Navigating the rising tide of uncertainty
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Executive Summary

A heightened sense of uncertainty is one theme that rang out loudly this year in PwC’s 23rd Global CEO Survey, much like it has been across business headlines in general in the recent times.

As CEOs around the world look ahead to 2020, for the first time more than half (53%) of them believe that the rate of global GDP growth will decline. This record level of pessimism remarkably contrasts the record optimism regarding global economic growth revealed in 2018’s survey, leaving us thinking - what a difference two years can make.

Singapore CEO turned out to be even more pessimistic with more than four out of five (84.4%) of them expecting a decline in global GDP growth. It’s largely on the back of heightened scepticism over unresolved trade conflicts, protectionism, uncertain economic growth and talent crunch, besides the challenges and risks propelled by unprecedented technological changes.

The caution typically translated into CEOs’ low confidence in their own organisation’s outlook.

Only one out of four local business leaders are ‘very confident’ about revenue prospects in the coming year.
1. Growth

Uncertainty weighs on growth, dampening outlook
1. Growth

Uncertainty weighs on growth, dampening outlook

Global scenario

In the past two years, the percentage of CEOs around the world who believe GDP growth will ‘decline’ has increased ten-fold (from 5% to 53%) (Exhibit 1). Since 2012, when we began asking about the prospects for growth in the coming year, the share of CEOs projecting a ‘decline’ has never reached, much less surpassed, 50%.

The percentage of CEOs who believe global economic growth will ‘improve’ in 2020 dropped by a record share to 22% from 42% in 2019. This sober outlook is all the more striking when you consider that CEOs reported a record level of optimism in 2018 when 57% of them believed global GDP growth would ‘improve’ in the coming year.

Globally, even as over-regulation remains the top threat, there is rising concern over uncertain economic growth, trade conflicts, climate change, and cybersecurity. The unknowns on all of these fronts cloud CEOs’ outlook on the road ahead.

Exhibit 1

Globally CEOs have shifted from record optimism to record pessimism over the past two years

Question

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

Source: PwC 23rd Annual Global CEO Survey
Note: From 2012 to 2014, respondents were asked, “Do you believe the global economy will improve, stay the same or decline over the next 12 months?”

Base: Global respondents (2012=1,381; 2013=1,378; 2015=1,293; 2017=1,379; 2018=1,426; 2019=1,322; 2020=1,344; 2015=1,395; 2017=1,255)
The caution has translated into low CEO confidence in their own organisations’ outlook. Only 27% of the CEOs surveyed globally are ‘very confident’ in their prospects for revenue growth in 2020. CEOs are more sanguine about the prospects for the next three years, but confidence levels are still at a low not seen since 2009 at the height of the global financial crisis (Exhibit 2).

**Exhibit 2**

**Global CEOs’ 12-month and 3-month revenue confidence fall to levels not seen since 2009**

**Question**

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’)

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**Sources:** PwC, 23rd Annual Global CEO Survey

**Note:** From 2012 to 2014, respondents were asked, “Do you believe the global economy will improve, stay the same or decline over the next 12 months?”

**Base:** Global respondents (2005=1,581; 2015=1,578; 2016=1,380; 2017=1,370; 2018=1,498; 2019=1,325; 2020=1,644; 2021=1,380; 2021=1,358; 2021=1,321; 2021=1,180; 2020=1,124; 2020=1,155; 2020=1,584)
1. Growth

Uncertainty weighs on growth, dampening outlook

**Singapore Story**

Singapore CEO turned out to be highly pessimistic about global growth with 84.4% expecting a decline in global GDP growth (Exhibit 3). This is on the back of heightened scepticism over unresolved trade conflicts, protectionism, uncertain economic growth and talent crunch, besides the challenges and risks propelled by unprecedented technological changes.

Even as it appears dramatic, the business leaders' outlook is consistent with most economic forecasts. In its October 2019 forecast, the International Monetary Fund noted, “The global economy is in a synchronized slowdown and we are, once again, downgrading growth for 2019 to 3 percent, its slowest pace since the global financial crisis.”

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**Exhibit 3**

Singapore CEOs highly pessimistic about global growth prospects

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you believe global economic growth will improve, stay the same, or decline over the next 12 months?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Improve</th>
<th>Stay the same</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>84%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>48%</td>
<td>16%</td>
<td>35%</td>
</tr>
<tr>
<td>Global</td>
<td>53%</td>
<td>24%</td>
<td>22%</td>
</tr>
</tbody>
</table>

---

Only one out of four local CEOs in our survey are ‘very confident’ in their own organisations’ revenue growth prospects (Exhibit 4). The majority (59.4%) of them are ‘somewhat confident’ about revenue growth. One in four of them believe they have differentiating capabilities that set them apart from competitors while about a fifth (22%) of them believe they are agile and pursue emerging opportunities.

