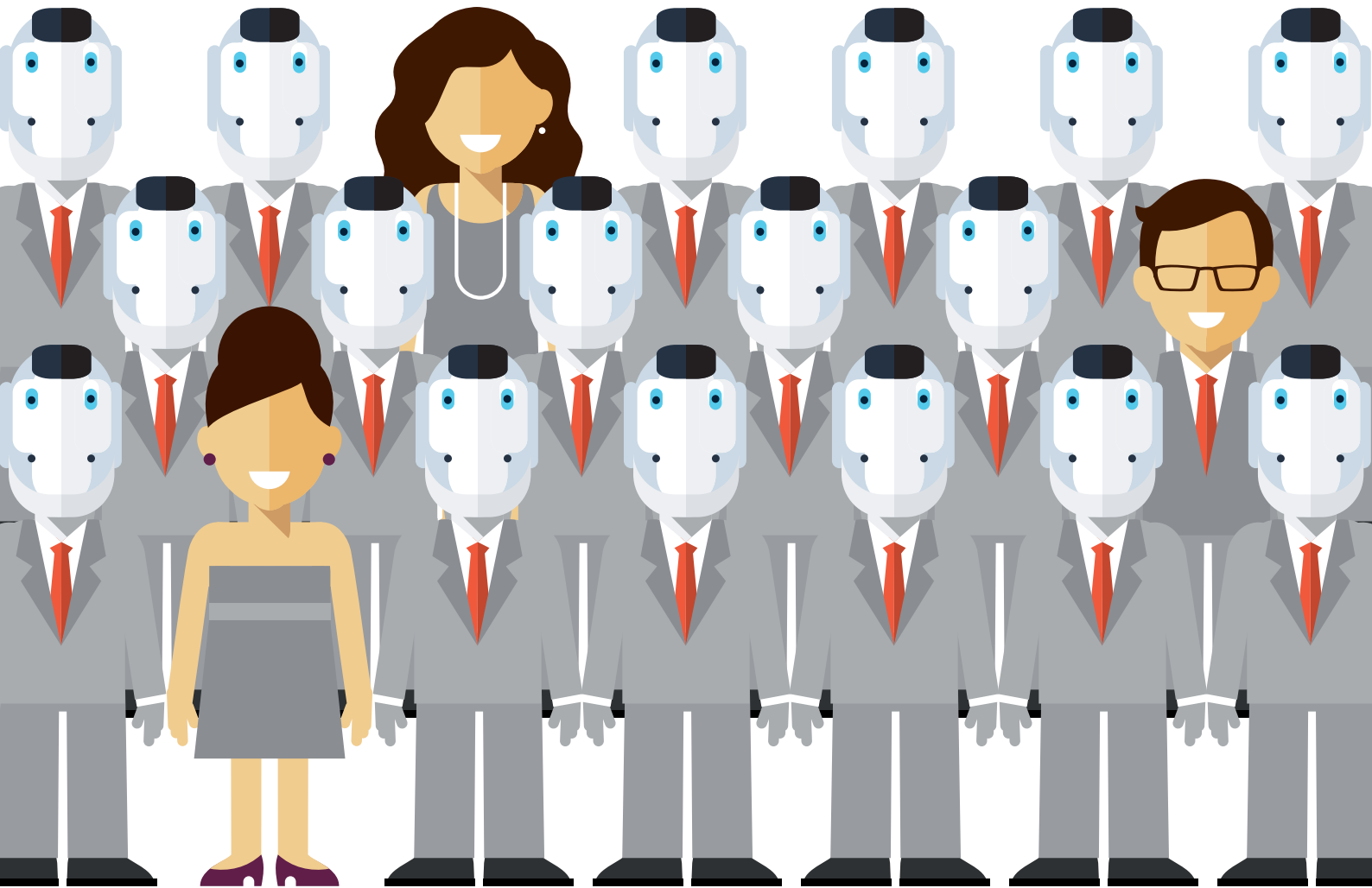


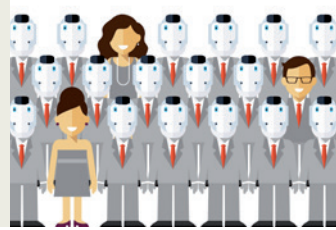
AUTOMATION, AI AND THE FUTURE OF WORK

The role of the CEO in shaping
tomorrow's workplace in Asia



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Preface

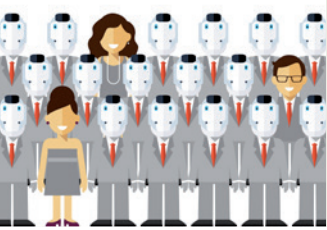
“Automation, AI and the Future of Work: The role of the CEO in shaping tomorrow's workplace in Asia” is an Economist Corporate Network (ECN) report. It is based on a survey of the primary members (Regional/Country CEO/President) of the 500+ ECN clients as well as CEOs/Presidents among the extended ECN network based in the Asia Pacific region. The report was sponsored by Hays and JLL. The findings and views expressed in this report are those of the ECN alone and do not necessarily reflect the views of the sponsors.

The report was written and edited by Florian Kohlbacher in Tokyo with assistance from Rehabya Wijaya and editorial input from Rachel Morarjee in Beijing, Mary Boyd in Shanghai, Robert Koepp in Hong Kong and Pamela Qiu and Andrew Staples in Singapore. Gaddi Tam in Hong Kong was responsible for design.

We would like to thank all the respondents and focus group participants for their time and input.

November 2017

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Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

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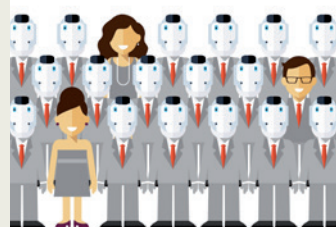
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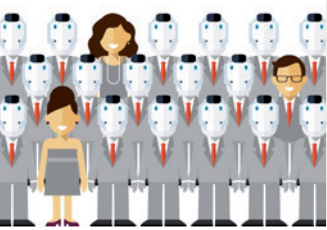
A quick read of the brief and its findings

We asked:

- What are business leaders' expectations on automation, artificial intelligence (AI) and their impact?
- How will automation and AI change the way we work in the future?
- What obstacles do businesses face in preparing for the workplace of the future, and what are their strategies in dealing with them?
- How do business leaders position themselves in their companies' future workplace strategy?

We learn that:

- Automation and AI are no longer the future. Businesses have already started to feel the impacts and expect them to intensify within the next five years.
- The majority of CEOs understand that automation and AI will have different impacts on different workplaces and different workers within the same workplace.
- CEOs do not think that automation and AI will only affect entire job categories. Most of them believe that specific tasks within certain jobs will be more significantly affected.
- CEOs find it difficult to clearly communicate their company's automation and AI strategy to their employees. They also seem reluctant to involve external experts in devising and implementing this strategy, even when doing so would help.
- A large majority of those surveyed say their companies are active or proactive when it comes to dealing with the impacts of automation and AI on the workplace. Only 16.7% are passively managing the risks.
- CEOs realise that they have a role to play in defining automation, identifying the opportunities, and designing a plan to integrate it to the workplace. They also recognise that they must involve younger, more digitally-fluent employees in this process. A staggering 81.1% of CEOs would lead by example and automate parts of their job if AI was better at doing them than they are.
- CEOs understand the broader ramifications of automation and AI. To successfully transform the workplace, business leaders must also proactively work with government and other actors to lead the discussion about these broader issues.



Introduction

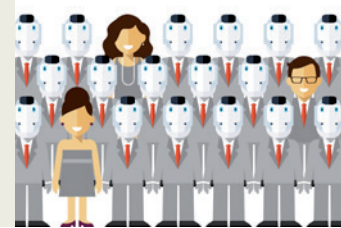
Asia's business leaders share their thoughts on automation, AI and the challenges and opportunities they bring to companies' future workplace strategy

Since the Industrial Revolution began in the 18th century, technological advancements have continuously changed the way we work. Automation and artificial intelligence (AI) are unparalleled in the speed and scale at which they are changing the workplace. Companies need to make sure that they are prepared to tackle the challenges and embrace the opportunities that automation and AI bring to the modern workplace.

