity and interoperability across systems.

- Lacking skilled personnel, the public sector is increasingly engaging external IT consultants for AI initiatives. It invests in cloud infrastructure and AI/ML platforms to deliver specific use cases such as emergency response and social benefits programmes.

- Governments are focused on building trustworthy AI systems by keeping humans in the loop and oversight, and through ongoing stakeholder engagement and education.

- Governments are also leveraging GenAI to improve data management (accelerating data processing and analysis), and enhancing software testing and quality assurance.

AI maturity in the government sector

- Evaluating — 14%
- Planned — 11%
- Functional — 22%
- Short-term focus — 29%
- Integrated — 14%
- Transformative — 10%

Top 3 challenges in implementing AI technology

1. Lack of specialised skilled personnel
2. Data foundation lacks sufficient governance processes
3. Lack of clear evaluation criteria for the AI solutions

Nearly a third of government organisations said they faced **specific data challenges**: data storage-related bottlenecks slowing down AI modelling and a lack of standardised data management practices.

Top government use cases leveraging AI tools and platforms

- Social benefits programme integrity
- Emergency response
- Tax and revenue compliance
- Investigations management

Primary benefits of adopting AI technologies for government use cases

- Automated model development and deployment
- Streamlined, agile decision-making process
- Contextualised citizen engagement
- Governance and control augmented analytics

Top tech investment priorities

- **41%** IT consulting and services for AI projects
- **34%** Cloud computing infrastructure/ IT infrastructure
- **33%** AI-driven analytics and business intelligence
- **29%** ML and deep learning platforms
- **28%** Software platforms for application development

→ **Government organisations must develop capabilities that will maximise their tech investments. These include adopting a data management and governance life cycle approach to AI, introducing AI-related employee training and reskilling, improving AI performance through ML platforms, and developing and fine-tuning AI models. These capabilities will help agencies attain better ROI from use cases such as social benefits and emergency response programmes and drive value creation.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 87 Government)
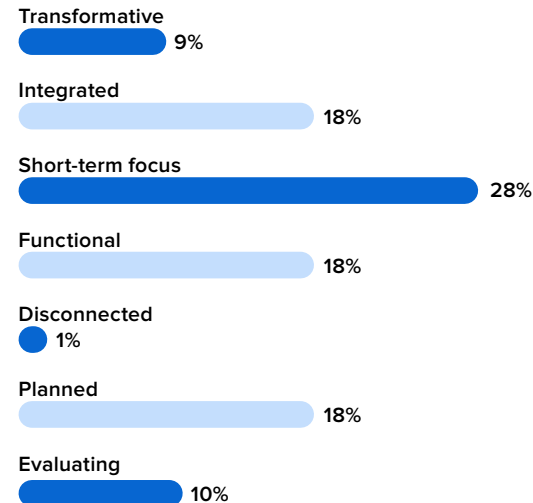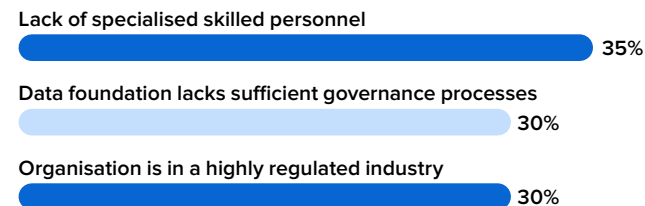
How is Australia progressing in AI?

Australian organisations are betting on AI for growth, but skills, data and governance are key hurdles.

- While most Australian organisations are at the midstages of AI adoption, approximately one-third are only just beginning their journey, evaluating AI's potential and considering future investments.

- Australian organisations expect AI to deliver revenue growth, cost reduction and faster time to market, with most expecting AI to deliver returns of two to three times their investment.

- However, challenges remain around data, skills and the complexities of regulatory compliance in implementing AI. These challenges can slow down AI adoption and limit its success rate.

- Organisations face data challenges that hinder the ability to efficiently gather, process and analyse data, which is crucial for training accurate and effective AI models.

AI maturity in Australia

Transformative
9%

Integrated
18%

Short-term focus
28%

Functional
18%

Disconnected
1%

Planned
18%

Evaluating
10%

Top challenges in AI technology implementation

Lack of specialised skilled personnel
35%

Data foundation lacks sufficient governance processes
30%

Organisation is in a highly regulated industry
30%

Top 3 business outcomes from AI initiatives

Drive revenue growth

Save costs

Faster time to market

Data management and access limitation lead to AI failure

1. **41%** Data engineering complexity

2. **41%** Inability to access data due to infrastructure restrictions

3. **35%** Data governance requirements

4. **35%** Large data volumes making meaningful analysis difficult

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ , n = 80 Australia)
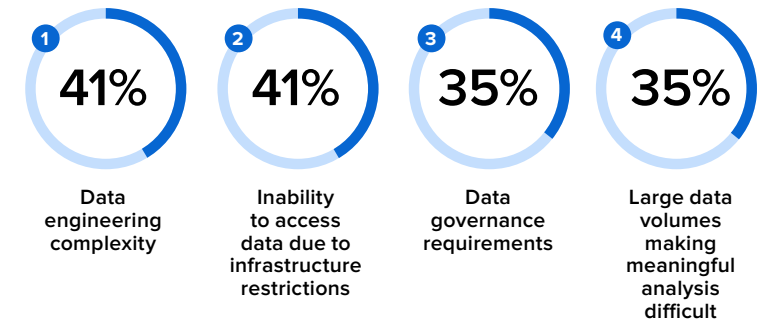
# What are the critical factors for AI performance in Australia?

Data platforms and ModelOps enhance AI performance as stricter regulations push for trustworthy AI practice.

- In Australia, AI performance is increasingly driven by efficient data and model management, alongside growing considerations for regulatory compliance. This balanced approach strongly focuses on using robust data platforms to streamline data management and model oversight, enhance collaboration across teams, improve data management, and provide real-time insights.