Singapore’s economic growth has slowed considerably over the past two quarters, with GDP expanding by 0.1 per cent y-o-y in both Q2 and Q3 2019, a step-down from the 1.2 percent posted in Q4 2018 – Q1 2019. The Monetary Authority of Singapore (MAS) said in its twice-yearly macroeconomic review released on Oct 30: “Looking ahead, the global growth outlook is lacklustre and beset by uncertainty arising from trade developments. Against this backdrop, activity in the Singapore economy is expected to stay soft over the next 18 months.”

**Exhibit 4**

The majority of Singapore CEOs are “somewhat confident” about revenue growth prospects

**Question**

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

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Somewhat confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>25.0%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>29.4%</td>
</tr>
<tr>
<td>Global</td>
<td>27.3%</td>
</tr>
<tr>
<td>Singapore</td>
<td>59.4%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>44.5%</td>
</tr>
<tr>
<td>Global</td>
<td>45.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not very confident</th>
<th>Not confident at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>9.4%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>21.7%</td>
</tr>
<tr>
<td>Global</td>
<td>22.3%</td>
</tr>
<tr>
<td>Singapore</td>
<td>6.3%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>3.6%</td>
</tr>
<tr>
<td>Global</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

1. Growth
Uncertainty weighs on growth, dampening outlook

 Threats: Crossing unchartered territories

The haze of uncertainty is clouding the view from the top amid unprecedented business threats and challenges. Trade conflicts topped the list of perceived threats with 97% of the Singapore CEOs expressing concern, followed by uncertain economic growth (93.8%), protectionism (87.5%), availability of key skills (84.4%), technological change (84.4%) and cybersecurity (84.4%) (Exhibit 5).

Globally, as always, CEOs cited over-regulation as the top threat, while concerns over uncertain economic growth surged from number 12 to number three. The other concerns registering prominently on CEOs’ radar are trade conflicts, cyber threats, and policy uncertainty. Beyond these top five, persistent challenges such as availability of key skills, geopolitical uncertainty, and the speed of technological change remain top-of-mind.

Exhibit 5

Singapore CEOs’ top-of-mind concerns

<table>
<thead>
<tr>
<th>Threats</th>
<th>Singapore</th>
<th>Asia Pacific</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Conflicts</td>
<td>96.9%</td>
<td>71.8%</td>
<td>73.2%</td>
</tr>
<tr>
<td>Uncertain Economic Growth</td>
<td>93.8%</td>
<td>75.2%</td>
<td>81.1%</td>
</tr>
<tr>
<td>Protectionism</td>
<td>87.5%</td>
<td>59.7%</td>
<td>63.3%</td>
</tr>
<tr>
<td>Availability of key skills</td>
<td>84.4%</td>
<td>72.9%</td>
<td>74.4%</td>
</tr>
<tr>
<td>Speed of technological change</td>
<td>84.4%</td>
<td>69.5%</td>
<td>69.3%</td>
</tr>
<tr>
<td>Cyber threat</td>
<td>84.4%</td>
<td>65.6%</td>
<td>72.7%</td>
</tr>
</tbody>
</table>
To maximise revenue growth Singapore CEOs are upping the ante on driving operational efficiencies, organic growth and are forging ahead with strategic alliances, new launches, overseas expansions (Exhibit 6).

What are Singapore CEOs doing over the next 12 months to drive revenue?

Exhibit 6

The way ahead Singapore CEOs are taking to boost revenue growth

Question
Which of the following activities, if any, are you planning in the next 12 months in order to drive revenue growth?

- Driving operational efficiencies: 84.4%
- Driving organic growth: 78.1%
- Striking strategic alliance: 65.6%
- Launching new products or services: 62.5%
- Entering new markets: 53%
- M&A: 37.5%
- Collaborating with entrepreneurs or start-ups: 28%
- Selling business: 9.4%
1. Growth
Uncertainty weighs on growth, dampening outlook

Furthermore, a third of Singapore CEOs are taking strategic initiatives to mitigate the impact of trade conflicts on operating model & growth strategy (Exhibit 7). Globally, the CEOs are largely adjusting their supply chain and sourcing strategies. They are also shifting their growth strategies and production to alternative territories.