Devising the appropriate strategy to leverage automation and AI in the workplace to their benefit is becoming an important challenge for businesses. Do they focus on softening the expected negative impacts of automation and AI, or do they leverage technology to proactively transform the workplace?

For businesses to succeed, their strategies in the face of automation and AI need to take into consideration the driving forces behind each of the two impulses and be sensitive to the socio-cultural, infrastructural, and institutional realities of different countries and industries across Asia. In the face of this diversity, CEOs must make sure that their businesses develop the organisational ability to leverage the technologies and resources available to them to embrace the workplace of tomorrow.

This new report from the Economist Corporate Network examines the CEO's perception and expectations of the challenges and opportunities that automation and AI could potentially bring to the workplace, and takes a new perspective to investigate how CEOs in Asia exercise their leadership in the transition to tomorrow's workplace. We conducted a survey of our 500+ clients and contacts across Asia Pacific in September and October 2017. Focus group meetings with a small number of invited CEOs and HR executives were held in Beijing, Hong Kong, Shanghai, Singapore and Tokyo to discuss the issues in the local context. This paper is a summary of the survey and the focus group discussions.



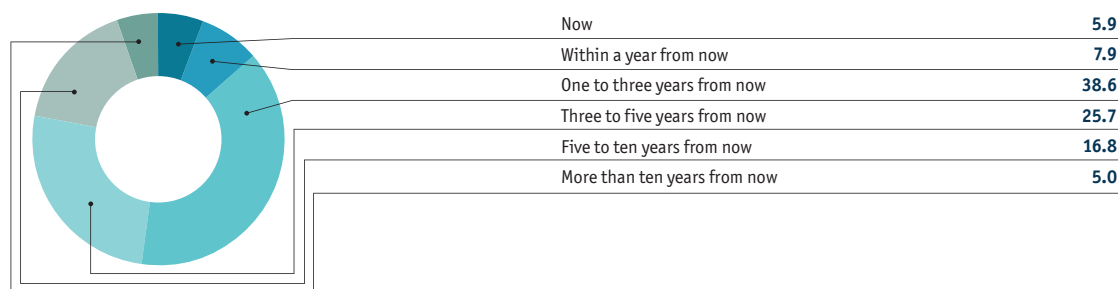
Automation, AI and their impact

What are business leaders' expectations on automation, AI and their impact?

Automation at the gates

Automation and AI are no longer the future. For businesses, they are here and now. In a recent study conducted by The Economist Intelligence Unit (EIU), more than 40% of business leaders stated that they anticipate that AI will start displacing humans from some jobs in their industry within the next five years. Slightly over 40% believe AI will affect their own job in the same time frame.¹ This finding is also reflected in our survey, where 72.2% of respondents say that they expect their businesses to feel the full impact of automation within the next five years. Furthermore, 51.5% of them say that their business has already started to feel the impact from the new technologies that make automation possible. Japan is an outlier here. A plurality of CEOs—37.5%—expect that the full impacts of automation and AI will only be felt in the next five to ten years, compared with the 16.8% of CEOs overall who gave the same answer.

Chart 1: When do you think the full impacts and scale of automation and AI will be felt by your business?
(% of respondents)

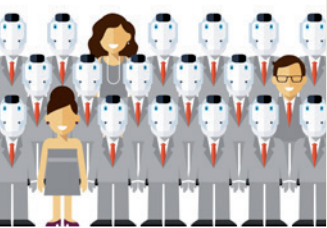


Source: The Economist Corporate Network.

High awareness

The speed of these changes is increasing awareness among business leaders across Asia about automation, AI and their impact. Of those surveyed, 58.4% believe that they have a clear understanding of how automation and AI can or will affect their business. Almost 84% say they are either *moderately aware* or *highly aware* of how automation and AI can disrupt and challenge their business, whereas 8.1% claim full awareness of these potentially negative impacts. Meanwhile, 81.4% are either *moderately aware* or *highly aware* of the opportunities that automation and AI bring to their business, with 9.3% claiming full awareness of these potentially positive impacts. The high level of awareness of the impacts of automation and AI is no coincidence. Many CEOs are familiarising themselves with the technologies associated with them. Over 59% of respondents claim to actively

¹ The Economist Intelligence Unit (2016): *Artificial Intelligence in the real world. The business case takes shape.*

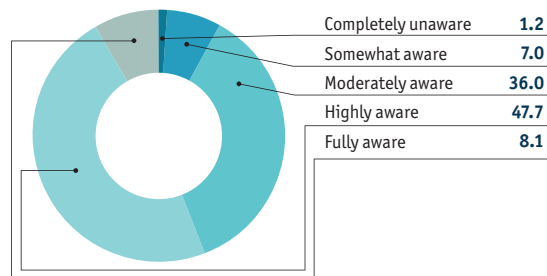


Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

Chart 2: As a CEO, I am of the disruptions and challenges to my business that arise from automation and AI.

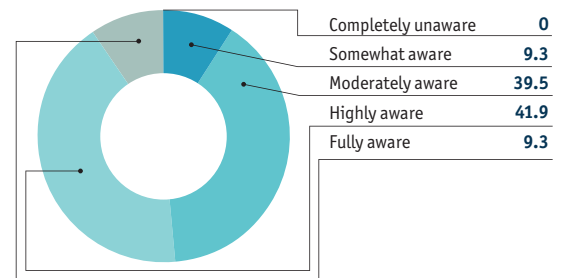
(% of respondents)



Source: The Economist Corporate Network.

Chart 3: As a CEO, I am of the opportunities to my business that arise from automation and AI.

(% of respondents)



Source: The Economist Corporate Network.

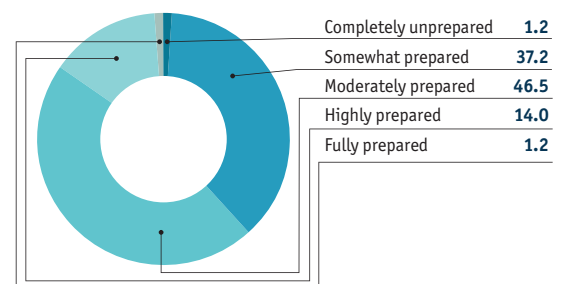
and regularly update themselves on the latest news and knowledge about automation and AI. 55.4% educate themselves on IT issues and skills to be able to keep up with the latest developments.

How prepared are you?

The high level of awareness does not translate to a high level of preparedness. Whether they see automation and AI more as a disruption or an opportunity for their business, only a small number of CEOs surveyed (1.2%) are *fully prepared* to face them. The majority think that they are only *somewhat prepared* or *moderately prepared*. This is likely connected to the fact that, although many businesses have already started to feel the impacts of automation and AI, CEOs believe they have two or three years to prepare before these new technological realities fully hit their companies.

Chart 4: To what extent are you ready to face the disruptions, challenges and opportunities that arise from automation and AI?

(% of respondents)



Source: The Economist Corporate Network.

Impactful technology

Almost two-thirds of those surveyed think that their businesses will be *strongly* or *extremely affected* by automation and AI. They identify an array of different potential impacts from automation and AI to their business (see Chart below). They agree that the biggest impacts include increasing the scale and speed of their operations, and increasing worker productivity. In addition, CEOs also think automation and AI will improve relations with their customers, reduce costs, create new types of jobs that do not currently exist, and help with optimising training and learning outcomes in the workplace. However, automation and AI do not always have a positive impact on business. Among the potentially negative

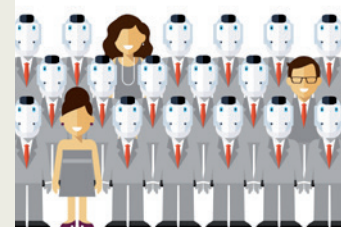
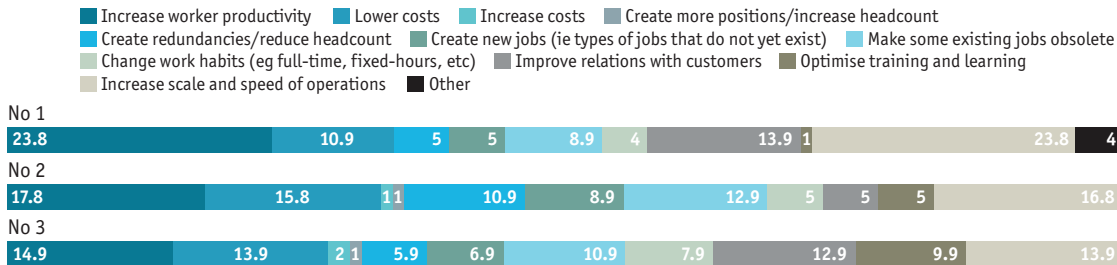


Chart 5: Please choose the top three impacts or potential impacts from automation and AI to your business.