- Australian organisations' responsible AI frameworks prioritise fair outcomes, explainable AI (XAI) and strong data governance, especially since the government introduced mandatory guardrails for high-risk AI. These regulations stress accountability, transparency, record keeping and meaningful human oversight of AI systems. Stricter AI policies are pushing companies to prioritise responsible and trustworthy AI practices.

- Evolving ModelOps strategies reflect the greater weight put on trustworthy AI and data management by improving model transparency and performance.

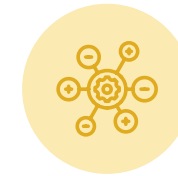## 5 critical factors to ensure AI performance

Regulatory compliance
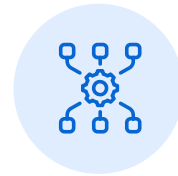
Model management/ ModelOps
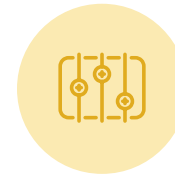
Scalability of AI
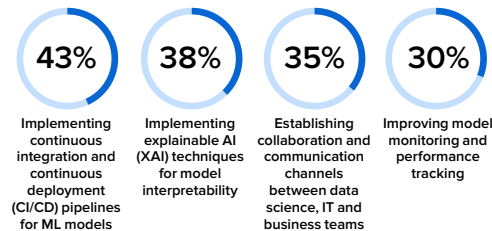
Robust model training

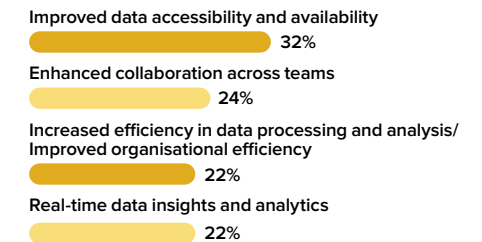**Real-time data processing**

Responsible AI platform priorities

- Fair outcomes for individuals and groups
- Explainable AI and transparency
- Data governance and privacy measures

ModelOps priorities

43%
Implementing continuous integration and continuous deployment (CI/CD) pipelines for ML models

38%
Implementing explainable AI (XAI) techniques for model interpretability

35%
Establishing collaboration and communication channels between data science, IT and business teams

30%
Improving model monitoring and performance tracking

Data platforms improve decision making and data quality

Improved data accessibility and availability
32%

Enhanced collaboration across teams
24%

Increased efficiency in data processing and analysis/ Improved organisational efficiency
22%

Real-time data insights and analytics
22%

→ **Australian organisations should focus on improving robust data management and model operations, and developing skills, underpinned by a responsible AI practice framework.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 80 Australia)
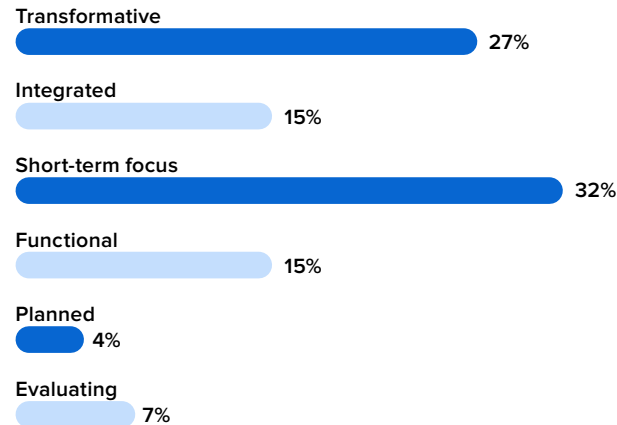
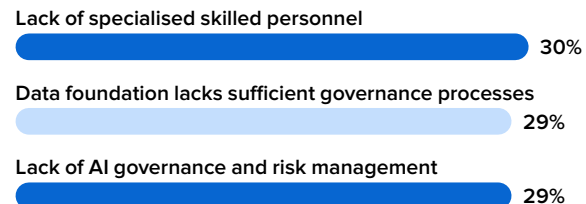# How is China progressing in AI?

27% of Chinese organisations are described as AI leaders, showing a more mature state of AI development.

- Chinese organisations are investing heavily in AI, with more than a quarter leading in AI capabilities and only very few that are not developing AI.

- Their key focus is using AI to drive financial growth and expand market presence, particularly in the ASEAN markets. By leveraging AI, they aim to gain a competitive edge domestically and internationally.

- Despite their advancement, Chinese companies face notable challenges, particularly with the shortage of skilled AI professionals and weak data foundations. Additionally, many lack robust AI governance frameworks and risk management practices to ensure ethical and secure AI deployment.

- Data access restrictions are the most critical factor hindering AI success, often leading to project failures and limiting the full potential of AI initiatives.
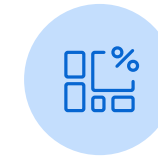
AI maturity in China

Transformative
27%

Integrated
15%

Short-term focus
32%

Functional
15%

Planned
4%

Evaluating
7%

Top challenges in AI technology implementation

Lack of specialised skilled personnel
30%

Data foundation lacks sufficient governance processes
29%

Lack of AI governance and risk management
29%

Top 3 business outcomes from AI initiatives
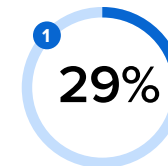
Expand market share

Increase profits

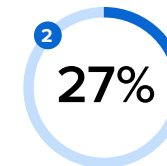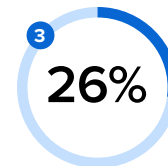Drive revenue

Data access limitation and inefficiency lead to AI failure

1. **29%** Inability to access data due to business restrictions

2. **27%** Inability to access data due to infrastructure restrictions

3. **26%** Data sets are constantly changing or rapidly expiring

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 100 China)

What are the critical factors for AI performance in China?

Strong focus on security and governance can help drive better AI scalability and data management.

- Chinese organisations emphasise security, compliance, skilled talent and effective model operations as critical elements for AI success. Achieving these forms the foundation for scaling AI as they continue to mature in their AI capabilities.

- For responsible AI, organisations prioritise bias mitigation, AI privacy and security, and governance with strong policy controls. As they rapidly adopt AI, ensuring fairness, safeguarding data and adhering to ethical governance frameworks are vital for building public trust and brand worthiness, especially when expanding to international markets.

