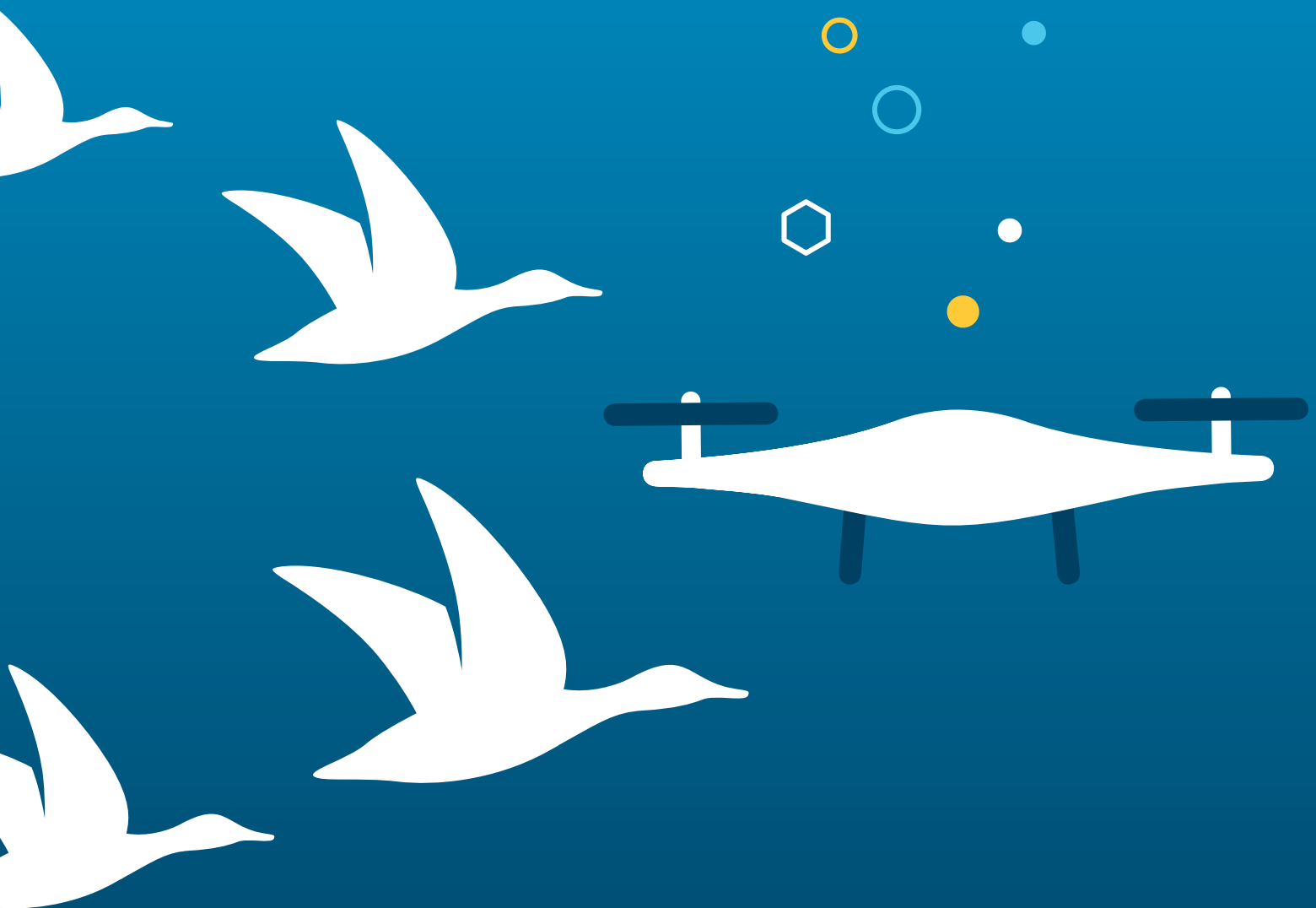# TAILORED WITH TECHNOLOGY

Corporate growth

About the research and acknowledgements

Tailored with technology: Corporate growth is the first in a series of papers and articles from The Economist Intelligence Unit sponsored by ANZ. This report, and the others to follow, is based on the results of a survey of more than 750 executives across eight markets.

This paper was written by Siddharth Poddar and Shivaji Bagchi and edited by Chris Clague. Findings from the survey were supplemented with research and in-depth interviews with experts and executives. Our thanks are due to the following people, listed alphabetically by surname.

- Amit Ghosh, chief operations officer - Asia Pacific, R3

- Jordan Kostelac, director of Proptech - Asia Pacific, JLL

- Clemens Philippi, chief executive officer - ASEAN, Euler Hermes

- Dheeraj Soni, president, Payments business, DOCOMO Digital

- Raj Sundar, managing director - ASEAN, Kimberly-Clark

- Darren Thayre, partner - digital and head of APAC, Japan and China Technology Practice, Oliver Wyman

- Steve Thompsett, chief customer officer, DHL Supply Chain Asia Pacific

Executive summary

Technology has become central to the future of companies, and the backbone on which they are launching new business models. It is altering both internal and external business operations. Most companies recognise this and nine out of 10 plan to increase their adoption of new and emerging technologies.