(% of respondents)

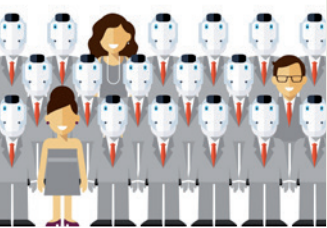


Source: The Economist Corporate Network.

impacts are creating redundancies, making certain job categories obsolete, and changing existing work habits and patterns. Only a small number of CEOs think automation and AI will increase costs or create more job openings in their business.

Summary points

- Almost two-thirds of CEOs believe that their business will be *strongly affected* or *extremely affected* by automation and AI.
- Although 51.5% of CEOs say their businesses have already started to feel the impacts from automation and AI, 72.2% think the full scale of the impacts will only be felt within the next five years.
- A majority of CEOs actively follow the latest news on automation and AI and educate themselves on IT issues and skills to keep up. This proactiveness translates to high awareness, with slightly more than 90% saying they are *moderately aware*, *highly aware* or *fully aware* of the disruptions, challenges and opportunities that automation and AI bring.
- CEOs largely believe that the most important impacts from automation and AI will be positive: improving efficiency, increasing worker productivity and lowering costs. Among the oft-mentioned negative potential impacts are creating redundancies and making certain job categories obsolete.
- Only a small number of CEOs are confident that their company is *fully prepared* to tackle these impacts.



Imagining the future of work

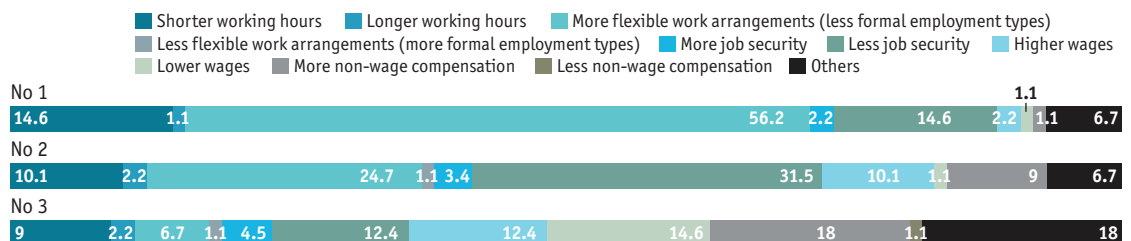
How will automation and AI change the way we work in the future?

Tomorrow's workplace

A large majority of those surveyed believe that automation and AI will affect the way people in their companies work. Of those surveyed, 56.2% think that the biggest change automation and AI will have on the workplace is bringing in more flexible working arrangements and less formal employment types. Although this in itself is not necessarily a bad thing, a sizeable number of CEOs think that at least for some workers automation and AI will mean less job security. If anything, however, CEOs understand that automation and AI will make some existing tasks and work practices unnecessary. This also partly explains why almost 15% of them cite shorter working hours as the top potential impact from automation and AI. Interestingly, a small number of CEOs think that automation and AI will bring in longer working hours. This may be because they expect workers will need to spend extra time to learn to work with the new technology.

Chart 6: Please rank the top three impacts or potential impacts from automation and AI to the way people work in your business.

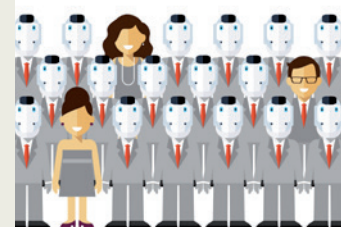
(% of respondents)



Source: The Economist Corporate Network.

Mixed signals

Some of the results in Chart 6 appear to conflict with each other. For example, almost a quarter of respondents rank higher wages as one of the top three potential impacts from automation and AI. This is almost matched by the roughly 17% who think lower wages will be among the top three potential impacts. Just as there are CEOs who think that automation will shorten working hours and increase job security, there are others who expect the opposite to happen. These inconsistencies reflect the fact that the impact of automation and AI is not likely to be evenly spread across different industries, or even across different departments and workers within the same company.

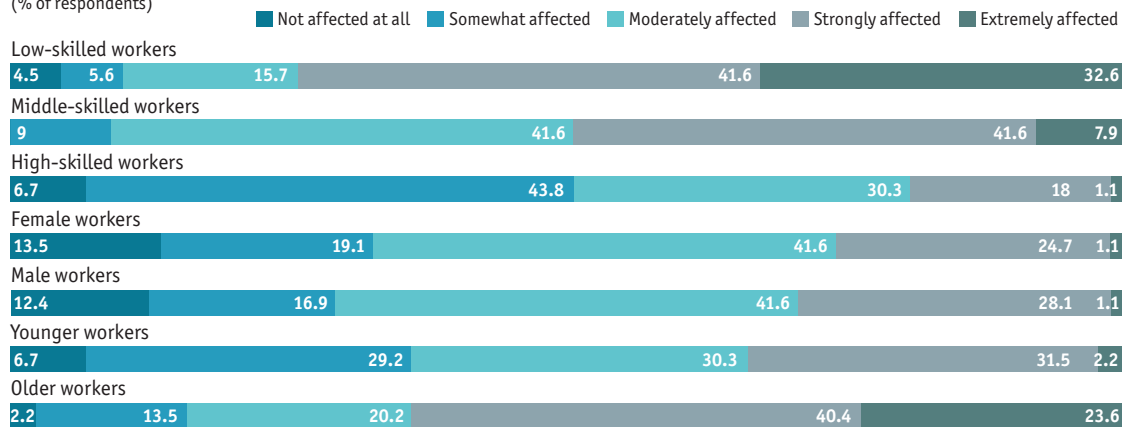


Who will be affected?

Our survey found that CEOs expect some workers to be more affected by automation and AI than others. For instance, they believe automation and AI are going to have more of an impact on older workers than on younger workers. Of those surveyed, 64% think that older workers will either be *strongly affected* or *extremely affected*, whereas only 33.7% think the same of younger workers. In terms of skills, CEOs expect low-skilled workers to be most affected, with an overwhelming 74.2% expecting them to be *strongly affected* or *extremely affected*. Meanwhile, middle-skilled workers are the only group that CEOs consistently expect to be affected. There was no respondent who said that he/she does not expect them to be affected at all by automation and AI; i.e. all respondents felt that workers will be affected by automation and AI in some way at least. In terms of gender, CEOs appear to believe that the extent to which female workers and male workers will be affected is similar.

Chart 7: To what extent do you think workers within your business be affected by automation and AI?

(% of respondents)

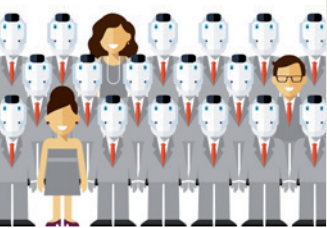


Source: The Economist Corporate Network.

Despite the variation in the expected extent of impact across different worker demographics, more than half of those surveyed expect that all but one category of workers will at least be *moderately affected*. Only 49.4% of CEOs think that high-skilled workers will be *moderately affected* or more. 43.8% think they will be *somewhat affected*, whereas 6.7% think they will not be affected at all.