- Leveraging data platforms and ModelOps can help organisations maintain AI quality, improve operational efficiency, and uphold stringent security and compliance measures – critical for responsible AI deployment.

- The demand for AI skills has intensified competition for data and AI talent, and organisations are prioritising skill availability.
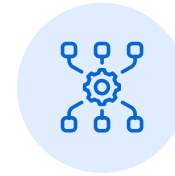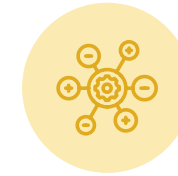
5 critical factors to ensure AI performance

Security and data privacy

Regulatory compliance

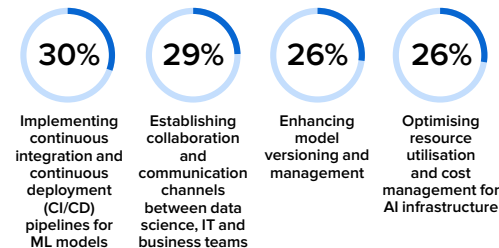**Model management/ ModelOps**
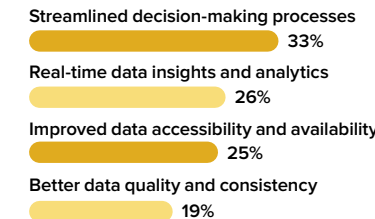
Robust model training

Availability of skills

Responsible AI platform priorities

- Bias mitigation
- AI privacy and security
- Governance and policy control

ModelOps priorities

30% Implementing continuous integration and continuous deployment (CI/CD) pipelines for ML models

29% Establishing collaboration and communication channels between data science, IT and business teams

26% Enhancing model versioning and management

26% Optimising resource utilisation and cost management for AI infrastructure

Data platforms improve decision making and data quality

Streamlined decision-making processes
33%

Real-time data insights and analytics
26%

Improved data accessibility and availability
25%

Better data quality and consistency
19%

→ **To effectively scale AI, Chinese organisations must build a robust talent pipeline as a priority, ensure trustworthy AI practices and establish a solid data foundation.**

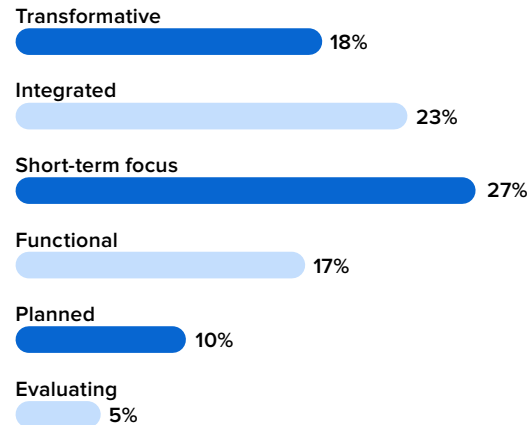Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 100 China)
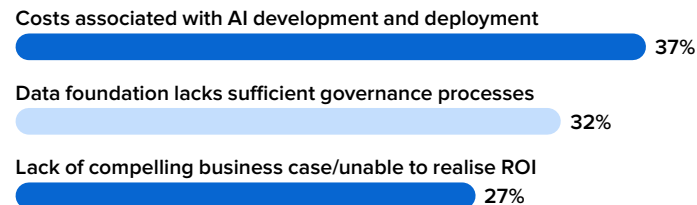
How is India progressing in AI?

Cost concerns and the need for ROI realisation are both drivers of, and barriers to, organisations' AI adoption.

- Indian organisations are progressing in AI implementation, mostly led by large entities with well-established infrastructure and processes.

- While AI promises market expansion, cost savings and enhanced employee productivity, many organisations find it challenging to invest without a clear path to generating tangible returns. This creates a delicate balancing act – companies are eager to harness AI's potential but must be mindful of the significant upfront investments required. To justify greater AI implementation, organisations need to make strategic, well-calculated investments that align with their business goals, ensuring that the benefits of AI can be realised without compromising financial stability.

- Indian companies also face significant challenges around data governance and management, which further complicate AI adoption efforts. Inadequate data quality, inconsistent data governance and data restrictions hinder the ability to fully leverage AI technologies.

AI maturity in India

Transformative 18%
Integrated 23%
Short-term focus 27%
Functional 17%
Planned 10%
Evaluating 5%

Top challenges in AI technology implementation

Costs associated with AI development and deployment 37%
Data foundation lacks sufficient governance processes 32%
Lack of compelling business case/unable to realise ROI 27%

Top 3 business outcomes from AI initiatives

Expand market share

Improve employee productivity

Save costs

Data management and access limitation lead to AI failure

1 32% — Data governance requirements

2 32% — Inability to access data due to business restrictions

3 32% — Insufficient or lack of initial investments in AI platforms and tools

4 29% — Data engineering complexity

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 78 India)
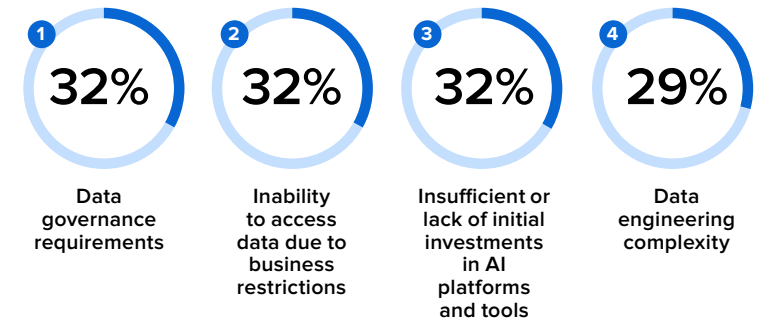
What are the critical factors for AI performance in India?

Boosting infrastructure investments and leveraging data platforms enhance Indian companies' AI success.

- Computational power and infrastructure are critical factors for AI performance, yet possessing these is a significant challenge for Indian organisations. It requires substantial investments, which can be difficult for cost-conscious organisations.

- Indian companies emphasise human oversight, along with bias mitigation and clear documentation, to ensure their AI platforms are responsible and trustworthy. Human oversight is especially critical during the training phase of AI models, as this is when the foundations for the model's behaviour and decision-making processes are established.