The technology trends considered most important by businesses today are big data and analytics, cyber security, artificial intelligence and cloud computing. This report finds that these technologies are being used to improve operational efficiency, expand internationally and improve customer experience, all of which contribute to corporate growth.

However, there remain barriers to adoption. It is imperative that companies take steps to overcome them and acknowledge the critical role technology will play in future growth. The key findings are:

- The link between technology and corporate growth cannot be understated. Technology is a key enabler for businesses to grow internationally, boost efficiency, reduce costs and provide a better customer experience.

- These technologies include artificial intelligence, big data and analytics, blockchain, cloud computing and the Internet of Things, among others.

- Executives say technology enables international expansion by improving data analytics, increasing access to customers and making more market information available, among others.

- There are challenges associated with adopting technology, and executives believe there are associated risks too. However, the benefits aren't in doubt – which is why almost six in 10 executives strongly believe their organisation will increase the adoption of technology in the next five years.

- In an increasingly digitised world, companies that do not leverage new technologies risk falling behind those that move quickly.

Technology's transformative power

Technology is transforming the way business is conducted. As it shapes businesses' external relations, it also has a deep impact behind the scenes – in terms of how they are streamlining operations, improving efficiencies, reducing costs and entering new markets.

In a world that is becoming increasingly digitised, companies that do not leverage new technologies—whether impacting the top-line by offering new products and services, or the bottom-line through optimisation of operations and delivery—will fall by the wayside.

The impact of technology on corporate growth and performance may vary depending on industry, market and type, but what is consistent is executives' strong belief that technology is fundamentally altering how business is done. Amit Ghosh, Asia Pacific chief operating officer of R3, an enterprise blockchain software company, says "across industries, technology-first companies are setting new expectations for customers in terms of customer service, ease of use and efficiency of products and services. Corporates are using technology to simplify current ways of doing business and challenge old norms."

Technologies such as big data, artificial intelligence (AI), the Internet of Things (IoT), cloud computing, blockchain, digital payments and automation are increasingly important. Our survey shows that 91% of companies plan to increase their adoption over the next five years.

Implementation, however, is another matter. Our study finds that despite well-intentioned technology adoption initiatives, many companies grapple with challenges. These range from broader macro-level factors such as inadequate regulatory frameworks and poor national infrastructure, to pertinent corporate-level issues such as a skills gap, high costs, complex data, low awareness among management, decades-old legacy systems, and even older mindsets.

The consequence is mixed results when it comes to technology adoption. Darren Thayre, partner and head of the Asia-Pacific, Japan and China technology practice at consulting firm Oliver Wyman, says the adoption of technology differs by industry and business model. While some are not seeing much change, the adoption of technology and digital services is becoming critical to others as a way of pivoting towards customers' evolving needs, reducing costs and maintaining margins.

It is the juxtaposition of these factors that will determine the scale of technology adoption across the corporate landscape in coming years.

Emerging technologies impact corporate performance

In driving corporate growth, the preference for emerging technologies will depend on the type of business, the business life cycle and the country where the business is domiciled.
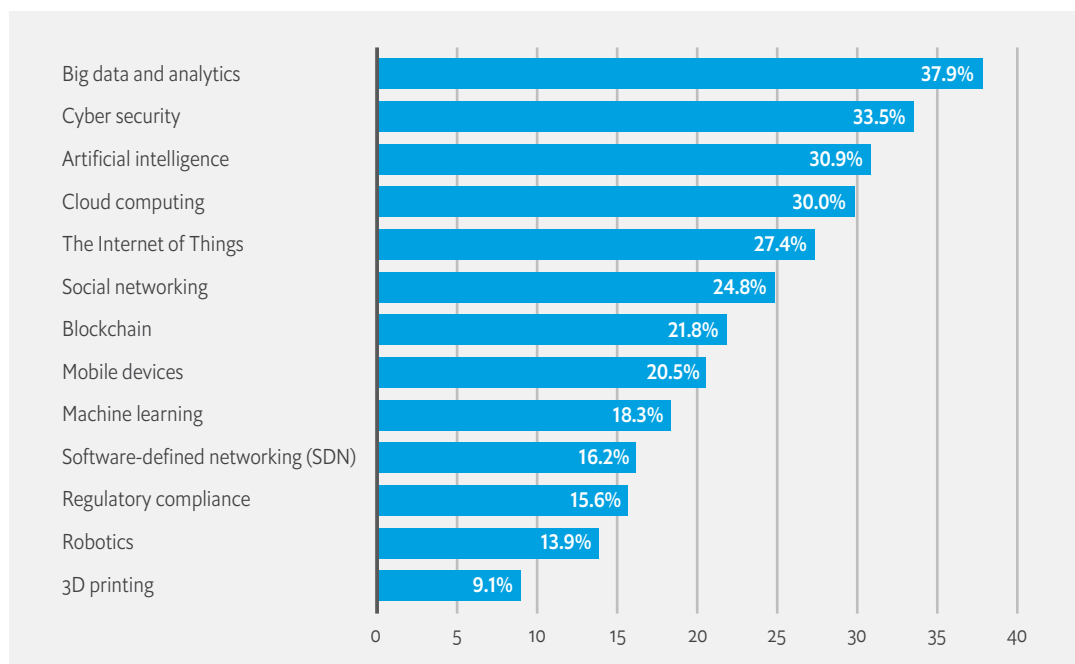
In our survey, big data and analytics tops the list of significant technology trends, with 37.9% of businesses identifying it as one of the top three trends. In the technology sector too, big data and analytics emerged as the most important tech trends (39.3%).

