

PwC 22nd Global CEO Survey – ASEAN Findings

CEOs' curbed confidence spells caution



CEOs' curbed confidence spells caution

Contrasting last year's record optimism in global economic growth, our 22nd Global CEO Survey launched this year reveals fading CEOs' confidence, as they adapt to strong nationalist and populist sentiments sweeping the globe while contending with a widening information and skilled-talent gap.



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1

Overview: Reality Check





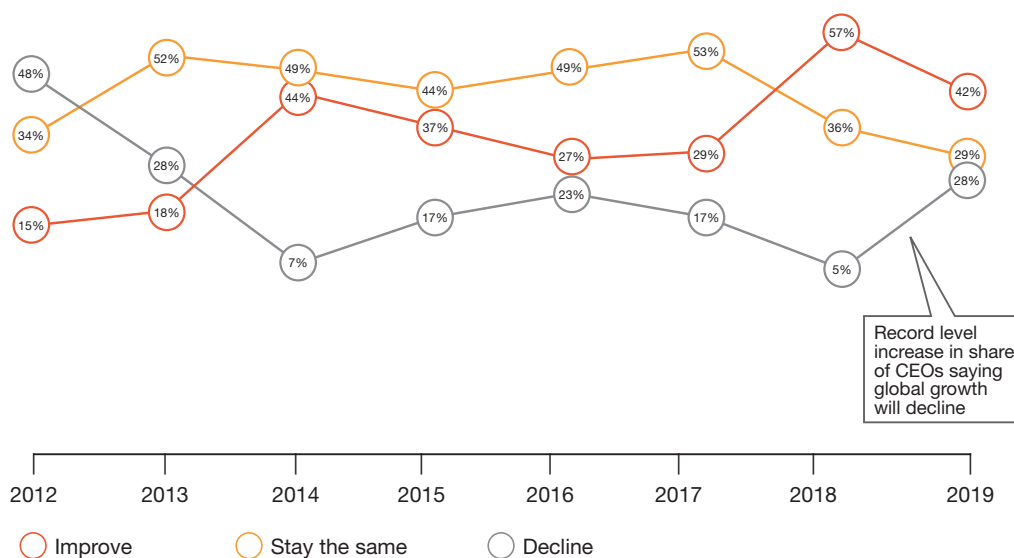
This year's Global CEO Survey saw a record jump in pessimism, with nearly 30% of CEOs projecting a decline in global GDP growth in 2019, up from a mere 5% last year.

Exhibit 1

While many CEOs expect global economic growth to improve, there is a sharp rise in those saying growth will decline.

Question

Do you believe global economic growth will improve, stay the same, or decline over the next 12 months?



Source: PwC, 22nd Annual Global CEO Survey

Please note: From 2012-2014 respondents were asked 'Do you believe the global economy will improve, stay the same, or decline over the next 12 months?'

Base: All respondents (2019=1,378; 2018=1,293; 2017=1,379; 2016=1,409; 2015=1,322; 2014=1,344; 2013=1,330; 2012=1,258).

Finding from PwC's 22nd Global CEO Survey | November 2018



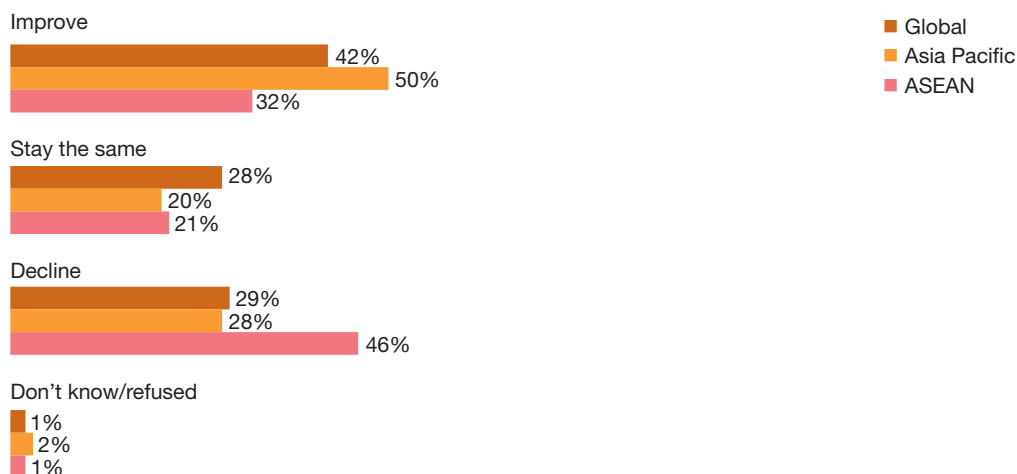
Similar sentiments echoed across the Association of Southeast Asian Nations (ASEAN) with nearly half (46%) the business leaders surveyed from the economic bloc expecting a decline in global economic growth over the next 12 months.

46% of the
ASEAN CEOs expect
decline in global
GDP growth

Exhibit 2

Question

Do you believe global economic growth will improve, stay the same, or decline over the next 12 months?



Q1 base: All respondents (Global 1,378; Asia Pacific, 408; ASEAN, 78; Australia, 131; China, 144; Hong Kong, 32; China/HK 176; India, 55; Japan, 150; New Zealand, 57; Sri Lanka, 37)



Moreover, business leaders across regions indicated noteworthy slide in confidence in their own organisation's revenue prospects over the short (1 year) and medium (3 years) term. That spells caution, potentially pointing toward a more subdued growth than leading economic models suggest, as it turns out from our CEO surveys over the past decade that CEOs' revenue confidence is a leading indicator of the direction of the global economy.

