Exclusive Interview with Chartered Banker, Fad'l Mohamed, CEO of Maybank Investment Bank Berhad
'Future-Proofing the Next Normal'

BANKING INSIGHT

IDEAS FOR LEADERS | **DECEMBER 2021**

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Move Along, Goldilocks

Forget about the economic sweet spot. Fundamentals are what we want.

Quantum Computing: Finance's Next Frontier

SUCCESSFUL TEAMS MUST BANISH SELF-DOUBT

AGILE MUST EVOLVE OR DIE

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Editor's Note

To Whom We Raise A Glass?

Since coming aboard as AICB's Chief Executive, I am proud of the work the Institute has accomplished and am excited about many new initiatives we have planned for the coming year.

It has been an enjoyable experience working on this issue of *Banking Insight* and the editorial team's carefully curated insights captured through this and our previous issues are snapshots of the complexity and innovation Asian banking has undergone over decades, from special coverage on critical points in banking to predicting what's next on the horizon of finance. We will continue to delight our readers, spark an interest in all things banking and expand into new territories critical to the development of banking talent.

We mark this issue with a milestone: the addition of a new Well-being segment that will cover issues related to mental and physical health, reflecting the needs of today's professionals. Our inaugural article in this segment, *Mending the Pandemic Brain*, is symbolic of the importance we must place on not just outward extrinsic values, but the intrinsic values and voice within – empathy, compassion, kindness. I have no doubt that this is the support that teams need to bounce back better and stronger in the next normal.

Such *leitmotif* is echoed by financial leaders in our midst, including our exclusive interview with Fad'l Mohamed, CB, CEO of Maybank Investment Bank Berhad. His wide-ranging experience, sharp acumen, and commitment to sustainable finance exemplifies the mind shift that is occurring at the core of finance.

In a hyperconnected world, our ability to distinguish between noise and information is put to the test every day. This issue's cover story, *Move Along, Goldilocks*, calls out hype in financial reporting, sheds light on separating the wheat from the chaff, and impresses upon us the strategic imperative of cultivating amongst us Corporate Cassandras, people whose warnings of impending disasters are often dismissed simply because they do not fit into the mainstream narrative.

The need to future-proof our sector relies on our ability to innovate within innovation itself. For well-embedded Agile teams, already a staple at major Asian banks, teams must live up to its philosophy and mantra that 'change is the only constant' if they are to stay ahead of the curve. In *Agile Must Evolve or Die*, we push the boundaries of what this entails in order to future-proof banking.

As cybercriminals train their sights on cyber insurers, banks – who are increasingly subscribing to cyber insurance as a tool to hedge against security breaches – are caught in the cross hairs. In *Combating the Ransomware Onslaught*, Ray Irving, Managing Director of Global Business Services, at the Financial Services Information Sharing and Analysis Center, shares pragmatic steps on how banks can mitigate third-party risk and avoid becoming a victim of ransomware.

Bob Souster, whose feature *Can the Oldest Ethical Theory Hold Lessons for Us Today?* charts the history and comeback of virtue ethics into the mainstream, illustrates the rigour he brings with him as module director for the Chartered Banker MBA programme at Bangor University Business School.

And most of all, we dedicate this issue to the men and women who've kept the engines of finance running these 24 months under unprecedented circumstance. We raise a glass to you. *Salut!* ✱

The Editor

The need to future-proof our sector relies on our ability to innovate within innovation itself. For well-embedded Agile teams, already a staple at major Asian banks, teams must live up to its philosophy and mantra that **'CHANGE IS THE ONLY CONSTANT'** if they are to stay ahead of the curve.

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TRUST IN OUR NEWLY MINTED CHARTERED BANKERS

Our 4th Chartered Banker Conferment was held on the morning of 2 October 2021 with 276 individuals conferred the Chartered Banker status, a prestigious designation jointly awarded with the Chartered Banker Institute (CBI), UK. The ceremony, broadcast from Bangunan AICB and joined virtually by close to 300 individuals, recognised the diligence and determination of conferees in attaining the gold standard in banking.

The ceremony commenced with a welcome address by the AICB Chairman Tan Sri Azman Hashim, FCB, with the Council in attendance. In his speech, Tan Sri Azman echoed the sentiments that underpin the expectations of all Chartered Bankers:

"When ethics becomes a shared responsibility, we will see real change that may even become our strongest defence against a future financial crisis.

And with good ethics and trust at the centre of any relationship, the possibilities for the future are boundless. This is where AICB's role as a professional body for bankers helps to promote good core values and develop this mindset and capacity in the banking workforce as we nurture our banking talent into leaders who will shape and contribute significantly to the industry."

Since its inception, the AICB has inducted

ESG FINANCE GATHERS STEAM

Sustainable finance has accelerated in the past decade with key regulatory developments in Malaysia lining up with global megatrends.

2011

The Sustainable Banking Network (SBN) was launched as a community of regulatory bodies and banking associations from around the world.

2014

Group of 20 (G20) established a task force, The G20 Energy Efficiency Finance Task Force Group.

OCT: EU Directive 2014/95 was put forward requiring large companies and organisations to disclose and report on social and environmental factors.

2015

DEC: Signing of Paris Agreement on climate change.

The People's Bank of China issued its *China Green Bond Endorsed Project Catalogue* to govern green financial bonds.

2016

DEC: Malaysian public-listed companies (PLCs) to produce Sustainability Statement in Annual Report or Standalone Sustainability Report.

2017

DEC: GGFC created the Global and European Green Finance Policy Directory.

Global Green Finance Council (GGFC) was formed, later renamed the Global Sustainable Finance Council.

Bursa Malaysia commenced annual reviews of PLCs Sustainability Statements as a means to review compliance and quality of disclosures made.

2018

United Nations Principles for Responsible Investment (UNPRI) announced the guidelines on implementing the Task Force on Climate-Related Financial Disclosures.

OCT: World Federation of Exchanges published its five Sustainability Principles.

Non-Financial Reporting Directive (NFRD) in place.

APR: Bank Negara Malaysia (BNM) published Strategy Paper on *Value-based Intermediation: Strengthening the Roles and Impact of Islamic Finance.*

2019

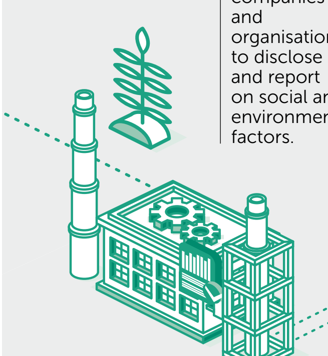
FEB: UNPRI announced all signatories to comply with its strategy and governance risk indicators from 2020 onwards.

The Carbon Disclosure Project issues its Climate Change Report.

APR: Coalition of Finance Ministers for Climate Action formed to implement the Paris Agreement.

The Coalition endorsed the Helsinki Principles to promote climate action via fiscal policy and public finance.

China published its *Green Industries Guidance Catalogue.*



511 Chartered Bankers – a 49.6% increase compared to 2019 – with more than 900 bankers at various stages of progression and a growing base of over 32,500 members.

He also shared the historic partnership between the Asian Banking School and the renowned Bangor Business School, listed by *Financial Times* as one of the world's most influential business schools, in offering the Chartered Banker MBA — the only degree in the world with dual qualification that allows candidates to gain both a top MBA and the Chartered Banker status.

Simon Thompson, Chief Executive Officer of CBI, UK, delivered his address virtually and the proceedings continued with conferees sharing highlights of their professional journey towards attaining the Chartered Banker status. This was followed by the presentation of Excellence Awards to the winners of 2019 and 2020. The Chartered Banker conferees then took the oath of commitment to the Code of Professional Conduct. ✱

NEW CHIEF EXECUTIVE

On 20 September 2021, we welcomed Edward Ling Hsiao Wee as the Asian Institute of Chartered Bankers' Chief Executive. He takes over from Prasad Padmanaban, who served the Institute for close to five years.

A veteran in the financial sector, Edward has held various leadership positions in his 11 years of service at ACCA, including his most recent role as Regional Portfolio Head — Maritime Southeast Asia following four years as Country Head of ACCA Malaysia.

Edward holds an MBA in Operations Management Science and a BBA in Finance. He is passionate about aviation and photography and an avid fan of the Civilization strategy game series. ✱

Global **EU** **China** **Malaysia**

Sources: ASIFMA, Bursa Malaysia, EU Commission, IBFIM, JC3, NGFS, SC, The Edge, TLT Solicitors.

APR: The International Monetary Fund published *Global Financial Stability Report: Lower for Longer* report, with a dedicated chapter on how ESG issues could present a financial stability risk.

SBN published their Progress Report looking at factors to implement a framework for sustainable finance.

OCT: International Platform on Sustainable Finance was launched, a forum comprising public officials in member states tasked with developing environmentally sustainable finance policies.

The World Bank Group launched Action Plan on Climate Change Adaptation and Resilience.

BNM and Securities Commission Malaysia (SC) formed the Joint Committee on Climate Change (JC3) comprising senior officials from Bursa Malaysia, financial industry players and experts to assist in Malaysia's transition to a low-carbon economy.

2020

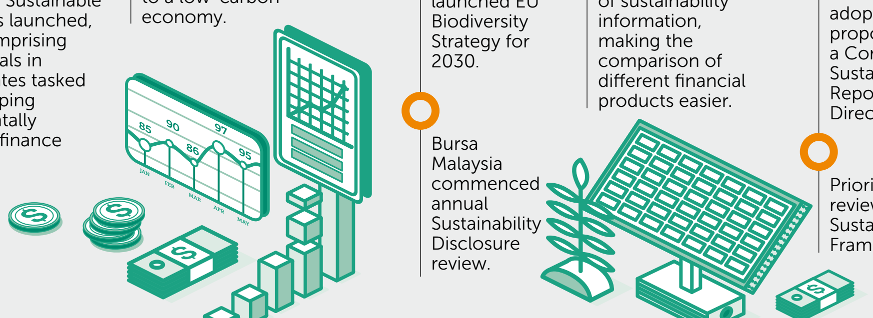
JAN: Bank for International Settlements and Bank de France published *The Green Swan: Central Banking and Financial Stability in the Age of Climate Change.*

MAY: The European Commission (EC) launched EU Biodiversity Strategy for 2030.

Bursa Malaysia commenced annual Sustainability Disclosure review.

JUL: EU Taxonomy Regulation entered into force creating the world's first-ever 'green list', a classification system for sustainable economic activities.

DEC: The Climate Benchmarks Regulation came into effect. It increases transparency and disclosure of sustainability information, making the comparison of different financial products easier.



2021

The World Bank Group launched Climate Change Action Plan 2021–2025.

MAR: The Sustainable Finance Disclosure Regulation came into effect.

APR: EC adopted a proposal for a Corporate Sustainability Reporting Directive.

Priority for review of Bursa Sustainability Framework.

JUN: The EU Taxonomy Compass published.

APR: Climate Change and Principle-based Taxonomy (CCPT) announced, a common framework for the classification of climate risk-related exposures of financial institutions.

JUN: JC3 hosts inaugural flagship event themed 'Finance for Change'.

AUG: JC3 announces CCPT Implementation Group to oversee roll out.

Infographic © AICB

Show, Not Tell, On Operational Resilience

Defined by the Basel Committee for Banking Supervision as "the ability of a bank to deliver critical operations through disruption", financial institutions must design processes that are sound, balanced, and practicable in order to weather the next crisis.

UK-based *Risk.net* recently reported that a senior bank examiner for the US Federal Reserve (Fed) warned banks of the "disconnect" between theory and practice when it comes to drawing up a playbook for coping with a repeat similar to the coronavirus pandemic.

It reported that financial institutions were urged to show, not tell, on operational resilience, ensuring that first-liners understand and can implement measures at the drop of a hat. The Fed examiner said: "I'll be disappointed if I go into a firm, and resiliency people show me graphs and PowerPoints, and then I go to senior management or people on the frontline and they can't explain it."

UK-based Risk.net recently reported that a senior bank examiner for the US Federal Reserve (Fed) warned banks of the "disconnect" between theory and practice when it comes to drawing up a playbook for coping with a repeat similar to the coronavirus pandemic.

According to this year's *Annual EY/IIF Global Bank Risk Management Survey,* banks' chief risk officers (CROs) in Asia-Pacific – already early movers in operational or enterprise resilience pre-Covid-19 – say that the pandemic has opened their eyes to the broader dimensions of resilience:

70% of CROs state that **operational resilienc**e has become a higher priority since the pandemic.

Three in five believe **operational resilience skills** will be one of the most important skill sets required in their risk functions over the next three years.

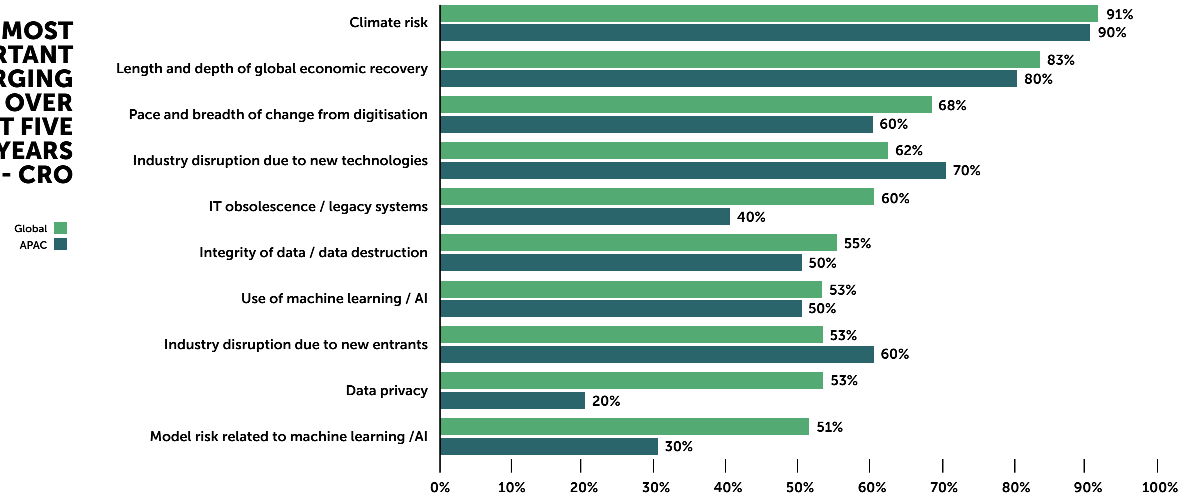
93% of Asia-Pacific banks expect regulators to impose additional or **new operational resilience requirements** over the next few years. Expected areas of change include capital and liquidity, and stress testing scenario selection and key assumptions.

Only a third of Asia-Pacific CROs put **digital transformation at the top of their risk issues.** However, extended to a five-year view, around 60% of CROs nominate the pace and breadth of change from digitisation as a top emerging risk – perhaps indicating that many Asia-Pacific banks still have a way to go on their digital transformation journey.

As well as being concerned about the data security implications of remote work, **CROs worry that productivity, culture and engagement** have been permanently degraded by the virtual work environment. In their efforts to monitor culture, banks are also considering more employee surveys and focus groups. ✱

Source: EY.

MOST IMPORTANT EMERGING RISKS OVER THE NEXT FIVE YEARS - CRO



Future-Proofing the Next Normal

Reporting by the Banking Insight Editorial Team

Banking is irrevocably changed and all the stronger.

In an exclusive interview, **FAD'L MOHAMED,** CB, CEO of Maybank Investment Bank Berhad reveals his thoughts on future-proofing of finance, the intersection of digital and human, and ushering the new year with renewed vigour.

Q ***Although Covid-19 isn't the first crisis we've encountered, for many, it is certainly the most severe. How has the pandemic impacted Maybank Investment Bank and how has the organisation adapted since?***

Sometimes it takes a century to change a day, and a day to change a century. The pandemic was certainly momentous on many levels. It changed the way we work and live. Our teams had to adapt quickly during the peak of lockdown to ensure business continuity, to ensure that we could continue serving clients while keeping one another and the community safe. We continue to invest in our people and workplace as we adapt to the 'next normal'. Hybrid working is here to stay. Cognisant of the impact of the pandemic on physical and mental health, Maybank has launched several well-being initiatives and made available resources to support and educate employees.

Like other companies, we had to pivot to virtual, working with different parties, each with different levels of preparedness to face the kind of unprecedented disruption that we saw in 2020. We successfully executed global deals virtually and in a paperless way, sometimes within short timeframes. It is also important that we are able to execute while managing risks under uncertain conditions, from underwriting to market risks.

On the brokerage side, we saw a surge in retail trading in line with global trends. This is a healthy development for the capital market as a well-diversified pool of investors makes the market more vibrant. We introduced and continue to organise regular webinars to educate investors of all levels of experience. From a client experience perspective, we are ensuring that we continue to meet expectations in terms of both digital and the human touch.

Q *You have a unique vantage point, as the CEO of an industry-leading Malaysian-based institution as well as a Council Member of the AICB. What should banks focus on to future-proof themselves?*

I am a firm believer in talent development. As an investment bank, our strength lies in our people. The trust that clients place in us, our ability to deliver innovative ideas in response to the market environment – is primarily attributable to the strong teamwork and talent that we have. Continuous learning and training are essential in our industry in order to keep abreast of and respond to regulatory, economic and market developments.

> It is clear that we are way past the inflection point in terms of the **PUSH TO MAKE SUSTAINABLE FINANCE MAINSTREAM**. There is no returning to business-as-usual.

Being a Financial Industry Collective Outreach Mentor, I get to share my experience and knowledge with students to support their personal development, while creating interest in the financial industry and investment banking in particular. I find the experience equally rewarding to myself as a mentor as I learn what motivates and challenges our younger generation and future leaders.

Environmental, social and governance (ESG) is another area that banks can play an active role in, given the centrality of the financial system in the economic value chain, and the impact of the financial system in resource mobilisation and allocation to green and sustainable financing.

Climate change poses one of the greatest systemic risks to the global economy. The latest Intergovernmental Panel on Climate Change report has indicated that we are at imminent risk of global warming of 1.5°C above pre-industrial levels in the near term. With the frequency and severity of extreme climate events on the rise, stabilising the global climate has become a matter of urgency. We need to move from fire-fighting to future-proofing.

Within investment banking, our focus continues to be towards mobilising renewables financing and supporting ESG transition efforts. This is also aligned with the Securities Commission's recently released Capital Market Masterplan 3, which includes proposals to mobilise capital to sustainable and responsible businesses through transition financing and widening funding options for companies embarking on net-zero commitments.

Q *Do you think the push for sustainable finance is a true green inflection point or merely a detour before we return to business-as-usual? Is responsible banking here to stay?*

The whole-of-nation approach by governments, regulators, corporates and citizens across the globe to address climate change, especially in the past decade, is the first time we have seen such broad-based solidarity on the issue.

Mirroring this, developments in sustainable finance in the past five years have accelerated with the participation of all key stakeholders in the financial markets. We now have global ecosystems where ESG is widely embedded in government policies, banking regulations, risk frameworks, investment criteria, disclosure regimes, research and ratings, among others.

Sustainable finance is recognised as a key pillar in the global fight against climate change, given significant investments are needed to place the global economy on a path of decarbonisation. A vibrant and deep sustainable finance market would also amplify the effectiveness of government climate policies, thereby accelerating the effects of climate action.

Data from Refinitiv show that global green and sustainability bonds and loans issued in the first half of 2021 totalled USD809.5 billion, nearly tripling year-on-year and exceeds the total of USD743 billion issued in the whole of 2020. Total issuance in this space can only increase moving forth, given the enormous

opportunities in regions like ASEAN where green and sustainability bonds are still less than 5% of the total market.

The deal flow has been active in this region especially in the green energy space. Whilst focus is on solar projects and opportunities to export solar energy from ASEAN, we do see moves beyond power generation, whether it is exploring utility scale battery storage essential for solar to generate baseload electricity, or studying the feasibility of developing green hydrogen.

As a part of our sustainable agenda, we are also looking to support more long-term investments in sustainable economic activities and projects, including those which relate to social considerations and addressing societal challenges.

It is clear that we are way past the inflection point in terms of the push to make sustainable finance mainstream. There is no returning to business-as-usual. At this juncture, the primary focus by regulators and market participants should be to further develop, promote and accelerate sustainable finance, in tandem with global climate change initiatives and with a greater sense of urgency.

Q ***Digital-consumption demand is in overdrive. What are your views on this development, as Asian banks – already one of the early adopters of tech in banking – deepen their digital-first strategies?***

A report by Oxford Economics projects that providing financial identities to the world's unbanked population could add USD250 billion to global GDP. Bringing people in the developing nations of Asia and Latin America into the formal global economy would be the equivalent of adding a country of 95 million people to global production. Digitalisation can be a means to enhance financial access and inclusion — the 'S' in ESG — as demonstrated by Maybank's SME Biz Financing and Sama-Sama Lokal initiatives.

Digital is a lifestyle, where consumers now can carry their banks, supermarkets and more in their pockets. The pandemic provided tailwinds for telehealth and e-commerce — the penetration of the latter is still relatively low in ASEAN compared to markets such as South Korea and China. With digitalisation comes the proliferation of data. The financial services industry, having well established regulatory regimes, can promote the responsible use of data as well as digital consumption.

Maybank Investment Bank recently collaborated with Bursa Malaysia on its proof-of-concept for the dematerialisation of structured warrant certificates using distributed ledger technology. This is an exciting development in the use of transformative technologies to create a more effective marketplace, not only in Malaysia but also potentially enhance regional collaboration. We hope to see and participate in more collaborations by industry players across the board.

Q ***As 2021 draws to a close, what hopeful signs do you see for the future?***

I am approaching the new year optimistically as signs point to economic recovery and borders gradually reopen. Most of all, the pandemic has made ESG mainstream, especially the 'S' factor.