- Utilising data platforms and ModelOps ensures AI quality, enhances operational efficiency, and ensures robust security and compliance protocols, all of which are essential for trustworthy AI deployment.

5 critical factors to ensure AI performance

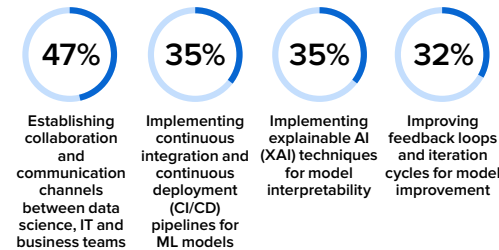**Security and data privacy** | **Model management/ModelOps** | **Computational power/Infrastructure** | **Continuous data monitoring** | **Data classifiers/DLP tools**

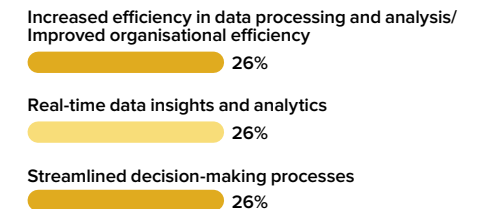### Responsible AI platform priorities

- Bias mitigation
- Human oversight
- Clear documentation and communication of AI capabilities and limitations

ModelOps priorities

47% Establishing collaboration and communication channels between data science, IT and business teams

35% Implementing continuous integration and continuous deployment (CI/CD) pipelines for ML models

35% Implementing explainable AI (XAI) techniques for model interpretability

32% Improving feedback loops and iteration cycles for model improvement

Data platforms improve decision making and data quality

Increased efficiency in data processing and analysis/ Improved organisational efficiency — **26%**

Real-time data insights and analytics — **26%**

Streamlined decision-making processes — **26%**

→ **Indian organisations should prioritise AI trustworthiness by ensuring strong governance while developing their AI foundation models. They must carefully evaluate AI investments, focusing on strategic areas with clear ROI metrics to drive operational efficiency and business growth.**

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 78 India)
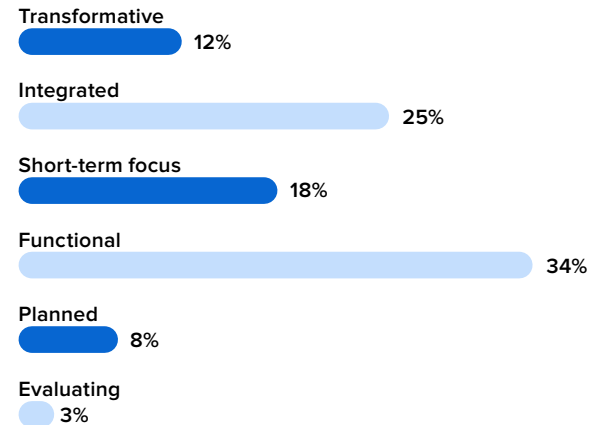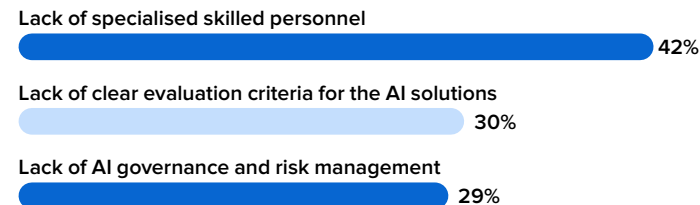
How is Japan progressing in AI?

Most organisations deploy AI at a functional level and are hindered by inefficient data management and data restrictions.

- Japanese organisations leverage AI to improve operational efficiency, strengthen business resilience and foster innovation. However, they face significant challenges, including a shortage of necessary AI skills, inadequate evaluation criteria for AI performance, and a lack of comprehensive AI governance frameworks, which are foundational requirements for implementing AI. As a result, half have only adopted AI at a functional level with a short-term focus, without fully progressing to more strategic, organisation-wide implementations.

- Difficulties in managing data arise from the volume of data and the constant change or rapid expiration of data sets, which require continuous updates to ensure relevance and accuracy. Access issues stem from both business and infrastructure restrictions, which prevent companies from obtaining the necessary data, further limiting the potential of AI systems.

AI maturity in Japan

Transformative
12%

Integrated
25%

Short-term focus
18%

Functional
34%

Planned
8%

Evaluating
3%

Top challenges in AI technology implementation

Lack of specialised skilled personnel
42%

Lack of clear evaluation criteria for the AI solutions
30%

Lack of AI governance and risk management
29%

Top 3 business outcomes from AI initiatives

Improve business resilience

Increase operational efficiency

Become more innovative

Data management and access limitation lead to AI failure

1	2	3	4
34%	**31%**	**31%**	**31%**
Large data volumes making meaningful analysis difficult	Data sets are constantly changing or rapidly expiring	Inability to access data due to business restrictions	Inability to access data due to infrastructure restrictions

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 100 Japan)
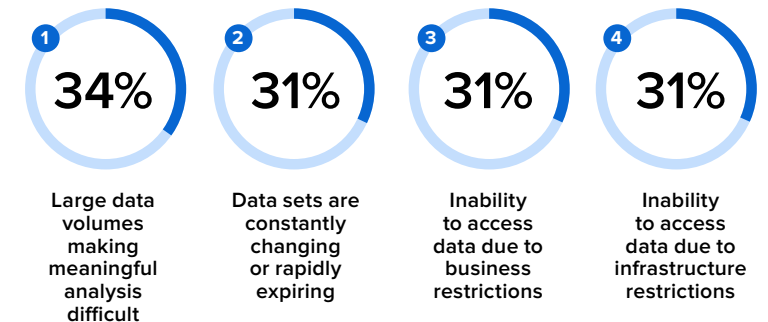
What are the critical factors for AI performance in Japan?

Organisations look to data platforms and ModelOps to boost AI performance, but trustworthy AI is equally important.