In fact, 82.7% of businesses say new technologies already have an impact on their organisations. Of the markets included in the study, China is the biggest advocate of big data and analytics. Almost six in 10 companies there agree it is one of the top three technology trends.

At Euler Hermes, a trade-related credit insurance solution provider, big data plays an instrumental role in two key areas of business – commercial operations and risk. Clemens Philippi, the company's CEO for ASEAN, says that on the commercial front, the focus is on client attraction and retention. On the risk side, it is around assessing exposures and offering accurate analysis. For client acquisition and retention, the company uses chatbots, algorithms and big data. "For clients' retention, we use a 'churn predictor', which is based on machine-learning algorithms, using both past and current data of clients among others, so that we can be proactive in our relationship management with them. For clients' acquisition, we have a system that uses Big Data to enable us to gauge

Figure I. In your opinion, which technology trends are most important to businesses today?
Please select the top three

Technology trend	Percentage
Big data and analytics	37.9%
Cyber security	33.5%
Artificial intelligence	30.9%
Cloud computing	30.0%
The Internet of Things	27.4%
Social networking	24.8%
Blockchain	21.8%
Mobile devices	20.5%
Machine learning	18.3%
Software-defined networking (SDN)	16.2%
Regulatory compliance	15.6%
Robotics	13.9%
3D printing	9.1%

a potential client's inclination to buy our products and services."

Similarly, on the risk side, Mr Philippi says "our product is very forward-looking, and our strength is to forecast the economic cycle and its impact on our policyholders' account receivables. We have developed technologies to give real time gradings on the buyers of our policyholders – this is increasingly done through automation and algorithms, as opposed to the earlier method of using manual analysis."

Unsurprisingly, given the string of cyberattacks and breaches in recent times, cyber security has emerged as the second-most important technology trend for businesses (33.5%). It is of greatest significance in Hong Kong, where 49.3% of executives say it is among the top three trends. Interestingly, less than a quarter (23.9%) of respondents in China consider it a defining trend.

AI is the third most important technology trend, with almost a third (30.9%) of executives citing it. Once again, almost half of the Chinese companies surveyed chose it as one of three defining trends. This is unsurprising, given the government support for AI-centred solutions in China. By contrast, less than a quarter of companies in Australia, Singapore and the US consider it a defining trend.

Businesses globally acknowledge the benefits of cloud computing, with 30% of executives regarding it as a top-three trend. It is the number one trend among Indian companies (42.1%) and has the lowest significance in the UK (17.3%).

With the number of connected devices rapidly increasing, IoT is regarded as a top-three

trend by almost a third (27.4%) of companies. IoT is believed to already have a big impact on their organisations, according to 85.4% of the companies surveyed. In India, 33.7% of respondents considered it the most important technology trend, followed by the UK (33.3%) and China (31.5%). In Australia, however, only 17.3% consider it a top-three trend.

Blockchain is another emerging technology that is changing the way companies do business. It is considered a particularly important technology trend in China (29.3%), Singapore (28%) and New Zealand (26.7%). Mr Ghosh says R3's blockchain platform Corda is being used across industries to transform business models, simplify processes, digitise manual processes, increase levels of automation and create new opportunities.

It is clear from the survey findings that technology trends are having a similar impact on all sectors, including the technology sector itself. The same five technology trends are cited across the board, and these include big data and analytics, cloud computing, artificial intelligence, cyber security and the IoT.

What are emerging technologies being used for?

AI, IoT and blockchain are being used to improve efficiency and expand businesses internationally. A smaller number of companies are leveraging these technologies to improve client experience and lower costs. Social networking is mostly being used to expand internationally (46.2%).

Jordan Kostelac is the director of Proptech in Asia Pacific at the commercial real estate services firm JLL. He says his company is "exploring how technology might be repurposed to better serve our clients".

Mr Philippi of Euler Hermes says that technology allows companies to improve their procedures: "It's all around simplicity and being more user-friendly."

