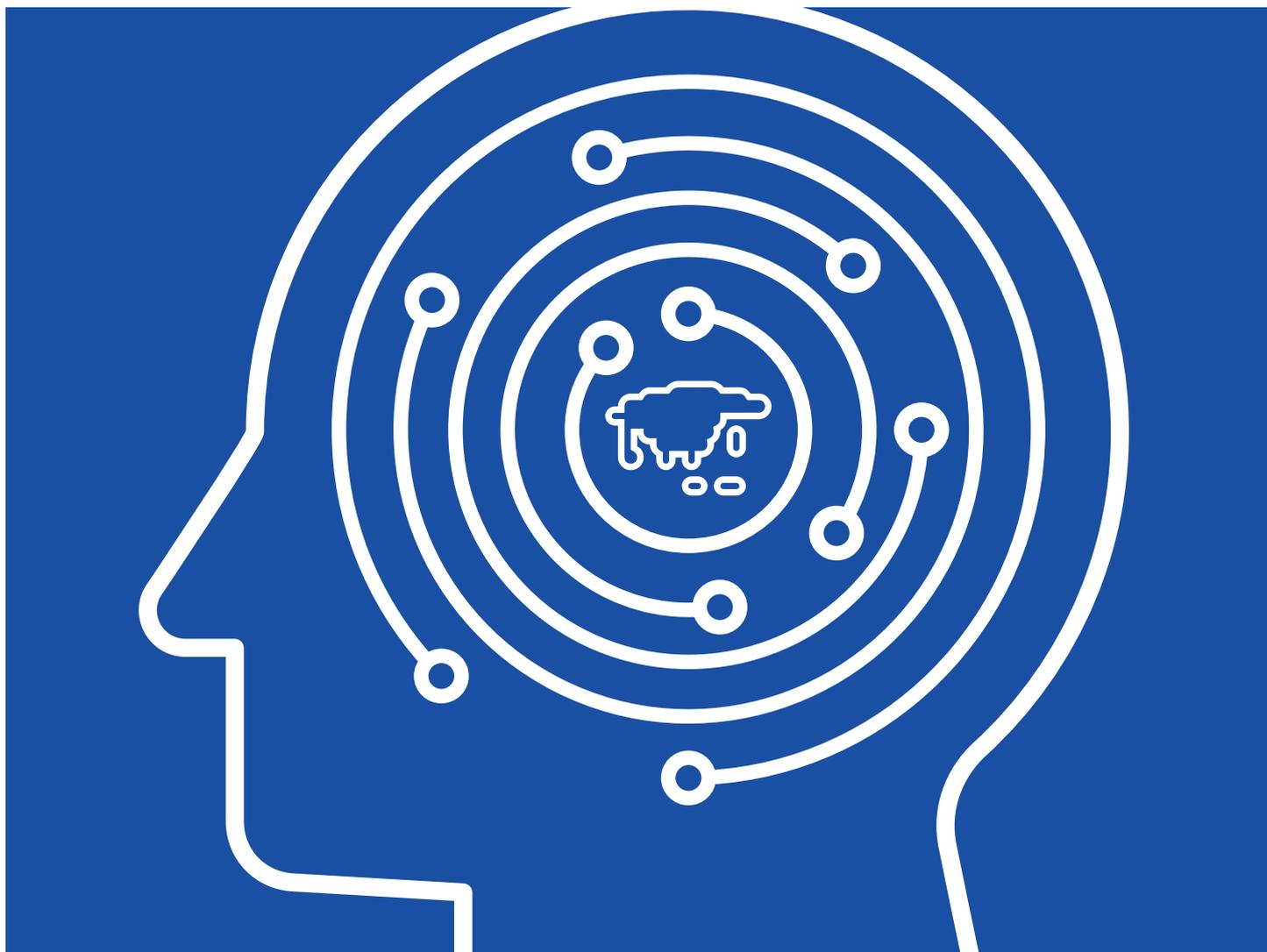
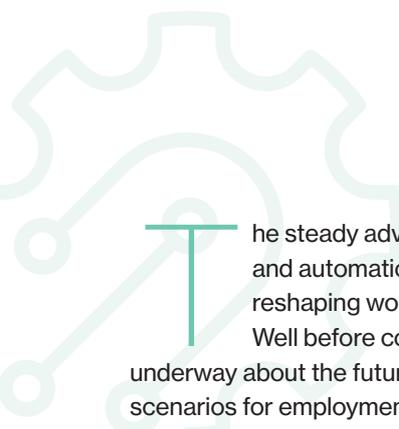

How Asian businesses are integrating their HR and technology adoption strategies, and leveraging AI capabilities to reshape their organizations and operations.