**Exhibit 7**
Singapore CEOs taking strategic initiatives to mitigate the impact of trade conflicts

<table>
<thead>
<tr>
<th>Question</th>
<th>Singapore</th>
<th>Asia-Pacific</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are ‘trade conflicts’ affecting your operating model and growth strategy? ('Extremely concerned' CEOs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shifting growth strategy to alternative territories</td>
<td>29.4%</td>
<td>19.7%</td>
<td>21.7%</td>
</tr>
<tr>
<td>Shifting production to alternative territories</td>
<td>29.4%</td>
<td>25.4%</td>
<td>21.7%</td>
</tr>
<tr>
<td>Delaying capital expenditure (CAPEX)</td>
<td>21.1%</td>
<td>21.1%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Adjusting supply chain and sourcing strategy</td>
<td>31.6%</td>
<td>43.1%</td>
<td>43.4%</td>
</tr>
<tr>
<td>Delaying foreign direct investment (FDI)</td>
<td>21.1%</td>
<td>11.8%</td>
<td>5.3%</td>
</tr>
</tbody>
</table>

97% Singapore CEOs concerned about trade conflicts
Actionable advice for CEOs

Three key strategies to better manage risks in fast-paced environment amid uncertainties

There will always be opportunities during turbulent times. It’s a matter of how you receive the signals hinting at unexpected conditions, get conscious of opportunities around as well as the inherent risks, and position with agility to leap beyond predictable avenues of growth. As there is no time to waste, companies must get ahead of populist-driven policies. To survive and thrive in such uncertain times, it is important for businesses to:

01 Build more agile leadership to better handle the volatility, uncertainty, complexity and ambiguity evident in the business landscape

This would include making sure the board has the right skills for today’s risk environment, with some board directors chosen based on the right geopolitical expertise and relationships with trade and industry groups to proactively manage policy and regulation implementation.

It is beneficial to recruit at least one board member with strong experience in the digital sphere (there are an increasing number of chief digital officers joining boards) and working towards up-skilling the other board members on digitisation.

More frequent comprehensive risk reviews are key amid uncertain times. In the past, most risk reviews took place annually, but this approach is no longer viable, as a risk register needs to be continually updated and discussed by board members.

02 Use technology to enhance risk management

In fact, risk management should be integrated across all parts of the organisation and woven into the overall business plan. A dynamic risk approach should be enhanced by analytics and data modelling tools that are focussed on providing insight that helps decision-makers respond and adapt to changing circumstances, whatever form they take.

A growing element of risk management should be targeted at the company’s use of new technology itself, particularly at how well it uses customer data and AI in a responsible way.

Times have definitely changed — the need for trust in data and emerging technologies, and the potential impact of national policies or regulations on companies’ digital strategies, is increasingly important. Companies should lead from the front on harnessing innovation and build consensus with policymakers on the appropriate regulatory path.
Business leaders need to give management greater confidence that they are being supplied with sufficient information to make the right decisions, accepting that outcomes won’t always be perfect. Managing risks is paramount but eliminating them altogether is impossible. Instead of hunkering down, companies need to recognise that some of the greatest opportunities for growth will come from a cross-border approach, facilitated by further technology advances.

CEOs must be aware that in some ways the market is moving faster than regulation and having a leadership culture to withstand risks as they emerge is essential. New technologies such as blockchain and FinTech applications have relatively few rules to constrain them; this lack of regulation heightens risk, increasing the chance of unpredictable events or outcomes.

In addition, political pressures on governments across the globe will result in faster-moving regulatory environments, which will impact businesses at a granular level. But risk leaders don’t have the option of delaying strategic decisions and doing nothing. They can firefight to protect revenues while focussing their resources and doing the minimum to avoid problems in the immediate future. Or they can invest in a more multi-pronged approach to come up with ‘no-regrets’ decisions that have taken all the possible ramifications into account.

Keep business strategy focussed on opportunities
2. Technology Regulation

Setting up guard rails in cyberspace
2. Technology Regulation

Setting up guard rails in cyberspace

There are perils inherent in the promise of transformative technologies. The private sector’s implementation of new technologies and innovations is outpacing the development of regulatory systems and standards to mitigate their risks.

The debate rages on whether governments should adopt existing frameworks to unify legislation or draw new boundaries on data privacy, content moderation, and the size and reach of dominant platforms such as Facebook, Google, Amazon, Apple. If those boundaries are drawn too tight, they inhibit cross-border data flows, the effectiveness of cybersecurity and, simply put, innovation. The friction between these imperatives sow distrust and division, resulting in the increased fragmentation of societies.

Most Singapore CEOs believe government & businesses must collaborate to build trust in society. Cybersecurity, digital privacy and artificial intelligence are the top three emerging technology areas where businesses and government must collaborate to build trust in society (Exhibit 8), according to local business leaders.

**Exhibit 8**

Singapore CEOs believe government and businesses must collaborate on emerging technology areas to build trust

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**Question**

Which emerging technology areas are most important for business and government to collaborate on in order to build trust in society?