Future skills

The fact that respondents do not expect high-skilled workers to be affected to the same extent as other workers is likely related to the fact that automation and AI will have different impacts on different kinds of skills. A large majority of CEOs surveyed think that on the one hand, hard skills and technical skills will be less important due to automation and AI, whereas on the other hand soft skills and people skills will be more important.

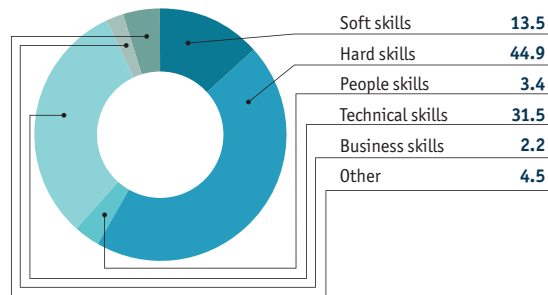


Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

Chart 8: These are the types of skills that will most likely be less important due to automation and AI.

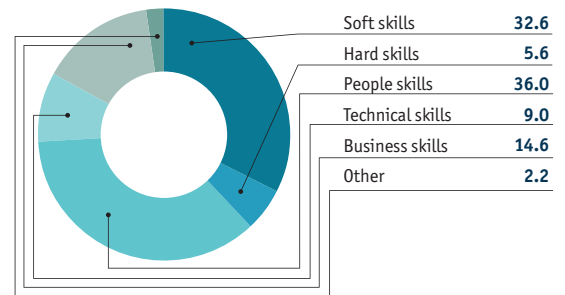
(% of respondents)



Source: The Economist Corporate Network.

Chart 9: These are the types of skills that will most likely be more important due to automation and AI.

(% of respondents)



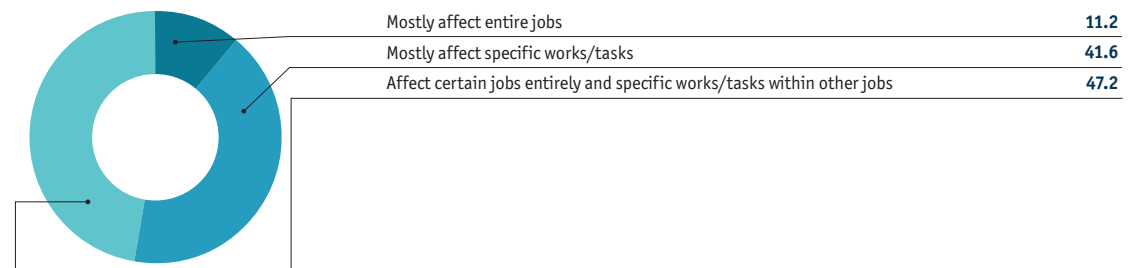
Source: The Economist Corporate Network.

Jobs vs tasks

Our survey also found that only a small number of CEOs (11.2%) think automation and AI will only affect entire jobs. Of those surveyed, 41.6% think only specific tasks within jobs will be affected, whereas 47.2% expect automation and AI to affect certain jobs entirely and specific tasks within other jobs. What this means is that business leaders understand that the impacts of automation and AI are complex. A recent study found that only less than 5% of jobs can be entirely automated, whereas around 60% of all jobs have more than 30% of tasks that can be automated with currently available technologies.²

Chart 10: In my business, automation and AI will:

(% of respondents)

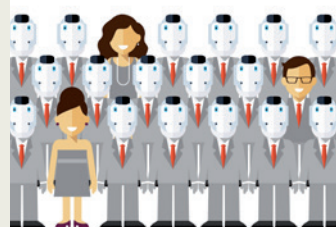


Source: The Economist Corporate Network.

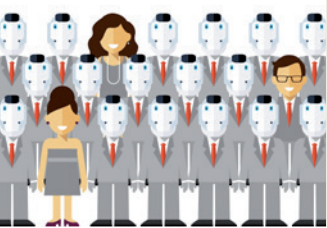
Summary points

- Just over half (56.2%) of CEOs think that the biggest change automation and AI will trigger in the workplace is bringing in more flexible working arrangements and less formal employment types.
- CEOs expect older workers and low-skilled workers to be most affected by automation and AI. A high 64% of CEOs think that older workers will be strongly affected or extremely affected. A staggering 74.2% believe low-skilled workers will be similarly affected.

² McKinsey Global Institute (2017). *Technology, jobs, and the future of work.*



- A small majority of CEOs believe that the impact from automation and AI to high-skilled workers will be limited. This is likely explained by the kinds of skills that automation and AI will make more or less relevant.
- Only a small number of CEOs expect automation and AI to only affect entire jobs. Meanwhile, 41.6% think they will only affect specific tasks within jobs will be affected.



Preparing for tomorrow

What obstacles do businesses face in preparing for the workplace of the future, and what are their strategies in dealing with them?

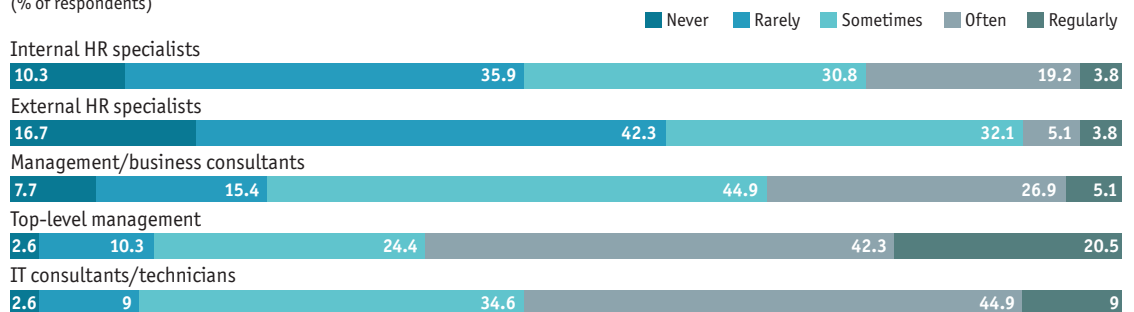
Passive or active?

How do companies approach automation and AI? Roughly 41% of CEOs say their companies proactively leverage technology in order to shape tomorrow's workplace. Slightly more than 42% prefer to actively pre-empt the risks and pursue the opportunities that automation and AI bring. Passively dealing with the risks as they come is the strategy of only 16.7% of CEOs. In Japan and Hong Kong, this figure was as high as 37.5% and 33.3% respectively, suggesting that many executives in these places may have some serious thinking to do if they want to ensure that their companies stay ahead of the game. They could perhaps look to China, where none of those surveyed said they are passively dealing with the risks, or Indonesia, Singapore and South Korea, where the majority say they are proactively leveraging technology. In fact, with over 71.4% of respondents answering that their companies proactively leverage technology, Indonesia-based respondents are the most proactive in our survey.

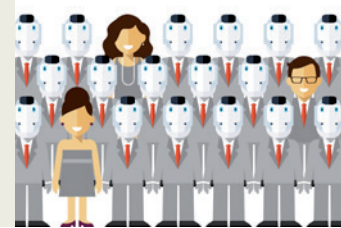
Top-level management is seen to have an important role, with 62.8% of those surveyed saying that top-level managers are *often* or *regularly* involved in their company's automation and AI strategy. Respondents also cite IT professionals and management consultants as other actors that their companies *often* or *regularly* involve in their automation and AI strategy. Meanwhile, HR specialists, whether internal or external, are less likely to be part of the mix. Given that CEOs seem to prefer the active or proactive approaches to dealing with automation and AI and that many of them expect these technological advancements to affect the way people work in their companies, it is surprising that HR specialists are not more often involved in their strategies. If they want to successfully pre-empt risks, pursue opportunities and leverage technology to shape tomorrow's workplace, companies may need to involve HR specialists more closely in their automation and AI strategies.

Chart 11: In our automation and AI strategy, we make use of:

(% of respondents)



Source: The Economist Corporate Network.