- Data challenges are pushing Japanese organisations to concentrate on data platforms and ModelOps to ensure AI performance and to streamline their AI operations. The "operationalised" approach to AI, which emphasises automation and efficiency, can indeed optimise processes and improve scalability.

- Currently, Japan has no AI-specific regulations and no immediate plans to introduce them. Instead, the government favours a light touch, innovation-friendly "agile governance" approach, offering non-binding guidance while relying on the private sector's voluntary self-regulation. As a result, there is less emphasis on responsible AI in the key factors driving AI performance at the enterprise level. However, AI and data management systems must go beyond automation to incorporate human oversight and address nuanced complexities that machines alone cannot handle.

5 critical factors to ensure AI performance

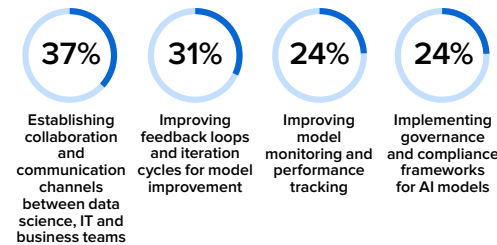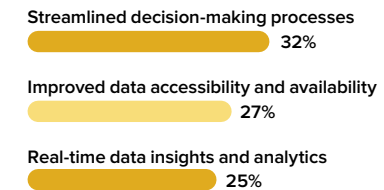| Model management/ ModelOps | Robust model training and validation techniques | Data classifiers/ DLP tools | Integration with existing systems | Continuous data monitoring |

Responsible AI platform priorities

- Human oversight
- Stakeholder engagement and education
- Model validation and testing

ModelOps priorities

37%
Establishing collaboration and communication channels between data science, IT and business teams

31%
Improving feedback loops and iteration cycles for model improvement

24%
Improving model monitoring and performance tracking

24%
Implementing governance and compliance frameworks for AI models

Data platforms improve decision making and data quality

Streamlined decision-making processes **32%**

Improved data accessibility and availability **27%**

Real-time data insights and analytics **25%**

→ **To scale AI effectively, Japanese organisations must enhance responsible AI practices, even though they have not yet been mandated by regulations. This will mitigate evolving risks and improve competitiveness, especially when expanding to markets with more stringent AI regulations.**
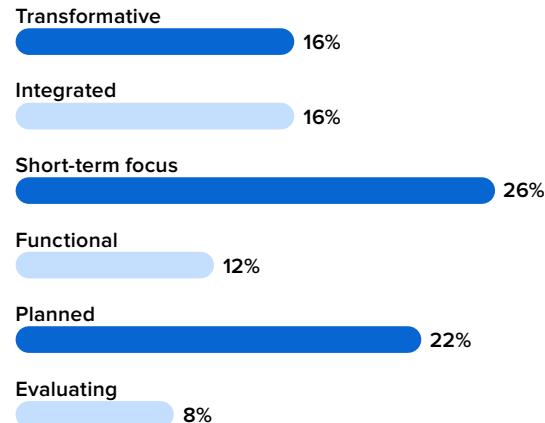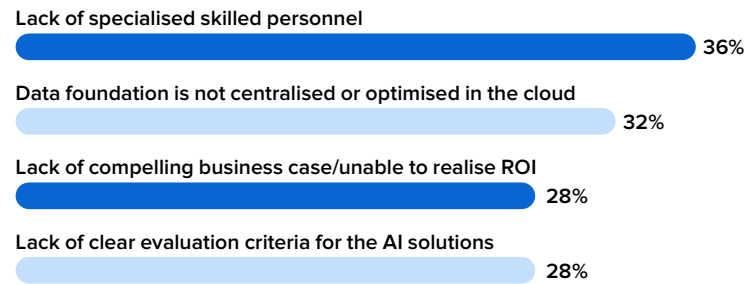
How is South Korea progressing in AI?

30% of companies delay AI investment due to business value concerns and talent shortages.

- South Korea, a global leader in technology and manufacturing, is home to some of the region's largest and most advanced family-controlled conglomerates. There is strong AI development in sectors like autonomous vehicles, health care and smart manufacturing.

- However, 26% of organisations have a short-term focus for AI initiatives, and 30% are still at the evaluation and planning stages.

- Talent shortage is the top challenge in AI implementation, attributed to the country's aging population, and suggests greater investment in developing AI skills is needed. Korean organisations will benefit from developing an AI use case roadmap.

- Limited data access and inefficiencies in handling data can significantly hinder AI performance, often leading to project failures due to insufficient or inaccurate information for model training and decision making.

AI maturity in South Korea

Transformative 16%

Integrated 16%

Short-term focus 26%

Functional 12%

Planned 22%

Evaluating 8%

Top challenges in AI technology implementation

Lack of specialised skilled personnel 36%

Data foundation is not centralised or optimised in the cloud 32%

Lack of compelling business case/unable to realise ROI 28%

Lack of clear evaluation criteria for the AI solutions 28%

Top 3 business outcomes from AI initiatives
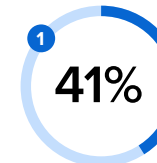
Improve business resilience
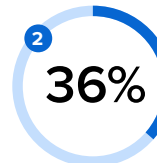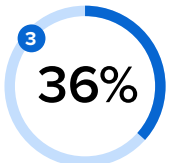
Reduce business risk

Drive new revenue growth

Data access limitation and inefficiency lead to AI failure

1 **41%** Inability to access data due to infrastructure restrictions

2 **36%** Data sets are constantly changing or rapidly expiring

3 **36%** Large data volumes making meaningful analysis difficult

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 50 S Korea)

What are the critical factors for AI performance in South Korea?

Presence of strong data and model practices, but better business value evaluation and measurable ROI are needed.

- Korean organisations adopt a balanced approach that prioritises trustworthy AI, ensuring transparency, fairness and ethical standards in their AI systems. This approach also emphasises strong data management practices and effective model management to maintain accuracy and reliability in AI applications. These factors are deeply interconnected and create a feedback loop: trustworthy AI practices set the ethical framework, data platforms ensure the right data flows into the models, and ModelOps operationalises AI models while ensuring ongoing ethical compliance and performance.