Future-proofing the next normal is our collective purpose where we will continue to act responsibly for progress, planet and people, to attain sustainable and inclusive prosperity. The renewed urgency and steely resolve of all stakeholders to tackle climate change also bode well for the future. Millennials, who are more vocal, are capable of being agents of change, with a push towards responsible consumption and social entrepreneurship.

On a personal level, I am looking forward with gratitude to the simple things in life, such as being able to visit family and friends, and water cooler moments in the office. ✱

MOVE ALONG, GOLDILOCKS

By Angela SP Yap

FORGET ABOUT THE ECONOMIC SWEET SPOT. FUNDAMENTALS ARE WHAT WE WANT.

Sometime in September 2020 – or about nine months into the pandemic – overt signs of market rallying entered mainstream media. Headlines like "Get ready for Goldilocks phase in 2021" and "Indonesia, Philippines well-placed for Asia's Goldilocks phase in 2021" were premised on a single report by a global investment bank which primed investors for "a sweet spot of accelerating and above-trend growth, rising-to-trend inflation, and a big easy policy".

From thereon, others began chiming in. In a letter to shareholders issued in April, one financial chief iterated "it is possible that we will have a Goldilocks moment". As recent as 27 October, the release of the Chancellor of the Exchequer's budget was likened by news agency *Reuters* as *'Rishi Sunak Bets on Goldilocks Economy'.*

When it was clear that predictions had run astray, one analyst, also speaking to news agency *Reuters*, introduced a new term – the "semi-Goldilocks" moment. A good soundbite, for sure, but this hair-splitting term defies logic to any analyst worth his or her salt. What will they conjure up next – a quarter Goldilocks?

As 2021 comes to a close, for those who've been waiting for the Goldilocks gravy train to arrive, we're here to remind that banking is built on sterner stuff. Sweet spots like Goldilocks are fleeting moments whereas the road to economic recovery is paved in fundamentals.

BEARISH FAIRY TALE

Coined by UCLA senior economist David Shulman in his equity-strategy paper *The Goldilocks Economy: Keeping the Bears at Bay,* the eponymous term taken from a children's fairy tale has been embedded in financial lexicon to denote an economy that's like that third bowl of porridge in the story: just right – not too hot, not too cold.

While there's really no hard and fast rule when it comes to defining the parameters of a Goldilocks economy, consensus dictates a precarious balance (some describe it as a knife's edge) typified by low unemployment rate, increase in asset prices, low market interest rates, low inflation, and steady economic growth. In other words, it is the ideal state where economic growth is, as one bank put it, "warm enough to keep a recession at bay but cool enough to stave off major inflation". The trifecta to every investor's dream.

However, like the law of gravity, nothing stays buoyant forever. A Goldilocks economy is temporary and part of the boom-and-bust cycle. What few will tell you is that the choices you make during this fleeting moment will leave a lasting impact in your organisation and an indelible ripple effect throughout the financial system.

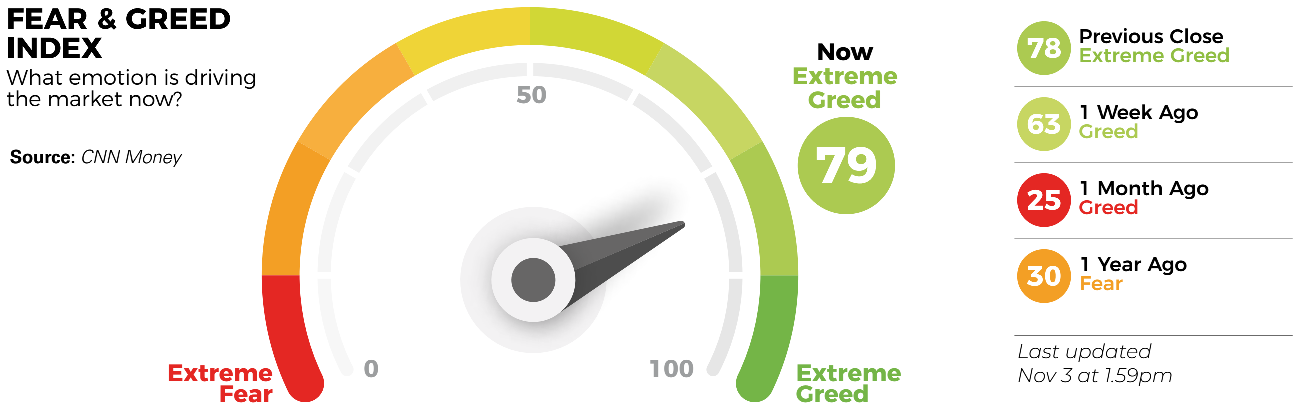
As more countries – especially in emerging markets – move towards greater economic stabilisation after the stress of a crisis, financial institutions are driven to take on more risk in search of greater yield.

It bears reminding that bets that turn sour have knock-on effects. In this regard, the International Monetary Fund (IMF) has warned of the impact such strategies have on economic and financial stability, caused by banks that take on inordinate risks in the hopes of securing the greatest returns on investment.

The Risk & Return: In Search of Yield, an article published in the IMF's autumn issue of *Finance & Development* magazine, connects the dots between a firm's investing strategies and its implications for financial stability:

"Low rates of return tempt investors to take risks, which can cause economic and financial instability.

"Firms might seek to boost income through speculative investments financed by debt because borrowing is cheap. Financial institutions such as banks and insurance companies may make risky bets to maintain profits or even to survive. But riskier portfolios increase the likelihood of loss. Higher indebtedness means firms are in a more precarious position when confronted by adverse shocks. The result is greater institutional vulnerability and increased likelihood of economic and



financial instability.

"Like firms, financial institutions deploy different search-for-yield strategies. Large banks may expand abroad to countries where growth and investment returns are brighter. Mid-sized banks may expand domestically, across sectors or regions, taking business from smaller local lenders. Smaller banks, for their part, may merge or partner with mid-sized banks, or with each other, to fend off the competition.

"Economists do not oppose risk-taking to boost returns per se: some individuals and institutions are better at managing risk than others, and risk-taking does not necessarily imperil economic growth and financial stability. However, search-for-yield strategies can have system-wide consequences if they are widely adopted by firms and financial institutions. This would concern policymakers."

The global economy isn't out of the woods yet. Hence, it's important to not bite off more than one can chew, especially when banks are critical in ensuring the world's economic engine continues to hum amidst the turmoil of the past 20 months.

NO FREE LUNCH

We can detect the undercurrents of market anxiety through less conventional measures. For instance, *CNN Money*'s Fear & Greed Index, which looks at seven emotion indicators driving investor decisions. As at 3 November 2021, the index stood at 79 (indicating extreme greed) compared to its year-ago reading of 30 (indicating extreme fear). Too much fear sinks stocks below their fair value while too much greed will bid stock prices above fundamentals. At the moment, we're far from balanced in our approach.

Such anxiety in search of the highest yield has not gone unnoticed by analysts like Citigroup's Chief of US equity Tobias Levkovich, who warned against a possible repeat of the dot-com bubble of the 1990s: "There's a 1999 perspective being noted with pressure for fund managers to participate in rising share prices even if there's also a recognition that it could end badly."

Back in 1992, when Shulman's Goldilocks research was done in his capacity as Salomon Brothers' chief equity strategist, he already had an unpopular reputation on the Street for being uncharacteristically bearish in a bull market.

However, during the dot-com bubble, he was also one of the few analysts invited to meet with the then Federal Reserve Board Chairman Alan Greenspan for the market's take on tech stocks and bonds. Two days later, Greenspan famously used the phrase "irrational exuberance" – referring to investor enthusiasm driving assets prices beyond sound fundamentals – in his speech at the American Enterprise Institute. Within hours, pundits scrambled to sell off tech stocks deemed to have gotten 'too hot', restoring some measure of short-lived balance in the market.

> "Economists do not oppose risk-taking to boost returns per se: some individuals and institutions are better at managing risk than others, and **RISK-TAKING DOES NOT NECESSARILY IMPERIL ECONOMIC GROWTH AND FINANCIAL STABILITY.** However, search-for-yield strategies can have system-wide consequences if they are widely adopted by firms and financial institutions. This would concern policymakers."

Today, the bubble-bursting torch may well have been passed on to economist Nouriel Roubini, who is no stranger to controversy as one of the few who predicted the subprime market crash of 2008. His op-ed, *Goldilocks is Dying*, which debuted online this September via *Project Syndicate*, outlined four scenarios of how the global economy and markets could play out in the next year: Goldilocks, ongoing stagflation, growth slowdown, or overheating. Roubini's pick? The last scenario.

He writes: "While most market analysts and policymakers have been pushing the Goldilocks scenario, my fear is that the overheating scenario is more salient.…The Panglossian scenario that is currently priced into financial markets may eventually turn out to be a pipe dream. Rather than fixating on Goldilocks, economic observers should remember Cassandra, whose warnings were ignored until it was too late."

HEDGE YOUR RISKS

This metaphor is full of meaning. In Greek mythology, Cassandra is a princess blessed with the gift of prophecy but cursed that no one would believe her. She represents humanity's moral conscience. When her name is invoked in a corporate context, it is always in the hope that the powers-that-be in the organisation will pay heed and avert a catastrophe.

Indeed, Corporate Cassandras have a critical role to play in managing business risk and leading organisations through strategic inflection points. Take it from Richard Clarke, the US counterterrorism chief whose warnings about al-Qaeda and 9/11 were dismissed by the then president because it had never happened before.

In an interview with *Harvard Business Review*, Clark dispensed this simple advice on how corporations can embrace the Cassandras in their midst and elevate performance:

"When somebody who may be a Cassandra in your organisation has predicted something, and it's never happened before, and you don't really know whether or not to trust their data, don't be dismissive.

"Take what we call a surveillance and hedging strategy. Surveillance meaning, put the issue under watch, see if the data begins to change, and if so, in what direction. Meanwhile, spend a little bit of money planning what you would do if you became convinced that the Cassandra was right. It doesn't cost a lot of money to plan and if the data starts shifting in their direction, increase the amount of planning, increase the preventative measures – you don't have to make a decision all at once. You can experiment. You can keep it under watch."

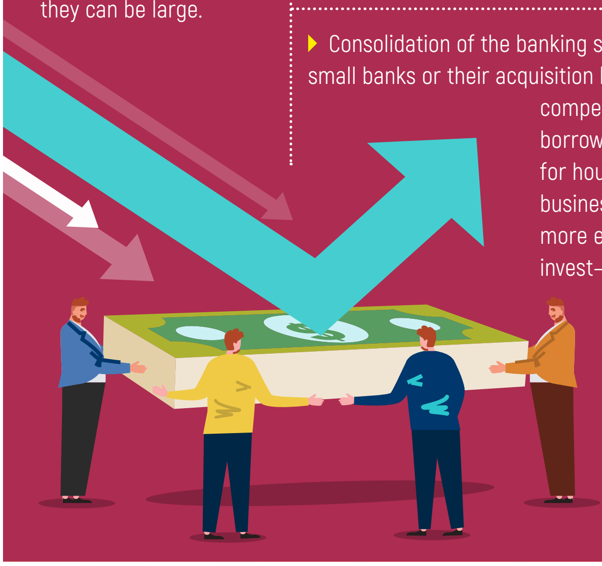
The obsession over Goldilocks moments will fade into obscurity when we train our sights on bigger and more long-term goals. After all, little has ever come out of pursuing a fairy tale. ✱

■ *Angela SP Yap is a multi-award-winning social entrepreneur, author, and former financial columnist. She is Director and Founder of Akasaa, a boutique content development firm present in Malaysia, Singapore, the UK, and holds a BSc (Hons) Economics.*

DEEPENING FINANCIAL RESILIENCE

The IMF calls upon firms and financial institutions to consider the long-term implications of their chosen investing strategies, particularly on economic and financial stability, and assess its risks from the lens of resilience:

- The search for yield can increase the likelihood of deeper and longer recessions. When confronted with adverse economic shocks, firms with a lot of debt would be forced to make larger and longer cuts to investment than if they were debt-free. This decreases national income and economic growth. Some of them would default on loans, which would pressure banks' profits, curbing their ability to extend credit, and so lower economic growth even further. Some banks might not even survive.
- Firms that use debt to fund risky acquisitions face new risk exposures that are difficult to manage. A firm from the United States that borrows at home to expand abroad, or an emerging market firm borrowing in the United States to expand at home, may face significant risk from a change in the exchange rate. Since they repay loans and interest in dollars and their earnings are in a foreign currency, an appreciation of the dollar could increase the repayment burden substantially. Firms use financial markets to hedge such risk but find it too expensive to do so entirely. When losses do occur, they can be large.
- Since the dollar is a global funding currency, the search-for-yield incentives arising from long periods of low interest rates in the United States are not limited to American banks and firms. Firms from other countries may also borrow in the United States to invest at a higher rate of return at home. This carry trade is financially risky since any tightening of monetary policy in the United States (or a domestic shock) could result in a loss-inducing appreciation of the dollar. The 'taper tantrum' of 2013 was one example where large emerging market firms experienced carry trade losses due to dollar appreciation. These losses were significant enough to materially dent firms' market valuations. In some cases, losses increased volatility in domestic financial markets.
- Banks that expand abroad may face losses if they do not adapt to new challenges of risk management. A bank's head office may, for instance, find it most effective to expand into a foreign country by delegating operational decisions to local managers. But the bank then faces the more difficult challenge of providing effective performance incentives. It may be tempted to make pay and promotion contingent on returns that are unrealistically high and so push local managers to take too many risks.
- Consolidation of the banking sector through mergers of small banks or their acquisition by larger ones can stifle competition. This may increase borrowing costs especially for households and small businesses, which would find it more expensive to consume and invest–a serious setback for inclusive growth.



Source: ***The Risk & Return: In Search of Yield, IMF, 2021***

AGILE MUST EVOLVE OR DIE

By Dr Amanda Salter

SIX FUNDAMENTAL CHANGES PRACTITIONERS MUST EMBRACE TO FIT BUSINESS DEMANDS WITH CUSTOMER NEEDS.

Back in 1991, the ideas of the Agile founders were seen as extreme, even radical, compared to the then-popular 'waterfall' project management method. "What? Start the project without having captured every requirement? That's crazy!"

Two decades on, the world has executed a rapid 180° turn, committed to Agile's focus on delivering projects quickly, especially during times of uncertainty or incomplete information. All looks well at a 30,000-foot glance, but to seasoned practitioners, the gaps in Agile are more evident than ever.

TROUBLE IN PARADISE

The reality is, Agile projects still fail, albeit less frequently than traditional 'waterfall' projects. One recent failure even appeared before the High Court in London. In one of the biggest cases of 2020 a high-value digital transformation project for a financial institution saw the appointment of a global technology company to design and implement a new IT platform for their general insurance business. From the outset, both parties agreed to use Agile, in the form of Scrum, to deliver the project.

(For the uninitiated, Scrum breaks down the work to be done into a set of user stories, which are then allocated to short timeboxes or sprints. Teamwork and assertive prioritisation are prerequisites for its success.)

In court, the evidence painted an all-too-familiar picture. The institution was late in producing the user stories and allowed the sprints to be derailed by stakeholders, demanding additional change to the out-of-the-

Two decades on, the world has executed a rapid 180˚ turn, committed to **AGILE'S FOCUS ON DELIVERING PROJECTS QUICKLY**, especially during times of uncertainty or incomplete information.

box system to suit their preferences. The vendor failed to manage the sprints to keep the project on track. The subcontractor company that owned the system didn't provide enough people to make the changes within the timeframe.

These multiple points of failure contributed to the collapse of the sprints, deterioration of trust and relationships, eventually leading to the trial. Agile could not save this GBP50m project, which was subsequently canned in its entirety.

Many advocates are disillusioned by the plethora of canny companies that have turned Agile into a money-spinning industry, complete with consultants, tools, conferences, certifications, and training. Practitioners are weary from battling within organisations that claim to be Agile, when their culture and people are entrenched in an opposing mindset. The passion and enthusiasm of many Agile practitioners have also blinded them to its failings.

Due to some of these challenges, in 2014, Agile was famously declared dead by Dave Thomas, one of the original pioneers of the Agile Manifesto. Yet, Agile and its broader counterpart 'agility' is still very much alive and kicking.

The question is, what have we learnt in the last 20 years of applying Agile? What do we want to take forward and what should we leave behind? What's missing from the most common Agile framework, Scrum?

This article highlights some common pitfalls and makes six key recommendations to ensure we plug the gaps and get maximum value out of Scrum and Agile.

• #1 Don't Treat Scrum like a Religion

If you're offended at the thought that Scrum is not perfect, you might be subconsciously treating Scrum like a religion. Once you've paid for the training and accreditation courses, learned the lingo, and participated in the ritual 'pass the tennis ball/hockey stick/stuffed toy' stand-ups, you can become attached to doing things simply because 'Scrum says I should do it this way'.

Be careful – this is a dangerous place to be. Scrum is a man-made framework, and however great, it has its failings. Recognising this helps you to augment and tweak Scrum to work efficiently for your organisation and context.

For example, in highly collaborative teams, it's a waste of time during a stand-up for each person to report on the work they did the day before. Instead, change the question to "What do you want to update the rest of the team on?". This allows people to raise thoughts, questions, or discussion points, and recognise that these are equally valuable.

If you are reporting on work done,

don't say, "I had a meeting with so-and-so yesterday". This doesn't convey value. Instead, highlight a nugget of useful information or the outcome of the meeting. Don't go through the motions of reporting just to prove you've been busy.

- **#2 Keep the Bigger Picture in Mind**

Scrum requires a project to be divided up into manageable tasks that can be accomplished within a short time period (a sprint). This drives motivation because the work feels achievable. However, it becomes dangerously easy to get lost in the weeds, enjoying the satisfaction of moving tasks from 'Doing' to 'Done' and losing sight of the bigger goal.

Reductionist thinking results in sprints that seem successful on the surface but miss the wider project objectives entirely. Teams need to periodically check if they are still aligned to the strategic business objectives of the overall product. Put regular checkpoints in after every few sprints to do this. This gives everyone a chance to pause and consider whether the project is going in the right direction.

- **#3 MMP not MVP**

Many Scrum practitioners work towards the concept of initially delivering a 'minimum viable product' or MVP. This is great because it forces teams to prioritise features and get the product out of the door quickly. However, the concept of MVP can often lead teams to deprioritise things of true value to the customer and only focus on what's doable or achievable within the shortest possible timeframe (hint: the most valuable aspect of your product is often NOT the easiest thing that you can deliver).

Imagine that a bank wants to launch a new mobile banking app for their business customers. It's tempting to launch an MVP with simple functionality, allowing users to login and view their account balance. However, today's business owner will not be impressed by this limited functionality and you risk bad press and complaints.

To address this, replace MVP with MMP – the 'minimum marketable product'. Your product needs to provide enough value that it is marketable to

the end customer, i.e. can be shouted about with credibility. For our hypothetical banking app, choose a common transaction that customers currently find it difficult to do. How about enabling small traders to charge and receive instant card payments via their mobile?

- **#4 Involve Your Customers**

Scrum started off purely as a coding framework. There was no mention of talking to customers or finding out about the problems they are facing. The result is that you can deliver software to the market super quick, but you can also discover that it doesn't address a want or need. Thus, your baby is a flop.

Learn from the example of Bó, the digital bank set up by the Royal Bank of Scotland at a cost of GBP100 million, which provided less powerful features than other neobanks, and only survived for six months due to low customer uptake.

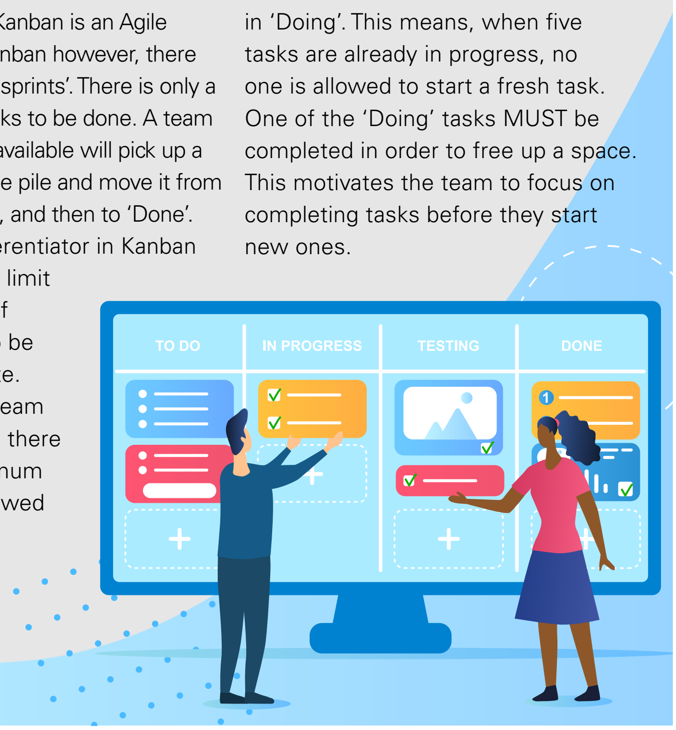
When creating something new, it's even more critical to thoroughly understand the problem space you're tackling through the eyes of your potential customers quickly and early. This prevents you from wasting time and money developing something that no one needs.

Agile doesn't teach you how to do this, so you need to augment your toolbox. Look to user-centred design for

KANBAN 101

Like Scrum, Kanban is an Agile framework. In Kanban however, there is no concept of 'sprints'. There is only a running list of tasks to be done. A team member who is available will pick up a new task from the pile and move it from 'To Do' to 'Doing', and then to 'Done'.

The key differentiator in Kanban is that there is a limit to the number of tasks allowed to be in a specific state. For example, a team could agree that there are only a maximum of five tasks allowed in 'Doing'. This means, when five tasks are already in progress, no one is allowed to start a fresh task. One of the 'Doing' tasks MUST be completed in order to free up a space. This motivates the team to focus on completing tasks before they start new ones.



techniques and methods. Incorporate customer research into every project and pivot your response where needed.