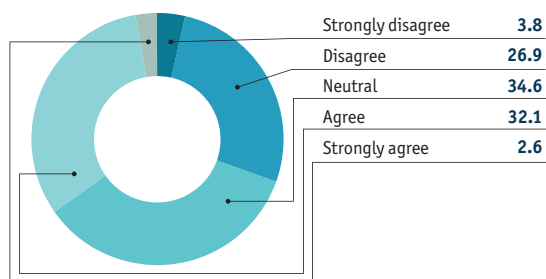


Getting the message through

In general, CEOs are not confident that their automation and AI strategy is consistent throughout their organisation. Of those surveyed, 30.7% confess that they have difficulty in articulating their company's automation and AI strategy, whereas only 2.6% believe they have absolutely no difficulty in doing so. It is therefore not surprising that a large number of CEOs do not think their automation and AI strategy is clearly communicated to their employees. Only 19.2% of those surveyed think it is. This result is consistent across the different countries surveyed. Most companies seem to have some kind of automation and AI strategy. The challenge, it appears, is clearly communicating it to all of their workers. If they want to successfully shape the future of work in their companies, CEOs need to find better ways of making sure people further down the hierarchy get the message.

Chart 12: As CEO, I have no difficulty articulating our automation and AI strategy.

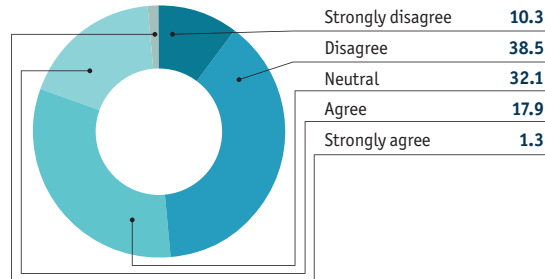
(% of respondents)



Source: The Economist Corporate Network.

Chart 13: Our automation and AI strategy is clearly communicated to our employees.

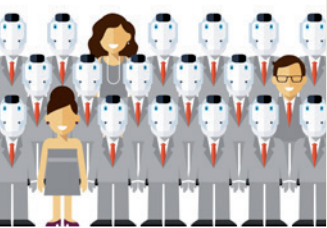
(% of respondents)



Source: The Economist Corporate Network.

How do companies build tomorrow's workforce?

According to our survey, preparing workers for the realities of tomorrow's workplace occurs mostly through internal and on-the-job training. IT tools and software are invariably used in this process, presumably to equip workers with the skills that will become more relevant thanks to automation and AI. Once again, top-level management have an important role to play, with 56.4% of CEOs saying their companies *often* or *regularly* involve them in preparing their workforce for automation and AI. Companies tend to be reluctant to involve external specialists in the process. Only 29.5% *often* or *regularly* use external training. Outsourcing firms and recruitment specialists are even less commonly utilised, with only 20.5% and 16.6% of respondents respectively saying they *often* or *regularly* involve these external specialists. Moreover, even though companies commonly use IT tools and software in preparing their workers for tomorrow's workplace, these are not always managed by IT consultants or technicians, who are only *often* or *regularly* made use of by 39.7% of respondents.

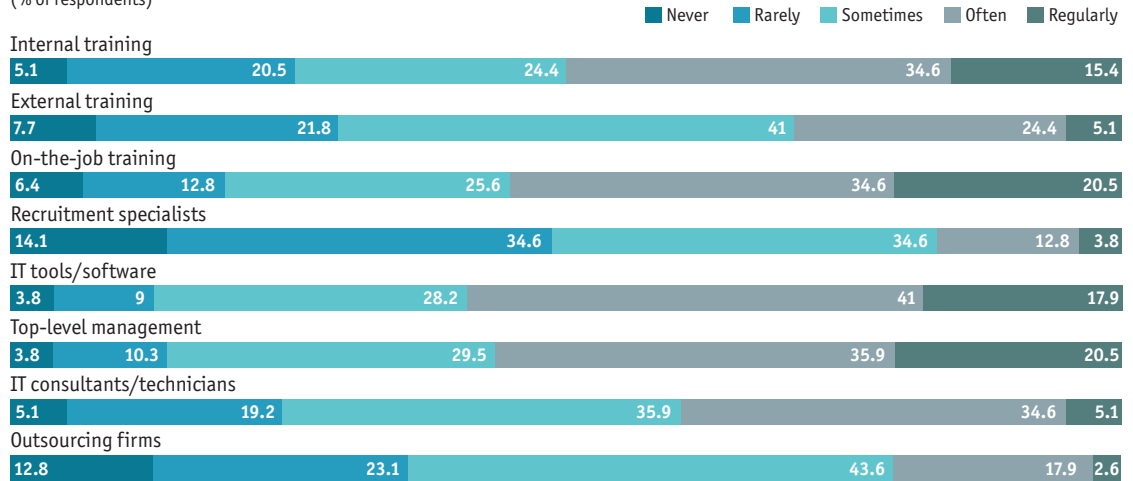


Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

Chart 14: When preparing our workforce for automation and AI, we make use of:

(% of respondents)



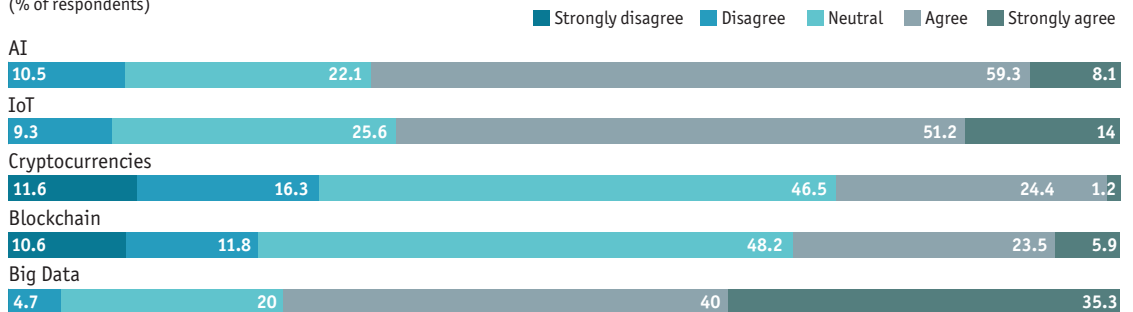
Source: The Economist Corporate Network.

Leveraging technology

A large majority of CEOs are aware of how technologies such as AI, Internet of Things (IoT) and Big Data can be leveraged to help them shape the future of work. However, they are not as familiar with cryptocurrencies and blockchain, two technologies that have the potential to automate a range of business tasks and make high-skilled jobs such as brokers and bankers obsolete.³ CEOs themselves are not fully prepared to leverage technology to shape the future of work. Only 5.8% say they are, whereas 51.2% say they are *moderately prepared*. There is room for improvement here. CEOs should more actively enlist the help of management consultants and IT professionals to help them—and other people in their company—better understand the technologies that are available to them and how they can be leveraged to their benefit.

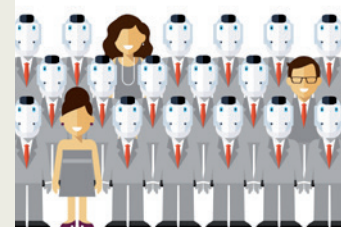
Chart 15: As CEO, I am aware about these technologies and how my business can leverage them to shape the future of work.

(% of respondents)



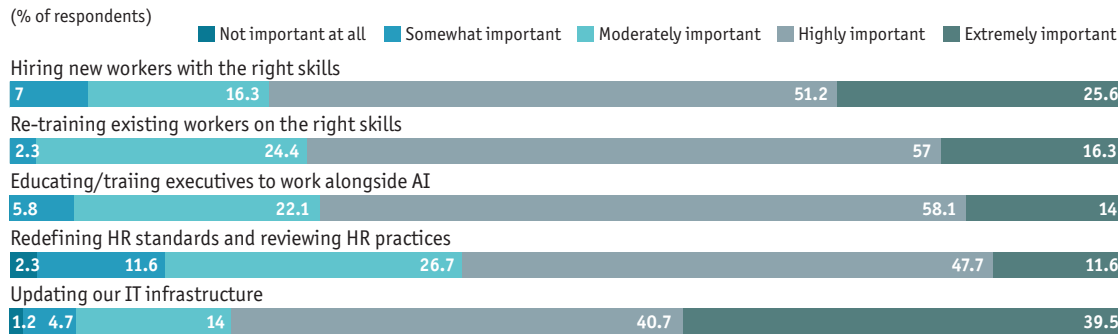
Source: The Economist Corporate Network.