About half the companies surveyed give equal priority to technology investments at the front-end (better customer outcomes) as the back-end (efficiencies). Almost a third said their organisation focuses on front-end

investments. However, when it comes to back-end investments, other industry sectors (16.1%) seem to invest higher than tech companies do (12.5%).

Other emerging technologies being used to lower costs include automation and robotics. Dheeraj Soni, president of payments at DOCOMO Digital, the mobile commerce-related business of the NTT DOCOMO group, says the adoption of technologies such as Robotic Process Automation (RPA) in services and manufacturing has been "a function of how commercially viable these technologies are, compared with the availability of low-cost skilled labour, wherein the upside is diluted with the CapEex needed for technology adoption."

He says companies are also looking at augmented reality (AR), virtual reality (VR) and IoT to improve the distribution of services in education, healthcare and retail. "Companies are looking... to leverage their first-party

Figure II. Why is your organisation using the following technologies?
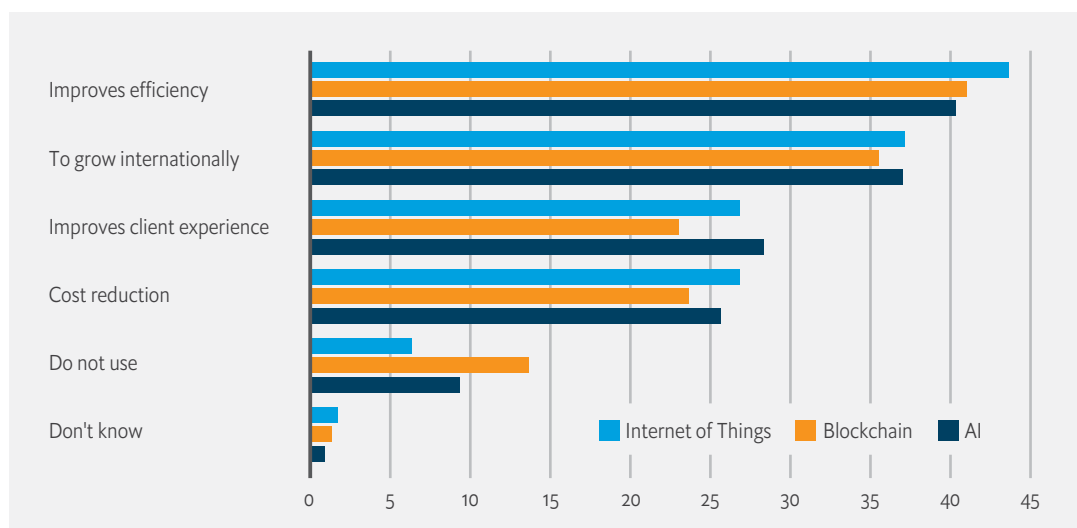
customer data as a way to improve products and services, while… increasing the stickiness of their services with personalisation."

In warehouses run by DHL Supply Chain, the logistics business of Deutsche Post DHL, these technologies are being used to enhance productivity, lower costs and grow the business. Steve Thompsett, chief customer officer at DHL Supply Chain Asia Pacific, says warehousing is a traditional industry with processes that sit on the cusp of disruption.

Technology is changing clerical roles. "In an industry which has historically been full of paper and repetitive invoicing transactions, automation is critical as it helps reduce overheads in our day-to-day operations," he says. Paperwork is being digitised and stored on wearable devices such as a wristwatch.

DHL also uses ring scanners—lightweight Bluetooth-enabled wearable scanners—which enable barcode scanning, "while allowing staff to keep both their hands free for other tasks". Smart glasses enable faster and more accurate hands-free order picking, contributing to productivity gains.

In Asia-Pacific alone, the wider DHL group currently has more than 370 digitalisation projects in play. These cut across a host of areas, including wearables (smart devices), robotic process automation, AI, big data analytics, blockchain, AR and VR, IoT, self-driving vehicles, unmanned aerial vehicles, and digital twins, the latter of which is a virtual replica of a physical device.

In the mining sector, Australian explosives manufacturer Orica is transforming its business by moving squarely from being a heavy manufacturing company to a provider of digital mining technology and services.[1] Orica's focus is on changing the way blasts are carried out on mining sites by using data analytics and wireless detonators. Orica is able to manage these 'digital explosions' and collect and analyse data in real time, thereby controlling the flow of rubble.

As a result, it has increased its margins and market share by boosting productivity, safety and efficiency.

Choosing the right technology

How are organisations deciding which technology best suits them? Working at the forefront of emerging technologies, Mr Ghosh says "we often find that companies use a mix of criteria to evaluate a new technology. This includes the total cost of ownership, the economic value of adoption, the maturity and stability of the emerging technology, the credibility and proven use cases delivered by the technology vendor, and compliance with evolving regulations."