- **#5 Identify the Right Progress Metrics**

Some 'out of the box' metrics that Scrum gives you are not always going to work for the type of project that you're running. For instance, measuring velocity (the amount of work completed in a sprint) to estimate a team's velocity for the next sprint makes sense only if they're working on similar tasks across sprints. But what if you're working on tasks that are different in every sprint? Velocity as a metric loses relevance at this point.

Find a more appropriate measuring stick. Here is where Kanban metrics can become useful (see *Kanban 101* on page 18). Kanban measures progress as the number of tasks that are completed and the time taken for a task to get from 'To Do' to 'Done'. This helps prevent tasks from languishing for weeks in the 'Doing' state. For many projects, these are more useful metrics than Scrum's velocity. Teams should cherry-pick the best of Kanban and Scrum, combining these in whatever way that best suits the project at hand.

- **#6 Lay the Groundwork Before Sprinting Towards the Goal**

As Agile started off as a coding methodology, it says nothing about business strategy, product vision, or business KPIs. Agile just assumes that these things are already in place and clearly understood. Often, however, they are not.

> In the discovery phase, set out and agree on a clear product vision, identify success metrics, and define how the product fits into the wider business strategy. Business KPIs must be made clear from the outset. At the end of discovery, there should be **A CLEAR VISION FOR YOUR PRODUCT OR PROJECT** that is based on business drivers AND customer research.

To proceed on assumption here is hazardous and can result in rework and wasted time. You need to rein in anyone who is raring to start producing outputs straight away. Make time in your project for a discovery phase before starting your development sprints.

In the discovery phase, set out and agree on a clear product vision, identify success metrics, and define how the product fits into the wider business strategy. Business KPIs must be made clear from the outset. At the end of discovery, there should be a clear vision for your product or project that is based on business drivers AND customer research. You should have an idea of the problems you're trying to solve and the value you want to drive from the future product. This sets the direction needed by the team as they begin their main project sprints.

PLUG THE GAPS

Agile itself must continue to evolve, or die. Many things can be done to plug the gaps and this article suggests just a few, but let's also keep a weather eye on the horizon.

As banking evolves, the time is always ripe for a whole new methodology to emerge, so don't get too wedded to your favourite Agile practices just yet. ✱

■ *Dr Amanda Salter is Associate Director at Akasaa, a boutique content development firm. Based in Newbury, UK, she has delivered award-winning global customer experience (CX) strategies and been a practitioner of Agile for over a decade. Her recent guest lecture at the University of Cambridge shared insights on architecting impactful CX. Dr Salter holds a PhD in Human Centred Web Design; BSc (Hons) Computing Science, First Class; and is a certified member of the UK Market Research Society and Association for Qualitative Research.*

CAN THE OLDEST ETHICAL THEORY HOLD LESSONS FOR US TODAY?

By Bob Souster

Virtue ethics is making a comeback.

Modern approaches to business ethics often focus on duties (or obligations) and consequences. Both are products of the Enlightenment, a period of history that saw great philosophers such as Immanuel Kant, John Stuart Mill and Jeremy Bentham cast fresh light on how we should examine right and wrong. Today, the deontological (duties-based) approach is reflected in statements of values and codes of practice: they impose obligations on professional bankers to respect confidentiality, treat customers fairly and with respect and act in the best interests of stakeholders. The same sources urge those bound by these statements and codes to be aware of the consequences of their actions, a clear allusion to the teleological (consequentialist) approach to ethics. Yet, two thousand years before the Enlightenment writers wrote their enduring words, classical scholars considered ethics in relation to virtues, or the personal qualities that 'good' people would exhibit and put into practice.

Although it never went away, virtue ethics came to feature less among those specialising in applied ethics and business ethics. Since the global financial crisis, it has made something of a comeback. This article examines why this has happened.

WHAT IS VIRTUE ETHICS?

Virtue ethics suggests that ethical behaviour results from individuals possessing, demonstrating and applying inherently good characteristics. Once these personal traits are present, ethical behaviour and decisions should naturally flow.

In Europe, virtue ethics originated with the work of ancient Greek philosophers such as Plato and Aristotle. They conceived the notion of *arête*, or excellence, or in short, being the best that one can be. In those times, the desired virtues would be derived from the perceptions of ancient heroes; qualities such as bravery, physical strength and wit. Some virtues were thought to come with age and experience, including wisdom and intelligence. The Greeks regarded eudaimonia as achieving happiness, the highest human good. The term is best translated as 'flourishing'. The ancient scholars differed on their views of the virtues that would lead to happiness: Socrates suggested characteristics such as courage, piety and self-control; Aristotle proposed nine virtues (wisdom, prudence, justice, fortitude, courage, liberality, magnificence, magnanimity and temperance).

In Asia, Confucius similarly adopted a virtues-based approach, identifying five constants and four virtues. The four virtues are loyalty, filial piety, contingency and righteousness.

Some of the virtues that classical writers discussed were reflected many centuries later by Enlightenment philosophers. For example, John Stuart Mill discussed the nature of happiness and how this related to pleasures.

Some contemporary writers now produce interesting work on virtue ethics. Roger Steare writes of 'the ethics of reason' as reflecting who we are and the values we hold. We do the right thing because we consider it the right thing to do under the circumstances.

HOW ARE VIRTUES RELEVANT TO PROFESSIONALS?

Virtues have always been relevant to professionals in general and specifically to bankers. Organisations that aspire to professional standards are bound to foster good characteristics in those they employ and do business with. A recruiter will seldom prefer a candidate with 'negative virtues' (i.e. vices) over a candidate who exhibits positive qualities and traits. An example of how this featured in recruitment and selection in the past is the importance placed on the 'character' of the applicant.

With a greater focus on the need to maintain the trust and confidence of customers and other stakeholders, many banks now insist on adherence to certain standards, the most important of which is honesty but also qualities such as integrity, authenticity, respect and so on. Inevitably, every organisation could create its own list, and even individuals within the same organisation may differ on which virtues are most important, as well as their priorities.

An excellent book for readers keen on learning more about virtue ethics is Roger Steare's *Ethicability: How to Decide What's Right and Find the Courage to Do It.*

WHY VIRTUES BECAME MORE IMPORTANT

An examination of the causes and effects of the global financial crisis provides useful insights into our discussion. The causes of the crisis were complex and diverse, but most politicians, regulators and banking practitioners now agree that the crisis was exacerbated by a failure to manage risks in a rapidly-changing environment and a deficiency in ethical standards among some decision takers in the banking industry.

In the final years of the twentieth century, many bankers were judged on their ability to secure new business, create new products and generate financial returns to their organisations. In other words, the perceived virtues might have been seen as willingness to take risks (arguably this requires courage), competitiveness, audacity, creativity and other traits consistent with the need to secure greater market penetration as well as develop products and markets. To be fair to the bankers of that era, the majority of banks served their customers well and a significant contribution was made to increasing incomes and wealth in most countries. Yet, the banking catastrophes of 2007 and 2008 had far-reaching effects, including fundamental changes in what banks expect from their people. Virtues today could include consistency, dependability, willingness to comply and empathy (the ability to put oneself in another's shoes).

Were he still alive in the twenty-first century, Aristotle would have explained some of these changes. Aristotle wrote of a concept which is now referred to as the 'golden mean'. Many virtues can be described with reference to a continuum. For example, courage is undoubtedly a virtue in many situations, but too much courage will be regarded as being reckless or foolhardy, while not being courageous enough is timidity or lack of resolve.

The crisis caused many regulatory bodies to reset their approaches to maintaining order and stability in the banking sector. They became acutely aware of the limitations of rules-laden, prescriptive regimes. For example, the UK's Financial Conduct Authority had a rule book comprising 770 individual rules on mortgage lending, yet irresponsible mortgage lending was a major contributory factor in the demise of at least six financial institutions. Instead, regulators turned to qualitative requirements often based on principles, and many of these were concerned with transforming the culture of banking organisations. Today, the phrase 'tone from the top' is used all around the world to refer to the need for directors and executives to create, embed and maintain an appropriate culture. Inevitably, this depends totally on instilling a whole new set of virtues: trust, prudence, accountability, responsibility and respect.

LIMITATIONS OF VIRTUE ETHICS

One of the main drawbacks of virtue ethics is that it cannot help us to prescribe the best way forward or to resolve an ethical dilemma. A hard-working person will come to an answer more efficiently than a lazy one, but that virtue will not help the individual arrive at a conclusion. Where virtues can be helpful in such situations is that many practitioners will reflect on what their own influencers would do in a similar situation (for example, people they have encountered who they regarded as virtuous). This is perhaps the biggest limitation of virtue ethics: by using the duties-based approach we can revert to formal standards in policies and codes, while using the consequentialist approach we can often judge the best outcome for the greater number.

There is no meaningful consensus of any definitive list of virtues. Qualities and characteristics valued by some would be regarded as less important than others.

It is also clear that the virtues we regard as positive may be applied only in certain situations. Most people like others to be 'nice' to them and to others, so 'niceness' is most certainly a virtue. However, being nice to a person may not always be appropriate, especially if approving a loan application that should not be approved is considered by the customer to be the 'nicest outcome'. Likewise, if a manager wishes to discipline a member of staff for carelessness or not working hard enough, the kindest approach is to tell the truth, set down the expectations and perhaps not be 'nice' at all. ✱

With a greater focus on the **NEED TO MAINTAIN THE TRUST AND CONFIDENCE OF CUSTOMERS AND OTHER STAKEHOLDERS,** many banks now insist on adherence to certain standards, the most important of which is honesty but also qualities such as integrity, authenticity, respect and so on.

■ *Robert (Bob) Souster is a Partner in Spruce Lodge Training, a consultancy firm based in Northampton, England. He lectures on economics, corporate and business law, management, corporate governance and ethics. He is the Module Director for 'Professionalism, Regulation and Ethics', a core module of the Chartered Banker MBA programme at Bangor University, Wales.*

HELD TO ACCOUNT

By Chartered Banker Institute, UK

The risk of being perceived to be greenwashing or sidestepping the real challenges in providing a truly neutral or positive impact on the environment have become a priority concern.

It's been widely reported that banks' environmental, social and governance (ESG) performance is of growing interest to investors and other stakeholders, with discrepancies between goals and actions now coming under scrutiny and even attracting litigation.

With the pursuit of profit no longer enough, banking professionals, like many others, are also more focused on their organisation's purpose and ESG performance. But, as interest in – and knowledge of – sustainable practices and reporting improves, do institutions have the measures in place to support the type of ESG-linked reporting required? And what is the risk for organisations not assuming accountability for their climate-related claims?

To explore this, we have to look at how the approach of banks – and the demands placed upon them by the 2015 Paris Agreement – has changed over recent years. "Clients in the investment management space are increasingly sophisticated in their understanding of what 'good' looks like in terms of ESG risk integration," says Caroline McGill, Sustainable Finance and

We're seeing some really good examples of **COMPANIES COMING FORWARD WITH THEIR OWN SUSTAINABLE FINANCE FRAMEWORKS** and challenging their partner banks to go further in terms of what the business itself is going to achieve with the money that they borrow.

Caroline McGill
Sustainable Finance and Investment Fund Specialist, Hillbreak

Investment Fund Specialist at Hillbreak, a consultancy firm that focuses on ESG and combines strategy, foresight, risk management and advocacy.

"They're becoming increasingly demanding in terms of credible reporting of real-world outcomes from the investments that they make. A few years ago, CSR [corporate social responsibility] or ESG reporting often involved glossy reports about a few cherry-picked examples of investments or decisions that they had made. They're now expecting to see much more rigour around institutionalisation of risk management and measurement of the outcomes of their investments."

DOUBLING UP

One example McGill draws on is in the relationships between listed real estate companies and their partner banks. "We're seeing some really good examples of companies coming forward with their own sustainable finance frameworks and challenging their partner banks to go further in terms of what the business itself is going to achieve with the money that they borrow.

"In doing so, they've often furthered the banks' own understanding of some of the relevant best practice in terms of specific ESG issues and terminologies, which has been a really good thing.

"The other change we're seeing is that pension funds as investors are increasingly putting more muscle into their own internal capability to assess

ESG risk. Investors are starting to challenge their investment managers in terms of their performance on stewardship and engagement. They're also challenging managers on technical issues such as the level of exposure to the physical risks of climate change within their portfolios," McGill continues.

"Rather than, as would have been the more traditional approach, effectively asking the manager what they do and being happy or otherwise with that, savers are asking specific questions about the risk management and performance of the portfolio and assessing whether that's good enough, in line with their own views on climate and social risk.

"Investors are becoming very switched on to the fact that ESG is relevant to the performance of their assets. It's not just a marketing tool. It's not a 'nice to have', it's a set of risks that, if not properly understood, affects how appropriately the portfolio can be managed."

A PRESSURE COOKER?

With this growing pressure on banks to accelerate sustainable processes and practices – and communicate this to a range of stakeholders – comes risk. Claims around climate-linked activity are sometimes overplayed or, in the recent argument made by former BlackRock employee Tariq Fancy, are "fallacies". Fancy, BlackRock's former Chief Investment Officer for Sustainable Investing, said in an online essay, *The Secret Diaries of a 'Sustainable Investor',* posted in August that sustainable investing is "a dangerous placebo that harms the public interest".

"Green bonds, where companies raise debt for environmentally friendly uses, is one of the largest and fastest-growing categories in sustainable investing, with a market size that has now passed USD1 trillion. In practice, it's not totally clear if they create much positive environmental impact that would not have occurred otherwise, since most companies have a few qualifying green initiatives that they can raise green bonds to specifically fund while not increasing or altering their overall plans. And nothing stops them from pursuing decidedly non-green activities with their other sources of funding."

Investors are becoming very **SWITCHED ON TO THE FACT THAT ESG IS RELEVANT TO THE PERFORMANCE OF THEIR ASSETS.** It's not just a marketing tool. It's not a 'nice to have', it's a set of risks that, if not properly understood, affects how appropriately the portfolio can be managed.

In April this year, United Nations Special Envoy on Climate Action and Finance Mark Carney found himself in hot water after making claims around the carbon-accounting methods used by Brookfield Asset Management – a firm of which he is the Vice Chair. Carney told attendees at a Bloomberg conference that Brookfield was "net zero" across its entire USD600 billion portfolio due to its "enormous renewables business that we've built up, and all of the avoided emissions that come with that".

Climate experts were quick to label the claims 'greenwashing', and Carney was forced to backtrack and admit that avoided emissions don't count towards science-based targets (SBTs).

LIVING UP TO COMMITMENTS

What is the risk, then, of whistle-blowers – both internal and external – calling out discrepancies around ESG claims, and how can organisations best prevent it?

"The whistle-blower question is an interesting one," says McGill.

"With regard to external whistle-

blowers, it is certainly a huge reputational risk that if an organisation is making claims of what they do from an ESG perspective and are found not to be, then the reputational damage can be very quick.

"There are so many activist shareholders and other organisations that are really on top of pointing out any failure to live up to the expectations that organisations set for their stakeholders. And we've seen that with Brookfield where Mark Carney's been challenged on some of the net-zero claims that he's made – and since corrected. We've seen it with BlackRock being challenged on their voting records and engagement records, so it happens to some of the biggest and more sophisticated organisations that are really trying to tackle ESG risk head-on," she adds.

"There's a definite risk of reputational damage if banks are not living up to the commitments they make. Likewise, there's a huge risk of reputational damage if financial institutions are falling behind in terms of social expectations of the commitments that they should make.

"We saw that with the Insurance Rebellion demonstrations in the city a few months ago. People were campaigning outside Lloyd's of London to stop the underwriting of a railway that was going to service the Adani coalmine in Australia. The reputational risk is large and only getting larger.

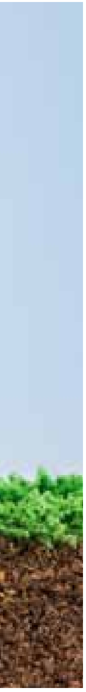
"The way to mitigate that is to have a comprehensive policy, strategy and processes and procedures in place that ensure the integration of ESG risk management into the way money is managed."

NATURAL CAPITAL

As organisations move to ensure they have processes in place to prevent whistle-blowing claims being made around disparities in their practice or reporting, the focus needs to remain on the climate challenge, along with 'natural capital'.

"The obvious priority at the moment, and I think it will continue to be, is in regard to climate change," says McGill.

"The next step is management and monitoring of the use of natural capital. As a sort of crossover from everyone's focus on carbon and climate, there's increasingly an understanding that biodiversity, the health of the oceans and reforestation and deforestation have a huge impact on climate change. Therefore, investors are getting much more savvy about understanding natural capital. It's not just greenhouse gas emissions that are relevant to the climate risk of their portfolio."



LITIGATION AND ACTIVISM

The other major risk that clients are being made all too aware of, says McGill, is litigation.

"There's been a huge surge in litigation brought by private individuals and charities recently, challenging states as well as corporates in terms of their management of climate change risk. The broad trend is for those challenges to be successful. There's not only the risk that investments will not perform as expected because of climate change, but that the social activism around it will multiply the effect of that on the bottom line.

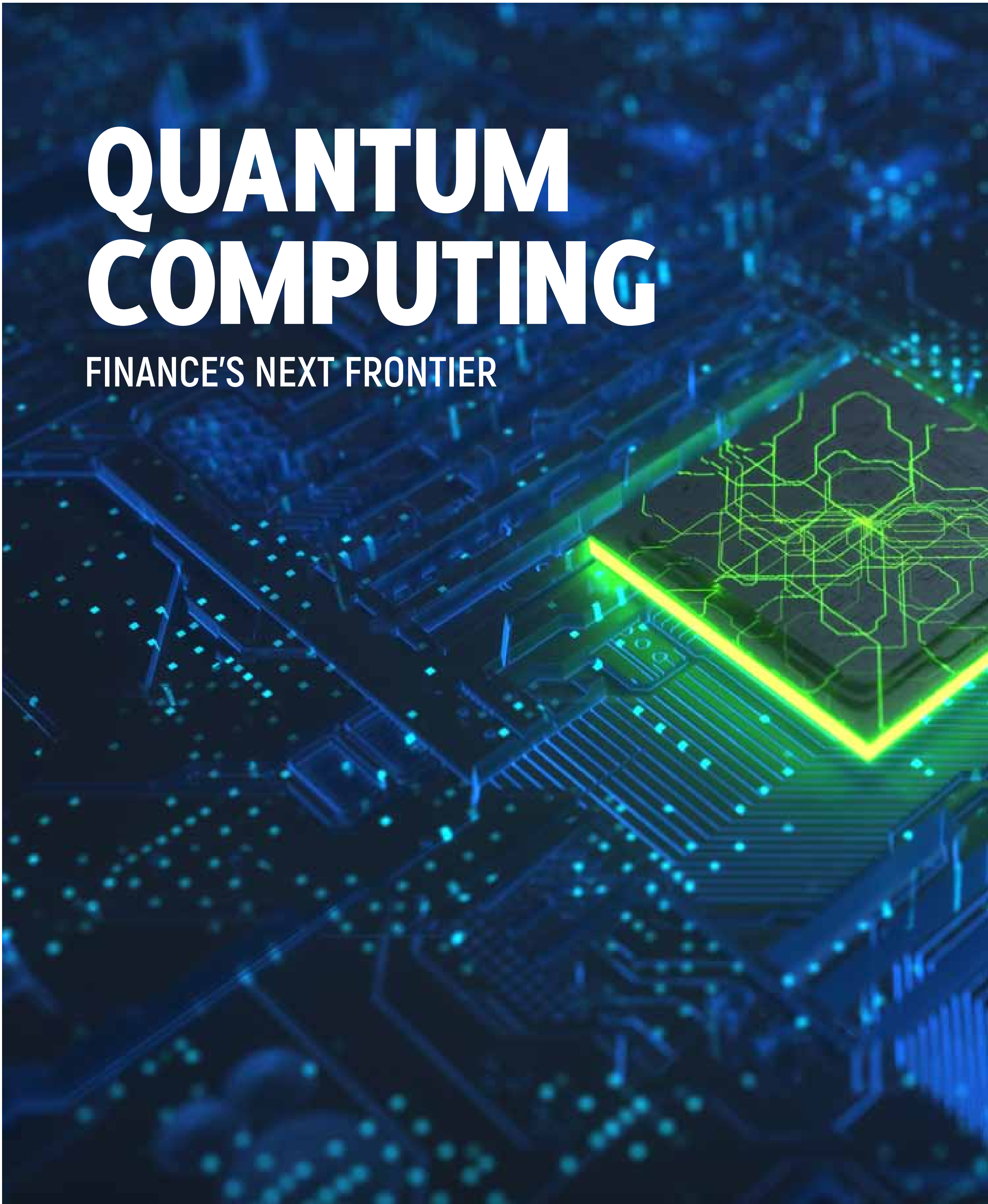
"The regulatory environment around this is increasingly complex for any organisation that's participating in the capital markets, because the regulation of one part of the capital markets impacts not just on that part, but also indirectly on other parts of the capital markets. As a result, banks are increasingly having to respond to the ESG requirements of their investors and, likewise, their borrowers are seeking well-thought-through sustainable finance products. But the regulation is not consistent across different jurisdictions," she continues.