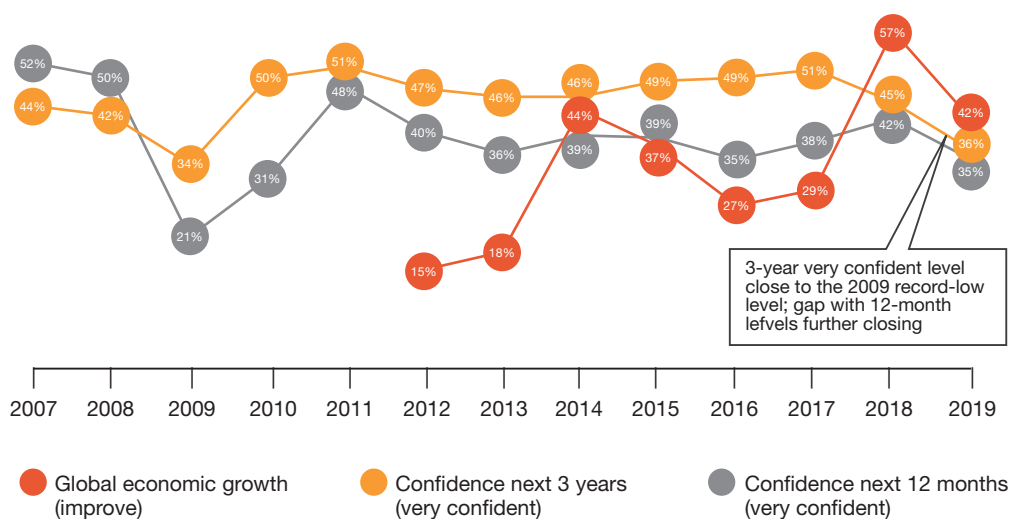
Exhibit 3

CEOs confidence in their own organisation's revenue growth prospects has fallen sharply as well

Questions

Do you believe global economic growth will improve, stay the same, or decline over the next 12 months? (showing only 'improve')

How confident are you about your organisation's prospects for revenue growth over the next 12 months/ next 3 years? (showing only 'very confident')



Source: PwC, 22nd Annual Global CEO Survey

Please note: From 2012-2014 respondents were asked 'Do you believe the global economy will improve, stay the same, or decline over the next 12 months?'

Base: All respondents (2019=1,378, 2018=1,293; 2017=1,379; 2016=1,409; 2015=1,322; 2014=1,344; 2013=1,330; 2012=1,258).

Finding from PwC's 22nd Global CEO Survey | November 2018

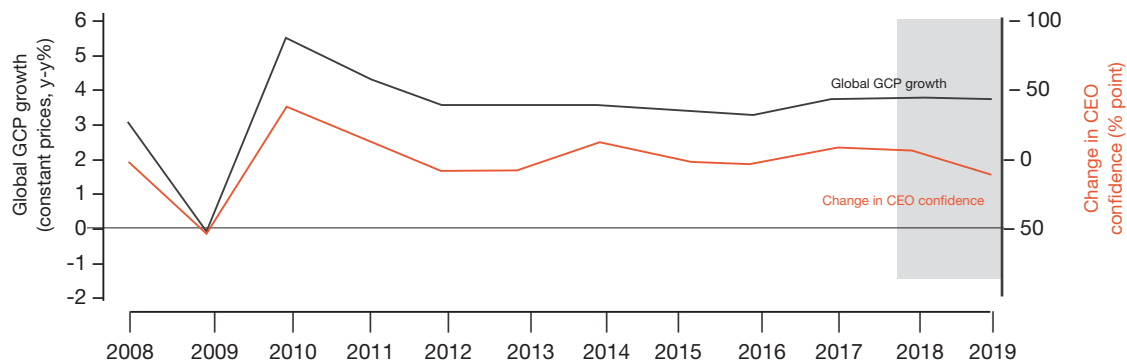


Exhibit 3a

CEOs falling confidence levels could indicate a more subdued global economic growth than leading forecasts

Question

How confident are you about your organisation's prospects for revenue growth over the next 12 months? (showing change in CEO confidence¹)



Source: PwC, 22nd Annual Global CEO Survey

1. We calculate change in CEO confidence by taking the change in the net balance percentage of CEOs answering 'very confident' or 'somewhat confident' minus the percentage of respondents answering 'not confident' or 'not confident at all' to the question: 'How confident are you about your organisation's prospects for revenue growth over the next 12 months?'

Please note: 2018 and 2019 global GDP forecast is from the IMF

Base: All respondents (2019=1,378; 2018=1,293; 2017=1,379; 2016=1,409; 2015=1,322; 2014=1,344; 2013=1,330; 2012=1,258; 2011=1,201; 2010=1,198; 2009=1,124; 2008=1,150; 2007=1,084).