- **Cybersecurity**: 26.8%, 24.4%, 25%
- **Digital privacy**: 16.7%, 13.4%, 21.9%
- **Artificial intelligence**: 15.6%, 17.5%, 15.6%
- **Misinformation (e.g., fake news)**: 8.7%, 6.3%, 12.6%
- **Internet of Things**: 6.1%, 6.7%, 6.3%
- **5G Cellular Network**: 7.3%, 10.9%, 6.3%
CEOs are concerned over cyber threats given the increasing complexities around it, data privacy regulations and importantly, the shortage of cybersecurity talent (Exhibit 9).

**Exhibit 9**

**Factors shaping cybersecurity strategies**

**Question**

What key factors are having the greatest impact in shaping your cybersecurity strategy?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing complexity of cyber threats</td>
<td>84.4%</td>
</tr>
<tr>
<td>Cybersecurity and data privacy regulations</td>
<td>65.6%</td>
</tr>
<tr>
<td>Growing public concern over data privacy</td>
<td>56.3%</td>
</tr>
<tr>
<td>Shortage of cybersecurity talent</td>
<td>50%</td>
</tr>
<tr>
<td>Adoption of Internet of Things (IoT) hardware and software</td>
<td>43.8%</td>
</tr>
<tr>
<td>Vulnerabilities in supply chains and business partners</td>
<td>43.8%</td>
</tr>
<tr>
<td>Rising geopolitical tensions</td>
<td>25%</td>
</tr>
<tr>
<td>Introduction of fifth-generation (5G) cellular networks</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

*84% Singapore CEOs concerned about cyber threats*
This year, we asked CEOs to think about the future (2022 and beyond) and select from a series of opposing statements on whether the internet will become more fractured and if the governments will intervene in regulating the technology sector.

The majority of Singapore CEOs believe that the internet will become more fractured as governments enhance regulations around content, commerce and privacy. Interestingly the internet is being seen as a platform that divides people, spreads misinformation and facilitates political manipulation (Exhibit 10).

**Exhibit 10**

Most Singapore CEOs believe legislation will splinter the internet

Thinking about the future (2022 and beyond), please select the statement that you believe is more likely to occur:

- The internet (including social media) will increasingly become more fractured as governments apply their own legislation about content, commerce and privacy
- The internet (including social media) will increasingly be seen as a platform that divides people, spreads misinformation and facilitates political manipulation

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>50%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>45%</td>
</tr>
<tr>
<td>Global</td>
<td>75%</td>
</tr>
</tbody>
</table>

Singapore CEOs believe government will use data from citizens to determine access to social services, loans & other aspects
More than nine out of ten Singapore CEOs see the government increasingly introducing legislation to regulate content on the internet (including social media). The majority of them (75%) believe that the government will also use legislation to break up dominant tech companies. Interestingly, three out of five local business leaders foresee the government compelling the private sector to financially compensate individuals for the personal data they collect (Exhibit 11).

Exhibit 11

Most Singapore CEOs foresee legislation on internet content, the breakup of ‘Big Tech’ and personal data compensation

Question
Thinking about the future (2022 and beyond), please select the statement that you believe is more likely to occur:

<table>
<thead>
<tr>
<th>The Government will increasingly introduce legislation to:</th>
<th>The Government will mostly continue to allow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force the private sector to regulate content on the internet (including social media)</td>
<td>Force the private sector to self-regulate content on the internet (including social media)</td>
</tr>
<tr>
<td>93.8%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Force the private sector to financially compensate individuals for the personal data they collect</td>
<td>The private sector to self-determine how they will compensate individuals for the personal data they collect</td>
</tr>
<tr>
<td>59.4%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Break up dominant technology companies</td>
<td>Dominant technology companies to grow unchallenged by competition/antitrust legislation</td>
</tr>
<tr>
<td>75%</td>
<td>25%</td>
</tr>
</tbody>
</table>
2. Technology Regulation
Setting up guard rails in cyberspace

Exhibit 12
Singapore CEOs’ personal digital behaviour

Social Media Apps
- 31.3% have deleted some or all of their social media accounts

Personal Assistants
- 18.8% have stopped using virtual personal assistants like Amazon Alexa, Apple Siri, Google Assistant

Companies
- 9.4% have requested a company to provide or delete data it has collected about them
Actionable advice for CEOs

Navigating the cyber risk landscape – 10 opportunities in building readiness of people, processes and technologies in improving security, privacy and consumer trust

Confidence in people, processes and technology is critical to building a secure digital world. More than just mitigating risk, companies must thoroughly integrate and align cybersecurity concerns into their business strategy. Companies can gain a competitive advantage by becoming trusted providers in terms of safety, security, reliability, privacy, and data ethics.