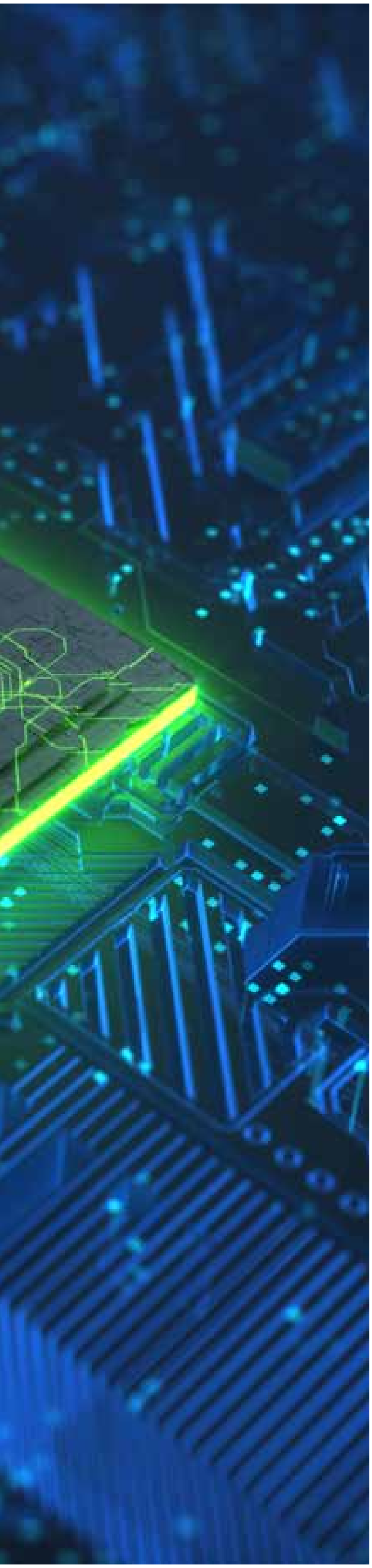
"The EU has gone ahead, and the UK and the US are playing catch-up in terms of ESG terminology and regulation of investment claims and marketing in this respect. The issue is going to be that there will be some inconsistency across multiple sets of regulation that are written by different regulators. It's really important that every player in the capital markets is aware not only of what's going on in their own specific vertical, but what's going on for others and what are the requirements going to be of their stakeholders and the other actors with which they interact through the capital markets." ✱

■ *This article previously appeared in the Chartered Banker magazine, UK, autumn 2021 edition.*

QUANTUM COMPUTING

FINANCE'S NEXT FRONTIER





By Kannan Agarwal

What it also means for AI and machine learning.

On 30 April this year, Goldman Sachs announced a "quantum computing breakthrough" in the pricing of complex derivatives. The algorithm in question is the Monte Carlo method, a complex mathematical technique widely used in finance to determine risk and simulate prices of financial assets.

Two months later, physicists at the University of Science and Technology of China (USTC) released three preprint papers on critical advances in quantum communication and quantum computing via arXiv.org, a free open-access archive for scholarly articles in science. The most significant of these papers, *Strong Quantum Computational Advantage Using a Superconducting Quantum Processor*, introduces Zuchongzhi, the world's foremost quantum processor to corroborate and surpass the capabilities of a previous Google quantum computer capable of performing within 200 seconds a calculation which would take 10,000 years on a classical computer.

These back-to-back advances in the realm of quantum computing mirror the rivalry between the US and China in the geopolitical arena, with the latter currently in the lead. But what does all this really mean for banking and finance?

Our current computers (called 'classical computers' in the quantum computing world) typically take hours or even days to run complex calculations like Monte Carlo. For instance, in order to price derivatives, brokers currently let the algorithm run overnight and retrieve the results in the morning. This means that traders are making a call on risky financial instruments using outdated information.

While this isn't much of a problem in a bearish market, it is a major risk when markets are bullish or volatile, like the current crisis. Deploying quantum algorithms mean that Monte Carlo simulations could be done 1000x faster and run repeatedly throughout the day, giving traders better information and faster results. It is obvious why achieving 'quantum supremacy' – when a quantum device solves an impossible problem for a classical computer – is the frontier in which many in finance are racing to conquer.

Even a millisecond advantage can translate into millions of dollars. It's also been the subject of Hollywood movies like *The Hummingbird Project*, where two brothers race to lay fiber optic cables in order to shave milliseconds off of stock price deliveries from the New York Stock Exchange, piping it directly into their system in Kansas.

Needless to say, the winning team who cracks this holy grail can expect to see a surge in the performance of its mathematical models, reduced costs, and greater pricing precision.

WHAT IS IT?

Simply put, the ability of quantum computing to perform calculations at record speed is based on the strange properties of quantum mechanics discovered by Nobel Laureate physicists Niels Bohr and Max Planck – two of the founding fathers of quantum theory – as far back as 1910. Current classical computers store information in what we call 'bits' – 0's or 1's – which are stable and discrete. However, quantum computers use qubits, where data can exist in two different states simultaneously (see *Spooky Action at a Distance* on page 28). This exponentially accelerates computational power; quantum computers are millions of times faster than bit-based classical computers.

The quirky field has been called 'finance's next frontier' because it can potentially deliver

'SPOOKY ACTION AT A DISTANCE'

Quantum computing is the use of quantum phenomena (such as superposition and entanglement) to perform computations. The basic unit of a quantum computer is qubit (short for quantum bit), typically realised by quantum properties of subatomic particles, like the spin of electrons or the polarisation of a photon. While each bit – its counterpart in classical computers – represents a value of either 0 or 1, qubits represent both 0 and 1 (or some combination of both) at the same time, a phenomenon called superposition.

Quantum entanglement is a special connection between pairs or groups of quantum elements, where changing the state of one element affects other entangled elements instantly, regardless of the distance between them. This is a counterintuitive phenomenon and Albert Einstein famously derided entanglement as "spooky action at a distance". By entangling qubits, the number of represented states rises exponentially, making it possible to explore a huge number of possibilities instantly and conduct parallel calculations on a scale that is beyond the reach of traditional computers. Thanks to superposition and entanglement, adding just a few extra fully functioning qubits can lead to exponential leaps in processing power.

To reap the benefits of quantum computing, researchers need to build quantum machines that compute with lower error rates. Superposition and entanglement are fragile states. The interaction of qubits with the environment produces computation errors. Any external disturbances or noise, such as heat, light, or vibrations, inevitably yanks qubits out of their quantum state and turns them into regular bits. Classical computers are also prone to random computational errors, albeit at much lower rates. By employing redundancy, error correction processes enable classical computers to produce practical, error-free computations. However, such techniques are not applicable to quantum physics because of the no-cloning principles, it is physically impossible to copy the running state of a qubit.

For the foreseeable future, quantum computers are expected to complement, not replace classical computers. In the near future, quantum applications would probably be hybrid, since quantum and classical computing technologies have complementary strengths.

Quantum entanglement is a special connection between pairs or groups of quantum elements, where changing the state of one element affects other entangled elements instantly, regardless of the distance between them.

Source: *Adapted from IMF, 2021*

what the much-hyped AI and machine learning (ML) space promised but have fallen short.

For instance, in the realm of ethical AI, Pew Research reports that in March 2021, the University of Vienna released results from its experimental hybrid AI – a blend of quantum and classical computing – which was more than 60% faster than a nonquantum-enabled setup. The quantum-hybrid also led to greater diversity in how it handled a problem, a core stumbling block in AI-based decision-making which are subject to a large amount of embedded bias.

QUBIT GOLD RUSH

Industrial behemoth Honeywell projects that quantum technology will be a USD1 trillion industry in the coming decades, with applications in all fields from aerospace to cryptography.

In a recent podcast aired by online media company Tearsheet, IBM's Dr Stefan Woerner, Quantum Applications Research & Software Lead, and Goldman Sachs' Will Zeng, Head of Quantum Research, estimate that as much as USD20 billion of public and private funds have come onstream to the quantum computing space, expanding the ecosystem and spurring a vibrant start-up community.

Although it is a paltry sum compared to the global dollars already raised by unicorns in the AI and ML space, it's important to note that quantum computing is very much in its infancy. It is mostly at the proof-of-concept stage and researchers say that it will be another decade before we see a true general purpose quantum computer. That's not stopped investors from rooting on quantum as a game-changer in the long run.

Zeng explains some of the big problems the team is looking to solve:

"The first is in, what I call broadly, simulations. Here, we work on the pricing of derivatives, what underlies it, our risk calculations. The math setup is calculating expectation values of stochastic processes or functions on stochastic processes, which come up all the time in finance. [It is] around this modelling that we're pricing.

"The second is optimisation and there are a lot of hard optimisation problems across financial services, portfolio optimisation being the most obvious one, but they come up in all sorts of places.

Table 1

POTENTIAL BENEFITS	POTENTIAL RISKS
Simulations: Monte Carlo-based methods are used to price financial instruments and manage risks. However, Monte Carlo simulations are computationally intensive, often leading to trade-offs between accuracy and efficiency. Quantum computing could perform simulations such as pricing and risk management almost in real time without the need to make unrealistic assumptions to simplify the models.	**Cryptography:** The massive computing power of quantum machines has far-reaching implications for financial stability and privacy. Quantum computers can solve hard mathematical problems exponentially faster, potentially making today's main cryptographic standards obsolete.
Optimisation models: Some optimisation problems in finance are hard, if not impossible, for traditional computers to tackle and approximations are used to solve the problems within a reasonable time frame. Quantum computers could perform more accurate optimisations in a fraction of the time without the necessity for approximations.	**Online/mobile banking:** Using a quantum computer, an attacker may compromise public keys for standard Internet protocols, eavesdrop on communications between users and financial institutions, or, in the case of central bank digital currencies and blockchain networks, attackers may extract valid wallet keys from publicly available records, granting them the ability to appropriate users' credits and tokens.
ML methods: Estimating the risk level of loans by credit scoring and detecting fraud by finding patterns that deviate from normal behaviour. Quantum computers have the potential to outperform classical algorithms by accelerating ML tasks, enabling them to tackle more complex analyses while increasing accuracy.	**Payment transactions and cash withdrawals:** ATMs are connected through private networks. This makes it easy for attackers to tap into connections relying on public key encryption and use online or mobile banking avenues to forge transactions.
Data transmission, storing and manipulating: Quantum networks can transmit information in the form of entangled qubits between remote quantum processors almost instantaneously (quantum teleportation) and securely using quantum key distribution (QKD). In China, the ICBC Bank and the People's Bank of China are using satellite-based QKD for information exchanges between distant cities, such as Beijing and Urumqi.	**Business-to-business (B2B) privacy:** By compromising secure data channels, attackers would have full access to B2B information that, once captured, would allow them easy points of entry to invade corporate internal networks by impersonating users or servers through man-in-the-middle attacks. Another form of attack may be to record available encrypted data now, and decrypt it once a quantum computer is available, allowing them to reveal current trade secrets in the future.
	VPN communications: Used by staff to work from home and access organisational internal and sensitive resource, such connections typically use public key encryption to authenticate business and workstations, making them vulnerable to the same issues as B2B connections.

"The third category is machine learning. Here, there are applications in trading but there are also applications in things like anti-money laundering or avoiding fraud.

"These three categories are already really, really large. What our research group is doing is trying to pick out more specific benchmarks where we think quantum computing could be most useful first."

They aren't the only ones. Entities like JPMorgan Chase and Wells Fargo have joined the fray with research partners like Honeywell and IBM. However, the incentive for China is far greater. The People's Republic is already laying fibre-optic cables between Beijing and Shanghai, the foundation of its future quantum network. This has fuelled researchers at facilities like USTC to break the barrier in a field which could yield infinite applications, from hack-proof communications to precision pricing.

RISK & REWARD

In March 2021, the International Monetary Fund (IMF) published *Quantum Computing and the Financial System: Spooky Action at a Distance?*, its most comprehensive working paper to date on the subject.

Here's a summary of how quantum can change the financial landscape (see **Table 1**).

Nonetheless, scientists in quantum computing are cautious of expressions like 'revolutionary' to describe its use, carefully avoiding the hype that's characterised technologies like AI, where a surge of interest and investor dollars were followed by a cooler approach when it was discovered that the tech was not all it was cut out to be. In October 2019, *Nature* magazine voiced the doubt in many minds, quoting Dr Christian Weedbrook, founder of Xanadu, one of the leading quantum-computing companies in Canada: "There is still a lot of value being created — it's just a case of whether there is too much hype."

What's certain is that time and again, history proves that we should approach every 'next best thing' the same way – with caution and a pinch of salt. ✱

■ *Kannan Agarwal is a Singapore-based researcher with Akasaa, a boutique content development firm with presence in Malaysia, Singapore, and the UK.*

COMBATING THE RANSOMWARE ONSLAUGHT

By Ray Irving

Cyber insurance has emerged as a key bone of contention in the rapidly evolving cyberthreat space.

In the last few months, we have seen large-scale, high-profile ransomware attacks in the Asia-Pacific (APAC) region, including on large insurers and tech companies. These come on the heels of multiple ransomware attacks around the world, including on IT firm Kaseya as well as Colonial Pipeline and meat supplier JBS in the US. Ransomware is a growing threat due to the wide availability of ransomware kits (known as Ransomware-as-a-Service) that non-tech-savvy criminals can easily obtain, as well as the rise of cryptocurrencies as cross-border payment methods that are difficult to track.

While the rise in ransomware started in 2020, this year has seen an even bigger surge. Attacks rose 93% year-on-year, according to Check Point. While much of the activity centres on the US, Europe, and Latin America, APAC financial institutions must still be prepared as they too are in the crosshairs.

Ransomware criminals, knowing that many firms would rather their **INSURERS PAY QUICKLY AND QUIETLY TO AVOID OPERATIONAL DISRUPTION AND REPUTATIONAL DAMAGE**, have increased their demands substantially. Ransomware gangs such as Ryuk have publicly stated that they specifically target firms with cyber insurance.

According to Kaspersky, 635 (35%) out of 1,764 companies and individuals attacked in 2020 by REvil – a major Russian-based ransomware group – were from the APAC region.

CYBER INSURANCE: IN THE EYE OF THE STORM

Insurers are especially juicy targets for cybercriminals because of the possibility of also accessing customer data, including around limits for cyber insurance policies. Cyber insurance has been on the rise over the last several years, but the explosion of ransomware has meant that many firms turn to their policies to pay out ransoms rather than look for alternative methods of dealing with an attack. Ransomware criminals, knowing that many firms would rather their insurers pay quickly and quietly to avoid operational disruption and reputational damage, have increased their demands substantially. Ransomware gangs such as Ryuk have publicly stated that they specifically target firms with cyber insurance.

As more firms and institutions rely on cyber insurance to insulate themselves from cyber risk, opportunistic cybercriminals have quickly realised that cyber insurers are now attractive targets themselves. By hacking and accessing an insurance company's policy data, cybercriminals can curate a list of ransom demands according to each victim's policy and business profile. They can therefore multiply their return on investment for one attack by targeting both the insurer and their customers.

Cyber insurers have responded by increasing their premiums, tightening coverage terms, introducing ransomware payout limits, and adding clauses that remove liability for attacks by nation-states. Some insurers are ceasing cyber insurance completely, which could have a knock-on effect on victims' willingness to pay ransoms and, in turn, the revenue of ransomware groups. This has not gone unnoticed by cybercriminals. In fact, one large insurer was a victim of ransomware just days after announcing its cyber insurance policies would no longer cover ransomware payments.

Cyber insurers are now also scrutinising policyholders' cyber resilience strategies and systems more closely than ever and may deny cyber insurance to firms seen to have lax cybersecurity. As such, many firms are beginning to recognise that they must invest significantly in their cybersecurity and defence capabilities.

TO PAY OR NOT TO PAY

While law enforcement agencies across many jurisdictions strongly recommend against paying ransoms, firms may choose to pay to minimise disruption as well as monetary and reputational losses. However, they should bear in mind that paying ransoms reaffirm the viability of ransomware as a business model. Indeed, it may not pay to pay – a 2021 survey of 100 Singapore companies that had paid ransoms found that 25% of these firms fell victim to a second ransomware attack by the same threat actor group that perpetrated the first. Additionally, 28% of the surveyed firms reported that some or all of the recovered data had been corrupted. Paying the ransom can also lead to legal consequences for the victim organisation if the threat actor is a sanctioned entity, as can often be the case with ransomware attackers.

Our 2020 report, *The Rise and Rise of Ransomware*, shed light on emerging ransomware business models that have made ransomware an increasingly lucrative revenue driver for cybercriminals. In it, we stated that even the largest financial institutions equipped with the most robust cybersecurity systems are not impervious to ransomware attacks, especially on third-party vendors. That has been shown to be true in 2021, and we expect that ransomware attacks targeting the supply chain will continue. As many financial firms around the world use the same vendors, the industry faces an additional challenge of concentration risk, where an attack on a major supplier could impact multiple institutions.

Our 2020 report, **THE RISE AND RISE OF RANSOMWARE**, shed light on emerging ransomware business models that have made ransomware an increasingly lucrative revenue driver for cybercriminals.

https://www.fsisac.com/ransomware

BE PROACTIVE, BUT PREPARE FOR THE WORST

To avoid becoming a victim of ransomware, employ a multidimensional and pragmatic approach towards cyber risk. This means having protocols in place for worst-case scenarios, while simultaneously taking proactive measures aimed at prevention and risk minimisation. To this end, firms should:

+ Utilise a data vault: Savvy ransomware attackers are known to lock up and/or exfiltrate data backups before making ransom demands. Firms should invest in a data vault that is not connected to the main systems or

backups. By safekeeping critical data offline, firms can not only ensure that disruption and losses are kept to a minimum, but also retain valuable leverage during ransom negotiations.

+ Share threat intelligence: As ransomware attackers often target victims on multiple continents, financial firms should participate in global intelligence sharing, as well as in smaller communities that focus on industry verticals and/or regions of operation. Intelligence sharing can not only help firms build pre-emptive defences against specific attacks but can also help victims understand the modus operandi of ransomware attackers, such as whether they are likely to decrypt data upon payment or post the data publicly.

+ Reinforce existing defences: This includes fortifying end points, focusing on email security, upskilling staff to minimise human error and securing networks. Firms must also ensure senior management and boards position cybersecurity as a top priority to secure sufficient investment.

+ Strengthen third-party risk management: Maximise cybersecurity on the firm's side of all interactions with third parties, minimising the chances that third-party vulnerabilities impact systems and data. Systematically review documentation, processes, security protocols, and personnel related to or used by suppliers. Consider employing external risk monitoring services to assist in evaluating the internet-facing risk posture of vendors.

Financial firms should participate in global intelligence sharing, as well as in smaller communities that focus on industry verticals and/or regions of operation. Intelligence sharing can not only help firms build **PRE-EMPTIVE DEFENCES AGAINST SPECIFIC ATTACKS** but can also help victims understand the modus operandi of ransomware attackers.

RANSOMWARE: HERE TO STAY AND CONSTANTLY EVOLVING

With ransomware accounting for an increasingly large proportion of cybercrime, ransomware is now a grave and immediate threat to financial institutions in the region. While firms must ensure that their defences are effective every second of the day, a cybercriminal group only must get lucky once. Firms should take immediate steps to safeguard themselves from ransomware, as it shows no signs of abating. ✱

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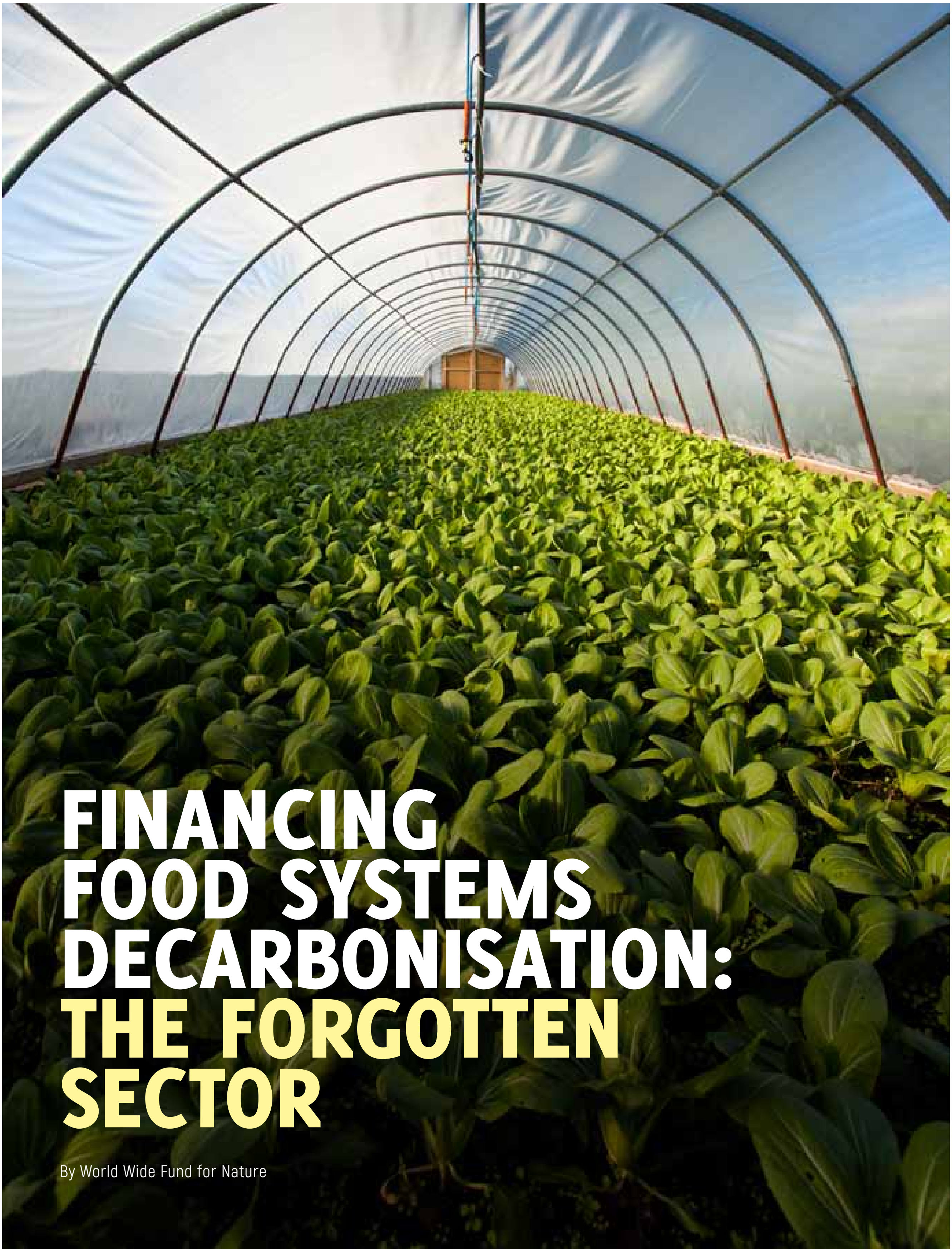

FINANCING FOOD SYSTEMS DECARBONISATION: THE FORGOTTEN SECTOR

By World Wide Fund for Nature

Banks must support the transformation of the food system by directing capital to sustainable and responsible technologies and activities.