Work in Asia's data age





The steady advance of artificial intelligence (AI) and automation technologies has been reshaping work and jobs for the past decade. Well before covid-19, robust debates were underway about the future of work and what potential scenarios for employment might emerge.

While many Asian markets have met the challenge of containing the spread of covid-19 with relative levels of success, through well-managed lockdowns, social distancing, and tracing programs, the pandemic has placed great pressure on workers and the human resource management systems that support them.

Technology forecasters Forrester have found nearly half of Asian managers surveyed expect permanent increases in their full-time remote workforce;¹ many will seek to use AI-enhanced workforce engagement tools to try to increase workplace communication to reduce the new distance this creates.

Key findings

- 1 There is an increasing emphasis, particularly among Asian firms, on using “top line” AI to grow revenue by increasing customer insight to support front-line teams. This is boosting workflow management and capacity building for marketing and business development professionals.
- 2 Growing use of AI-enabled analytics is increasing the need to reorganize team structures and functions, and is creating new ways of collaboration and communication.
- 3 AI governance and ethical usage policies for businesses in Asia and globally are growing, and focusing attention on hardening policies and oversight structures to ensure that machine learning tools reduce, rather than proliferate, entrenched biases in HR processes.
- 4 The critical path for business leaders seeking to integrate AI into a firm’s operations successfully is to take themselves out of “traditional” management loops – well-established or rote processes that depend on data visibility and flow – and instead focusing on the informal, even emotional, aspects of talent management that machine learning cannot, and should not, oversee.

About this report

Based on a combination of survey-based market research and in-depth executive interviews, this report explores how businesses are leveraging AI capabilities to reshape their organizations and operations. It is sponsored by Cornerstone OnDemand, and the views expressed within are those of MIT Technology Review Insights, which is editorially independent.

- In late 2020, MIT Technology Review Insights surveyed 1,033 senior decision-makers for its annual Global AI Agenda, asking how organizations are using AI today and into the future. In early 2021, Insights conducted an additional “flash survey” of 597 senior technology leaders in Asia, asking them about the impact of AI on their human resource and skills enhancement strategies.
- Of the respondents from the AI Agenda, over one-quarter are C-level senior technology decision-makers. Head of data, analytics, and strategy accounted for another 20% of the survey base.
- AI Agenda survey respondents are geographically dispersed, with more than 40% in North America, 28% in Europe, and 20% in the Asia-Pacific region.
- AI Agenda respondents work in more than a dozen industries: two-thirds are in technology; over 21% work in knowledge-intensive verticals led by the technology industry; and professional services, financial services, and education represent around 10% each.
- Nearly half of AI Agenda respondents (47%) work in small- and medium-sized organizations (with annual revenues under \$50 million). Around a quarter work in very large enterprises with annual revenues in excess of \$5 billion.

As part of the Global AI Agenda 2021 program, in association with Cornerstone OnDemand, MIT Technology Review Insights surveyed more than 1,500 senior decision-makers and technology leaders to understand how AI is being used in Asian organizations to accelerate revenue growth and digital collaboration, and to augment human resource capabilities.

AI, top to bottom

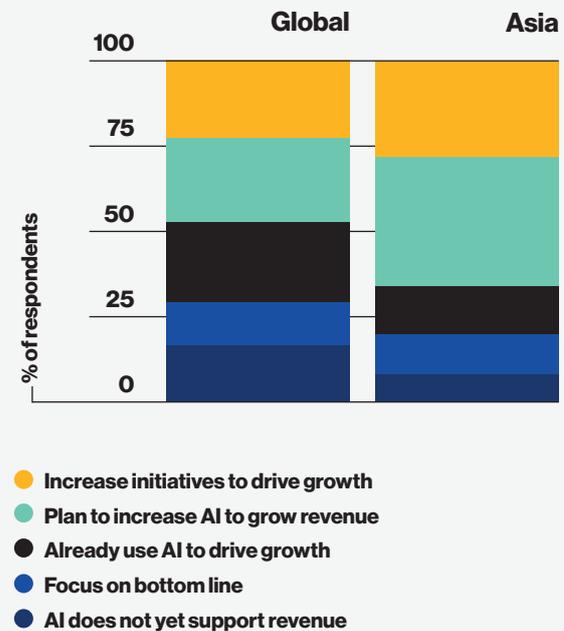
Globally, corporates are deploying AI tools and analytics in increasing numbers, to squeeze more productivity out of manufacturing, help employees understand customer requirements more precisely, and support business outcomes. Like many technology adoption strategies, digitally-enabled insight is traditionally seen as a bottom-line tool – for example, more visibility across a supply chain allows a manufacturer to quickly identify places to trim costs. Like many strategic pivots over the last 18 months, the impact of covid-19 has sped this up.