- Korean companies see the benefits of data platforms in enabling continuous monitoring by offering real-time insights, streamlined decision making and improved data accessibility. They also enhance data security and privacy with advanced features, which in turn ensure responsible AI practices.
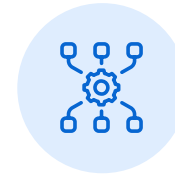
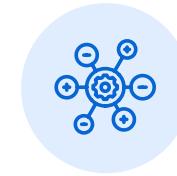## 5 critical factors to ensure AI performance

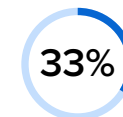| Security and data privacy | Regulatory compliance | Model management/ ModelOps | Robust model training and validation techniques | Continuous data monitoring |

Responsible AI platform priorities

- Clear documentation and communication of AI capabilities and limitations
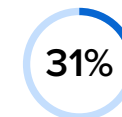- Governance and policy control
- Human oversight

ModelOps priorities

33%
Strengthening security measures for AI models and data
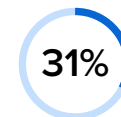
31%
Improving model monitoring and performance tracking

31%
Implementing governance and compliance frameworks for AI models

Data platforms improve decision making and data quality

Real-time data insights and analytics — 33%

Streamlined decision-making processes — 28%

Improved data accessibility and availability — 23%

Advanced data security and privacy features/ Improved security and data privacy — 23%

→ **Difficulty in use case evaluation – and making businesses cases for AI investment – is the biggest challenge for South Korean organisations. Engaging external expertise can help organisations identify AI use cases that align with their needs and can augment their data and model capabilities.**
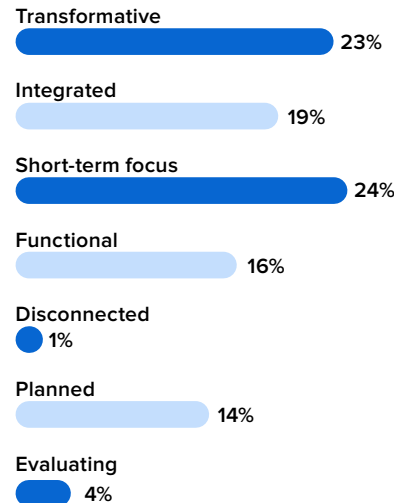
What is the progress of AI in Southeast Asia?

Uneven AI development stems from foundational challenges in costs, skills and evaluation criteria.
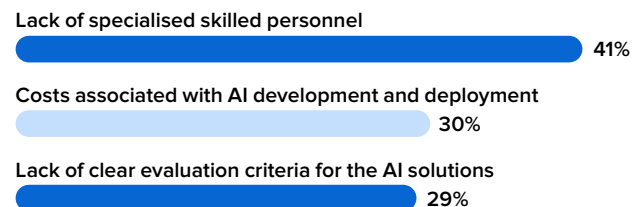
- AI maturity in Southeast Asia* is polarised, with more AI leaders emerging in Singapore, while organisations in Thailand and Malaysia remain in the early to midstages of development. Expected AI outcomes in many organisations tend to be internally focused, with a strong emphasis on achieving cost savings, improving operational efficiency and boosting profitability. This internal focus allows businesses to optimise resources and maximise returns, but it can also limit AI-driven innovation in customer experience, market expansion, or external-facing products and services.

- The challenges they face are typical of early adopters, such as evaluating the right AI solutions, managing costs and acquiring the necessary skills for deployment.

- Data issues such as poor-quality data, limited access to information and compliance concerns are major contributors to AI project failures.

*This study covers Malaysia, Singapore and Thailand only.

AI maturity in Southeast Asia

Transformative 23%

Integrated 19%

Short-term focus 24%

Functional 16%

Disconnected 1%

Planned 14%

Evaluating 4%

Top challenges in AI technology implementation

Lack of specialised skilled personnel 41%

Costs associated with AI development and deployment 30%

Lack of clear evaluation criteria for the AI solutions 29%

Top 3 business outcomes from AI initiatives

Increase operational efficiency

Increase profits

Save costs

Poor-quality data, access limitation and compliance concerns lead to AI failure

1. **40%** Untrustworthy or poor-quality data sources

2. **38%** Privacy or compliance limitations or concerns

3. **36%** Inability to access data due to business restrictions

4. **36%** Inability to access data due to infrastructure restrictions

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 101 SEA)
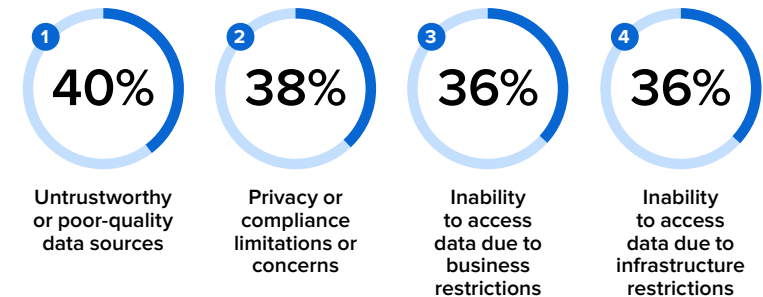
# What are the critical factors for AI performance in Southeast Asia?

Less stringent regulations reduce focus on trustworthy AI as organisations prioritise infrastructure development.

- AI regulations in Southeast Asia are fragmented, with no specific AI laws in place. Thailand and Malaysia take a wait-and-see approach, observing the evolution of AI technologies and use cases before introducing dedicated AI policies. Singapore adopts a balanced strategy, promoting AI innovation while emphasising responsibility, although its policies focus more on guidelines and best practices rather than enforceable regulations. As a result, responsible AI is not a key factor driving AI performance.

- In the absence of strict government regulations, responsible AI practices are mostly voluntary efforts that put the onus on organisations to exercise human oversight, maintain strong data governance and enforce robust privacy measures.

- Computational power and infrastructure remain critical but challenging for Southeast Asian organisations and require significant investment. The emphasis on overcoming data challenges is driving the adoption of data platforms and ModelOps to ensure optimal AI performance.