The food system is responsible for almost a third of total global greenhouse gas (GHG) emissions. Did you know that a cup of milk has roughly the same carbon footprint as driving a petrol-powered car for 2km? The global food system as a whole is responsible for almost a third of total GHG emissions, and just 13 dairy companies are responsible for more emissions than the entire United Kingdom. This example brings the climate impacts of the food system into perspective, an oft-forgotten sector in the race to achieve the goals of the Paris Agreement.

DOUBLE MATERIALITY IN THE FOOD SYSTEM

The carbon footprint of food comes from a variety of sources, including agriculture-related emissions, such as land-use change, fertiliser, oxidation and composting. However, the food system does not only impact the climate, but climate change will impact the food system as well. Malaysia has direct exposure to climate change via impacts to domestic food production and indirect exposure through the global supply chain. This will result in both physical and transition risks for the financial system.

On a global scale, the Intergovernmental Panel on Climate Change predicts that climate change will result in higher food prices, lower nutritional quality of produce, lower productivity, declines in yields (particularly in tropical areas) and disruption of supply chains. In Malaysia itself, a vulnerability assessment found that domestic crop production, including rice, could experience reduction in yields of up to 60% and leave large tracts of land unsuitable for cultivation. These impacts ultimately have a knock-on effect on the wider financial system, by feeding into traditional financial risks such as credit risk, liquidity risk, market risk, reputation risk and operational risk. To illustrate this, it is estimated that soil degradation alone could cut global crop yields by an average of 10% with estimated losses of USD6.3 trillion–USD10.6 trillion per year globally.

Additionally, transition risks may be manifested in Malaysia's economic reliance on palm oil, which makes up 74% of our agricultural land. This industry is being challenged by the industry's environmental and social issues which has led to stricter restrictions in global supply chains, including a planned EU phase-out of palm oil in biodiesel.

Even with the absolute elimination of fossil fuels, GHG emissions from the food system will prevent the world from limiting warming to both the 1.5°C and 2°C targets. While the food system has received less attention than other sectors, momentum on reducing food-related emissions at the corporate level has been increasing, which has changed the business, regulatory and social environment that companies operate in.

TARGET-SETTING AND DISCLOSURES BY FINANCIAL INSTITUTIONS CAN ACCELERATE DECARBONISATION

Given the situation, it is imperative that financial institutions change how risks relating to food financing are being assessed, integrated into financial decision-making and monitored. Banks and investors may adopt existing international initiatives in transitioning their portfolio towards a low carbon economy and reporting it accordingly. The Science-based Targets initiative (SBTi) is a coalition that works to enable companies worldwide to set emissions reduction targets based on credible climate science. Over 1,000 companies, including Bursa Malaysia Berhad, have made climate commitments through the SBTi, which offers a tailored target-setting framework for financial institutions. The coalition is currently undertaking a project focusing on the forest, land and agriculture (FLAG) sector. This project will incorporate land-intensive emissions, including deforestation, from all three scopes in the value chain. The project will have two different pathways for decarbonisation: a sectoral pathway for companies with diversified emissions and a commodity pathway for those with focused emissions. In addition to accounting for GHGs emitted, the FLAG pathways will integrate emissions removals within the land sector, which makes these pathways unique as land is inherently connected with the production of food and drink.

The FLAG project is complemented by the parallel development of the GHG Protocol for Project Accounting, which is led by the World Resources Institute and the World Business Council for Sustainable Development. This project aims to develop new standards to guide corporate accounting and reporting of carbon, including carbon removals and sequestration, land sector emissions and removals and bioenergy.

In addition to the aforementioned initiatives on climate target-setting, accounting and reporting of land-intensive sectors, climate risk management and disclosure are being given high priority in the industry, and are even being made mandatory in certain regions. The Task Force on Nature-related Financial Disclosures (TNFD) is currently being developed with the aim of creating a framework for organisations to report and act on nature-related risks and opportunities through risk management, strategic planning and asset allocation decisions. The TNFD builds on the foundation of the Task Force for Climate-related Financial Disclosures (TCFD), which has grown into a benchmark for sustainability reporting, and upon its expected launch in 2023, it is intended that both frameworks will complement each other in promoting a comprehensive coverage of financially material climate and nature risks in the market.

INNOVATIVE BUSINESS MODELS TO MITIGATE CARBON EMISSIONS

A study by the World Economic Forum and Boston Consulting Group found that emissions within the food system can be effectively mitigated through carbon-efficient transportation, usage of renewable energy in processing and packaging, deforestation-free agriculture, enhanced efficiency in the production process, and other means such as sequestration and nature-based solutions. In practice, these mitigation levers can be illustrated by the following innovative business model.

A WWF pilot project on net-zero 'dairy farming in the United States explored viable climate mitigation levers within the context of a mid-sized dairy farm, such as:

+ Using manure instead of synthetic fertilisers.
+ Adopting precision agriculture principles that reduce soil disturbance.
+ Modifying cow feed to maximise the health and milk production of cows, which can be complemented by the use of feed supplements.
+ Genetic selection of cows with the best health will result in a better milk/feed ratio, which ultimately reduces methane emissions.
+ Technologies currently being developed to convert manure into commercial products, such as fertiliser pellets. Manure can further be used as energy, as it can be converted into biogas.

The project found that the adoption of the above levers can benefit dairy farms through enhanced climate performance and increased revenue potential, from streams such as savings, increased productivity, and sale of manure-based products. The project estimated that for a mid-sized dairy farm, a return of over USD1.9 million per year within a five year time frame is possible through the above levers in the best scenario. However, these levers will have to be supported by significant capital investment.

INNOVATIVE FINANCING MODELS TO FUND CLIMATE-SMART FOOD PRODUCTION

Innovative business models such as the above can be novel and unproven, lacking the traditional track records financiers would assess before taking interest. Therefore, such models should be met with fit-for-purpose financial products.

In order to support the transformation of the food system, financial institutions should direct capital towards the technologies, equipment, infrastructure and resources required for decarbonisation. This can include preferential financing for food companies with robust decarbonisation strategies, and specialised farming system payments for innovative approaches, such as capital allocations for agroforestry, organic farming and conservation agriculture.

In addition, support from financial institutions could reduce the cost burden related to sustainability related certification audits and on-site improvements. This type of financing would not only support decarbonisation, but it has the potential to address challenges to improved productivity for smallholders in emerging economies, such as access to credit and training. The following case study provides an example of a funding mechanism for a climate-smart coffee agroforestry system in Peru.

The Café Selva Norte project supports four coffee cooperatives in Peru by providing microcredit and technical assistance to enhance sustainable agroforestry systems with an emphasis on forest protection and tree planting activities, strengthening and professionalising operations through setting up a coffee grading laboratory and processing mill, and diversifying revenue streams.

The USD14.5 million project is financed through a Sustainable Land Use Vehicle by URAPI, supported by a capital injection from the privately-managed Land Degradation Neutrality Fund. The URAPI vehicle is managed by ECOTIERRA, and provides long-term financing under a 15-year strategy. The vehicle provides debt to the cooperatives and equity is directly invested in processing plants, of which the cooperatives also own shares in. The vehicle's eventual exit

strategy involves transferring the processing plant's ownership rights to the cooperatives and payment of carbon credits.

The project aims to generate revenue through sales of sustainability certified coffee and timber, collecting fees for delivering processing and commercialisation services to cooperatives through the processing plant, and through monetising newly planted forests through the sale of carbon credits. Through this project, it is expected that 1.3 million tons of CO2 equivalent will be sequestered, while improving the livelihoods of 2,000 producers.

THE WAY FORWARD FOR FINANCIAL INSTITUTIONS

Given the constellation of internal and external factors related to the decarbonisation of the food industry, it is key for financial institutions that are financing food-related businesses to recognise and identify climate- and nature-related risks, and integrate these considerations into their decision-making processes, while ensuring that financing and investments are channelled towards economic activities that are responsible and sustainable. This can be achieved through the following approaches:

> Assess, monitor and disclose financial risks and impacts relating to agribusiness using robust standards and frameworks

The GHG Protocol can be utilised by financial institutions to account for emissions across the value chain, which can then be disclosed through frameworks such as the TCFD. At the same time, institutions should adopt a double materiality approach to understand both nature-related risks and impacts. For example, institutions can use tools such as ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) to identify and scrutinise specific dependencies and impacts of particular food sectors on ecosystem services and nature at the portfolio level, and as a whole, institutions should prepare for a future of disclosing their impacts on nature through the TNFD.

> Set robust targets and commitments based on leading climate science

Financial institutions should reduce carbon emissions across the value chain in line with a science-based target pathway such as the SBTi FLAG project. This will involve reductions through avoiding emissions-producing activities and by excluding carbon intensive and destructive operations, such as deforestation, and through lowering carbon emissions which cannot be avoided, such as reducing the carbon impact of the products and services provided. Financial institutions should quantify financial commitments by pricing remaining emissions, for example, through setting an internal carbon price or defining a specific investment amount.

> Capitalise on new market opportunities

It is estimated that the transformation of the food system by 2030 would require investments of up to USD300 billion–USD350 billion per year. Therefore, the aforementioned financial commitment should be invested on a portfolio of potentially high-impact climate and nature solutions, such as investments in food production and processing optimisation and efficiency, new technologies to improve climate performance of the food systems and sustainable finance mechanisms for climate-smart food, particularly where they unlock the potential of nature-based solutions which benefit the climate, nature and people.

Climate change is already wreaking havoc on the production of food in many regions, and we cannot afford to ignore the warning signs and allow the drivers of climate change to maintain the status quo, let alone accelerate. The food system is currently not on track to reach the goals of the Paris Agreement, and the door is closing to mitigate climate change to safe levels. However, by taking a holistic approach to net zero, financial institutions can support the decarbonisation of the food industry, leverage on the vast financial opportunities of sustainability in this sector, and help guarantee a green and safe future for nature and society as a whole. ✱

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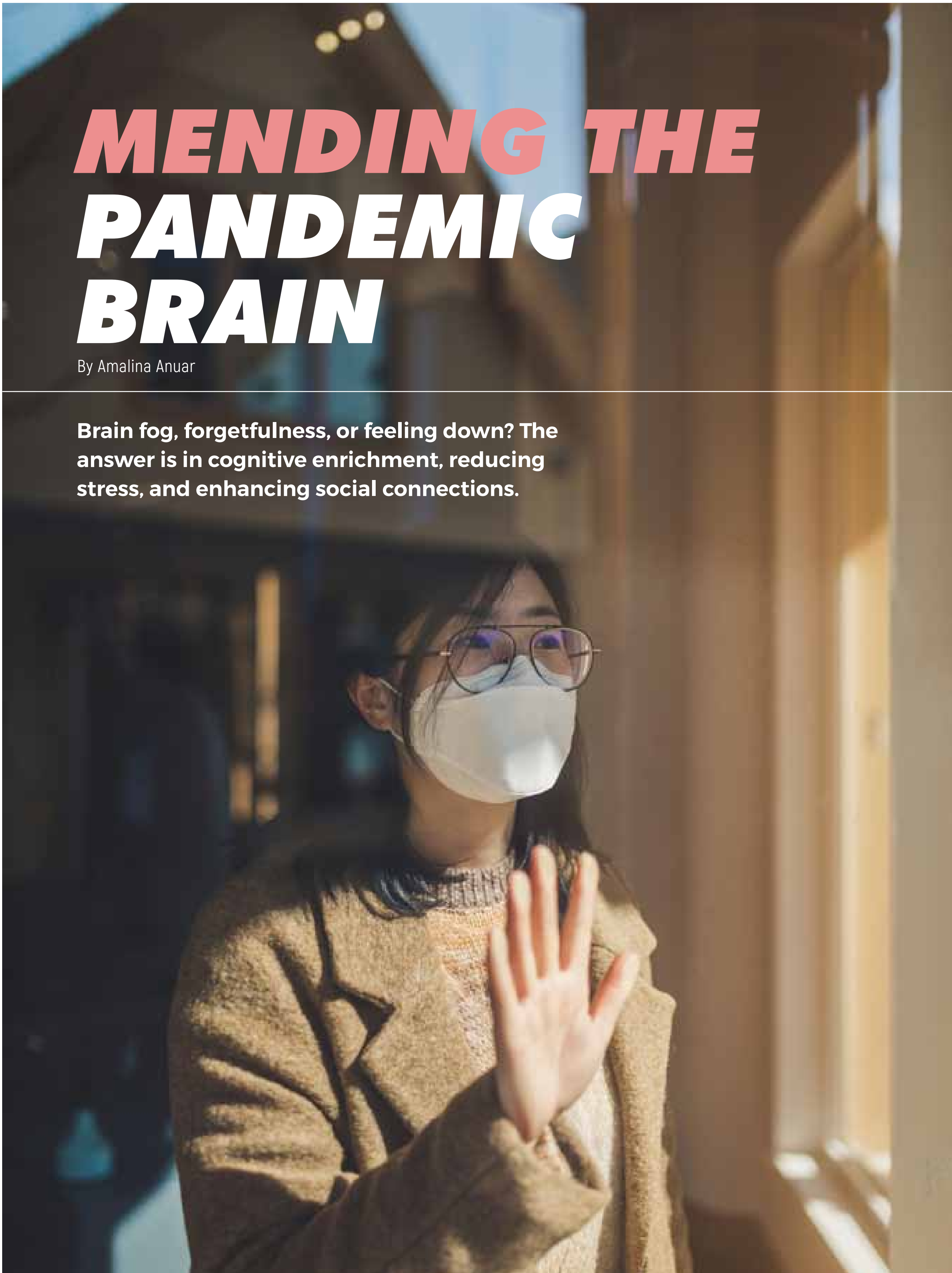
MENDING THE PANDEMIC BRAIN

By Amalina Anuar

Brain fog, forgetfulness, or feeling down? The answer is in cognitive enrichment, reducing stress, and enhancing social connections.



Covid-19 has not been kind to our brains. With distress, isolation, and prolonged boredom in the air thanks to successive lockdowns, cases of pandemic brain have been both prevalent and persistent.

Everywhere, significant chunks of the population are experiencing brain fog, trouble concentrating, and forgetfulness, among other things, that affect day-to-day functioning when it comes to work and beyond.

If there is a silver lining, however, it's this: it is possible to reverse the effects of pandemic brain.

ON THE MEND

Stress and boredom impact our brains in a multitude of complex ways. The short of it though is that they can form a harmful cocktail for learning, memory, and general cognitive functioning. To give but one example, distress can destroy and suppress the growth and reorganisation of new neural connections in certain brain regions; meanwhile, a lack of stimulation and challenge can discourage the forging of new connections.

It stands to reason then that reducing stress — specifically negative stress, emphasises Harvard psychiatry professor Dr Kerry Ressler in the *Harvard Health* blog post *Protect Your Brain from Stress* — can significantly improve mental well-being, and research supports this. What's more, according to Dr Rebecca Price, a Pittsburgh University psychiatry and behavioural science professor, in an article by *MIT Technology Review*: "If you create for yourself a more enriched environment where you have more possible inputs and interactions and stimuli, then [your brain] will respond to that."

Implementing holistic mental health – the approach of treating the whole person, including mental and social factors, rather than just the symptoms of a disease – as described above requires a mix of self-care and community care in the workplace.

Self-care emphasises what individuals can do for themselves, for instance, wellness tips or mindfulness techniques. Yet, whether in the troughs of trauma or the pitfalls of pandemic brain, it can be difficult for individuals to recover from mental health problems alone. There are days when basic self-care feels impossible and not for lack of trying. In some ways, those suffering shouldn't be going it solo.

Social connection and support are critical to recovery. Even the most introverted person is inherently, based on neurological make-up, a social creature. This may not mean desiring the same kinds of interaction as extroverts, but it does underscore how social connection has a place in life across the board. Social psychology research confirms that human well-being thrives on connection – both deep and meaningful relations as well as more casual, weak ties – and isolation is stressful.

As Dr James Coan, a University of Virginia psychology professor, elaborates in health and wellness blog, *Elemental*: "All else being equal, when we're alone, our brain is a little more vigilant for any signs of danger. Also, our brain perceives demands from the world as more demanding than they would be if we had someone with us. And there's a really simple reason for it; it's that the world is more demanding when we're

Yet, whether in the troughs of trauma or the pitfalls of pandemic brain, it can be **DIFFICULT FOR INDIVIDUALS TO RECOVER FROM MENTAL HEALTH PROBLEMS ALONE.** There are days when basic self-care feels impossible and not for lack of trying. In some ways, those suffering shouldn't be going it solo.

alone, because anything that the world demands of us when we're alone, we have to do by ourselves."

Just as no one is an island, no one lives in a vacuum either. Managing stress and stimulation in the workplace is dependent on the cooperation of everyone in the workplace. Community care is thus important in this way because it emphasises what everyone can and should do for their immediate and wider social networks. It is about being there and caring for others in times of need, which runs the gamut from pitching in and lessening someone's burden, to using one's power or privilege to rectify deep-rooted organisational and systemic flaws, to actively co-creating work environments and cultures that contribute to improving overall well-being.

BOUNCING BACK

Here's the latest research round-up of how leaders and teams can create an enriched, more stimulating environment to reverse pandemic brain:

> **Intentional cognitive stimulation is needed in the era of work-from-home (WFH).** Picking up a new skill or hobby is a great example of this. Encouraging colleagues in their learning, or perhaps learning together, is one way to engage in both novelty and social interaction. With upskilling riding up corporate agendas, leaders and teams have leveraged organisational resources such as Hong Leong Bank's HLB@Workday, a mobile-first learning experience for employees delivering bite-sized learning content that is accessible 24/7.

> **An enriched environment that allows for play is recommended.** Games and puzzles are excellent resources for cognitive training, particularly when they are actively targeting memory and concentration. Integrating gamification into work projects and tasks could inject excitement into the workplace, but leaders and teams should proceed with caution as poorly designed games can lead to more frustration and stress.

> **Stimulating environments involve presenting challenges to encourage growth.** Leaders and teams could rely on the tried-and-tested methods of switching up mentorships and rotation within organisations, a cost-free intervention that's just as applicable in reversing pandemic brain as it is in improving overall employee engagement.

> **Cutting back on unnecessary meetings or multitasking.** This enables employees to better focus on progressing in the most meaningful tasks – something experts such as Dr André Spicer, a London University Professor of Organisational Behaviour, acknowledge to be the biggest source of workplace satisfaction in *$66 Billion Burnout Buster* by the Institute for Management Development.

> **Encourage positive thinking and a growth mindset.** It can be easy, when suffering from frustrating cognitive deterioration, to believe that the decline is irreversible, especially when someone is struggling with basic tasks or puzzles. Leaders and teams should make it a point to remind colleagues of the brain's ability to bounce back where appropriate, because positive thinking and a growth mindset, as Stanford psychology professor Dr Carol Dweck stresses in her numerous opinion pieces in *Education Week*, are proven to boost cognitive progress.

Managing stress and stimulation in the workplace is dependent on the **COOPERATION OF EVERYONE IN THE WORKPLACE**. Community care is thus important in this way because it emphasises what everyone can and should do for their immediate and wider social networks.

RISING TO THE CHALLENGE

Boosting social connection and support constitutes the other piece of the cognitive rehabilitation puzzle. At the team level, this means checking in and organising ways to get together despite WFH. Some banks boost morale by providing the necessary infrastructure and opportunities to keep socialising. DBS' Casual Hangouts for connecting colleagues with common interests is a case in point, while Maybank's group chat for female employees is dedicated to discussions on work-life challenges.

Having said that, Zoom fatigue suggests that virtual social events can be tiring. Sending gifts or simply showing gratitude among colleagues are alternatives and can be done through designated 'Appreciation Months', such as the one recently launched by UOB to spotlight a culture of care.

Fostering deeper connection also involves building trust and reinforcing behaviours that promote care and well-being. Creating a space where people can open up about their circumstances without prejudice and eliminating stigmas surrounding struggles, such as pandemic brain, allows people to be seen, heard and understood.

Likewise, leaders and teams can reduce stress and build greater connection when their messaging is consistent with their actions. Modelling and promoting behaviour that is consistent with advice for colleagues to "take a break" or that "mental health is important" will convince them that they are cared for. It can be achieved by discouraging late emails, enforcing work-life boundaries, approving sick leave for mental health in lieu of paid-time off, or sharing personal struggles to remove the stigma that deters open conversations and higher employee assistance programme uptakes.

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Leaders and teams have to reach out more proactively too. It's not uncommon for those struggling with cognitive health to self-isolate or be reluctant to disclose their circumstances. Globally, many organisations have taken the initiative to roll out mental health first aid, training staff to spot signs of distress among colleagues. Where organisational support is in short supply, leaders should take it upon themselves to access free resources availed by humanitarian agencies like the World Health Organization on pandemic fatigue and harm-reduction strategies. These informed ways of approaching people struggling with pandemic brain will improve the quality of outreach, reduce stress, and save lives.

ACT NOW

The good news is that time heals many things. Science suggests that as the world gets back into the swing of things, pandemic brain will become more manageable and eventually recede.