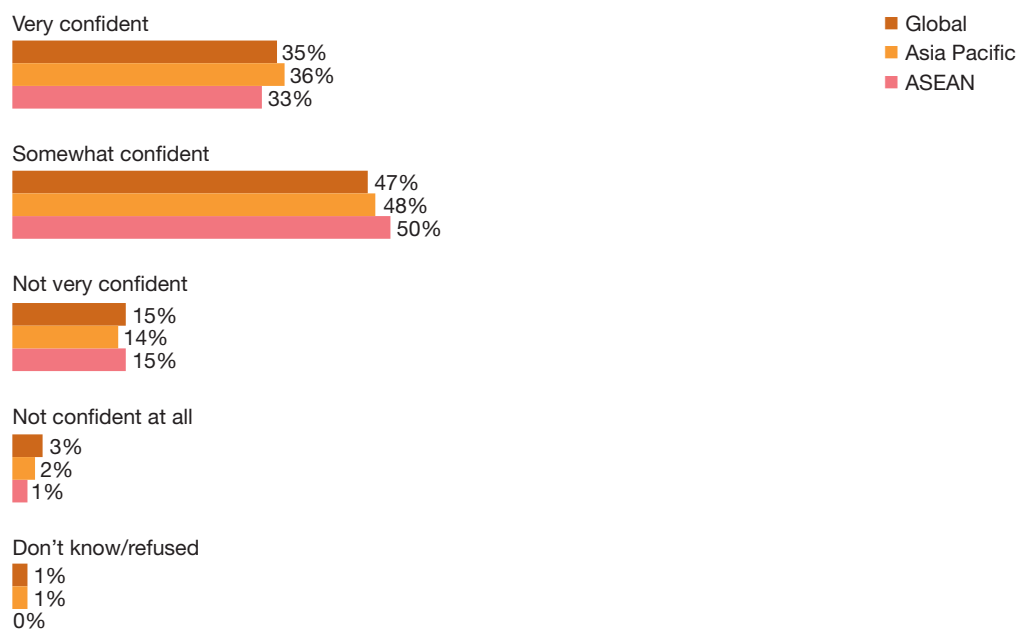


Exhibit 4


Nearly half the ASEAN CEOs “somewhat confident” about their company’s revenue growth

Question

How confident are you about your company’s prospects for revenue growth over the next 12 months?



Q2a base: All respondents (Global 1,378; Asia Pacific, 408; ASEAN, 78; Australia, 131; China, 144; Hong Kong, 32; China/HK, 176; India, 55; Japan, 150; New Zealand, 57; Sri Lanka, 37)



Heading into 2019, businesses face challenges, creating new uncertainties and risks. Companies, for instance, are struggling with a surfeit of data and the lack of talent to clean, integrate and extract value from it. Most organisations haven't moved beyond baby steps toward artificial intelligence (AI).

A more striking observation in this year's survey is despite billions of dollars of investments and priority positioning on the CEO agenda, the gap between the information CEOs need and what they get has not closed in the past 10 years.

So what more are the business leaders saying about the year ahead? PwC's 22nd Global CEO Survey, based on interviews with 1,378 CEOs across 91 territories around the globe, drilled down on CEO insights in four top-of-mind areas: Growth, People, Data & Analytics, and Artificial Intelligence. Seventy Eight ASEAN CEOs participated in the survey.

2

What's causing the dip in
CEOs' confidence for 2019?





Growing geopolitical fault lines

The rise in relative pessimism evidenced in the survey is not that surprising. Most major economic outlooks have adjusted their 2019 forecasts downward. In fact, many economists see a slowdown as overdue. International trade tensions, political upset and uncertainty, stricter monetary and fiscal policy — all play out differently but with the same general result across regions: a more cautious outlook on global growth¹.

Although growth in Asia has so far withstood external headwinds, leading economic outlooks have largely trimmed the region's growth projections for 2019, amid the fear of escalating trade conflicts disrupting cross-border production links². Monetary Authority of Singapore's (MAS) survey released in December last year also saw leading economists and analysts prune their forecast for Singapore's 2019 economic growth, citing rising trade protectionism as the key concern³.

Against this backdrop of strong nationalist and populist sentiment spanning the globe, the threats that business leaders consider most pressing are more related to the ease of doing business in the markets where they operate (e.g., over-regulation, policy uncertainty, trade conflicts) and less existential (e.g. terrorism, climate change). When asked to identify the most attractive foreign markets for investment, CEOs are narrowing their choices and expressing more uncertainty.

More than 4 out of 5 ASEAN CEOs were concerned over trade conflicts (83%) and geopolitical uncertainty (81%) while around 3 out of 4 saw policy uncertainty (78%), over regulation (77%) and protectionism (73%) as threat to their organisation's growth prospects. While CEOs largely expressed concern about trade conflicts between the United States (US) & China, some pointed at trade conflicts between the European Union (EU) and the US, EU and United Kingdom (UK) as well as Canada, Mexico and the US.

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1. https://www.washingtonpost.com/business/darkening-clouds-start-to-overhang-global-economic-expansion/2018/11/20/6f1fd4aa-ece8-11e8-8b47-bd0975fd6199_story.html
 2. <https://www.bloomberg.com/news/articles/2018-09-26/adb-keeps-developing-asia-2018-gdp-forecast-at-6-2019-5-8>
 3. <https://www.straitstimes.com/business/economy/economists-see-slightly-bigger-slowdown-for-singapore-economy-in-2019-mas-poll>



Exhibit 5

Threats that business leaders consider most pressing are more to do with ease of doing business

Question

How concerned are you about the following economic, policy, social and environmental threats to your organisation's growth prospects?

Respondents who stated 'Somewhat Concerned' or 'Extremely Concerned'

%	Global (1,378)	Asia Pacific (408)	ASEAN (78)
Trade conflicts	70%	78%	83%
Policy uncertainty	78%	77%	78%
Geopolitical uncertainty	75%	75%	81%
Over-regulation	73%	72%	77%
Uncertain economic growth	73%	75%	73%
Protectionism	68%	73%	73%



Information and skills gaps

Businesses across the board are battling to bridge the gaps in their own capabilities, namely the information and skills gaps. This year's survey reveals that the 'information gap' the gap between the information CEOs need and what they get has not closed in the ten years.