³ Iansiti, Marco; Lakhani, Karim R (2017): "The Truth About Blockchain", *Harvard Business Review*.



Our survey shows that CEOs understand the importance of having a holistic approach to leveraging technology to shape the future of work. A large majority of them think that it is *highly important* or *extremely important* to hire new workers with the right skills, re-train existing workers, educate executives, review HR practices and update IT infrastructure. However, there are two inconsistencies worth noting here. First, CEOs seem to assign the least importance to reviewing HR practices despite most of them expecting the most important impact from automation and AI to be on working arrangements and employment types. Second, although they assign the most importance to hiring new workers, only sparingly do they involve recruitment specialists in their automation and AI strategy.

Chart 16: How important are the following measures in helping your business leverage technology to shape the future of work?

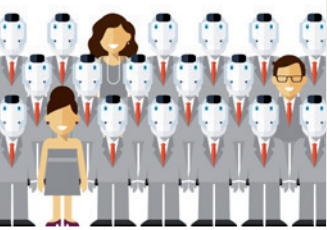


Source: The Economist Corporate Network.

Diverse circumstances

CEOs think that a key to successfully leveraging technology is understanding the socio-cultural, infrastructural and institutional environment of different countries and industries. In our focus group interviews in China, participants highlighted China's comparatively advanced adoption of automation and AI technologies, both in business and government. As a result, they felt that the social implications of redundancies and the extinction of job categories were already being experienced. Meanwhile, participants at the Hong Kong and Tokyo focus group interviews cited risk-aversion and the unwillingness to learn and try new things, out-of-date educational system and rigid work practices as barriers to proactively precipitating disruption in the workplace.

Differences also exist across different sectors and industries. Some of the conflicting answers CEOs gave to the question of how automation and AI will affect the workplace may be attributed to cross-industrial diversity. For example, whereas none of respondents in the energy or technology hardware and equipment sectors picked lower wages as one of the top three impacts, 37.5% of respondents in the commercial and professional services sector did so. To succeed, CEOs must not only localise their automation and AI strategies to address the unique challenges and opportunities that different are present in different countries, but also take into consideration the circumstances in their industry.

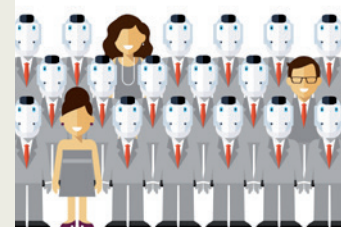


Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

Summary points

- Most CEOs say their company takes an active or proactive approach to automation and AI. Only 16.7% say they take a passive approach.
- Top-level management is highly involved in companies' automation and AI strategies. Of those surveyed, 62.8% say that top-level managers are *often* or *regularly* involved.
- Overall, companies have problems making sure that their automation and AI strategy is clearly understood by their employees.
- Companies prefer to prepare their workforce for tomorrow's workplace through internal and on-the-job training. They are in general reluctant to enlist the help of external consultants.
- Although CEOs understand the importance of leveraging technology, many of them are not prepared to do so. Their preparedness in some areas is hindered by their overlooking of the importance of reviewing HR practices and enlisting the help of external HR and recruitment specialists.



The picture in China and South-east Asia

Automated Asia

It is clear that automation and AI are having a dramatic and wide-ranging impact on the economy and society in Asia. Nowhere in Asia is this transformation more apparent than in China and South-east Asia.

CEOs at the South-east Asia focus group discussion in Singapore all agreed that AI is being used in the region for both replacing human labour and enabling humans to do their jobs more effectively. AI-enabled software has resulted in significant efficiencies in companies' responses to health and safety crises, as well as to changes in regulatory requirements. AI-enabled software has also proved to be extremely cost-effective in managing retail inventories, and calculating profit margins and other business intelligence using variable data points. In the field of human resource management, AI-enabled software is already screening job applications, and chatbots are responding to HR "hotlines" for employees.

Many participants at the Shanghai focus group discussion noted that China is now pioneering AI applications, and is in fact far in front of mainstream global practices in several respects. China has made significant advances in the adoption of mobile-based "omni channel" applications, notably for mobile payments and online commerce. Such applications yield massive troves of data, which in turn support the development of new AI applications. Government agencies in China have been enthusiastic adopters of AI, acknowledging the value of data analytics and new technologies, such as facial recognition, for a variety of government applications.

Who's working and who's buying?

As robots and machines become more and more intelligent, business leaders acknowledge that we might have a large segment of people who may not have jobs. During the discussion with CEOs in Singapore, Shanghai and Beijing, it was clear that this is an issue that companies think seriously about too, and not just governments.

"Think about home loans, which often have a loan period of up to 30 years. Banks make these loans on the expectation that the borrower will continue to draw an income for the rest of his or her working-age life, and be able to pay off the loan in due course. This may increasingly not be the case," highlights a senior regional director from a global

financial services firm. "What is the implication for the banks and their products? Banks are starting to have these conversations internally."

Amazon Go, the brainchild of the online retailer Amazon, is a store concept that utilises smart technology to track its customers and what they take out of the store, so that shoppers can enjoy a "Just Walk Out" shopping experience without needing to line up to checkout their items. On the one hand, this is an extreme example of how retailers can dramatically reduce the number of employees while improving customers' experience at the same time. On the other hand, it also illustrates how jobs are being eliminated, and how fast the trend is accelerating. "In the future, with no one working, where will the money come from? What will the profile of the consumer market look like?" one CEO pondered.

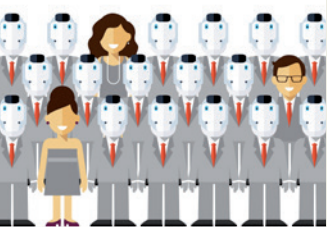
Smart expectations

Although the above question (on the future profile of the consumer market) went unanswered, one aspect about consumers that was frequently expressed by the Singapore group was how expectations are rising. As the CEO of a global architectural firm shared: "Clients are expecting much more, right from the beginning of our engagement with them. For example, they not only want precise drawings, they are demanding to experience the space through new smart technology such, as virtual reality headsets."

Technology, in this sense, has created more work, not less. (This may be an explanation to why, as discussed earlier, some CEOs in the survey expect automation and AI to result in longer working hours.) "Technology has certainly made us more efficient, speeding up our process. But customers today expect more and faster turnaround times anyway. As such, employing technology hasn't meant that we need fewer people now, but rather to be able to achieve more, and deliver more quickly," pointed out this CEO.

Embracing smart technology in rapidly developing economies

Smart technologies have the potential to create low-cost solutions, thereby making a wide variety of services accessible to people who may not have been able to afford them before. At the same time, however, this is putting pressure on certain jobs. For example, online accountants, lawyers and doctors are reaching consumers that are



Automation, AI and the Future of Work

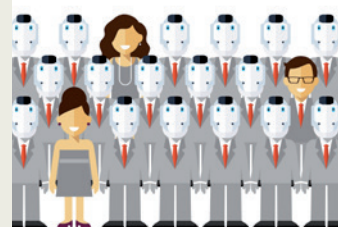
The role of the CEO in shaping tomorrow's workplace in Asia

geographically remote, such as in rural villages, who cannot afford to engage a more personalised service. This means that the demand for “real-life” professionals could potentially be reduced. Participants felt that as AI-enabled work processes become more sophisticated and widespread, the extinction of job categories and professions—already tangible at the low-skilled level—would continue to rise through professional employment categories, leaving few untouched.

The impact on society of large swathes of unemployed workers presents an enormous challenge to governments, particularly for emerging economies where “premature de-industrialisation” will choke development efforts. Participants felt that innovations in public policy, such as

a “tax on robots” and a universal wage are likely to gain in popularity, even if the likelihood of implementation seems remote at the present.