Allan Tate, the executive chair of the MIT Sloan School of Management’s CIO Symposium, refers to this as “the Big Reset: where enterprises undergo two years of digital transformation in two months.” While he concedes that “right now using AI to increase efficiency and reduce costs is probably the most common use case, AI-enabled data usage is quickly becoming a key way of driving revenue for many corporations.”

Nearly half of respondents say they have either deployed AI to achieve revenue growth, or are accelerating their efforts to do so.

Figure 1: Big data and AI for revenue growth

As a result of covid-19, organizations globally are increasing their use of big data and AI to drive revenue growth.



Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.

This view is borne out by our global survey on AI adoption strategies in enterprises: nearly half of our respondents indicate that they have either deployed AI to achieve revenue growth, or are accelerating their efforts to do so. A quarter have plans to step up the use of AI in top-line initiatives, and only 12% indicate that it is a tool only for cost containment (see Figure 1).

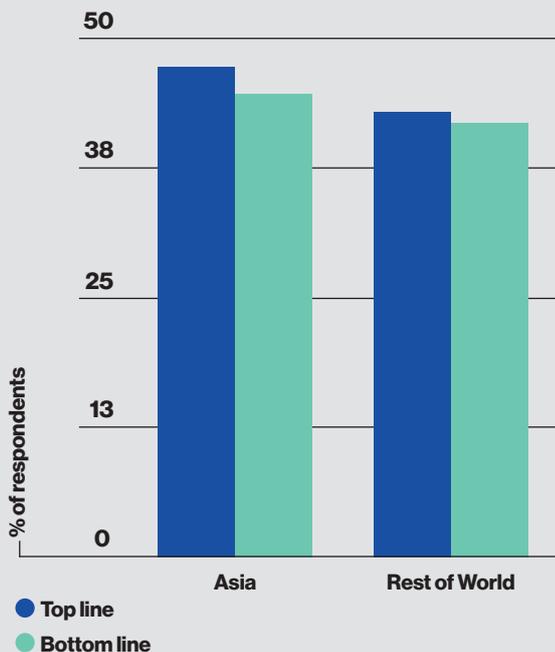
The perspective from respondents based in Asia largely echoes the global trend, but also reveals a region that is simultaneously behind the curve, and ready to leapfrog it. Asian respondents indicate lower current use of AI for revenue growth than the global average, but are much more likely to undertake “top line” AI initiatives, and over a third have plans to increase its use.

This increasing current emphasis on “top line” AI, which often supports customer-facing teams through increased customer insight, drives business expansion. This, in turn, drives efforts to build capabilities for marketing and business development professionals, such as augmenting their workflows and serving as a catalyst for skills development. Asian respondents, on average, are slightly more aligned toward revenue growth performance in their AI project deployment than the global average (see Figure 2).

Organizations focusing on “bottom line” AI initiatives – which fall into cost efficiency and resource optimization categories – are more likely looking to increase automating functions and drive change in operations, which could lead to task redefinition for operations and internal teams.

Figure 2: Top line versus bottom line

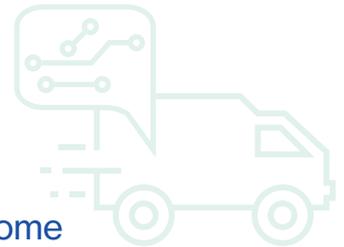
Respondents say a slightly higher percentage of their AI initiatives fall into personalization and sales productivity, time to market, and new product development categories (top line), compared to cost efficiency and resource optimization categories (bottom line).



Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.

“Down the road, a buyer’s chatbot could be talking to a supplier’s chatbot to inquire on the status of a delivery, and the two organizations’ AI programs can synchronize their schedules, which enables better planning on both sides.”