Global personal care company Kimberly-Clark is using smart manufacturing and other technologies such as AI. Its ASEAN managing director Raj Sundar says choosing which technologies to adopt comes down to a combination of scale and impact, which is measured in terms of return on investment. "The rest, such as costs and cost reduction, and increasing efficiencies, are subsumed within these overall objectives. Of course, employee skills are required – but that is more a function of how we hire and train, if we determine that a given technology is critical."

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[1] *Orica harvests Calderon's technology hunch.* Financial Review. 31 July 2019.
    Available online at https://www.afr.com/companies/manufacturing/orica-harvests-calderon-s-technology-hunch-20190730-p52c7s

BOX I: How is technology helping companies go global?

Notwithstanding global developments in the past couple of years, the overarching long-term trend has been one of a freer movement of goods and capital across economies. This reflects companies looking to untapped markets to boost revenues.

Almost 60% of companies in our survey aim to expand to new markets. Chinese companies stand out, with 76% looking to grow internationally. A larger share of companies in other markets – mainly developed ones – say they already have the international presence they desire. This view is most prevalent in the UK (50.7%).
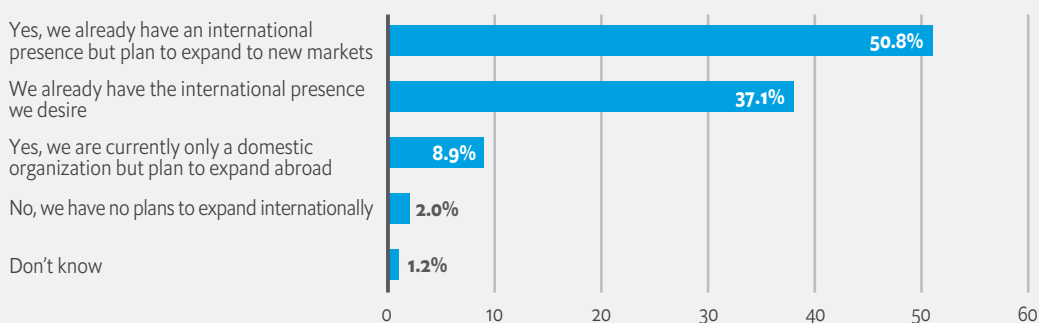
Technology is playing an instrumental role in enabling companies to venture into new markets. Executives say this is by improving data analytics (44.2%), increasing access to customers (38.6%), making more information available (34.5%), making cross-border trade easier (28%), easing communication (27.4%) and lowering the costs of transporting goods and services (26.2%).

According to Mr Kosetelac at JLL, technology enables the company to function as a more cohesive organisation, and helps it reach emerging markets. "In many cases, we are learning that technology, when used correctly, can be much more humanising than we might expect." He cites simple technology such as video conferencing as a useful tool, adding that "seeing a person face to face really helps us connect across the globe and makes us more inclined to work collaboratively."

Furthermore, 46% of companies are using social networking to grow their business internationally, followed by big data and analytics (41.8%), cloud computing (41.5%), cyber security (41.1%), digital payments (39.7%), mobile devices (38.2%), IoT (37.1%), AI (37%), software-defined networking (SDN) (36.5%) and blockchain (35.6%).

From a commercial standpoint, says Mr Sundar, technology has a huge role in international expansion.

Figure III. Does your organisation plan to expand internationally?

- Yes, we already have an international presence but plan to expand to new markets — **50.8%**
- We already have the international presence we desire — **37.1%**
- Yes, we are currently only a domestic organization but plan to expand abroad — **8.9%**
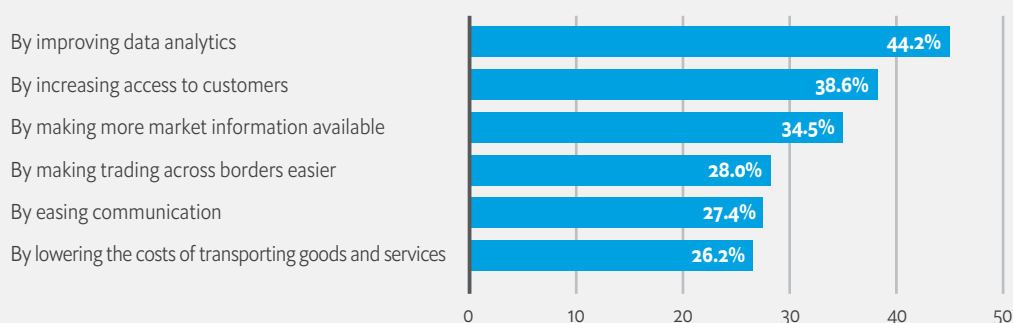- No, we have no plans to expand internationally — **2.0%**
- Don't know — **1.2%**

"As an example, for a new entrant into a market, designing both small-scale and large-scale go-to-market mechanisms is critical to piloting, learning and then scaling up rapidly. Often factors such as the ability to innovate, efficiency and cost-considerations determine the tech strategy for manufacturing and the supply chain."