01 People - Tomorrow’s transformation starts with people

1. Engage security experts at the start of digital transformations

Include cybersecurity and privacy personnel in digital transformation projects from day one—and evaluate whether they have the right skills aligned to design, build, and sustain digital transformation initiatives, or if external resources are needed. Network with industry peers who have gone through similar transformation projects to learn lessons, including which skills their peers placed for successful completion.

2. Upgrade your talent and leadership team

Without the right team in place, managing risks around security, privacy and ethics becomes a much steeper climb. Key roles such as chief information security officer (CISO), chief security officer, chief privacy officer, chief risk officer and chief data officer are often absent at many companies. Commit to putting the right roles and talent in place, with clearly defined responsibilities, to comprehensively address cybersecurity, privacy and data ethics challenges. Conduct an organizational risk assessment to identify and address talent and skill gaps.

3. Raise workforce awareness and accountability

Prioritize raising workforce awareness about cybersecurity and privacy to support business objectives. Use messaging that avoids invoking security fatigue and is memorable enough to influence behavior when busy employees later face phishing schemes and other sophisticated threats.

Establish corporate policies governing access to IT assets and data. Enforce the policies at all levels of the company to drive accountability for cybersecurity and privacy.

02 Process - Evolving processes into new trust mechanisms

4. Improve communications and engagement with the board of directors

Know that the types of measures (implementation, effectiveness/efficiency, and impact) that are obtainable and useful for performance improvement depend on the maturity of the security program and how controls are being implemented. Start with what you can measure today and create a plan to add more sophisticated metrics over time. Also, metrics must address the needs of the stakeholder audience. The board might want metrics on the business impact of security activities—for example, impact of security spending on overall risk posture, cost of addressing a security event, or impact of security efforts on public trust. Communicate to the board how external factors—threats, third-party risk and regulations—affect overall risk posture and effectiveness of risk reduction activities. Improve the CISO’s engagement with board members using these five tips.
5. **Aim to protect your most valuable assets while tying in security to business goals**

As corporate leaders aggressively adopt technology-driven business models, cybersecurity programs are increasingly misaligned with the business. Companies can make progress by focusing on areas such as: a) Embedding cybersecurity into new products and/or services; (b) Conducting risk, regulatory and compliance assessments; (c) Conducting cybersecurity framework assessments that align business imperatives to cybersecurity controls; (d) Refreshing cybersecurity strategies and plans.

6. **Build lasting trust around data**

As the amount of data in the world soars, more companies could be at risk of crossing ethical red lines as they pursue new ways to monetize it. Implement data-governance programs that determine not only where sensitive data lives, but also the value to the business and how to protect it. Manage risks for the whole data lifecycle, including creation, storage, using, sharing, archiving, and destruction.

7. **Boost cyber resilience**

Cyber resilience includes the agility of both defence and recovery capabilities. Resilient systems help companies to sustain operations when possible amid cyberattacks, and to rapidly recover in the event of disruption.

Develop an understanding of the risk appetite around core business practices. Take into account the potentially differing views of stakeholders such as the chief financial officer, the chief operating officer, the chief information officer, and other executives focused on security, privacy, and risk.

Use leading approaches to cyber resilience. They include the development and assessment of plans designed to address risk-appetite concerns in an evolving threat landscape. They also include the constant monitoring of technology infrastructure to enable high availability, disaster recovery, and data integrity.

8. **Know thy enemies**

Use cyber threat intelligence and insider threat programs to inform security activities and risk assessments and support related investment decisions. Study your risk and threat landscape; apply threat intelligence to your risk scenarios; develop a threat-intelligence program and function; and use leading tools to make the intelligence actionable.

9. **Be proactive in compliance**

Focus more on identifying new and emerging legislation, rules and implementation guidance.

Use an integrated compliance approach instead of siloed efforts. In other words, businesses operating across different jurisdictions should comply with the highest standard. The sum of such an approach should be the sum of all the rules.

10. **Keep pace with innovation**

Explosive growth in technology and data over the next decade will obliterate barriers between cyber, physical, and virtual worlds, ratcheting up the complexity and scale of cyber and privacy risk management worldwide. Digital data and devices will be embedded more in critical infrastructure, in consumer products, in vehicles, in daily life, and even in humans, in a world in which the physical, cyber and virtual merge. Data collection will be more pervasive than ever as the internet of things (IoT) spreads and hackers are drawn in.