Venkatramanan Siva Subrahmanian,
Distinguished Professor,
Dartmouth College



Asia’s organizations become more insightful

Increased access to data, and the insight they generate, has many impacts on an organization’s workflow and processes, but in 2021 two of these loom particularly large. The first is an increase in competitiveness, as AI provides firms with the analytic prowess that allows them to be more agile, efficient, and responsive to customer requirements. The second is actionable insight, which has the potential to become even more transformative in the years to come. Actionable insight is a firm’s most important asset – it fundamentally changes traditional workplaces and operational environments.

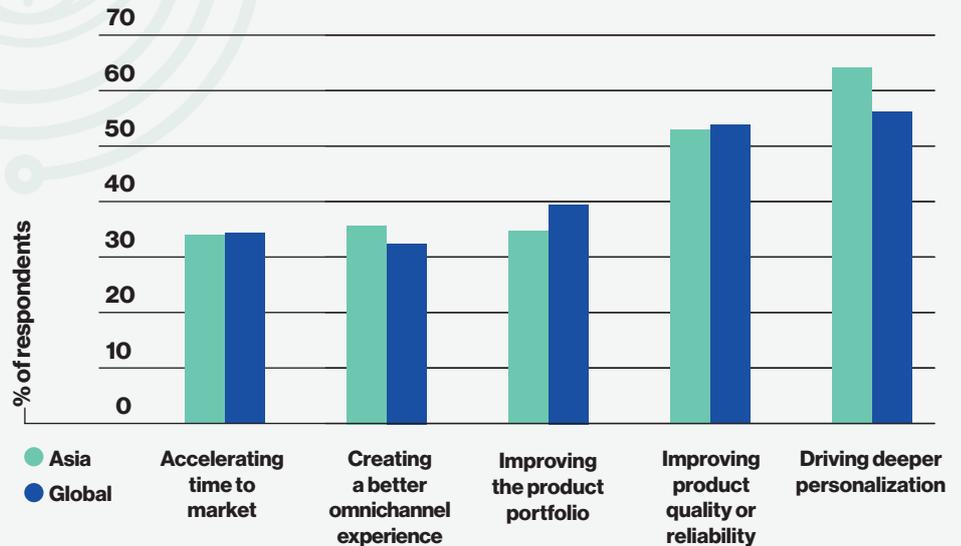
“People used to go to machines and work on machines – this created a need to commute to them,” says Asif Qamar, vice president and chief analytics architect at Cornerstone OnDemand. AI’s percolation into many (if not most) organizational processes now means that, in a sense, the “machines” are always with workers, wherever they are. “Covid was a trigger point that forced people to realize how technology, AI in particular, is front and central in our lives – and this raises fundamental questions about what work is and how we can work together,” says Qamar.

One implication of this is that organizations will be reorganizing teams around delivering better customer experience processes – getting more precise data about

Figure 3: Top opportunities for using AI to drive revenue growth

Driving deeper personalization and improving product quality or reliability are rated the top opportunities for driving revenue growth with AI.

Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.



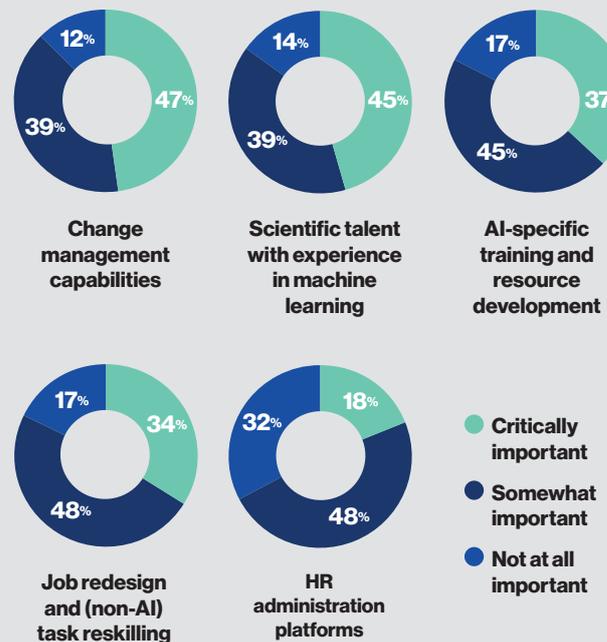
clients and their expectations to the company's front-line teams, and designing processes that employ this data in all their transactions. Survey respondents, especially those in Asia, report that the most common use of AI tools is to "drive deeper personalization" (see Figure 3).