Mr Soni says the latest in mobile and cloud computing technology is helping businesses to scale their global distribution. This is particularly the case in the services industry. Companies are growing their presence solely through digital means and without significant CapEx increases, he adds. In the manufacturing sector too, small entrepreneurs have been able to penetrate the global supply chain, the latest trade tensions notwithstanding, he says. "One such notable example is the proliferation of e-commerce platforms such as Shopify, which allows very small businesses to scale and distribute at a global scale without incurring any capital expenditure."

The rise of global payment gateways and remittance and settlement services have been a transformative force in the ability of merchants to do business beyond borders. "Simply put, this means that a small merchant in a remote province in Indonesia is able to sell her merchandise in the global markets and get paid almost instantaneously," he adds.

These developments, coupled with the proliferation of mobile data and smartphone penetration, means that the global market ecosystem is much more accessible to small businesses. Mr Soni says that " with the rise of two-sided platform-based technologies, marketplaces have become a lot more synergistic and the barriers to entry in international markets have diminished significantly."

Figure IV. In what ways does technology enable you to expand your business internationally? Select two.

By improving data analytics	44.2%
By increasing access to customers	38.6%
By making more market information available	34.5%
By making trading across borders easier	28.0%
By easing communication	27.4%
By lowering the costs of transporting goods and services	26.2%

Barriers to adoption

According to our survey, the greatest hindrance to organisational technology adoption is security and privacy concerns (51.4%). This is followed by a lack of technology skills among employees (42.6%), and technology standards and regulations (39.4%). Replacing legacy systems (31.4%) and the cost of adopting new technology (30.2%) round up the top five challenges. Companies in the technology sector face similar barriers – the only difference is that a larger share of these companies (52.7%) believe that standards and regulations are a hurdle to adoption.
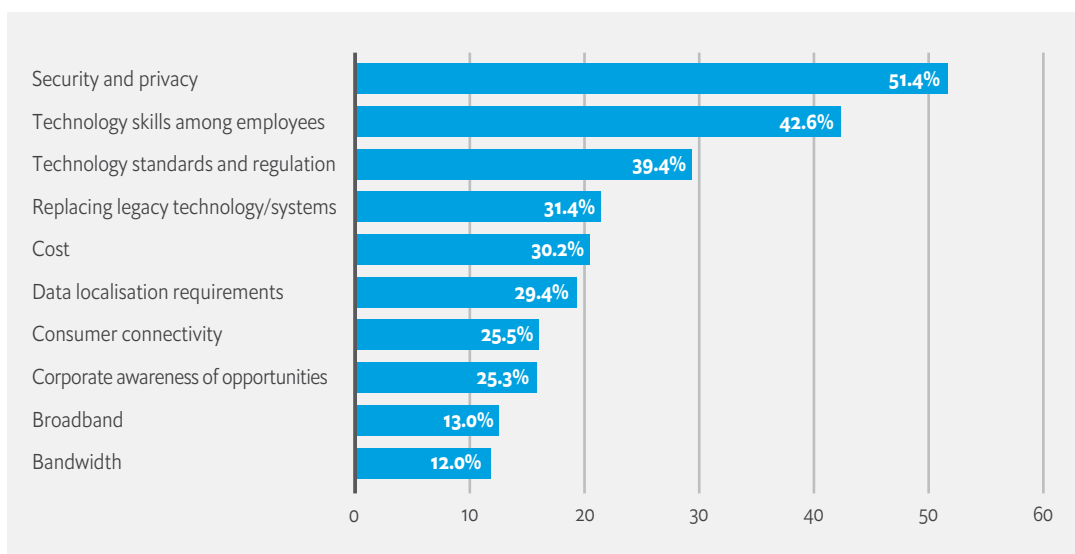
There are other differences across markets, reflecting how local conditions either inhibit or support the adoption of technology. In Hong Kong, for instance, high costs are cited by 46.7% of companies as the greatest challenge;

in China and the US, it is tech standards and regulations; and in the UK, the need to replace legacy systems along with data localisation requirements is most commonly cited.

Organisational challenges

One key barrier to organisational technology adoption is legacy systems that are incompatible with new digital technology. While replacing legacy technology is a big task, it is by no means impossible, says Mr Thayre of Oliver Wyman. "If you don't reduce that technical debt, you are only prolonging cost challenges, making ongoing maintenance harder and hampering the ability to invest in newer technologies and ways of working. I think the biggest blocker here is selling the value of this to senior leadership," says Mr Thayre.

Figure V. What are the three biggest challenges to organisational tech adoption in the country you are located?