5 critical factors to ensure AI performance
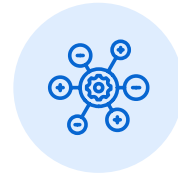
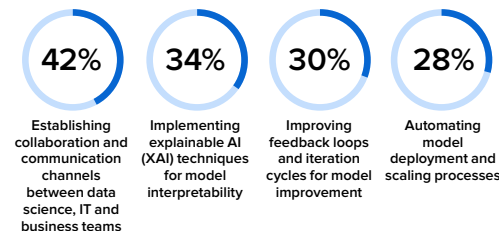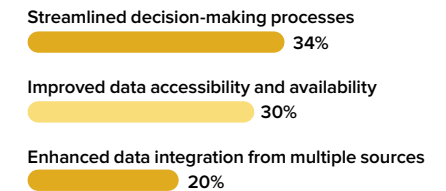| Model management/ ModelOps	Robust model training and validation techniques	Computational power/ Infrastructure	Continuous data monitoring	Data classifiers/ DLP tools

Responsible AI platform priorities

- Human oversight
- Governance and policy control
- Data governance and privacy measures

ModelOps priorities

42%
Establishing collaboration and communication channels between data science, IT and business teams

34%
Implementing explainable AI (XAI) techniques for model interpretability

30%
Improving feedback loops and iteration cycles for model improvement

28%
Automating model deployment and scaling processes

Data platforms improve decision making and data quality

Streamlined decision-making processes
34%

Improved data accessibility and availability
30%

Enhanced data integration from multiple sources
20%

Southeast Asian organisations should prioritise investments in infrastructure and place a stronger emphasis on trustworthy AI practices. By doing so, they can mitigate future risks, ensure ethical and responsible AI usage, and lay the groundwork for sustainable, scalable AI operations.

Source: IDC's *Data and AI Pulse: Asia Pacific* study, 2024 (n = 509 APJ, n = 101 SEA)

Conclusions

AI gold rush

→ About 40% of organisations hope to triple their ROI. Despite a fear of missing out and the resultant huge increases in AI investments, economic, regulatory and technological uncertainties require enterprises to remain flexible. Despite the explosive growth in GenAI spending, it is unlikely to overshadow predictive and interpretive AI.

AI strategy

→ AI has major economies of scale and learning. But scaling AI requires that enterprises pivot and develop several new capabilities. At various stages of AI maturity, organisations must invest in different technologies – moving from external services to internal skills, from embedded AI to AI platforms. While AI followers consider individual use cases, AI leaders create strategic portfolios of use cases for business value that depend on enterprise architectures to scale their AI deployments. AI leaders often build their own solutions – moving to private AI due to security and data concerns, balancing governance with scalability and flexibility. They extract additional value by carefully monitoring and optimising their AI data and models.

Data for AI

→ In most AI projects, skills and data management are the first major stumbling blocks. AI poses many data challenges – quality management, access, metadata, lineage, master data management, integration and, of course, security. Scaling AI means building an integrated data infrastructure that supports hybrid data assets. AI leaders must also build internal skills, improve data access and quality, and address any data privacy and compliance issues.
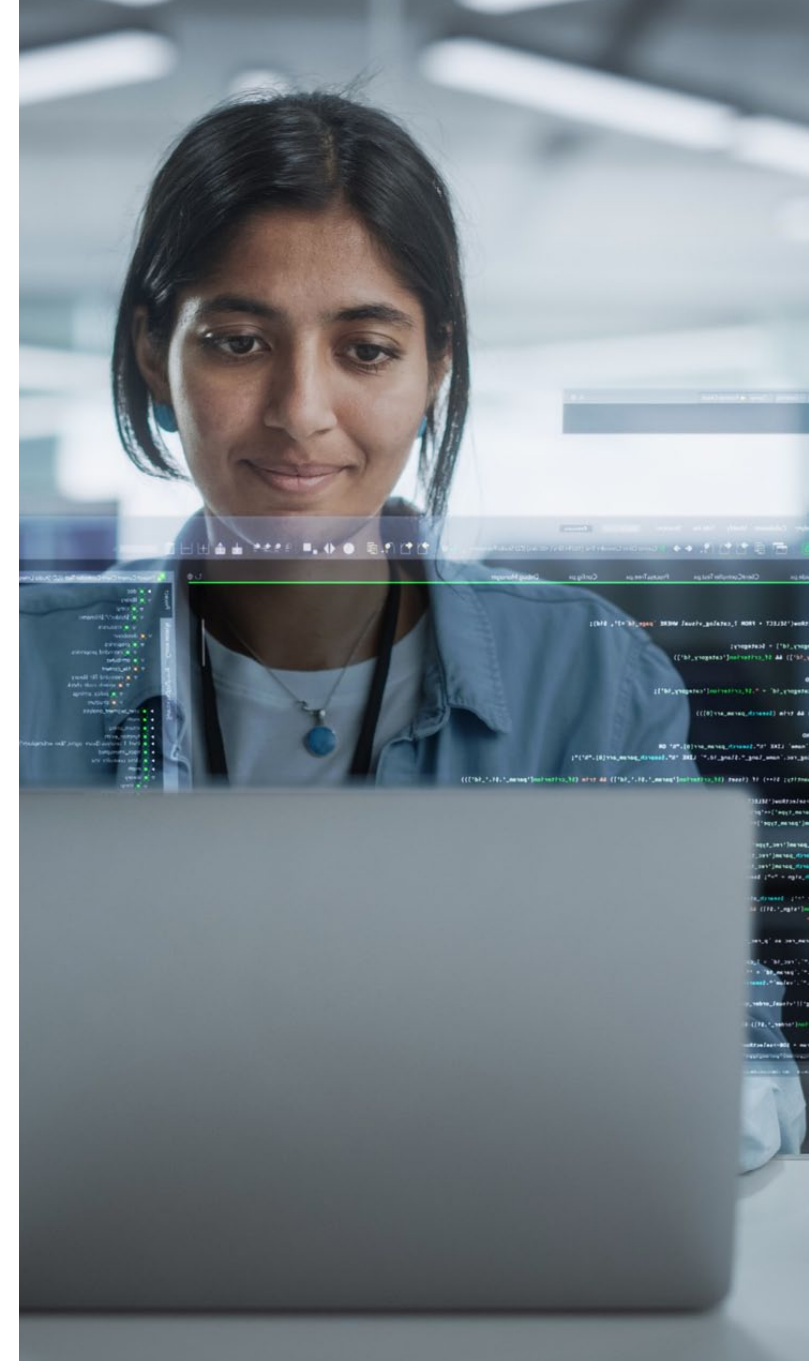
Trustworthy AI

→ A lack of AI trustworthiness, fairness and accountability poses real business risks. Trustworthy AI means designing processes for humans and technology. It cannot be an afterthought – success depends on users' confidence in AI output.