For governments in rapidly developing economies that do not have large public budgets, however, technology is also allowing them to do more with their tight purse strings. For example, a US-based architectural firm automates its processes by using data and software programmes to produce design prototypes of utilitarian spaces (such as hospitals) at much lower costs than a regular architectural firm can. CEOs in China and South-east Asia believe that governments and businesses need each other in the face of the uncertainty that automation and AI bring.



The role of the CEO in shaping tomorrow's workplace

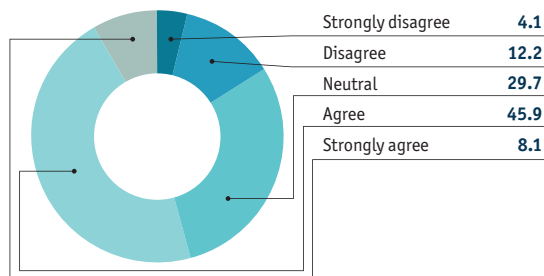
How do business leaders position themselves in their companies' future workplace strategy?

CEO involvement

In general, CEOs understand the importance of their involvement in order to make sure that their company continues to leverage technology to shape tomorrow's workplace. Of those surveyed, 54% claim they are closely involved with identifying the impacts of automation and AI to their business. 52.7% are closely involved with making sure their company has the right approach. Meanwhile, only 8.2% leave strategic decisions about automation, AI and the future of work entirely to HR. Despite this, there is room for improvement and more CEO involvement. A sizeable share of CEOs, around 30%, responded that they are neither closely involved or otherwise.

Chart 17: I am closely involved with identifying the impacts of and opportunities from automation and AI to our business.

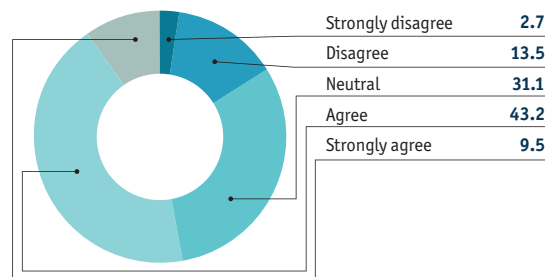
(% of respondents)



Source: The Economist Corporate Network.

Chart 18: I am closely involved with making sure our company has the right approach to automation and AI.

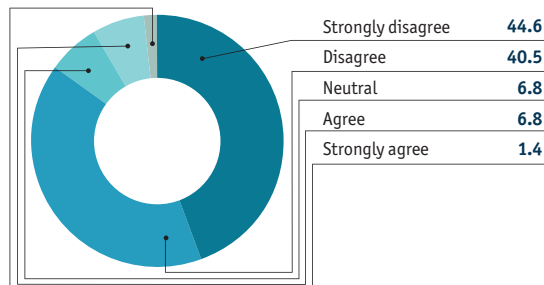
(% of respondents)



Source: The Economist Corporate Network.

Chart 19: I leave strategic decisions about automation, AI and the future of work entirely to HR.

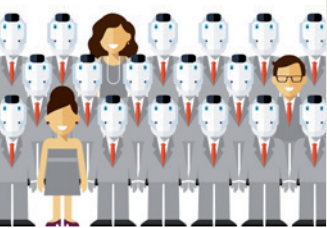
(% of respondents)



Source: The Economist Corporate Network.

Having the right perspective

Being involved is desirable, but it needs to be complemented with the right attitude and approach to automation, AI and the transformation of work. Of those surveyed, 58.1% say that their approach is to soften the impacts on work from automation and AI. Only 40.5% say that they prefer to accelerate the arrival of automation and AI to the workplace, whereas 1.5% say that they choose to delay this arrival. This trend is replicated across the

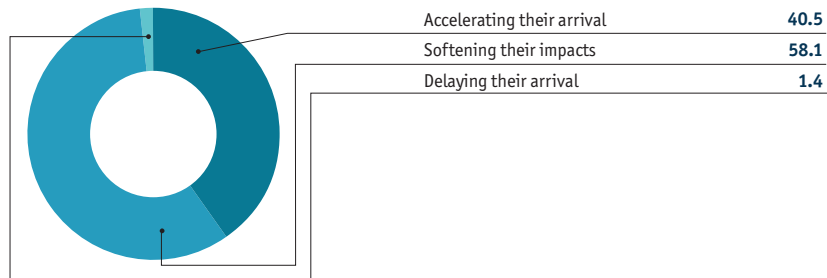


Automation, AI and the Future of Work

The role of the CEO in shaping tomorrow's workplace in Asia

Chart 20: My approach to automation and AI is closest to:

(% of respondents)



Source: The Economist Corporate Network.

countries surveyed, except in South Korea where a majority (55.6%) replied that their approach is to accelerate the arrival of automation and AI, compared with one-third who prefer to soften the impacts.

Given the potentially negative effects automation and AI can bring to jobs, wages and people's livelihoods in the future, it is not surprising that many CEOs would like to soften their impacts. Nevertheless, to successfully leverage technology to transform the workplace,

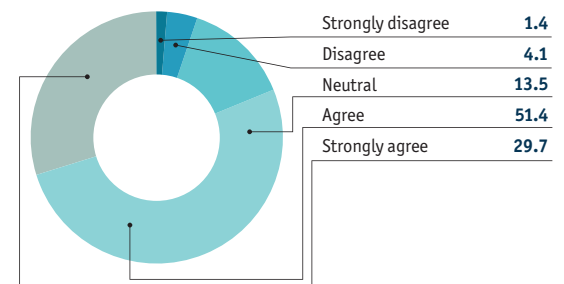
more CEOs have to personally embrace automation and AI. They cannot cling on to old behavioural patterns and be reactive. Instead, they must move beyond simply tackling and softening the impacts to actually accelerating the transformation process so that they get to lead the transformation, if not broadly, at least in their companies.

Leading others

In our survey, an overwhelming 81.1% of CEOs claim that they would lead by example and gladly automate parts of their job if AI was better at doing them than they are. This is positive, as leading by example is one of the most effective ways in which CEOs can affect change in their company.⁴ To encourage their employees to embrace automation and AI as realities of tomorrow's workplace, CEOs must also lead by example and, as many are already doing, equip themselves with up-to-date knowledge and skills that will enable them to work side by side with machines.

Chart 21: As CEO, I would lead by example and gladly automate parts of my job if AI was better at doing them than I am.

(% of respondents)

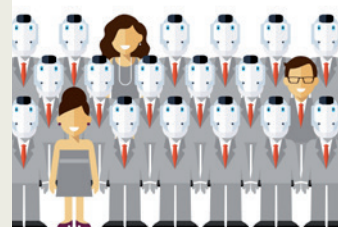


Source: The Economist Corporate Network.

Leading the company

In their business, CEOs need to create a strategic plan to integrate automation, AI and other related technology into the workplace. This requires CEOs to, first of all, define automation and AI for their business and explore the opportunities. As discussed earlier, automation and AI affect different workers, jobs and tasks differently. As leaders, CEOs have to identify areas and activities with high automation potential in their multiple business lines. Second, they need to explore how automation and AI can enable them and their business to create new values through new processes.

⁴ Carucci, Ron (2016): "Organisations Can't Change If Leaders Can't Change with Them". *Harvard Business Review*.



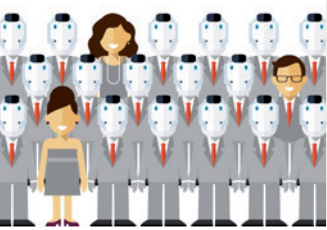
Doing this requires imagination as well as dynamic and interactive leadership. Participants at the focus group interviews discussed the importance of listening to others in the process. They recognise that leaders cannot assume that their knowledge or the knowledge of their management team, which may have worked in the past, will be any sort of template for the era of automation and AI. CEOs need to especially involve young employees in the process. They need to nurture them from below and help young digital natives bring business plans to fruition.

Leading society

According to our focus group interviews, CEOs should also move beyond leading within the company. Automation and AI have far-reaching impacts not just to business, but also to the broader society, whether it is to employment, wages, social security or education. Participants discussed how in most places we do not currently have the right legal, regulatory and institutional framework around automation and AI. Business leaders need to step out of the company and take the driver's seat in discussions with government and civil society about these broader issues.