Prioritize the development of digital trust controls and security budgets to support business investments and objectives around IoT, AI, and other emerging technologies. Stay attuned to emerging IoT security research. When creating software, don’t just integrate development and operations, but also embed security in the process (DevSecOps). Recognize AI will need both more robust governance and a new operating model. See our insights on AI predictions, building trust and confidence in AI and what it means to open AI’s black box.
3. Upskilling

To upskill or not to upskill, no longer the question
3. Upskilling
To upskill or not to upskill, no longer the question

The new digital world has ushered in new business models and new ways of working that require critical new technical, digital and soft skills. But there is limited supply of such people possessing STEM (science, technology, engineering, math) as well as the uniquely human skills such as creativity, empathy, collaboration. This skills shortage is further exacerbated by protectionism and barriers to talent mobility being erected around the world. Moreover, employers and workers alike confront a profound demographic dilemma—a rapidly aging labour force in many markets including Singapore. The pool from which to recruit new talent is drying up (Exhibit 13).

It is hence obvious that the availability of key skills is one of the top concerns, impeding innovation and prompting higher people costs. Businesses cannot hire their way over this skills gap—not at a price they can pay—so the imperative is clear. Employers and employees must join hands and invest in upskilling or risk irrelevance.

Exhibit 13
Four key forces are driving the upskilling imperative

1. Increasing job automation
- Percentage of existing jobs at potential risk of automation by education level across waves

2. Decreasing talent availability
- OECD unemployment rate (% of total labour force)

3. Decreasing mobility of skilled labour
- Is cooperation among gov'ts and businesses leading to greater movement of skilled labour between markets? (showing only ‘no’)

4. Ageing talent
- OECD population ages 65 and above (% of total population)
Upskilling journey of Singapore businesses

In last year’s survey, the majority of CEOs agreed that significant retraining/upskilling was the most important way to close a potential skills gap in their organisations. Yet, this year’s survey reveals that fewer than one in five organisations (15.6%) in Singapore (18% globally) believe they have made ‘significant progress’ in establishing an upskilling programme that develops a mix of soft, technical and digital skills (Exhibit 14).

Singapore businesses are largely either ‘starting to make progress’ or have made ‘moderate progress’ in their upskilling journey.

There is an intriguing disconnect between what employers perceive and what employees express about their employment future.

According to PwC’s Hopes and Fears Survey 2019 comprising 2000 respondents in Singapore, 51% of the Singaporean adults are worried about automation putting jobs at risk. Over 90% of the Singaporean respondents said, they will take any opportunity given by their employers to better understand or use technology, while 85% said they are ready to learn new skills or completely re-train to improve their future employability. Yet, half of them said they have “some opportunities” to develop digital skills outside their normal duties while 25% noted they have “no opportunities at all”.

Workers need to be convinced that companies are engaging in upskilling efforts to improve their employability, not just to enhance the bottom line.

Exhibit 14

Singapore businesses largely either starting to make progress or have made moderate progress in their upskilling drive

<table>
<thead>
<tr>
<th>Upskilling journey</th>
<th>No Progress</th>
<th>Starting to make progress</th>
<th>Moderate Progress</th>
<th>Significant Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining skills related to drive future growth strategy</td>
<td>6.3</td>
<td>31.3</td>
<td>43.8</td>
<td>15.6</td>
</tr>
<tr>
<td>Establishing an upskilling programme</td>
<td>9.4</td>
<td>31.3</td>
<td>34.3</td>
<td>15.6</td>
</tr>
<tr>
<td>Improving our workers’ and leaders’ knowledge of technology</td>
<td>12.5</td>
<td>18.8</td>
<td>40.6</td>
<td>28.1</td>
</tr>
<tr>
<td>Implementing a diversity and inclusion strategy</td>
<td>3.1</td>
<td>18.8</td>
<td>46.9</td>
<td>28.1</td>
</tr>
<tr>
<td>Collaborating with academic/government institutions</td>
<td>6.3</td>
<td>43.8</td>
<td>37.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Building employee engagement</td>
<td>3.1</td>
<td>28.1</td>
<td>37.5</td>
<td>25</td>
</tr>
</tbody>
</table>
3. Upskilling
To upskill or not to upskill, no longer the question

Singapore CEOs reported employees’ ability to learn new future skills as the top challenge in their upskilling initiative (Exhibit 15). Regarding the retention challenge, employers may well ask, “What if I spend money upskilling my employees, and they leave?” The reply is simple. “What if you don’t…and they stay?” To retain employees, companies must do more than go through the motions of “upskilling”; you need to give them the opportunity to do “good work.”

Of course, “upskilling” can mean different things in different territories or industries. For the purposes of this survey, upskilling was defined as: “An organisation’s clear intent to develop its employees’ capabilities and employability, and to advance and progress their technical, soft, and digital skills.”