Security and privacy	51.4%
Technology skills among employees	42.6%
Technology standards and regulation	39.4%
Replacing legacy technology/systems	31.4%
Cost	30.2%
Data localisation requirements	29.4%
Consumer connectivity	25.5%
Corporate awareness of opportunities	25.3%
Broadband	13.0%
Bandwidth	12.0%

Older companies are also faced with the challenge of changing organisational culture and individual mindsets. As Mr Kostelac explains: "The largest challenge for JLL is messing with success. We have over 250 years of industry experience and many of our staff have built upon that and created their own success with yesterday's tools."
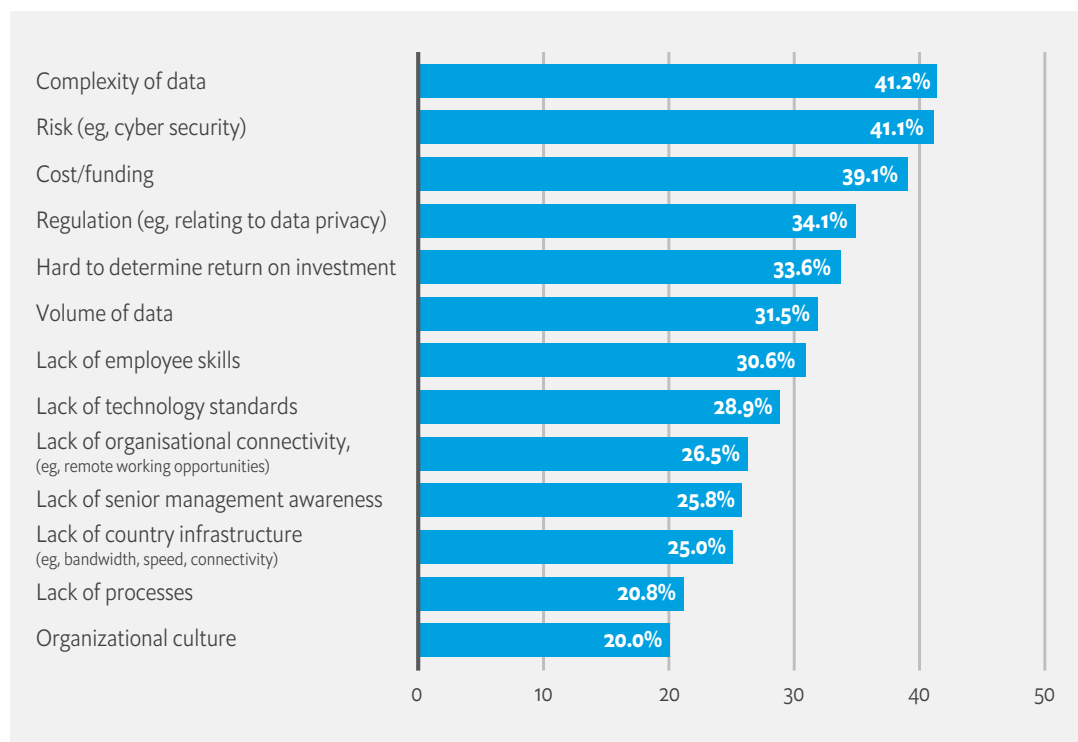
It is similar at Euler Hermes, which has been around for more than a hundred years, "so it is naturally different from startups that have a clean field to play on. We are very focused on digital innovative systems and simultaneously worked hard on creating a culture, mindset and workforce that embraces technology

while applying this to the benefit of our clients" says Mr Philippi.

Organisational leadership can play a big part in solving these challenges. At Euler Hermes, "the key, really, is how the work that is done under the CTO flows into what the COO is doing, who is overseeing the decommissioning of the legacy systems and the implementation of the new IT systems."

Other organisational challenges include cyber security risks, the complexity and sheer volume of data, high costs and difficulty in determining the return on investment, regulations, the lack of local infrastructure and

Figure VI. What are the primary challenges facing your organisation in terms of harnessing technology? Select four.

Challenge	Percentage
Complexity of data	41.2%
Risk (eg, cyber security)	41.1%
Cost/funding	39.1%
Regulation (eg, relating to data privacy)	34.1%
Hard to determine return on investment	33.6%
Volume of data	31.5%
Lack of employee skills	30.6%
Lack of technology standards	28.9%
Lack of organisational connectivity, (eg, remote working opportunities)	26.5%
Lack of senior management awareness	25.8%
Lack of country infrastructure (eg, bandwidth, speed, connectivity)	25.0%
Lack of processes	20.8%
Organizational culture	20.0%

technical skills among employees, and poor organisational connectivity.

"Another challenge is that in any operation, there are many influences and a specific technology is only one of those influences," says Mr Thompsett. "Therefore, being able to isolate the impact of one initiative when you may be implementing five or six is very difficult."

Standardisation

Mr Thompsett says that if a process is standardised, it can be automated more easily. But with innovation, standardisation may take longer, so one could be playing catch up and moving between technologies before actually reaping the benefits of an existing technology.

Mr Kostelac talks about the need to connect all the company's data. "My favourite example is the capital city of Vietnam: is it called Ho Chi Minh City? HCMC? Ho Chi Minh? Saigon? In a single spreadsheet, the same point of knowledge will appear in all of these forms and more, and that is not counting any typos. There is a need for mechanisms for data inflow that parse these in the background, so that no matter the preference in naming an individual might have, our analytical engines look at every data point possible."