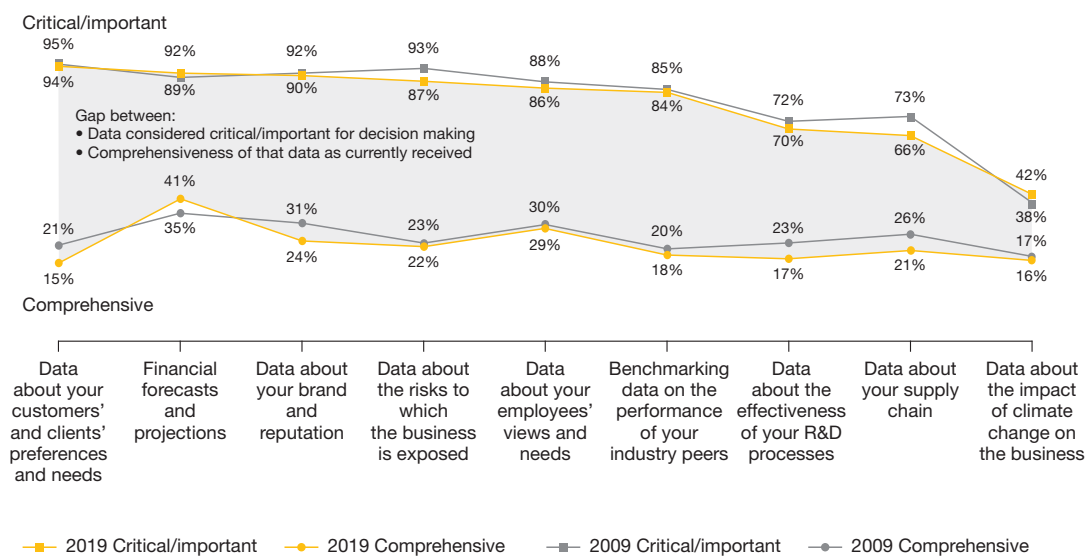
Exhibit 6

CEOs face issues with their own capabilities, namely in terms of data adequacy, with a huge gap that remains 10 years on

Question

Thinking about the data that you personally use to make decisions about the long-term success and durability of your business, how important are the following? (showing on 'critical/important')

How adequate is the data that you receive? (showing only 'comprehensive')



Source: PwC, 22nd Annual Global CEO Survey
Base: All respondents (2019=1,378; 2009=1,124)



In fact, the information gap is largest on the most critical data: customer needs. One could argue that expectations have risen as technology has advanced, which is why the information gap is not closing, but CEOs do not take that easy out. They recognise that they simply don't have the capability to use the data they've got to make optimised decisions. It's not a lack of data or the inability to secure and protect it. It's not the constraints of privacy regulation. CEOs point to the lack of analytical talent, data siloing, and poor data reliability as the primary reasons the data they receive is inadequate.

Exhibit 7	Question
Businesses unable to leverage big data opportunities	What are the primary reasons that the data you receive is not adequate or that you do not receive the information?

%	Global (935)	Asia Pacific (240)	ASEAN (60)
Data siloing and lack of sharing	51%	52%	47%
Lack of analytical talent	54%	60%	53%
Poor data reliability	50%	53%	53%
Unwillingness of customers and clients to share information	42%	37%	43%
Inability to quantify external information	40%	47%	50%



82% of
the ASEAN CEOs
concerned about
availability of Key skills

This has compounded organisations' inability to clean, integrate and extract value from big data and accelerate the adoption of AI. Without clean, relevant, and integrated data, organisations are stymied in their efforts to move aggressively on AI, which CEOs overwhelmingly agree will have a significant impact on their business within the next five years.

The availability of key skills emerged as the top potential business threat to organisations' growth prospects after threats related to cyber and speed of technology change. More than 4 out of five (82%) CEOs in the ASEAN bloc (79% CEOs globally) expressed concern over the talent availability.

Exhibits 8

Top business threats

Question

How concerned are you about the following potential business threats to your organisation's growth prospects?

Respondents who stated 'Somewhat Concerned' or 'Extremely Concerned'

%	Global (1,378)	Asia Pacific (408)	ASEAN (78)
Availability of key skills	79%	78%	82%
Speed of technological change	69%	75%	72%
Cyber threats	69%	71%	81%



The majority (68%) of APEC CEOs (62% global CEOs) revealed that it is now more difficult to hire people in their respective industries. While about a third (38%) of ASEAN CEOs (50% global CEOs) believe that it is due to deficit in supply of skilled workers, one in four ASEAN CEOs (19% Global CEOs) note that skills requirement in their industries have changed.