Still, leaders and teams shouldn't stall when it comes to improving community care. Banks in Southeast Asia have stepped up: the array of 'no lay-off' pledges, employee assistance programmes, and well-being challenges is testament to this. However, engineering conducive workspaces is a continuous journey rather than a set destination, and a worthwhile one.

Enriched environments are multipurpose. They work for the spectrum of cognitive decline, whether pandemic brain or natural ageing, and for employee engagement in general. Coupled with findings by non-governmental organisation Relate Mental Health Malaysia that the total cost of poor mental health to organisations in Malaysia is RM14.5 billion incurred through absenteeism, presenteeism, and staff turnover, it is clear that the time for cognitive enrichment and mental well-being is, and should always be, now. ✱

■ *Amalina Anuar is a freelance writer currently based in Singapore.*

HOW WILL YOU DRESS FOR SUCCESS?

By Chartered Banker Institute, UK

AS WORKERS START FILTERING BACK TO THE OFFICE AFTER 20 MONTHS OF DRESSING DOWN, WILL THE SUIT NOW GET THE BOOT IN FAVOUR OF THE 'FINTECH FRIDAY' LOOK?

There are those who will breathe a heartfelt sigh of relief, reach for the suit that's been patiently hanging in the wardrobe awaiting the return of normality and go back to the traditional city look they were always comfortable in. And there's a lot to be said for normality.

But most of us have got used to more hybrid working, less business travel and new technology. So, will our colleagues all feel – and dress – the same? Will firms extend the new post-pandemic relaxation of rules of where and when to work to what to wear? Will, in fact, 'Fintech Friday' with its jeans, hoodies and trainers take over the whole working week even in the most conservative firms?

Or, conversely, will we feel the need to emerge from our Covid cocoons in butterfly-beautiful new outfits; brighter colours, sharper tailoring and snappier shoes, showing the world what it's been missing for the last year and a half? A recent survey by Randstad said that while most of us want to continue with less formal clothing, a substantial minority (24%) would welcome a return to the era of the suit.

Early indications are of a significant shift in corporate dress codes, where far more is left to personal choice. As well as an acceptance that the pandemic has proved it's **PERFECTLY POSSIBLE TO BE A HIGH-PERFORMING PROFESSIONAL IN JEANS OR JOGGING BOTTOMS,** the larger and more traditional firms are realising that they're in a war for talent with more progressive tech organisations.

Clearly tailors and dressmakers are very much hoping more of us are going to rush out and refresh our wardrobes. The list of clothing retailers that have closed, been bought out or transitioned to a solely online presence makes depressing reading: Brooks Brothers, iconic outfitters of US presidents and bankers for 200 years; shirtmakers TM Lewin; brand icon Jaeger; retro-inspired Cath Kidston. Even Topshop, among Philip Green's other Arcadia brands, was bought out of administration by online retailer ASOS. By contrast, ASOS tripled its profits during lockdown.

Early indications are of a significant shift in corporate dress codes, where far more is left to personal choice. As well

as an acceptance that the pandemic has proved it's perfectly possible to be a high-performing professional in jeans or jogging bottoms, the larger and more traditional firms are realising that they're in a war for talent with more progressive tech organisations. Being able to choose what to wear, for some, may be an important part of choosing who to work for.

Personal choice also reflects welcome moves towards diversity and inclusion in the workplace. Even the President and CEO of the Federal Reserve Bank in New York, John C Williams, himself the owner of an impressive collection of sneakers, which he's looking forward to wearing back in the office, thinks Fed workers should have more freedom to choose what they wear saying: "When people can be themselves, they do their best work".

Jane Fraser, new CEO of Citigroup and more usually seen in her jewel-coloured dresses than a suit, also welcomes the change. When she first joined the banking world she says, "you had to dress like a man". It didn't make women in banking happy – and didn't make more want to join. Like many areas of work, the pandemic may just have accelerated changes in society that were going to happen anyway.

Of course, what we wear is merely an outwardly visible symbol of what's going on inside. People will always use clothing and accessories to signal status, influence or membership of a tribe. For some, that will still be a suit or an expensive watch; for others, exactly the right pair of trainers. How we decide to dress is less important than how we see ourselves, and how we want others to see us. If we are allowed to choose a less formal, more comfortable mode that enables us to feel good about ourselves and what we do, that's a welcome change. ✱

■ *This article previously appeared in the Chartered Banker magazine, UK, autumn 2021 edition.*

How we decide to dress is less important than how we see ourselves, and how we want others to see us. If we are allowed to choose a less formal, **MORE COMFORTABLE MODE THAT ENABLES US TO FEEL GOOD ABOUT OURSELVES AND WHAT WE DO,** that's a welcome change.

TO TAKE OR NOT TO TAKE?

By Julia Chong

CALLS TO RELAX AML/CFT STANDARDS FOR CHARITIES OPEN UP AN ETHICAL QUAGMIRE.

In the wake of the pandemic, some quarters are advocating that banking relax its iron fist on anti-money laundering/counter financing of terrorism (AML/CFT) laws if it's for a good cause. A recent opinion carried by *Bloomberg*, headlined *Tainted Money is Better than None for Struggling Charities,* is but one of the prominent editorials calling for this.

Such views are not new. As far back as the 1900s, William Booth, founder of the Salvation Army, reportedly said, "The problem with tainted money is that t'aint enough of it", believing that money was "washed clean" when channelled to a noble cause.

In the Basel era though, this does not withstand legal and ethical scrutiny and the responsibility of banks in ensuring the fidelity of monies flowing into and within the system is a weighty one.

AN EVEN HAND

The standard for AML/CFT regulations relating to non-profit organisations (NPOs) is established by the Financial Action Task Force (FATF), recognised as the global AML/CFT body. Its Recommendation 8 mandates that NPOs must not be misused:

- by terrorist organisations posing as legitimate entities;
- to exploit legitimate entities as conduits for terrorist financing, including for the purpose of escaping asset-freezing measures; and
- to conceal or obscure the clandestine diversion of funds intended for legitimate purposes to terrorist organisations.

In 2015, HSBC, UBS, and NatWest froze the UK-based bank accounts of charities and international non-governmental organisations in Syria, Gaza, and Iraq over concerns that the millions of pounds fundraised were linked to the financing of terrorism, including masked militant Jihadi John. Prior to that, the FATF cited more than 100 cases of charities being used for terrorist purposes, mostly involving diversion of funds.

The move caused an uproar as NPOs spoke out against what it deemed to be disproportionate scrutiny and withdrawal of services by banks for legitimate charitable causes, including salaries, logistics, and on-the-ground mobilisation.

In response, the FATF issued more thorough guidelines and tools for NPOs and banks in *Best Practices on Combating the Abuse of Non-profit Organisations (Recommendation 8).* Most notably, it clarified how de-risking – where financial institutions terminate or restrict business relationships with clients in order to avoid risk – wasn't in

line with the FATF's recommended risk-based approach:

"The wholesale termination of individual customers or entire classes of customer, without taking into account their level of risk or risk mitigation measures is not a proper implementation of a risk-based approach and is not consistent with the FATF Standards. Such practice has the potential to drive financial flows underground, thus reducing financial transparency and the ability to identify and take action against terrorism finance (TF) abuses.

"Termination and closing of NPO's bank account also inhibit the delivery of aid to developing countries and crisis zones where humanitarian needs are acute and where charitable work contributes positively to the fight against regional and global terrorism. Financial institutions should terminate or not establish customer relationships, on a case-by-case basis, where the money laundering and terrorist financing risks cannot be mitigated."

TO REGULATE EFFECTIVELY, ANALYSTS DISTINGUISH BETWEEN INTENTIONAL COMPLICITY and those charities that have been exploited unknowingly, perhaps because of where they work, weak oversight or their dependence on the goodwill of donors and staff. Knowing the difference points to different responses.

OPEN COMMUNICATION CHANNELS

A recent blog post, *Terrorist Financing and the Non-profit Sector: The Case for Deepening Dialogue and Cooperation,* by the EU Global Facility on AML/CFT also emphasised more open channels of communication between banks and NPOs or charities for more effective and proportionate action: "To regulate effectively, analysts distinguish between intentional complicity and those charities that have been exploited unknowingly, perhaps because of where they work, weak oversight or their dependence on the goodwill of donors and staff. Knowing the difference points to different responses.

"For charities that have been exploited, solutions can vary depending if abuse is by 'insiders' or 'outsiders'. For the former, measures to strengthen governance, oversight, and financial control are important, whereas for the latter, information sharing with authorities about partners and beneficiaries would be relevant.

"As philanthropy can have strong cultural and historical roots, there are some financial practices which in other sectors would prompt regulatory concern. Receiving anonymous cash donations, for instance, may be normal for some charities, but would be unheard of at a bank. Dialogue becomes essential to identify and recognise these idiosyncrasies and regulate proportionately."

Closer to home, the third round of FATF evaluations on Recommendation 8 (published circa 2018–2019), have retained the 'Largely Compliant' rating of Malaysia and Singapore, and upgraded the rating of others like Australia.

Banks in Southeast Asia, Australia, and New Zealand can also rely on tools such as the red flag indicators (see *Raise the Red Flag* on page 46), collectively devised by the region's eight financial intelligence units, to guide their decisions on when a suspicious transaction report should be raised.

These strides illustrate how far banks in the region have come in establishing the current risk-based framework and

what enhancements are needed to wrest abuse of charities in the fight against money laundering and terrorism financing.

NO CLEAN WASH?

Research by psychologists, Profs Arber Tasimi of Yale University and Susan A Gelman of University of Michigan, found that in virtually all societies, money can be classified as 'clean' or 'dirty' based on how it is acquired, and that people would rather have $99 from a good guy than $100 from a bad guy.

Their research, *Dirty Money: The Role of Moral History in Economic Judgments* published in the *Cognitive Science Journal*, further uncovered that when the dollar differential becomes big enough, people will abandon their principles, selecting $100 from a bad guy over $1 from a good guy.

In other words, as the stakes grow higher (and the pot larger), people find it increasingly difficult to say 'no'.

Such is the case of disgraced financier Jeffrey Epstein, convicted for sex trafficking of minors. A major **GERMAN BANK RECENTLY ADMITTED** that it had erred in not performing due diligence on Epstein and instead focused on his potential to "generate millions of dollars of revenue as well as leads for other lucrative clients".

Such is the case of disgraced financier Jeffrey Epstein, convicted for sex trafficking of minors. A major German bank recently admitted that it had erred in not performing due diligence on Epstein and instead focused on his potential to "generate millions of dollars of revenue as well as leads for other lucrative clients".

"Despite knowing Mr Epstein's terrible criminal history, the bank inexcusably failed to detect or prevent millions of dollars of suspicious transactions," accused Linda A Lacewell, Superintendent at the New York Department of Financial Services.

The bank responded, "Our reputation is our most valuable asset and we deeply regret our association with Epstein," as it settled a USD150 million fine with the state. On October 4, it also told *Financial Times* that after Epstein's arrest, it had conducted an internal analysis of other clients who had cleared the onboarding process in the past "but should be viewed differently today".

That final statement is a timely reminder to all professionals that the most effective solution is vigilance over one's own actions and that some dirty laundry can never be washed clean.

■ *Julia Chong is a Singapore-based researcher with Akasaa, a boutique content development firm with presence in Malaysia, Singapore, and the UK.*

RAISE THE RED FLAG

Developed by the Australian Transaction Reports and Analysis Centre (AUSTRAC), the *2018 Non-profit Organisations & Terrorism Financing Red Flag Indicators* report provides a set of red-flag indicators related to NPOs at high risk of misuse for terrorism financing in Southeast Asia, Australia, and New Zealand. It is an important tool for financial institutions in order to understand the general risk context that exposes some NPOs in the region to potential terrorism financing.

The AUSTRAC report reflects input from the region's eight financial intelligence units (FIUs) and is a follow up from the NPO assessment launched in Kuala Lumpur at the third Counter-terrorism Financing Summit in 2017.

It outlines primary and secondary indicators to flag potential cases of NPO misuse where terrorism financing has occurred or general suspicious activity that requires enhanced due diligence to detect potential NPO involvement in terrorism financing or other crimes, including money laundering.

When combined, the primary and secondary indicators strengthen the grounds for filing a suspicious transaction report (STR) with the national FIU.

Source: *Adapted from AUSTRAC.*

PRIMARY INDICATORS

The following primary red flag indicators reflect regional cases of terrorism financing misuse, or would be present in scenarios of NPO involvement in terrorism financing. The presence of more than one of these primary indicators should increase the weight given to any suspicion of terrorism financing misuse.

Some of these indicators may also mirror legitimate NPO activity. In those circumstances, the indicators should be used as an initial step to direct deeper checks of the NPO's profile and behaviour — including its personnel, registration, or licensing status, links to other organisations, and match against a country's high-risk NPO subset. Deeper analysis, and enhanced due diligence where required, should enable a reporting institution to determine whether sufficient grounds exist to file an STR on terrorism financing to the national FIU.

1. NPO treasurer or employee withdraws cash from the NPO account and then deposits it into a personal account, before diverting the funds to a suspected terrorist's account.
2. Media reports the NPO is linked to known terrorist organisations or entities that are engaged, or suspected to be involved, in terrorist activities.
3. Parties to the transaction (for example: account owner, sender, beneficiary or recipient) are from countries known to support terrorist activities and organisations.
4. Funds sent from large international NPOs based in high-risk countries, to their branches in regional countries, are channelled to local NPOs based or operating in domestic conflict areas.
5. An NPO sending funds to multiple entities (individuals and companies) in a high-risk country.
6. NPO raises funds from a major public event and then authorises a third party to be a signatory to the NPO account, who uses it to send funds to high-risk countries.
7. Unusual or atypical large cash withdrawals, particularly after the financial institution refuses to wire NPO funds overseas (thus raising cross-border cash smuggling suspicions).
8. Transactions, including international and domestic transfers, with NPOs that contain terms associated with violent extremism and other terrorist ideologies. For example, *ghanimah* or *fai/fay* (justified stolen funds) and *mujahid/mujaheed/mujahideen* (the term for one engaged in jihad).
9. Vague justifications and a lack of documentation when the financial institution questions NPO requests to transfer funds to high-risk locations or entities.
10. Use of NPO accounts to accept funds from suspected terrorists and their associates (based on law enforcement agency alerts on persons of interest).
11. Transactions (cash and transfers) involving key personnel of foreign NPOs associated with United Nations Security Council-designated terrorist entities.

SECONDARY INDICATORS

Secondary red flag indicators have been detected in some terrorism financing cases involving NPOs, but also appear in more general illicit activity (such as fraud and money laundering). Secondary indicators may come to light after a primary indicator triggers deeper checks of an NPO's behaviour. Enhanced due diligence or transaction monitoring may also identify these indicators. This should prompt further searches to corroborate initial suspicions and try to determine whether the indicators relate to terrorism financing or another crime. A combination of primary and secondary indicators should be considered highly suspicious and likely grounds to file an STR.

12. NPO transactions for which there does not appear to be a logical economic purpose or link between the NPO's stated activities and the other parties in the transaction.
13. NPO uses crowdfunding and social media to solicit donations, then its online presence vanishes or shuts down.
14. NPO's account shows signs of unexplained increases in deposits and transaction activity.
15. NPO is unable to account for the final use of all its funds/resources.
16. NPO uses unnecessarily complex banking arrangements or financial networks for its operations, particularly overseas.
17. NPO, or NPO representatives, use falsified or conflicting documentation.
18. Inconsistencies between the pattern or size of financial transactions and the stated purpose and activity of the organisation.
19. Unexpected absence of contributions from donors located in the country.
20. Large outgoing transactions to the country of origin of NPO directors who are foreign nationals, particularly if the country is high risk.
21. NPO appears to have few or no staff and limited or no physical presence, which is at odds with its stated purpose and scale of financial activity.
22. NPO funds commingled with personal/private or business funds.

SUPERMAN LIKE ADAPTABILITY

By Derek Ariss

The keys transitioning quickly in this ever-changing world.

Admission time! Ever since I was a kid, I always liked Superman, but not for the reason's you would think. It's not because he could run faster than a speeding bullet, or leap tall buildings in a single bound, or even be more powerful than a locomotive. It was because he had an incredible ability to adapt to changing circumstances and come out on top. I like that quality; dealing with change in a positive way.

Out of uniform, he was a mild-mannered reporter named Clark Kent doing his job reporting the news. And in uniform, he was using his super strengths to do good for himself and the people around him. When a supervillain appeared out of nowhere with a new 'super' evil plan, Superman would always go through the same process irrespective of the circumstances. He would stay calm, think things through, try a plan, make mistakes, adjust, learn, and find solutions. This is the type of core behaviour I believe is key to being adaptable. This adaptability lets us navigate and come out on top in this intense, constantly changing world that we live in. By learning how to adapt continuously, we gain a skill that prepares us for the future.

But don't just take my word for it. The ability to adapt is being identified by many as a core and essential competency.

For instance, a recent Deloitte Malaysia survey focusing on Millennials and Gen Z revealed that these market segments were unanimous in ranking adaptability and flexibility as the number one characteristic for success in a post-pandemic economic environment. Adaptability ranked ahead of expertise and being technological savvy.

However, the significance of being adaptable to changing environments is not a new one, and it has always been an essential quality for survival.

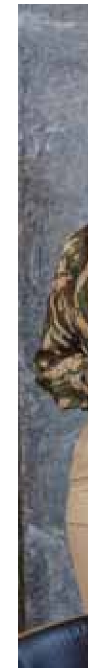
"According to Darwin's *Origin of Species*, it is not the most intellectual of the species that survives; it is not the strongest that survives, but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself."

- Leon C Megginson, *Lessons from Europe for American Business.*

Adaptability, according to Darwin, is a survival skill. I agree with that statement and also believe all of us need to become more adaptable now.

Unfortunately, due to a combination of our competitive nature and the continued exponential growth in technology, the time for us humans to adapt is becoming shorter and shorter. To survive in the future, we must learn to adapt quickly.

How do we become more adaptable both from the individual and then from the organisational point of view?



The secret to adapting well maybe within the concept of 'transitioning'.

When it comes to transitioning through change, there are several well-researched models. My favourite is the Bridges Transition Model. This model helps people understand and manage the personal and human side of change, and it is in this human side where we all need the most help.

What makes the Bridges Transition Model powerful is that it focuses on the transition, not on change.

There is an essential distinction between transition and change.

Change is external and happens to people. When change occurs, it happens quickly, whether or not people agree with it.

Transition, however, is the opposite. It is the internal human reaction to change, and transition deals with people's mindsets. In other words, the transition is what happens in people's minds as they go through the change. Even though change (the physical altering of the condition) happens quickly, transition (the internal processing and application of the shift) occurs often more slowly.

Let's take a closer look at how this occurs.

STAGE 1 ENDING – LETTING GO

People enter this first stage of transition when the change is presented to them.

It is critical that when people receive the change that they accept it. Only once this occurs can they move to the next stage.

If someone doesn't accept the change, then they are stuck in this stage. If they don't move forward, they will get frustrated, fearful, and insecure. The only productive answer is that we accept the change and in turn, go forward.

Transition, however, is the opposite. It is the internal human reaction to change, and transition deals with people's mindsets. In other words, the **TRANSITION IS WHAT HAPPENS IN PEOPLE'S MINDS** as they go through the change.

STAGE 2 - NEUTRAL ZONE

Once the change is accepted, then people go through Stage 2—the Neutral Zone. The Neutral Zone is exciting.

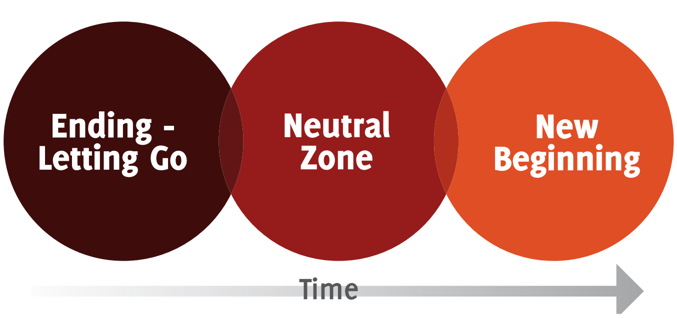
It is during this stage that the bridge between the old situation and the new situation is created.

When a person is transitioning in the Neutral Zone, they need to behave like a trapeze artist, moving forward between two bars. The person knows he needs to swing from the bar he is holding, a familiar bar, and release his grasp to grab the next upcoming bar. To make it through this stage, the person transitioning needs to be confident, look forward, and trust that they can change.

Yes, it may seem a little risky, but only when they let go of the 'old' first bar and commit to reaching out for the second 'new' bar do people progress and give themselves the space to transit.

Notice, one can only reach the second bar by letting go of the first. One cannot do the transition by holding on to both bars.

Figure 1: The Bridges Transition Model focuses on three stages.



STAGE 3 – NEW BEGINNING

The final part of the transition is called the New Beginning.

In the New Beginning stage, the person has reached out and grabbed the second bar. They are committed and make things happen.

This is the stage where the person has committed, learned, and is actively adapting. This is where the new change is marked with release energy. There are things to learn, test, and progress with; there is no turning back.

When done properly, the energy in the New Beginning stage is positive; people who leap now will ensure the transition and change work. There may be adjustments, but the commitment to make it work is in place.

It seems like the process is straightforward.

If all it takes to adapt is individual internal commitment, why is this adaptation getting so much attention?

It's because we, as humans, tend to slow down the process.

It's not totally our fault. It does have something to do with one of the most powerful primitive emotions we humans have. That is the feeling of fear. We fear the unknown, and we fear having to let go of the old to be able to embrace the new. To be able to transition quickly we need to understand how to manage fear.

In its natural state, fear alerts us of danger, be it in either the physical or psychological. Being warned of danger is a good thing, but it is a poor response when it comes to assisting your ability to adapt in a new situation.