He adds that data alone is not what is valuable in the augmented age, but the insights derived from the data. And while the saying 'data is the new oil' is correct in that data certainly is a valuable commodity, "it overlooks the more important point that it essentially powers the 'machines' of tomorrow's commerce".

People and processes

All companies face these challenges to varying degrees. Mr Thayre points out the interrelation between them. "First, there's a skills gap. I also often see limited education at a board level on cyber risks, so they can be informed on the threats faced," he says. Additionally, data privacy and sovereignty laws in Asia-Pacific are fragmented, and while some jurisdictions have clear and documented guidelines, in others, policies are vague and largely open to interpretation. "That makes for a very difficult landscape when thinking about what needs to be hosted in the country and what data, if any, can leave the country."

He says the idea of having to host in-country is a major obstacle if it is not a major technology hub. It can make the business case uneconomical – and from an operational point of view, having many small technology locations can be inefficient.

According to Mr Sundar, there are two main challenges to adopting new technology. The first is to articulate how the specific technology fits into the overall needs of the organisation. "This is a critical starting point to 'socialise' any new technology." The second is to actually drive change, "which is often hard because there's comfort in the older way of doing things," he adds.

There needs to be a mindset shift, Mr Thayre says, in terms of what companies think technology should do, and what it is capable of doing. He is of the view that many firms in Asia-Pacific are "behind the curve" in terms of the potential opportunities, as the focus has been on maintaining and reducing costs.

"For too long, we've been asking technology teams to explore new technologies as a side-of-desk activity, without financial or managerial support."

And when it comes to teams being tech-ready, he believes that moving to cloud computing and leveraging open data sources are fundamental shifts in how business is done. This gives rise to the need to hire strategically, train existing staff and develop young talent. "In a perfect world, you would just hire new experts coming into the market with these skills, but there just aren't enough."

Lastly, executives agree that business processes also need to change. Many have seen initiatives that improve processes, but were mostly focused on optimising what is already in place.

These challenges notwithstanding, there are many benefits to be had if companies focus on developing the skills of its teams and improving processes.

Box II: Tech in developing markets

Some of the challenges to technology adoption are unique to developing markets. These include weak infrastructure, insufficient bandwidth, low quality data, and the lack of supportive regulatory frameworks.

According to Mr Thompsett, one of the challenges DHL Supply Chain faces in markets in Asia-Pacific and Latin America is that sometimes the startups it partners with "do not have a global presence or the bandwidth to manage the global implementation of new technologies". Therefore, it is important that companies do not depend on a single supplier of technologies, he says. Or companies can work with startups and partner with them to ensure there are no bottlenecks.

In developed markets such as Europe, the availability of open data benefits organisations. But in most developing economies, the situation is starkly different. "In some of the growth markets in Southeast Asia, there's a gap of data quality and availability, owing to both regulations and culture. We feel our business model would benefit if regulations were to evolve further with respect to bringing about more transparency and availability of open data," says Mr Philippi.

For companies in growth markets that rely on data, the challenge is trusting it. For this reason, many of the technologies that Euler Hermes looks to implement in Asia Pacific region are first tested in Australia and New Zealand, where

these problems are not acute. "For other markets, especially in Southeast Asia, we need to be more cautious because the algorithms may produce misleading results; so adaption and filtering is needed."

However, companies are finding ways to overcome some of the challenges of doing business in developing markets. For example, "companies are increasingly willing to place bets on alternative payment methods as a way to capture new consumer demand across Asia, where traditional banking and credit card services adoption has been low," Mr Soni says.

They also find companies investing in developing Asia-centric, lower-cost, 'lite' versions of their products and services which can perform well in low latency, low data environments.

With consumer connectivity improving significantly in recent years, the proliferation of mobile data and e-commerce is helping companies grow in developing markets. However, there is a still a long way to go in terms of data speeds catching up across most of Asia – that in itself will provide a fillip to corporate growth in the region.

An overarching issue in developing markets is insufficient capital expenditure in building technology infrastructure. This is often because governments are fiscally constrained due to other types of infrastructure taking precedence. While this is a macro-level phenomenon, it is something that directly impacts the adoption of technologies in these markets.

Technology will define the future

It is clear that technology has an intrinsic value in driving corporate growth. Executives in every region recognise the importance of technology – indeed, it is already having a profound impact on operations. This view is held by executives at technology companies and those in other sectors.

In fact, 58% of executives strongly agree that their companies will increase the adoption of technology over the next five years. In India, this figure jumps to 75%.

The companies that are thriving today are those that moved faster than others in leveraging new technologies to "transform their business and the underlying business model at a fundamental level," as Mr Soni says.

Across industries and markets, a growing number of organisations realise the power of emerging technologies. There is a fundamental shift underway in how companies perceive technology and its role in business. Those who fail to embrace these new opportunities risk being left behind.