Venkatramanan Siva Subrahmanian, distinguished professor at Dartmouth College and director of the university's Institute for Security, Technology, and Society, believes that generative machine learning technology that exists today will soon spark very fundamental shifts in organizational processes. "For a company which has had many people writing reports for several years, AI will be able to learn from this large corpus of reports and have the ability to generate new ones given some parameters. There will still be humans in these loops, and I can see a future where chatbots interact with editors and managers to develop the final product," says Subrahmanian.

Ultimately, he believes many organizations will adopt machine-to-machine components as well, with machine learning applications exchanging information and instructions both within and between organizations. "Down the road, a buyer's chatbot could be talking to a supplier's chatbot to inquire on the status of a delivery, and the two organizations' AI programs can synchronize their schedules, which enables better planning on both sides," says Subrahmanian.

Figure 4: Human capital factors

Change management capabilities and scientific talent are the most critically important human capital factors.



Source: MIT Technology Review Insights survey of 597 senior technology leaders, February 2021. Respondents were asked to choose all that apply.

As AI begins to assume more responsibility for executing routine tasks, firms will have to explore ways to augment skills and redesign functions in order for teams to take full advantage of the enhanced capabilities the organizations have acquired. In a flash survey, senior executive respondents indicate that change management is the most critically important human resource factor required for achieving their business objectives, followed by a need for specific AI scientific talent (see Figure 4).

David De Cremer, professor in management and organisation at NUS Business School in Singapore and author of the book *Leadership by Algorithm: Who Leads and Who Follows in the AI Era?*, argues that while business leaders globally are increasingly eager to leverage machine learning, “most firms don’t have enough data” to build their own AI capabilities, and often lack the patience to build it. “Digital transformation takes years to complete,” says De Cremer, who believes that this is due to both internal and external environmental factors. Externally, an environment that fosters data sharing and data democracy in the broader ecosystem needs to be in place. Internally, he feels a cultural attenuation is needed.

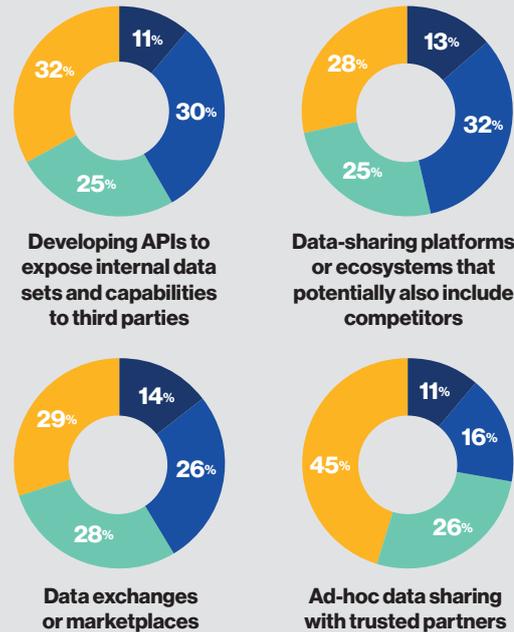
“Companies that see data as the solution usually lack the leadership to make digital transformation successful. An organization that is purpose-driven, and clear about the value they deliver to their customer, knows what questions to ask,” says De Cremer. This means inclusive, flat organizations with cultures of trust and universal communication flows are able to better integrate

“People don’t deliberately inject bias into the data. It is the subtle bias that you don’t notice that creates risk. How do you create meaning out of data without violating privacy?”

Asif Qamar, Vice President and Chief Analytics Architect, Cornerstone OnDemand

Figure 5: Strategies for sharing data

Ad hoc data sharing with trusted partners is the most common strategy at organizations.



- We are pursuing this
- We are actively considering this
- This is not suitable for our business
- Do not know if we are currently pursuing this

Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.

AI-enabled processes into the “human loop.” “You need front-line people to comment on the data and how it is being used,” he adds.

De Cremer sees personnel analytics and compliance processes as two of the areas where AI tools are increasingly relied upon to reduce task time and increase efficiency. While this does create opportunities for business transformation, he cautions that charging into the wholesale automation of human resources (HR) processes can lead to a risky scenario he refers to as “the full circle of irony, where people analytics and compliance practices are both designed by programs and executed by AI processes.” This means that team members can become motivated to only provide data and inputs designed by AI, which also creates the ethical framework to which it must conform.