Let's illustrate how fear of adapting is created and how we can manage it: Imagine that you are sitting on a wooden chair in a strange, pitch-black room, and you have no idea what or who is in the room with you. You hear faint noises, your imagination starts going wild, and sure enough, you start feeling afraid.

Suddenly, the light in the room goes on, and the first thing you do is check the room out. As suddenly as the light came on, your fear goes away. You now know that you and the chair are alone and that there is a door close by. When the light goes out again, you are more at ease, and you know you can walk out whenever you like.

Notice when you have no information, bearings, or position in a completely new and unknown environment, your mind wanders, often to the scariest scenario. However, as soon as you gather relevant information and process it, confidence and control come up, and fear leaves.

The key is ensuring you access new information so that you can feel in control. If the information isn't available, we need to put effort forward to find it. Once we have the information we feel more stable and more in control.

In the future, to adapt well and quickly, organisations and individuals need to transition from the old to the new. This means that they need to find reasons to want to transition, and internally they need to believe the transitions are a road to a better answer.

To take on a transition requires confidence by having both the new information and emotional stability to commit to change, act upon it, pursue the new direction and never look back. Of course, there will be learnings, but that is all part of getting to a better place.

Sometimes when we don't have enough information, it will be scary, but as we now know, once we find the correct information, the scariness goes away. We have renewed confidence to continue to adapt, learn, and ultimately grow.

If you doubt this, then take a moment to reflect on a time when you had to go through a positive transition, and it all went well. It might have been a presentation, a skill that you developed, a project you completed, or graduation. We have all gone through positive transitions, and it is essential to remind ourselves that we can do it.

This truly is one of the keys to being adaptable and transitioning quickly in this ever-changing world.

How do I know?…well, Superman told me, and I believe him. ☺ ✱

■ *Derek Ariss is Head of Innovation Education at Lightbulb Capital and is responsible for building the education practice, focusing on creativity, design thinking, technology, culture, and mindset conducive to innovation in finance. Derek also teaches part of the Singapore Management University (SMU) Certificate in FinTech and Innovation course and an Innovation Culture Catalyst course at SMU. He holds an MBA in International Marketing and Strategy and Bachelor of Commerce (Hons) from the University of Windsor, Canada, and a Bachelor of Science in Psychology and Biology.*

By Cognizant

Banking and financial services organisations are moving beyond the basics of digital banking and one-size-fits-all services, according to our recent study.

THE WORK AHEAD IN BANKING & FINANCIAL SERVICES: THE DIGITAL ROAD TO FINANCIAL WELLNESS

While digital banking has been on the rise for a decade, the pandemic pushed it to new levels and new customers. OCBC Bank in Singapore named senior customers as its fastest-growing segment for digital adoption, with uptake among 60- to 80-year-olds increasing by 20%. In the wake of intensified hygiene and safety, contactless transactions also skyrocketed; as 78% of global consumers adjusted the way they pay for items, the pandemic renewed the push toward a cashless society.

While necessity was the key driver for the accelerated adoption of digital banking and services, the convenience factor will ensure these practices live on. Research from Mastercard found that 42% of customers now handle their finances digitally more frequently than before the Covid-19 pandemic, while 62% are thinking of switching from physical banking to digital platforms altogether. The pandemic galvanised a shift in the entire banking ecosystem, shaking how customers, employees and businesses interact with financial organisations to the core.

In response, 51% of industry respondents in our study took swift and significant action in some parts or across the business, and a similar percentage (56%) expect these digital changes to accelerate. Early adopters of digital technology were better prepared. For example, Singapore's DBS Bank saw a 30% increase in the use of its digital banking services in the first half of 2020

In the wake of intensified hygiene and safety, contactless transactions also skyrocketed; as **78% OF GLOBAL CONSUMERS ADJUSTED THE WAY THEY PAY** for items, the pandemic renewed the push toward a cashless society.

FIGURE 1 **A DIGITAL ARMS RACE**

Respondents were asked how they compared with others in their industry in applying digital technologies to transform business strategies, processes and services, now and in 2023. (Percent of respondents)

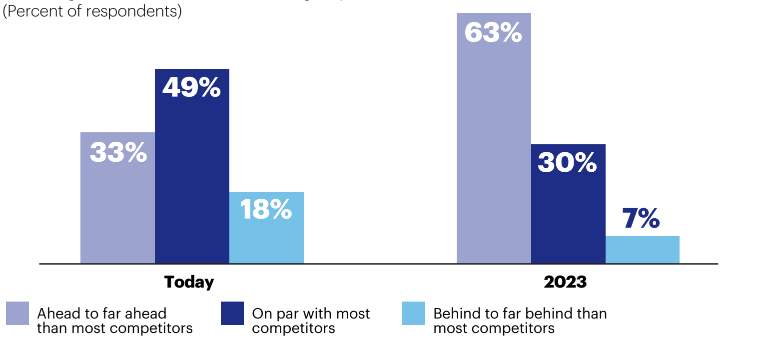
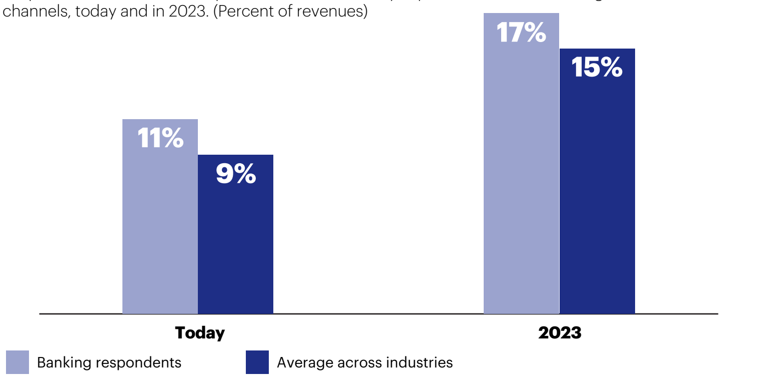


FIGURE 2 **BANKING ON DIGITAL TO UNLOCK NEW REVENUE CHANNELS**

Respondents were asked the percent of revenues they expected to obtain from digital channels, today and in 2023. (Percent of revenues)



BASE: 287 senior banking and financial services executives
SOURCE: Cognizant Center for the Future of Work

and now serves nearly one-third of its 3.4 million digital users entirely online.

Our research makes clear the speed of change that respondents anticipate. Currently, just over one-third (33%) of banking respondents feel they are ahead of their competitors in applying digital technologies to transform business strategies, processes and services. Fast-forward to 2023, however, and that percentage almost doubles (63%). Since no more than half of banking and financial services organisations can actually be above average, mathematically, time will tell which ones emerge as leaders, but the direction of travel is clearly uppermost in executives' minds.

The pandemic is likely to spur a widespread implementation of high-impact digital journeys, from customer onboarding to loan origination, widening the gap between digital leaders and laggards. Banking and financial services executives must reimagine how their institutions will operate, serve customers and create value in the post-Covid-19 world.

This is as true in the consumer banking world as for corporate banking. In July 2020, Goldman Sachs launched self-serve account opening and client onboarding for corporate clients, in addition to other digital services. Interestingly, the company hired its 10,000th computer engineer as it completed its switch to digital-first. (See **Figure 1**)

DIGITAL-FIRST: NAVIGATING THE CRISIS AND THRIVING IN THE FUTURE

While banking respondents currently generate 11% of their revenue from digital channels on average, they expect that to reach 17% by 2023, which is higher than the global cross-industry average of 15%. This change-fuelled growth will mainly be driven by the explosion of customer data (both retail and corporate) flowing into and around processes, resulting in the hyper-personalised products and services that customers demand.

To achieve their ambitious digital revenue targets, financial institutions must move beyond transactional digital apps – checking balances and making payments and transfers – to weaving their products and services into customers' lives in a way that makes them personalised and relevant.

One way to do this is through AI-driven financial wellness tools that deepen the bank-customer relationship by providing digitally-driven insights that improve money management. Another is to add more human-like interfaces to customer touchpoints. By adding facial recognition technology to some of its ATMs, for example, Taiwan-based Taishin International Bank has enabled its financial consultants to personally greet wealth management clients (who agree to create a facial identity) when they visit a branch.

Voice interfaces will also boost customer engagement. Alexa usage shot up 65% globally in the first two months of lockdowns in 2020, and in our earlier research, we found that banking and financial services organisations were the most bullish of all industries about generating revenue through voice technology, with 55% planning to build a 'voice skill' in the next 12 to 24 months.

Voice will soon become the new customer experience as consumers get more comfortable with their voice assistants performing various banking and financial activities: "Hey, Alexa, which bank is offering the lowest mortgage interest?"

In July 2020, US Bank rolled out a voice-based virtual assistant in its mobile app to help with money management, provide information about account balances, upcoming bills and spending history, and handle tasks like money transfers. From selling products, providing information, completing transactions and helping customers access services, voice interfaces will soon be embedded in chatbots, applications, products and services. (See **Figure 2**)

A FOCUS ON PERSONALISATION, PREDICTIONS AND SPEED

With customers' lives shifting online so significantly, data volumes are exploding. It's not surprising, then, that when we asked respondents which technologies they have applied and leveraged most in their digital initiatives, data analytics is seeing the most significant attention, with 81% of industry respondents either widely implementing, partially implementing or piloting this technology.

Successful banks will access and analyse multiple disparate data sources to design personalised offerings and financial wellness tools, driving customer acquisition, retention and lifetime value.

For instance, by mining debit card data, banks can gain insights into spending habits that they can share with customers or incorporate into personalised offerings. All these insights will help banks fully integrate customers' digital lives into a single, multipurpose platform and enable them to manage money, credit, insurance, income and expenditures in a simple, streamlined way.

In 2020, Capital One moved data analytics to the public cloud. The bank says this change has helped it shift resources

Banks can apply machine learning and **AI TO DEVELOP INNOVATIVE PRODUCTS AND SERVICES** that help customers save time, money and effort. They can also use it internally to gain insights into customer thresholds such as risk levels, price sensitivities or propensity for prepayments.

from managing IT operations toward building more innovative, personalised customer experiences. The Boston Consulting Group has estimated that by personalising customer interactions, a bank can garner up to USD300 million in revenue growth for every USD100 billion it has in assets.

Artificial intelligence (AI) is also seeing widespread uptake, with 77% of industry respondents either already implementing AI projects or experimenting with pilots. The banking and financial services industry will shift from a system based on historical data to being driven by AI-driven predictions. These insights will be highly accurate – no more best guesses or "we think we know". Banks can apply machine learning and AI to develop innovative products and services that help customers save time, money and effort. They can also use it internally to gain insights into customer thresholds such as risk levels, price sensitivities or propensity for prepayments.

AI will also be crucial for improving cybersecurity, especially as digital banking increases. Research suggests that banks and financial services firms are 300 times more vulnerable to cyberattacks than other industries. As a result, financial organisations lose approximately 5% of their annual revenue to fraud. As technology continues to evolve, cybercriminals will use more sophisticated techniques to exploit technology. Our respondents echoed this challenge, as 69% of respondents agreed that people will be more exposed to fraud and theft in the future. Banks' digital customers are a soft target for fraudsters, making digital banking platforms susceptible to a myriad of security risks. With more employees working remotely, this is another threat vector.

Fighting back requires an intelligent machine that can detect threats proactively, identify malware, reconfigure network traffic to avoid attacks, inform automated software to close vulnerabilities before they are exploited, and mitigate large-scale cyberattacks with great precision. Any cybersecurity strategy without AI will be more prone to cyberattacks.

Banks no longer see automation as optional. We found that 57% of respondents are either implementing or piloting process automation systems. Organisations are using the new machine to rewire core internal processes, including customer onboarding, loan origination, loan servicing, compliance, marketing/customer retention and cybersecurity/fraud detection. Automation is a reality, but the key is to make it intelligent. Bank of America's AI-driven chatbot Erica handled 400,000 client interactions a day in 2020 – twice as many as in 2019. In all, digital accounted for 60% of the bank's mortgage business in 2020.

In our study, 39% of banking organisations are piloting blockchain technology (compared with the cross-industry average of 30%), while 24% have implemented some projects or are already seeing a widespread implementation (compared with 13% across industries). With blockchain, institutions are no longer the mediators of control, transactions and trust, as these mechanisms are embedded within the technology itself. The role of intermediaries will be reinvented and even become obsolete as trusted transactions can take place among anyone, including parties with no prior relationship. As the chief investment officer of a large bank in our study said, "Our treasury and trade solutions

FIGURE 3 **THE AUGMENTATION TRIFECTA: AI, AUTOMATION, ANALYTICS**

Respondents were asked about the progress they'd made in implementing a variety of technologies. (Percent of respondents)

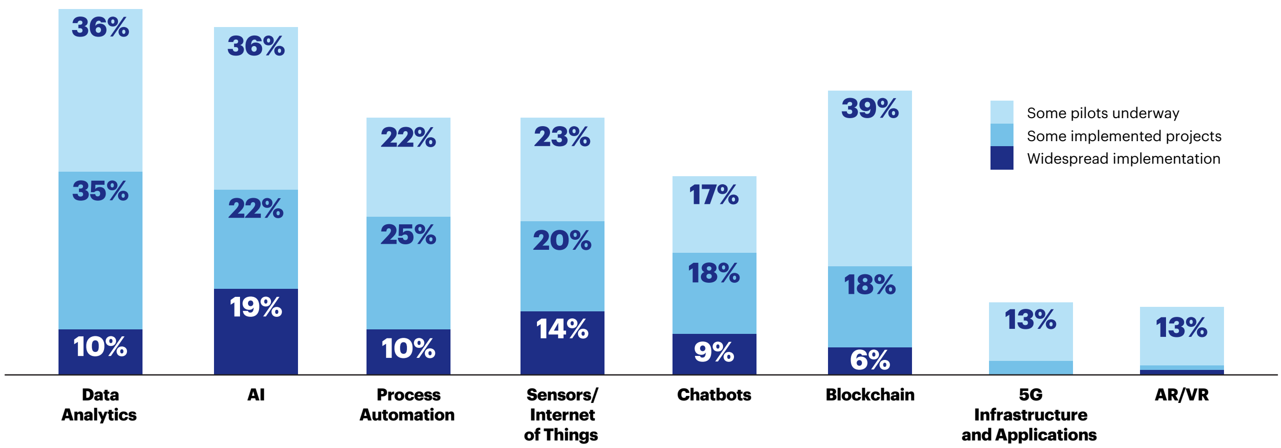
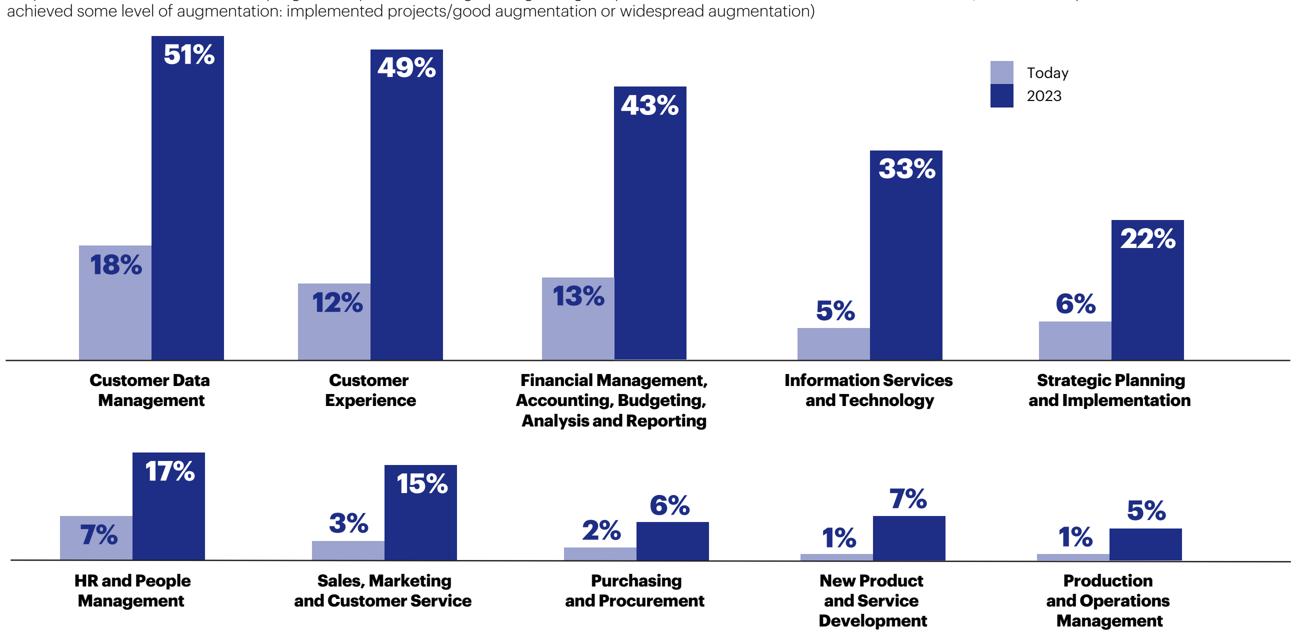


FIGURE 4 **AUGMENTING PROCESSES TO AUGMENT THE CUSTOMER EXPERIENCE**

Respondents were asked about the progress they'd made in augmenting a range of processes across the business, now and in 2023. (Percent of respondents who had achieved some level of augmentation: implemented projects/good augmentation or widespread augmentation)



BASE: 287 senior banking and financial services executives
SOURCE: Cognizant Center for the Future of Work

business is currently exploring blockchain applications to automate cash management, fraud protection and foreign exchange to consolidate our position to develop a robust banking platform." (See **Figure 3**)

CUSTOMERS AT THE HEART OF AUGMENTED PROCESSES

In terms of the outcomes of digitally augmented processes, the top areas in which banking and financial services respondents expect to reap benefits by 2023 are customer data management (51%), customer experience (49%) and financial management and accounting (43%). A recent study found that financial institutions lose up to USD10 billion in revenue a year due to insufficient data management practices. An example is the customer onboarding process, which can be lengthy and cumbersome for banking organisations when client documentation is spread across multiple systems and data is siloed by department or branch. This is all the more reason for banks to augment their customer data management processes.

Data management is also essential to building the hyper-personalised experiences that will deepen the customer experience. Hyper-personalisation approaches, though acknowledged conceptually for a long time within the industry, have seen limited uptake due to process limitations. In our earlier research, *Algorithms Over Brands: How to Reach Today's and Tomorrow's AI-Augmented Customer*, we found that only 45% of consumers are satisfied with the customised personal experience they get from their banks and financial services companies. With technology augmentation, banks can overcome these limitations by gaining significant insights into customer preferences and needs.

For instance, a bank could predict what kind of loan a customer will need next, whether for a wedding, college tuition or debt refinancing, before the customer approaches the bank directly. The banking user experience, in fact, will increasingly mirror the experiences seen in other tech-driven businesses.

As Aris Bogdaneris, head of challengers and growth markets at ING, says, "User experiences for technology platforms like Uber are the same, regardless of where a customer is located. We started measuring ourselves more against these platforms than against traditional banks." (See **Figure 4**)

UNLOCKING NEW BUSINESS VALUE: FROM EFFICIENCY TO CUSTOMER EXPERIENCE

When it comes to the benefits realised by augmenting processes with technology, the top focus area has been on achieving operational efficiencies. Currently, efficiency is the top outcome realised by respondents, who have so far seen a 15% improvement and expect that to grow to 25% by 2023.

Augmented processes can deliver the required level of operational efficiency the industry needs to compete in the fast-changing banking landscape.

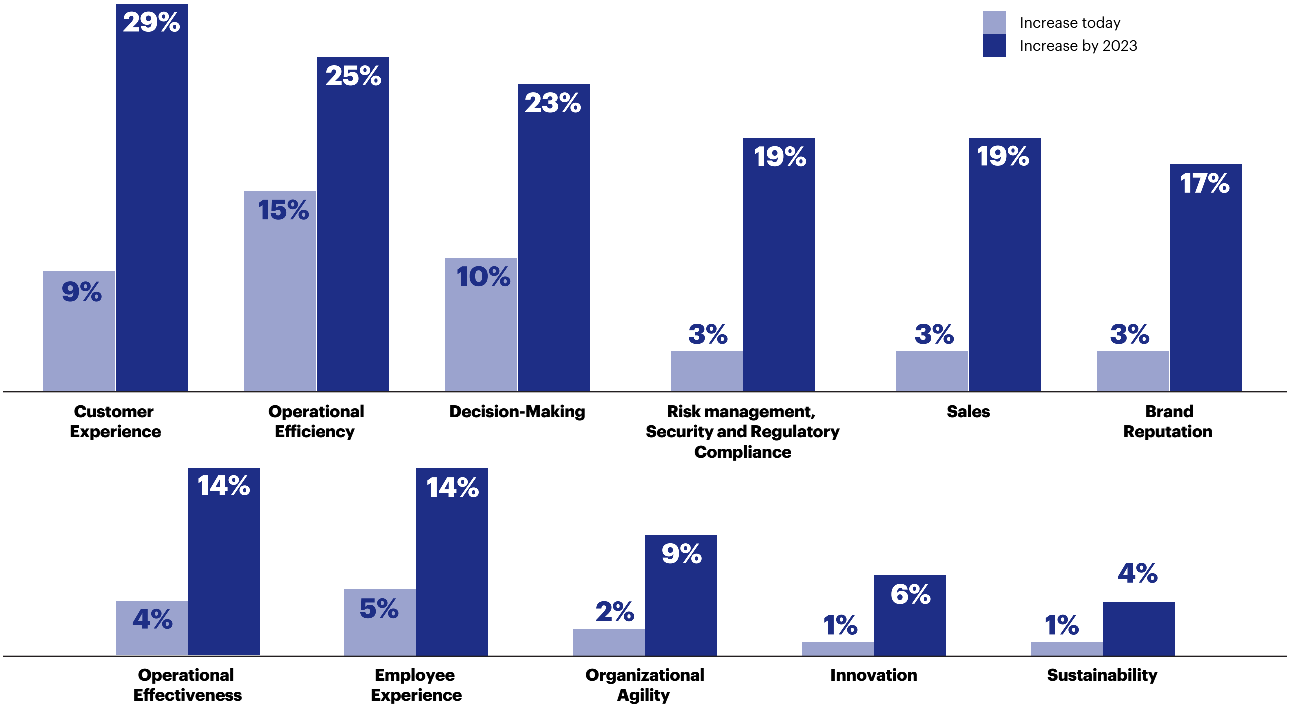
For example, AI-infused analytics can help banks more quickly identify non-performing loans, liquidity impact and fraud so they can respond more quickly. As a senior executive from a large bank in our study said, "AI has certainly helped reduce operational costs, increase productivity and reduce turnaround time. We've reported 12% operational expenses savings in the last 12 months."