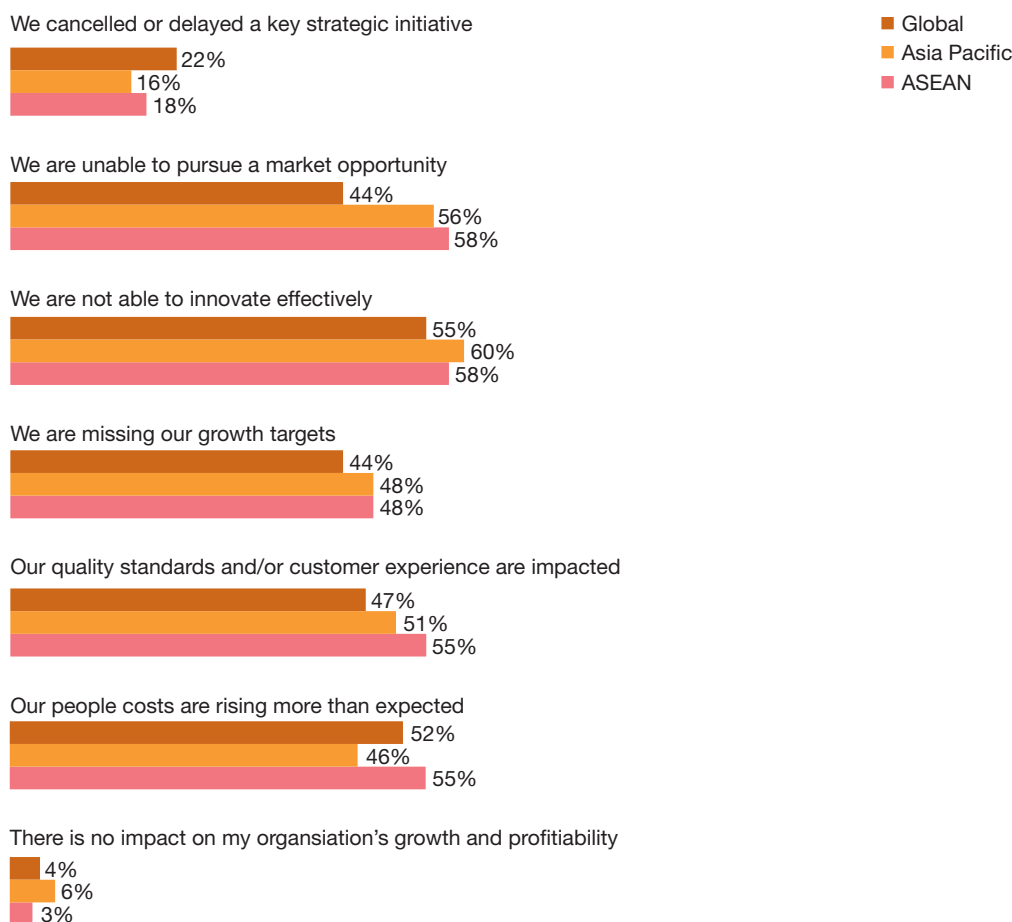
The talent gap is directly impacting organisations' growth prospects as CEOs note that they are unable to pursue market opportunities, innovate effectively and they are missing growth targets with quality standards and customer experience impacted.

Exhibit 9

Talent crunch impacting businesses

Question

What impact is 'availability of key skills' having on your organisation's growth prospects?



Q6f base: Asked to those who selected 'extremely concerned' (Global 473; Asia Pacific, 141; ASEAN, 33; Australia, 34; China, 33; Hong Kong, 6; China/HK, 39; India, 18; Japan, 82; New Zealand, 28; Sri Lanka, 24)

3

How are CEOs navigating
business risks & challenges?





Insights:

Adjusting Operating Model & Growth Strategy

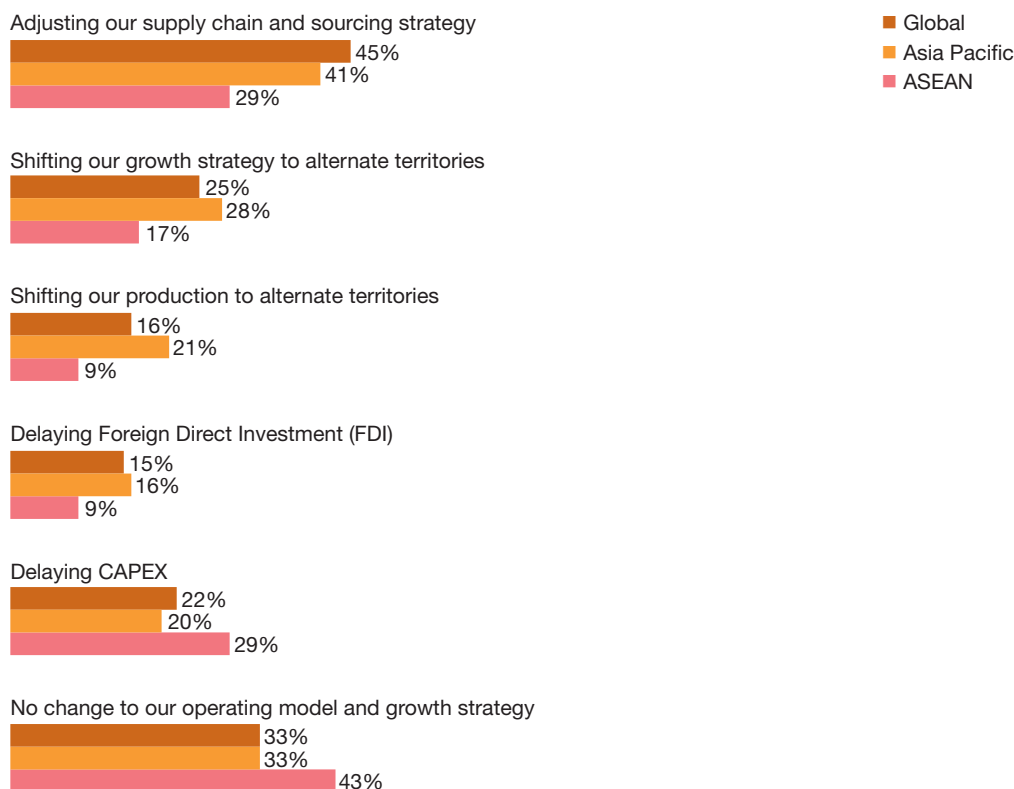
In order to accommodate trade conflicts, half the ‘extremely concerned’ business leaders are seen adjusting their operating model and growth strategy. While nearly a third (29%) of these ASEAN CEOs are delaying capex, 29% are adjusting supply chain and sourcing strategy, 17% shifting growth strategy to alternate territories, 9% are delaying CAPEX and another 9% are shifting production to alternate territories.