Share and share alike

To break out of this “cycle of irony,” the products and processes enabled by AI and analytics must be well-integrated with human processes, both within the organization and throughout its ecosystem of partners, technology vendors and other suppliers, and customers themselves. As mentioned in the last chapter, data sharing is vital for successfully leveraging AI capabilities, and survey respondents indicate they are achieving this in multiple ways, both formal and informal. Roughly a third of respondents are already employing some form of data architecture or open application programming interface (API) solution to collaborate across their value chain, while nearly half do so in an ad hoc manner (see Figure 5).

The increased reliance on analytics will in turn increase the need to reorganize team structure and functions, and point to new ways of collaboration and communication. Miao Song, global chief information officer (CIO) of Mars Petcare, notes that “AI is everywhere” across multiple operational points in the company’s global chain of veterinary clinics and pet nutrition manufacturing and distribution facilities. AI-enhanced data management and data analytics in these points, she explains, can be applied at both ends of the value chain. At one end, “efficiencies can be driven by using a ‘digital boss’ to automate internal data-driven and repetitive processes like accounts receivable and payable aging reports,” says Song. At the other, high-value end, Song notes that AI “helps us in all manner of product and service innovations – everything from disease diagnosis to sale revenue predictions.” She describes in the latter case the

use of image recognition software to parse photographs of shop shelves taken by Mars sales representatives to augment production forecasting and inventory management. In this way, AI embedded in relatively non-technical business processes can add nuance to decision-making and product development.

Good governance growth

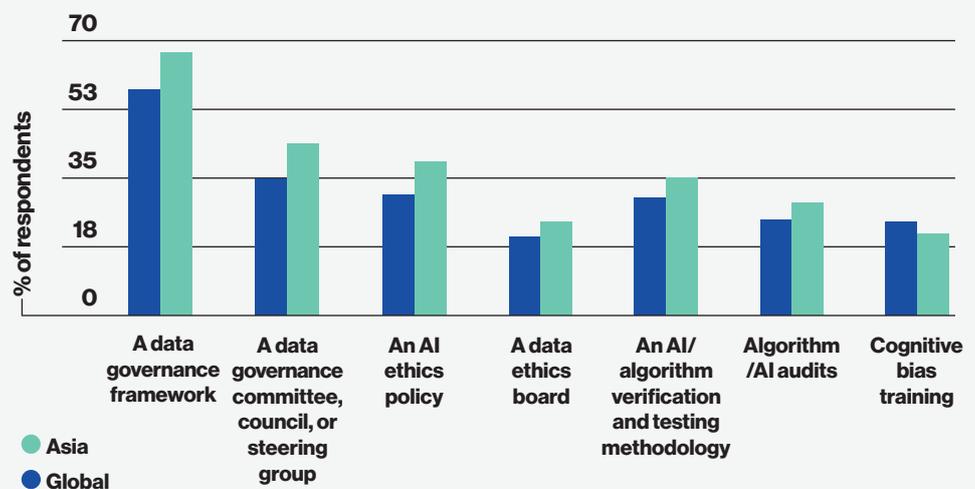
In Asia and globally, an employer’s environmental, social, and governance stance is becoming more important to its workers, particularly younger workers who wish to see their values reflected in their employers’ business practices. AI’s ability to accelerate commitments to better working environments and more ethical practices will become important competitive differentiators: AI-rich firms will find it easier to recruit and retain talent.

Ironically, however, one of the most important aspects of a firm’s operations that require strong governance and oversight is AI itself: ensuring that algorithmic-enabled processes, particularly those that support human capital management, are being deployed within ethical guidelines and without biases. Most firms surveyed do have broad data governance framework in place and, on average, a third have oversight committees, ethics policies, and other governance structures (see Figure 6).

Significantly, responses from Asia suggest that the region is slightly more accelerated: Asian respondents report higher instances of AI ethics controls in place across the board. More of the Asian executives surveyed also feel

Figure 6: AI ethics policies and processes

The majority of businesses have a data governance framework in place, especially in Asia.



Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.

that the steps they have taken to oversee ethical AI deployment are more effective than the global average (see Figure 7).