Exhibit 15
Key upskilling challenges reported by Singapore CEOs

<table>
<thead>
<tr>
<th>Top upskilling challenges</th>
<th>Singapore CEOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees’ ability to learn new future skills</td>
<td>21.9%</td>
</tr>
<tr>
<td>Retaining Up-skilled employees</td>
<td>18.8%</td>
</tr>
<tr>
<td>Disruption of day-to-day business</td>
<td>12.5%</td>
</tr>
<tr>
<td>Defining the skills we should build</td>
<td>9.4%</td>
</tr>
<tr>
<td>A lack of resources (e.g., budget, people, time, knowledge) to conduct the upskilling programmes</td>
<td>9.4%</td>
</tr>
<tr>
<td>Quality of external parties who conduct relevant upskilling programmes</td>
<td>9.4%</td>
</tr>
</tbody>
</table>
As Singapore businesses jump on to the upskilling bandwagon, the good news is that there are visible signs of progress, although there’s a long way ahead to cover. More than one in four Singapore CEOs noted that their upskilling programmes have been “very effective” in achieving stronger corporate culture and employee engagement besides greater innovation and accelerated digital transformation (Exhibit 16).

The majority of local business leaders said that their upskilling programmes have been moderately effective in achieving greater business growth (72%), improved talent acquisition and retention (66%) and higher productivity (59%) (Exhibit 16).

But business leaders alone cannot solve the global talent and skills crisis we confront. It will take the concerted efforts of educators, national, regional and local government, technology innovators, and the business community to ensure people around the world stay productively engaged in meaningful work.

### Exhibit 16

**Most Singapore CEOs feel their upskilling programmes are “moderately effective”**

<table>
<thead>
<tr>
<th>Question</th>
<th>Not very effective</th>
<th>Moderately effective</th>
<th>Very effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher workforce productivity?</td>
<td>15.6%</td>
<td>59.4%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Improved talent acquisition and retention?</td>
<td>12.5%</td>
<td>65.6%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Stronger corporate culture and employee engagement?</td>
<td>15.6%</td>
<td>50%</td>
<td>28.1%</td>
</tr>
<tr>
<td>Greater business growth?</td>
<td>3.1%</td>
<td>71.9%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Greater innovation and accelerated digital transformation?</td>
<td>12.5%</td>
<td>53.1%</td>
<td>28.1%</td>
</tr>
<tr>
<td>Reducing skills gaps and mismatches?</td>
<td>21.9%</td>
<td>56.3%</td>
<td>15.6%</td>
</tr>
</tbody>
</table>
Actionable advice for CEOs

Five building blocks of upskilling

As organisations transform their workforce to drive productivity, innovation and growth, upskilling is key. It has become a business imperative to anticipate the right skills for the future, lay a cultural foundation for upskilling, deliver upskilling programmes and build a learning and development function with the right EdTech to deliver a vastly better return on upskilling investment.

01 Identify skills gaps and mismatches

Starting point is to assess the current environment and understand how for instance technology is displacing existing jobs and creating new roles at the same time. This is the basis for identifying the size and nature of roles in your organisation and the subsequent gaps and mismatches in skills. Digital solutions can enhance and accelerate this process by leveraging existing data about the types of jobs that are at risk given the significant investment in automation and technology.

02 Build a future-proof skills strategy

The clarity about how roles and skills are evolving will provide insight in what needs to be done to future-proof your workforce. Next is to build strategic plans to deal with the skills gaps which have the most impact on delivering business value. This typically involves organisation and job redesign, skills assessment, training needs analysis and the actual upskilling of workforce. As you rapidly review and refresh upskilling strategy, ensure inclusion is priority. Improve the effectiveness of learning within your organisation using technologies. Evaluate strategic alternatives and scale best-performing programmes.

03 Lay the cultural foundation

Mass upskilling requires a learning culture; employees need to understand that learning is no longer a nice-to-have, but mission-critical to remain employable. Organisation benefit from driving a cultural shift that fosters the right attitude towards learning. Inspire citizen-led innovation and ensure a holistic approach towards doing good for the society at large. Nurture physical vitality and mental wellbeing among people within and outside the organisation.

04 Develop and implement upskilling

Create and deploy programmes which harness the organisation’s culture and use key behavioural economics principles to deliver the right learning experience and rapid results. Get leadership buy-in and align rewards and incentives attached to upskilling programmes. Enable employees to free up time for learning. Design for an engaging learning experience to build digital understanding. As you deliver training focus on targeted personal transformation journeys.

05 Evaluate return on investment

Monitor the impact of upskilling and course-correct where necessary. Continuously measure the return on investment from upskilling and track employee engagement as empower and enable your people to develop new skills and competencies.
4. Climate Change

An opportunity cloaked in crisis
4. Climate Change
An opportunity cloaked in crisis

Upside of investing in sustainability initiatives

There is a consensus among Singapore business leaders, much in line with their global counterparts, that climate change is real and tied to human activity and emissions given the more frequent and intense extreme weather events, changing patterns of rainfall and drought, damaged ecosystems, and rising sea levels around the world.