Exhibit 10

Businesses re-strategising to defuse impact of trade conflicts

Question

How are trade conflicts affecting your operating model and growth strategy?



Q6d base: Asked to those who selected ‘extremely concerned’ (Global 426; Asia Pacific, 157; ASEAN, 35; Australia, 30; China, 52; Hong Kong, 14; China/HK, 66; India, 19; Japan, 67; New Zealand, 12; Sri Lanka, 7)



Closing the Skills Gap

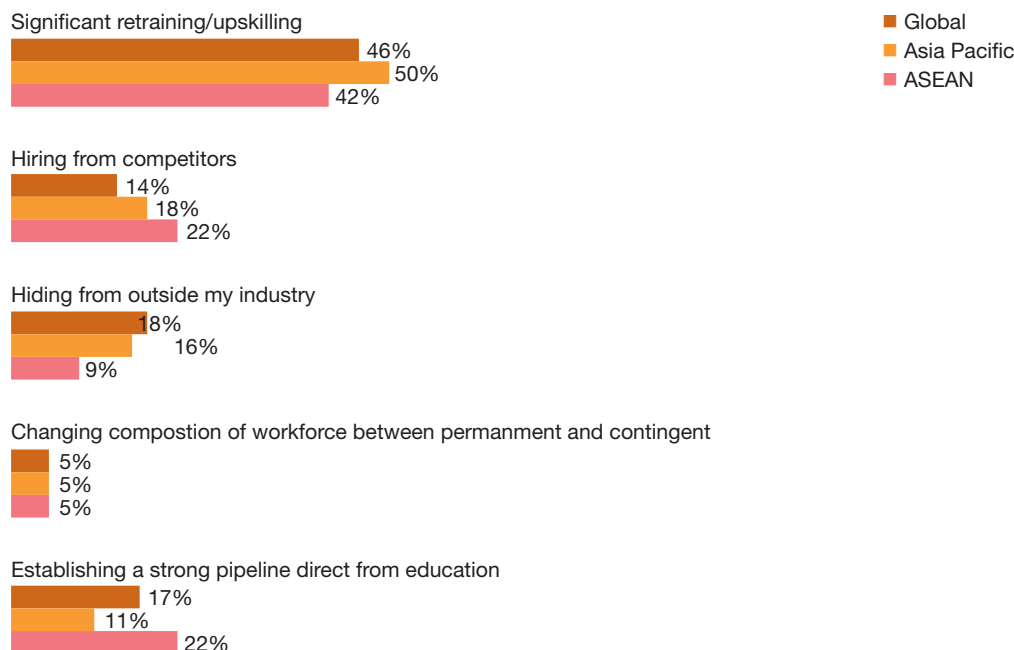
While there are no quick fixes to closing the skills gap, ASEAN CEOs like other global CEOs largely believe that significant training and up-skilling is required besides establishing a strong pipeline directly from educational institutions. Governments and businesses will have to work together to help their people adjust to the disruptive impact of new technologies through both of these channels.

Exhibit 11

ASEAN CEOs see more value in upskilling their own employees

Question

Which of these is the most important to close a potential skills gap in your organisation?



Q6d base: Asked to those who selected 'extremely concerned' (Global 426; Asia Pacific, 157; ASEAN, 35; Australia, 30; China, 52; Hong Kong, 14; China/HK, 66; India, 19; Japan, 67; New Zealand, 12; Sri Lanka, 7)



A culture of adaptability and lifelong learning will be crucial to spreading the benefits of AI widely through society. This is particularly true for markets like Singapore where the population is aging and people have to work longer to sustain themselves in retirement.

Improved Science, Technology, Engineering and Mathematics (STEM) skills will be important in allowing people to take the high technology jobs that will arise out of AI and robotics, but soft skills like creativity and empathy will also be important in making people adaptable and employable throughout their working lives.

In PwC's 2018 APEC CEO Survey, the majority (58%) of Singapore CEOs revealed that the government should do more to train STEM professionals to feed the demand for digital-ready talent ⁴. Creative solutions will include the bottom of the educational pyramid repurposing trade and technical schools to equip young people for success.

At the same time developed economies with older populations should design creative ways to redeploy their retirement age workers in developing young communities where their expertise and wisdom will be valued.