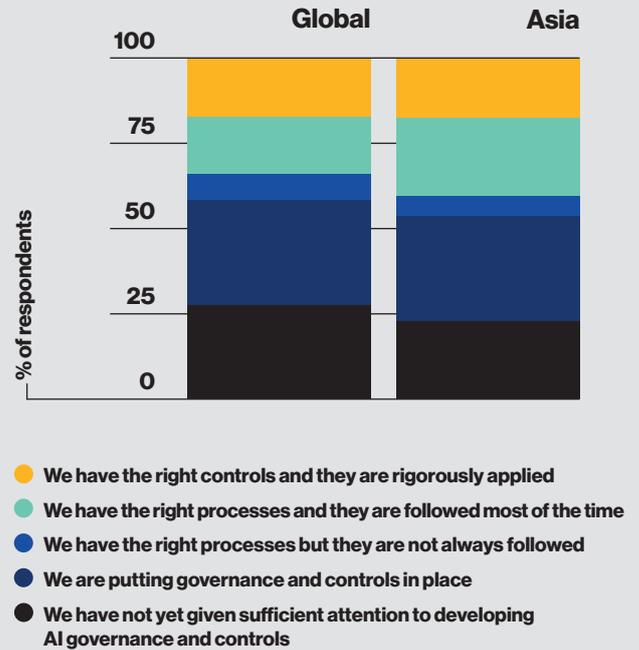
Dartmouth's Subrahmanian observes that "AI products need to have their limitations, and the assumptions under which they were created explained in easy-to-read language: think of the simple statutory warnings on cigarette packets. Companies and governments need to have both internal and external controls to ensure responsible use of the technology itself. Within companies, it must be a mix of technological and regulatory solutions, or policy instruments."

Tate, from the MIT Sloan CIO Symposium, believes that business leaders are right to be concerned about these risks and cites additional ones, such as the reputational risk to firms. He argues that AI impacts a person's experience on social media, which creates debates about whether companies should be doing more to filter certain types of speech. While agreeing that these risks are significant, Tate believes "we're not quite at the level of where AI makes autonomous decisions." This gives business leaders a bit of breathing room, then, "to ensure governance is in place to build systems that these tools are being built for a firm's best interest, and for the collective prosperity of people in the economy," says Tate.

Cornerstone OnDemand's Qamar points out that senior executives need to incorporate AI oversight into the overall strategic guidance of the organization. "We need people whose core role is to maintain equity and ethics and ensure that technology doesn't create imbalance, biases, or ethical violations," says Qamar. This, he reiterates, depends upon the evolving nature of executive and human resource management. "Managers and HR teams need to enforce fairness in their support of talent, and one of the crucial roles needed to do so is to oversee the impact of technology on the workforce."

Figure 7: AI ethics controls

Sufficient AI governance and controls are still a work in progress for many organizations, but respondents in Asia report a slightly higher success rate.



Source: MIT Technology Review Insights Global AI Agenda survey of 1,033 senior decision-makers, November and December 2020. Respondents were asked to choose all that apply.

“Work in Asia’s data age” is an executive briefing paper by MIT Technology Review Insights. We would like to thank all participants as well as the sponsor, Cornerstone OnDemand. MIT Technology Review Insights has collected and reported on all findings contained in this paper independently, regardless of participation or sponsorship. Ross O’Brien was the writer of this report, Francesca Fanshawe was the editor, and Nicola Crepaldi was the publisher.

About MIT Technology Review Insights

MIT Technology Review Insights is the custom publishing division of MIT Technology Review, the world’s longest-running technology magazine, backed by the world’s foremost technology institution – producing live events and research on the leading technology and business challenges of the day. Insights conducts qualitative and quantitative research and analysis in the US and abroad and publishes a wide variety of content, including articles, reports, infographics, videos, and podcasts. And through its growing MIT Technology Review Global Panel, Insights has unparalleled access to senior-level executives, innovators, and thought leaders worldwide for surveys and in-depth interviews.

From the sponsor

Cornerstone OnDemand helps organizations to recruit, train, and manage their people. We work with hundreds of the world’s largest companies – from Walgreens and Starwood Hotels & Resorts to Deutsche Post DHL and Western Union – and thousands of smaller ones to help them engage their workforces and empower their people. Our computer software impacts every aspect of the employee experience, helping people to make their best work even better, which ultimately translates into greater business results.