In our survey CEOs expressed a growing appreciation of the upside of taking actions to reduce their carbon footprint (Exhibit 17).

More than four out of five Singapore CEOs surveyed agree that investing in climate change initiatives will boost reputational advantage among key stakeholders, including employees (Exhibit 18).

Nearly 80% of the local CEOs agree that climate change initiatives will lead to significant new product and service opportunities. Most business leaders in Singapore (66%) believe that organisation will benefit from government funds for ‘green’ investments.

38%

Singapore CEOs extremely concerned about regulations on environment and climate change

Exhibit 17

Four out of five Singapore CEOs believe stakeholders have expectations regarding organisations’ approach to climate change

Singapore CEOs (who ‘agree’ and ‘strongly agree’)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>81.3%</td>
<td>Stakeholders have reasonable expectations regarding organisationas’ approach to climate change</td>
</tr>
<tr>
<td>59.4%</td>
<td>Have assessed physical risks (e.g., infrastructure damage) to future climate events</td>
</tr>
<tr>
<td>62.5%</td>
<td>Have assessed transition risks (e.g., carbon regulation and technology shifts) to ‘greener’ economy</td>
</tr>
</tbody>
</table>
Exhibit 18

Singapore CEOs identify opportunities in climate change initiatives

Question
How strongly do you agree with these benefits of investing in climate change initiatives? (CEOs who ‘agree’ and ‘strongly agree’)

- Climate change initiatives will lead to significant new product and service opportunities: 78.1%
- Organisations’ responses to climate change initiatives will provide reputational advantage: 87.5%
- Organisation will benefit from government funds for ‘green’ investments: 65.6%
Actionable advice for CEOs

Six essentials in making sustainability central to business strategy

For many companies, the most challenging aspect of the sustainable development agenda is incorporating sustainability into their short, medium and long-term strategic plans. Even those who have done so have so far focused primarily on managing risk rather than considering how their response to sustainable development issues might help them create more value.

The idea is to focus on understanding how organisations’ response to issues like climate change, water scarcity, natural resource depletion, human rights, poverty and economic development may impact their key strategic priorities. Business leaders must seek to make sure that their business strategy is aligned with the actions that will be needed to deliver on the sustainable development agenda, both to reduce risk and to maximise long-term opportunities.

01 Understand the company’s unique sustainability-related risks and opportunities and prioritise the strategic options.

02 Understand how climate change might impact your business decisions by performing transitional and physical risks assessments under different climate scenarios, across different jurisdictions.

03 Prepare a robust strategy and design an implementation plan. Get every part of the organisation to play their respective roles – it is not just a CSR issue. Sourcing and supply chain strategies must be accordingly aligned.

04 Leadership is key, get the senior management to take active interest in driving progress of your sustainability programmes. Design and roll out workshops and learning programmes for the senior management and board members.

05 Action is critical. Integrate, challenge and innovate on what the targets and goals mean not just for business as usual but how they will grow and sustain an organisation’s contribution to business and society in the future. Establish meaningful KPIs to drive action. Develop progress measurement systems to track action.

06 Measure and manage sustainability performance. As sustainability reporting becomes more integrated with wider corporate reporting and linked to material business issues, assurance to support the credibility and reliability of the reported performance is important. The assurance can be public and designed to underline credibility to external audiences, or private and intended to give confidence to management and board that they are doing the right thing.
Methodology

PwC surveyed 1,581 CEOs across 83 territories including 32 chief executives in Singapore, during September and October 2019.

Globally, seven percent of the interviews were conducted by telephone, 88% online, and 5% by post or face-to-face. All quantitative interviews were conducted on a confidential basis.

Of the 1,581 CEOs used for the global and regional figures:

- 46% of their organisations had revenues of US$1 billion or more.
- 35% of their organisations had revenues between US$100 million and US$1 billion.
- 15% of their organisations had revenues of up to US$100 million.
- 55% of their organisations were privately owned.

Of the 32 Singapore CEO respondents

- 69% of their organisations had revenue less than US $1 billion
- 22% of their organisations had revenues between US $1 billion – 10 billion
- 3% of their organisations had revenues more than US $10 billion

Notes:

Not all figures add up to 100%, as a result of rounding percentages and exclusion of ‘neither/nor’ and ‘don’t know’ responses from exhibits.

The base for global figures is 1,581 (all global respondents) unless otherwise stated.

We also conducted face-to-face, in-depth interviews with CEOs from six regions including Singapore. Some of these interviews are quoted in this report, and more extensive extracts can be found on our website at https://www.strategy-business.com/inside-the-mind-of-the-ceo. The research was undertaken by PwC Research, our global centre of excellence for primary research and evidence based consulting services. https://www.pwc.co.uk/pwcresearch
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