Accelerating AI adoption & unlocking value potential of Data & Analytics

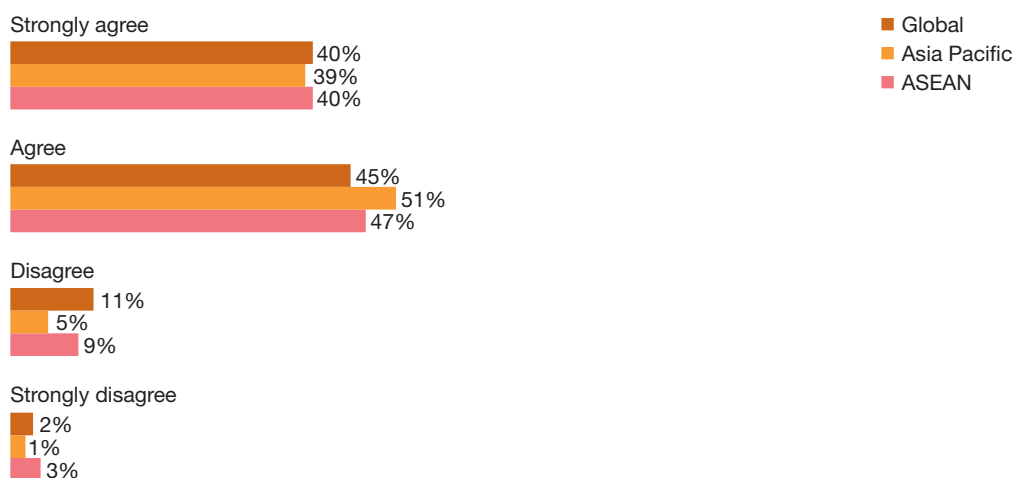
Most executives believe that AI will significantly change the way they do business in the next 5 years. When asked to assess their organisation's ability to make decisions based on data & analytics compared to their industry competitors, nearly half (53%) the ASEAN CEOs (50% Global CEOs) revealed that they are "significantly" and "somewhat" ahead while 10% ASEAN CEOs (12% Global CEOs) said they are "somewhat" and "significantly" behind.

Exhibit 12

Most ASEAN CEOs agree that AI will change ways of doing business

Question

To what extent do you agree or disagree that Artificial Intelligence (AI) will significantly change the way you do business in the next 5 years?



Q13 base: All respondents (Global 1378; Asia Pacific, 408; ASEAN, 78; Australia, 131; China, 144; Hong Kong, 32; China/HK, 176; India, 55; Japan, 150; New Zealand, 57; Sri Lanka, 37)

Business leaders around the globe increasingly expect Governments to lead the future agenda on AI. While a thumping majority (90%) of ASEAN CEOs (84% Global CEOs) reported that AI-based decisions need to be explainable in order to be trusted, 79% ASEAN CEOs (68% Global CEOs) noted the Governments should play a critical and integral role in the development of AI.



Exhibit 13

Question

How strongly do you agree or disagree with the following statements about Artificial Intelligence (AI)?

%	Global (1,378)	Asia Pacific (408)	ASEAN (78)
AI will displace more jobs than it creates in the long run	49%	60%	62%
AI will eliminate human bias such as gender bias	48%	61%	56%
AI is good for society	79%	85%	73%
AI will become as smart as humans	45%	58%	51%
AI-based decisions need to be explainable in order to be trusted	84%	88%	90%
AI will have a larger impact on the world than the internet revolution	62%	72%	72%
Governments should play a critical and integral role in the AI development	68%	79%	79%

72% of
the ASEAN CEOs
agree AI will have
larger impact on
the world than
internet revolution

According to executives, the most 'critical' or 'important' sets of data required in decisions making about the long-term success and durability of business include: Financial forecasts and projections, Benchmarking data on performance of industry peers, Data on employees views and needs, Data on brand and reputation, Data on risks to which business is exposed, Data on how the latest technology trends benefit or disrupt the industry.

4

Preparing for the oncoming AI revolution





PwC research shows that AI will add 15.7 trillion USD to global GDP by 2030 more than the current output of China and India combined, making it the largest opportunity in today's fast changing economy⁵. Businesses that take lead now will of course get the biggest share of this prize.

There is consensus among business leaders globally on AI's mega value potential. Eighty-seven percent of ASEAN CEOs (85% Global CEOs) agree that AI will significantly change the way they do business in the next five years. In fact, nearly three quarters (72%) of ASEAN CEOs and close to two-thirds of global CEOs see it as bigger than the Internet.

But, business leaders are yet not prepared to hand over the keys to their autonomous vehicles. For the purposes of this survey, AI is a collective term for computer systems that can sense their environment, think, learn, and take action in response. Forms of AI include digital assistants, chatbots, and machine learning among others.

44%
of Singapore
Companies are not
making any use of AI⁶

Over a third (36%) of ASEAN CEOs and about a quarter globally have no plans to pursue AI at the moment. While 32% of the ASEAN CEOs (35% Global CEOs) have plans in the next 3 years, another 28% of the ASEAN CEOs (33% Global CEOs) have only dipped a toe into AI for limited uses. PwC's 2018 APEC CEO Survey revealed nearly half (44%) the Singapore Companies are not making any use of AI. Only 8% viewed themselves as highly competitive in terms of AI usage in Singapore while 30% said they will be prioritising investment in AI⁶.

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5. Sizing the prize: What's the real value of AI for your business and how can you capitalise?
<https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf>
 6. PwC's 2018 Annual APEC CEO Survey – Singapore findings
<https://www.pwc.com/sg/en/publications/apec-ceo-survey-sg-2018.html>



“The potential of AI is immense, but in order to make this next quantum leap and fulfil the promise of AI, organisations from both the public and private sectors must work in hand and be committed to deliver on the educational, governance, innovation and commercial considerations.

Yeoh Oon Jin
Executive Chairman

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What CEOs overwhelmingly agree is that although AI is good for the society, AI-based decisions need to be explainable in order to be trusted. The jury is out on whether AI will displace more jobs than it create in the long run, with ASEAN and the Asia Pacific being the most pessimist regions. Sixty two per cent of the ASEAN CEOs (60% Asia Pacific & 49% Global CEOs) see AI displacing more jobs than it creates.