AI productivity and performance

→ AI costs and risks can add up! ModelOps delivers accountable and bias-free insights that build confidence in AI-driven decisions. Leaders use low-code/no-code and ModelOps tools to improve AI performance at a lower cost, bypassing the need for extensive data science skills. Increasingly, they use business outcome-driven metrics for IT productivity.

Work with a strategic data and AI platform partner to support your AI journey

→ A trusted vendor can offer a robust data platform for seamless data integration and better security and compliance standards. The platform can support the entire AI life cycle, from data preparation to deployment, while providing real-time analytics and helping to improve data accessibility.
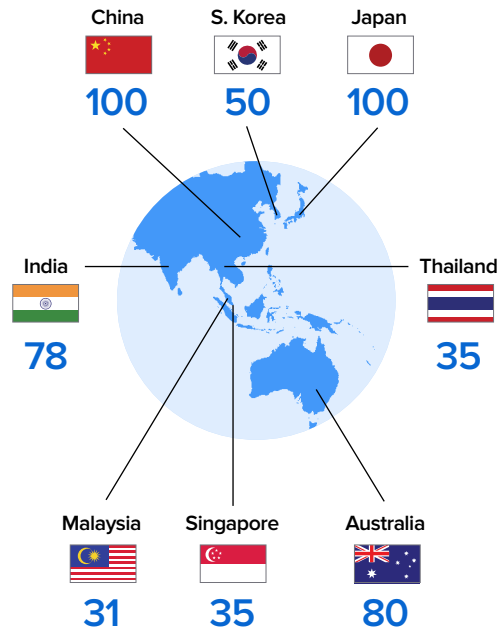
Methodology

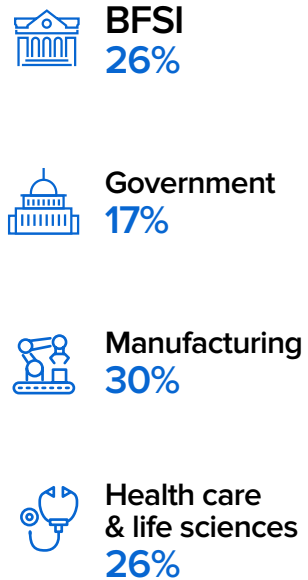**IDC research**
Quantitative online survey

Survey period
June 2024

Sample Size
509

China
100

S. Korea
50

Japan
100

India
78

Thailand
35

Malaysia
31

Singapore
35

Australia
80

Industries

BFSI
26%

Government
17%

Manufacturing
30%

Health care & life sciences
26%

Organisation size

500–999 employees
29%

1,000–4,999 employees
34%

≥ 5,000 employees
37%

Role

Director
61%

Executive VP/Senior VP/ VP/Head of business unit
23%

C-level (COO, CIO, CFO, CSO, CTO, CMO, etc.)
13%

CEO/Chairman/President/ Owner/Managing Director
2%

Professional or specialist
1%
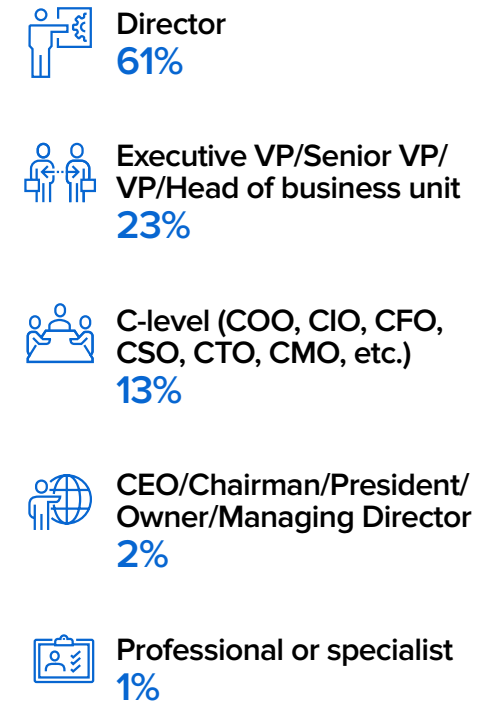
IDC Research Team

Dr. Chris Marshall
Vice President,
Data, Analytics, AI and
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Chris Marshall is responsible for several areas of research at IDC Asia Pacific. Chris leads the Asia Pacific regional industry research teams, which includes coverage of health care, government, retail, energy, manufacturing and financial services. Additionally, Chris leads IDC's regional teams in data, analytics, artificial intelligence, future of work, and sustainability.

More about Dr. Chris Marshall

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Associate Research Director

Rakesh Patni is responsible for the development and growth of the IDC Functional and Industry AI Use Cases research and the Future of Operations and Energy Insights programmes for the Asia Pacific region. He publishes research that caters to both technology buyers and vendors, encompassing custom research and subscription-based offerings. His research focuses on how organisations can harness AI and generative AI technologies for transformative outcomes, identifying the key drivers of this change and outlining the key business outcomes and corresponding metrics.

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Lily Phan
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Enterprise Automation Strategies
and Technologies

Lily Phan focuses on research publications and custom solutions that cover the integration of AI and automation technologies to streamline and enhance business processes. Her research scope encompasses various subtopics, including machine learning, natural language processing, robotic process automation (RPA) and other advanced technologies to automate complex tasks.

More about Lily Phan

SAS

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