References

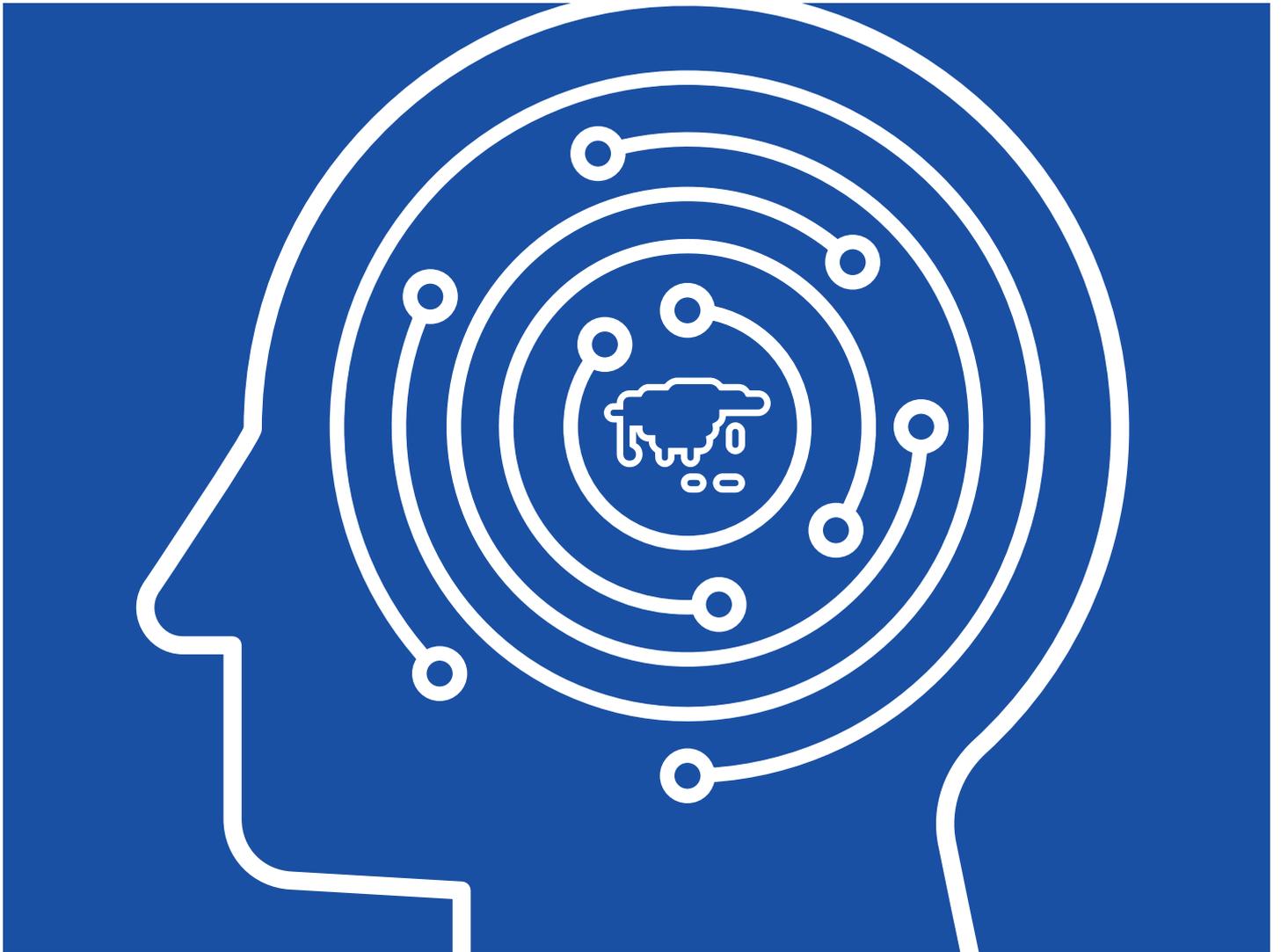
¹ “Evolving Business And Technology Priorities In Asia Pacific Post-COVID-19,” Forrester, July 13, 2020.

Illustrations

Cover art and spot illustrations created by Fuelmedia with icons by The Noun Project and Deposit Photos.

While every effort has been taken to verify the accuracy of this information, MIT Technology Review Insights cannot accept any responsibility or liability for reliance on any person in this report or any of the information, opinions, or conclusions set out in this report.

© Copyright MIT Technology Review Insights, 2021. All rights reserved.



MIT Technology Review Insights

 insights.techreview.com

 @techreview @mittr_insights

 insights@technologyreview.com