With such societal implications in mind, no wonder business leaders expect Governments to lead the future agenda on AI. Nearly 4 out of 5 (79%) ASEAN CEOs and over two-thirds (68% Global CEOs) agree that governments should play a critical and integral role in AI development.

What do chief executives expect the Governments to do to boost AI adoption? A lot! Eighty five percent of the ASEAN CEOs (76% Global CEOs) reported that Governments should develop national AI strategies and policies including expected impact on communities. CEOs believe that Governments should introduce incentives to accelerate AI adoption as well as provide safety net to people displaced by AI.

However, businesses can't be sitting on the fence any more, AI adoption will accelerate in 2019.

We believe, companies focusing efforts in six key areas will be far ahead of other businesses this time next year⁸.



Structure: Organise for ROI and momentum

Oversee AI: Bring together AI, IT, and core business leaders in a structured way to manage priorities, data strategy, resources, and use cases.

Create a single source of truth: A digital platform with self-service tools and a virtual environment for collaboration that will help connect business problems with AI solutions.

Build the blocks: Instead of applying AI to a complete process, focus on specific tasks that are common across the business and develop reusable AI solutions.



Workforce: Teach AI citizens and specialists to work together

Train, coach, collaborate: For your business specialists to become citizen users and developers, they'll need training in basic data science concepts. Your data scientists, in turn, will need coaching and new collaborative structures to enable them to partner effectively with business staff.

Adapt your workforce strategy: Recruiting and upskilling are just two pieces of the puzzle. You also need to systematically identify how AI is changing job roles and skills; evolve upskilling, performance, and compensation frameworks; and develop new collaborative processes.

Cultivate a welcoming culture: To attract and retain AI talent, use AI responsibly and offer top minds the resources, individual empowerment, and collaborative culture that enables employees to do great work.



Trust: Make AI responsible in all its dimensions

Assign accountability for Responsible AI: Trustworthy AI requires fairness; interpretability; robustness and security; governance; and system ethics. Create roles and establish metrics so all teams are working to build responsible AI.

Control based on experience: When building controls for AI, apply what you've learned from other technologies. Best practices include developing processes to bring different stakeholders together and continually testing and monitoring AI systems.

Explore how tech can build trust: Innovations in responsible AI are advancing quickly. Machine learning algorithms, for example, are getting better at explaining their rationale, strengths, weaknesses, and likely future behavior.



Data: Locate and label to teach the machines

Label and standardise: Identify the data sets you need to train AI to solve specific business problems, then prioritise capturing and labeling that data in line with enterprise-wide standards.

Use new AI data tools: Lean and augmented data learning, transfer learning, and other AI approaches — often integrated into existing applications — can help do more with less much more easily.

Pay attention to policy: Align teams that are helping shape policies in different jurisdictions and address compliance by applying best practices globally.



Reinvention: Monetise AI through personalisation and higher quality

Build new, data-driven business models: Most of AI's economic value will come from the consumption side, so get started evaluating what higher-quality, more personalised products and services AI could enable.

Put AI on your strategy team: AI's ability to find trends in data and extrapolate them into the future — along with letting you explore scenarios around new products, markets, business models — can support even your most monumental strategic decisions.

Consider investments and acquisitions: With so much AI innovation happening through startups, look at potential markets, technology, and talent to access through partnerships, investments, or acquisitions.



Convergence: Combine AI with analytics, the IoT, and more

Start with analytics and the IoT: Many technologies can benefit from AI, but advanced analytics and the IoT will bring sizable benefits.

Bring it all together with DevOps: Combining AI with other technologies also requires bringing together different teams. DevOps' emphasis on continual feedback and iteration can speed processes and improve productivity.

Keep training with new data: Enterprise systems and IoT networks create data continuously. To prevent a decline in performance, continually train AI algorithms with the new data.

Connect with PwC's Data, Emerging Technologies and AI specialist team for more.

8. 2019 AI Predictions: Six AI priorities you can't afford to ignore
<https://www.pwc.com/us/en/services/consulting/library/artificial-intelligence-predictions-2019.html>

5

Be the Future. Align Social,
Digital and Education





The results of this year's CEO survey may seem sobering to some, but they also provide reason for hope. The world's senior decision makers are realistic this year about the challenges facing them, and this may incent them and their organisations to get into action mode.

As CEOs focus more on execution, search for revenue growth, work to address data and talent issues, implement emerging technologies, and seek to capture related benefits and value, we urge them to:

- Stay focused on the broader conversation on establishing new societal frameworks needed to meet evolving human needs and foster sustainable prosperity.
- Every leader is affected by the challenges facing us this year. Organisations, whether in the public or private sector, must join hands and play key role in realigning economies and society, alongside other stakeholders.
- Look beyond financial performance for more effective indicators of progress.
- We need to define societal indicators that demonstrate sustainable quality of life in a more holistic and integrated way.
- Harness technology to meet the needs of people and their communities.
- The advances of the digital age are powerful in unprecedented ways and, if properly harnessed, may hold the keys to addressing systemic challenges for the benefit of the broader community.
- Educate for the future so people have the best chances of success.
- People are the main success factor in digital transformation projects. To move beyond successful implementation to true innovation, business leaders should continue to upskill their current and future workforce as well as cultivate soft skills such as creativity, problem solving and empathy in their corporate cultures.
- Educational institutions also will need to adjust, fostering lifelong development of technical skills and creative problem solving.
- Create opportunities for cooperation among governments and businesses on a global scale as people and goods will continue to move across national boundaries.

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