Summary points

- Slightly more than half of CEOs are closely involved with identifying the impacts of automation and AI to their business, and making sure their company has the right approach to dealing with them.
- Only 8.2% leave strategic decisions on automation, AI and the future of work entirely to HR.
- In their approach to automation and AI, most CEOs still prefer to focus on softening the impacts, except in South Korea where 55.6% of those surveyed say their preference is to accelerate the arrival of automation and AI.
- A staggering 81.1% say they would lead by example and automate parts of their job if AI was more efficient at them.
- Business leaders must think strategically about the opportunities from automation. They need to create a plan to integrate the technologies into the workplace, and involve younger and more digitally-fluent employees in the designing and realisation of such plan.
- CEOs must also proactively work with government and other actors to look at the impacts of automation and AI in the broader society.



Automation, AI and the Future of Work

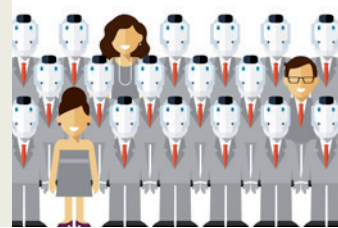
The role of the CEO in shaping tomorrow's workplace in Asia

Finding disrupters in Asia

Automation and AI is shifting the relationship between the employee and the employer. Increasingly, workers depend less on the employer for employment. They need to be in tune with their own skills and figure out their own careers. A common theme that repeatedly came up in the focus group discussions was the difficulty in getting Asian workplaces to embrace this disruption. Business leaders in the focus group discussions pointed out that the success of workplace disruption depends not only on having the right strategy at the top, but also on having people with the right skills and mindset at the bottom. CEOs in Hong Kong cite as one of their biggest problems the unwillingness to learn and lack of curiosity among younger workers. In Japan, CEOs noted that workers do not go outside their comfort zone and are reluctant to take risks for fear of failing. Business leaders in Asia are looking for resiliency—the ability to accept failure, get up, learn and try again.

The question is, then, how can we foster these qualities in Asian talents? The obvious answer

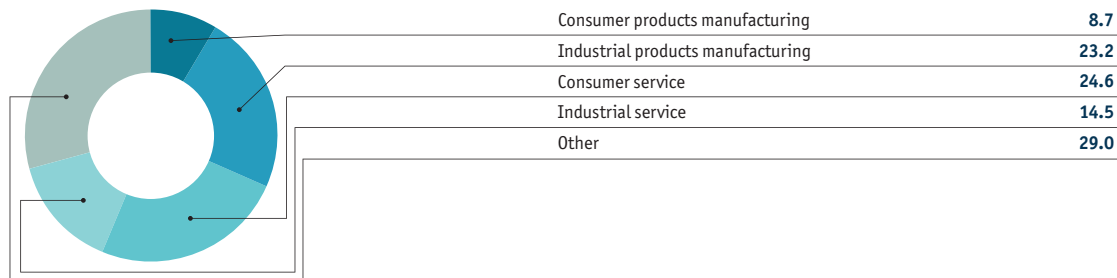
is education. Companies should continuously train and retrain their employees, as today's rapidly advancing technology requires us to constantly learn to keep up. Businesses and especially business leaders need to have more say in what are being taught in schools and universities. To do this, they must proactively approach government and society. There is, however, a less obvious answer. Companies must create an environment that encourages workers to not only embrace disruption but also to disrupt. They need to signal to their employees that it is okay to fail sometimes. Creating some sort of safety net mechanism could be a good way of encouraging them to take more risks. In addition, certain rigid employment practices, such as job rotation in Japan, are discouraging employees from taking ownership of their own careers. CEOs have an important role in making sure that their companies provide the best environment for their employees to learn to not only survive disruption, but to create disruption.



Appendix

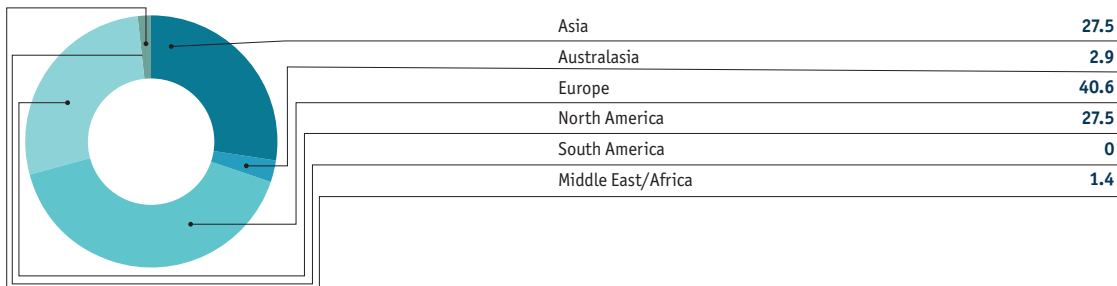
Participant data

How would you describe the industry of your company? Please choose the most appropriate one that describes your primary business (ie the largest part of the business).
(% of respondents)



Source: The Economist Corporate Network.

Where is your firm's global HQ?
(% of respondents)

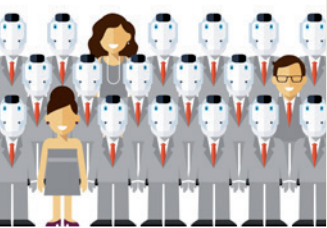


Source: The Economist Corporate Network.

Where is the location of the entity that you manage?
(% of respondents)



Source: The Economist Corporate Network.



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What were your firm's global revenues for its latest financial year?

(% of respondents)



Source: The Economist Corporate Network.

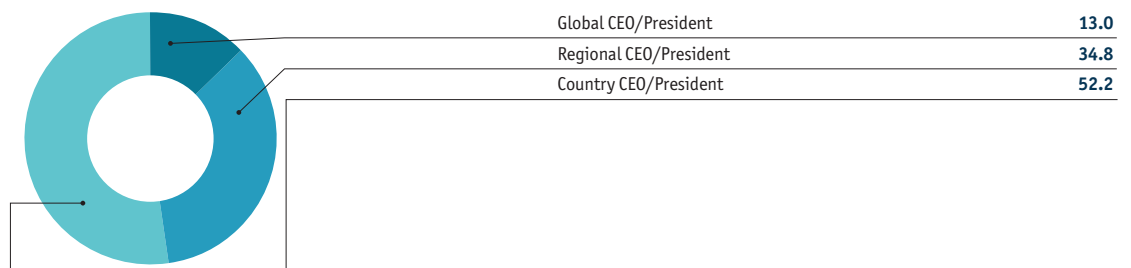
What were the revenues for the entity that you manage (regional/country) for latest financial year?



Source: The Economist Corporate Network.

What is the geographic scope of your responsibilities?

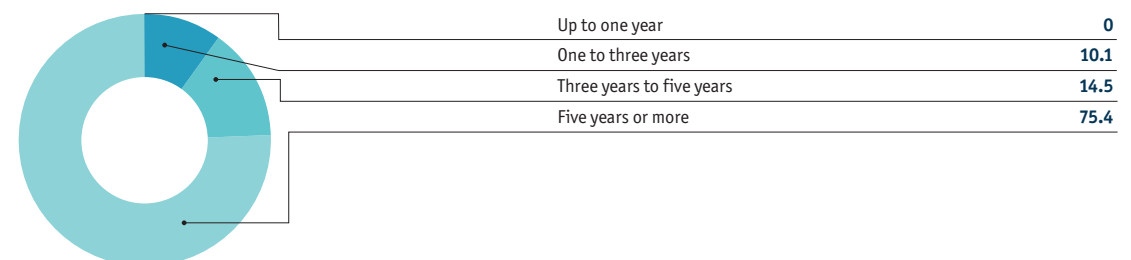
(% of respondents)



Source: The Economist Corporate Network.

For how many years have you been an executive (C-suite)?

(% of respondents)



Source: The Economist Corporate Network.

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