Improving back-office capabilities and making them more efficient is the foundation for banks to offer a better customer experience. As processes become more streamlined on the back end, they can be seamlessly integrated with the front end, resulting in a faster and more tailored experience for customers. Between now and 2023, in fact, the focus will shift dramatically as customer experience takes centre stage. Respondents expect to see a 29% improvement in the customer experience by 2023, up from just 9% today.

Elevating the customer experience starts with finding and addressing the specific pain points that can be relieved and liberated with digital technologies. For many banks, this starts with a focus on the call centre. AI-based call centres can not only help reduce wait times, but also provide more accurate and faster resolution and also provide next-best actions that lead to revenues. A large wealth management company, for example, deployed a chatbot-based virtual assistant that handles hundreds of common call centre enquiries and transactions related to account balances, withdrawals, loans and transfers.

FIGURE 5 **CUSTOMER EXPERIENCE AND EFFICIENCY ARE TOP OUTCOMES**

Respondents were asked what progress they expect to make in a variety of outcomes as a result of process augmentation, now and by 2023. (Mean percent increase)



BASE: 287 senior banking and financial services executives
SOURCE: Cognizant Center for the Future of Work

According to the company, the system reduced the volume of calls handled by live agents by 5%, improved the centre's customer service index score by 5% and reduced operating costs by USD6.7 million.

Another top benefit area by 2023 will be decision-making, which will grow from 10% improvement today to 23% in 2023. For instance, banks can use AI to forecast customer behaviour and make instant decisions on loan applications and credit limits. The fundamental difference between banks and fintechs is the speed of decision-making. Fintechs can process loans, which might take banks weeks, in minutes. Common roadblocks for traditional organisations are a corporate culture that hinges on a strict hierarchy, impeding innovation, and an inability to effectively manage burgeoning data volumes, slowing decision-making.

Banks must speed data to speed intelligence. They should set a target for the next 12 months to match their decision-making speed to that of anticipated growth in data volumes. For instance, if you expect a 30% annual growth in data over the next 12 months, then the organisation's speed of making insights and applying data intelligence needs to accelerate by 30% during the same period. Anything less will impact the speed of doing business in this fast-changing world. (See **Figure 5**)

HUMAN + MACHINE: EMBRACING THE NEW RULE BOOK OF MODERN WORK

With augmented processes, organisations in our study espouse the idea of modern work supported by machines and driven by human workers. Respondents firmly believe intelligent machines will take on a greater portion of the labour involved in executing various data-oriented tasks, from about 15% of this work today to 22% by 2023.

Such work includes leveraging data for complex decisions and sifting large data sets for actionable insights. The CFO of a large bank said, "Our employees still have to deal with loads of paperwork daily. Such time-consuming and repetitive tasks often lead to a rise in operational costs, reduce productivity and increase human error chances. AI eliminates all that."

When intelligent machines take on the work of collecting, managing and analysing data, the self-learning algorithms that drive them can learn much faster and generate valuable insights, helping businesses lower costs, improve productivity and offer more targeted products and services to customers.

At the same time, respondents are starting to develop a more realistic view of humans' role in the age of AI. The top valued workforce skills will increasingly be tilted toward very human capabilities that validate the need for human-machine collaboration: decision-making, customer care, communication and analytical work. Both decision making and communication will surge in importance by 2023 (decision-making moving from second to first place, and communication from sixth to third).

These skills are best performed when workers are supported by the insights generated by AI and data analytics, and freed by intelligent automation from performing rote and repetitive work. By augmenting people and processes through new technologies, banks can vastly improve human performance levels.

At HSBC, for example, customers can begin a conversation in the bank's mobile app with an AI chatbot, answering simple questions immediately. Complex inquiries get passed on to front-line colleagues. The AI system provides agents with details on the issue and provides guidance on how to resolve it. The bank aims to handle 10 million chat conversations a month by 2024. When banks pair the right technology with the right human skills, they can unlock new performance thresholds. (See **Figure 6 & 7**)

THERE'S NO GOING BACK: PREPARING FOR THE WORK AHEAD

Changes made now, big or small, can make a significant difference in the future. Here are a few ways in which banking and financial services executives can capitalise on the massive shift in customer expectations that comes with digital's inexorable proliferation:

> Institute front-to-back digitisation

The recent advances in AI, machine learning and robotic process automation have opened up significant possibilities for business automation. It has become an urgent priority to effectively compete with fintech competitors, which have a built-in, born-digital advantage: a structure that enables real-time decisioning, offers and fulfilment in areas that include cryptocurrency and retail and institutional financial services. By coupling process automation with the digital customer experience at the front end and leveraging the power of data analytics, banks can truly become and behave like digital institutions.

> Explore new customer segments and business paradigms.

What was risky in the past is possible today due to the prevalence of data and analytics. For example, while traditional banks had previously not prioritised the small business segment due to profitability

FIGURE 6 **MACHINES MOVE INTO ROUTINE TASKS AND COMPLEX WORK**

Respondents were asked to what extent a range of activities would be carried out by machines vs. humans, now and in 2023. (Percent of work done by machines)

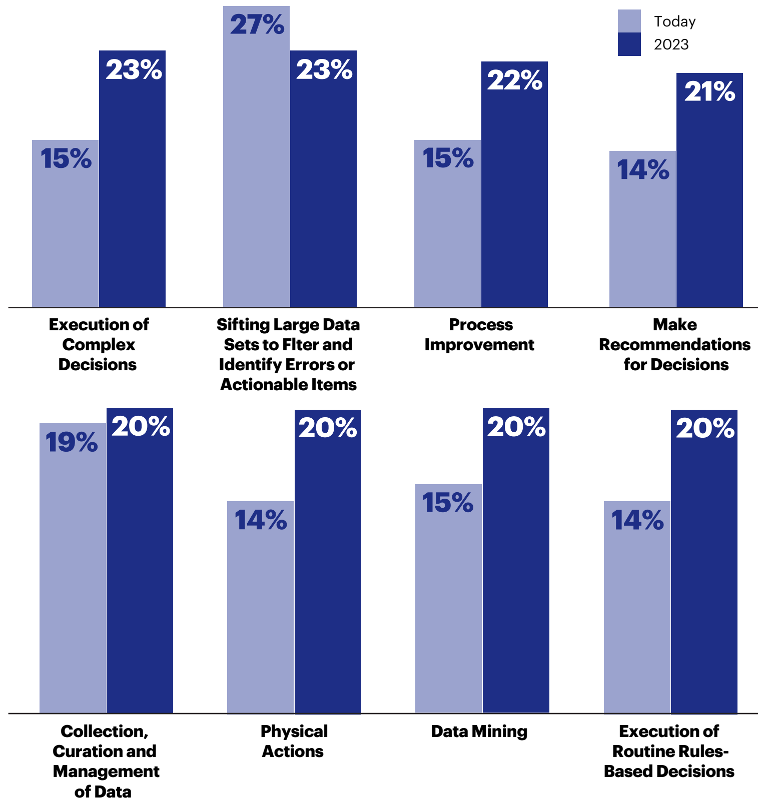


FIGURE 7 **TOP SKILLS REFLECT A NEED FOR HUMAN-MACHINE COLLABORATION**

Respondents were asked which skills were becoming more important today than previously, now and in 2023. (Percent of respondents)

TODAY	IMPORTANCE	BY 2023
Customer care (43%)	1	(64%) Decision-Making
Decision-Making (38%)	2	(63%) Customer Care
Analytical (38%)	3	(61%) Communication
Innovation (36%)	4	(60%) Analytical
Leadership (35%)	5	(57%) Strategic Thinking
Communication (32%)	6	(54%) Learning
Strategic Thinking (31%)	7	(55%) Leadership
Interpersonal (26%)	8	(41%) Selling
Selling (23%)	9	(42%) Interpersonal
Learning (21%)	10	(39%) Innovation

BASE: 287 senior banking and financial services executives
SOURCE: Cognizant Center for the Future of Work

concerns, there is increased action in this space due to more available insights into the creditworthiness of small businesses. Cases in point: Amazon's work with Goldman to provide small-business credit lines, and American Express' acquisition of Kabbage to provide small-business financing. Banks should balance their pursuit of these newer opportunities with their current business.

> Move toward a business model primed on platform centricity and smart aggregation that goes beyond banking.

While fintechs are fuelled by open banking-fuelled democratisation, the prospect of regulation still provides banks with a distinct advantage. It is imperative for banks to adopt a platform-centric approach, driven by digital banking application programming interfaces, to provide customers with a wide range of personalised products from partners, and also to become the engine behind fintech. By correlating customers' financial behaviour with non-bank events, banks and financial services firms can better understand their underlying motivations and build new products and services accordingly. For example, when a customer is looking into buying a new car, a bank could offer an instant view of financing options for purchase. By integrating with other service providers like insurance companies, retirement funds, healthcare providers, retail chains and more, banks could take on an increasingly important role in customers' lives and promote or create new business lines.

> Invest in personalising the customer relationship.

Making customers' lives as frictionless as possible with unique and personalised experiences will be the key to success. Some hyper-personalisation concepts being explored include platforms that deliver integrated banking and business services, such as accounting and payroll management for small businesses integrated with banking services; usage-based product pricing, such as cashback based on purchase type; and dynamic lines of credit, such as capital loans based on predicted cash flow needs and smart underwriting capabilities.

> Focus on rebuilding trust and resiliency.

The shift to a digital-first society will create new questions around privacy, security and the impact of algorithmic-based decisions on disadvantaged communities. For instance, a court in the Netherlands recently determined it was a breach of human rights for the government to use an algorithmic risk scoring system to predict the likelihood that social security claimants would commit benefits or tax fraud. The biggest ethical dilemma of the near financial future is who will be in control: technology or humans. Banks need to ensure the decisions made by technology are unbiased and that the inner-workings of the supporting algorithms are transparent. The goal is to create customer experiences facilitated by machines and intensified by humans. Mastercard, for example, announced the launch of its Data Responsibility Imperative to promote dialogue around how companies collect, manage and use consumer data.

> Enshrine inclusivity into your digital strategy.

Whether for the elderly, physically or cognitively challenged or any population traditionally without access to financial services, digital augmentation can enable banks to reach new customers. In South Korea, KB Kookmin Bank's customers can use palm recognition to withdraw money, making it easier, especially for senior populations, to access services with no need to remember their ATM password or carry a bank book. Catch, a personal benefits platform, offers its retirement savings plans, time-off savings and tax withholding services directly to those in the gig economy.

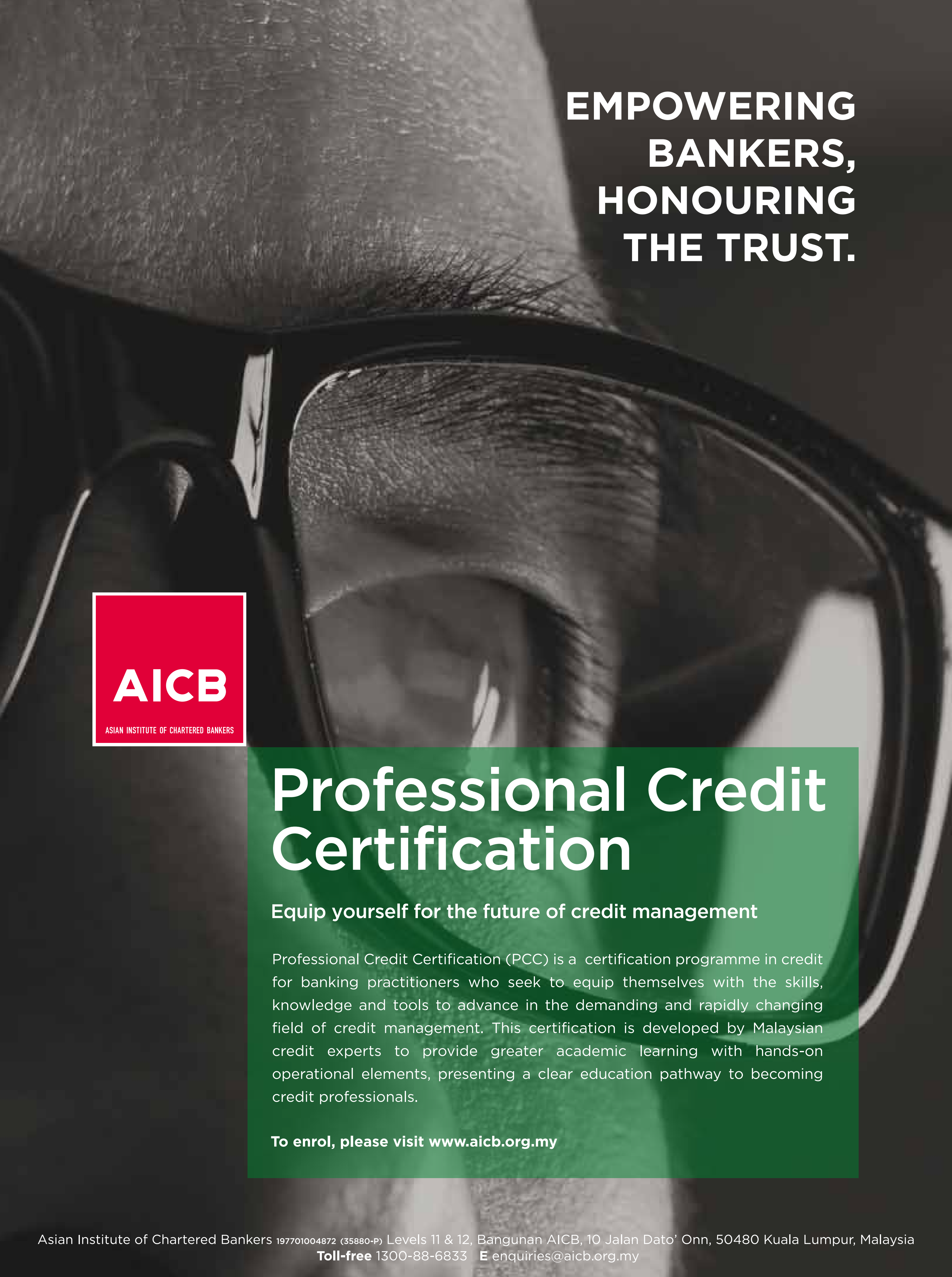
> Strike a balance between machine-driven and human-centric work.

The transition to AI won't happen without an acute focus on the relationship between humans and machines, how the two will collaborate, and how the current workforce and the business itself will adapt to AI. To enable human-machine collaboration, companies will have to deconstruct jobs and identify which tasks are best performed by humans versus machines. As a result of this shared involvement, AI systems can learn to better proceed with new and unknown scenarios, while humans can continue to adapt and focus on higher-value tasks. An excellent first step is to appoint a role such as a human-machine teaming manager to ensure successful collaboration.

THE FINANCIAL WELLNESS INDUSTRY HAS ARRIVED

Banks have a renewed opportunity to align with the needs of the customers they serve – shifting focus from 'managing accounts' to 'managing financial well-being'. Increasingly, customers will want banks and financial services firms to not only manage their money, but also guide them to be in control of their financial future. Using customer data, banks and financial services companies are well positioned today to predict what customers are looking for tomorrow, and deliver value they haven't yet realised they needed. Using immersive technologies, banks can even become a virtual concierge by bringing the in-bank experience to customers' homes. Banks and financial institutions have an opportunity to respond to this shift by becoming more flexible, responsive and human-centric. By making the transition from financial services to financial care, banks can ensure their brand not only survives but also thrives in the post-pandemic future. ✱

■ *Cognizant is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era.*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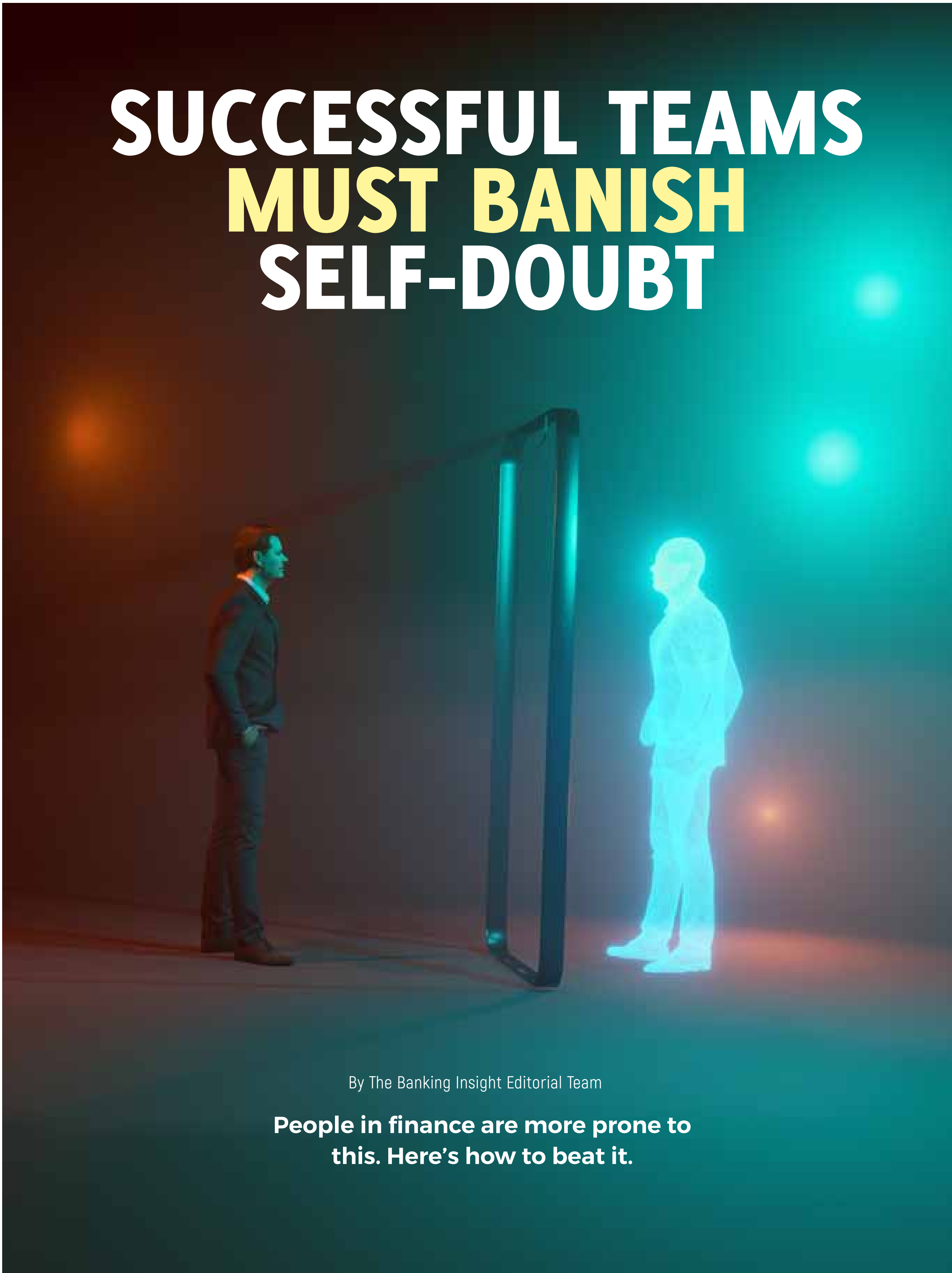


SUCCESSFUL TEAMS MUST BANISH SELF-DOUBT

By The Banking Insight Editorial Team

People in finance are more prone to this. Here's how to beat it.

STRATEGIC IMPOSTORS	TRUE IMPOSTORS
They have a poor perception of themselves and predict that others would rate them as poorly.	They have a poor perception of themselves and predict that others would rate them highly.

Table 1

Long hours, high risk, competitive culture – it's no wonder that employees in high-risk sectors like finance are reportedly more susceptible to impostor syndrome or impostorism.

ACCA Global's July 2020 feature, *Feel Like a Fake?* How to Beat Impostor Syndrome, reports that even before the pandemic, "98% of accountants feel stressed every day and 60% have felt not good enough at their job (i.e. impostor syndrome) in the past 12 months", one of the highest percentages of impostor syndrome due to the nature and demands of their work. A research paper by Jaruwan Sakulku and James Alexander, published in the *International Journal of Behavioral Science,* estimates that 70% of the population experience impostor syndrome at least once in their lifetime.

Impostorism is when an individual feels unworthy or inadequate despite clear achievements and accomplishments. It is also when you doubt these achievements although the evidence of your worthiness is all around. Those who experience impostor syndrome often credit their success to luck or other external factors instead of their own hard work; in psychology, it's termed adopting an external locus of control, i.e. that one's successes or failures result from external factors, such as fate, luck, or circumstance.

Sakulku and Alexander write: "Individuals with the impostor phenomenon experience intense feelings that their achievements are undeserved and worry that they are likely to be exposed as a fraud. This causes distress and maladaptive behaviour. Initially, the impostor phenomenon was believed to only affect professional women. However, feeling like an impostor seems to be widely experienced. Subsequent research has shown impostorism affects a wide range of people."

WILL THE REAL IMPOSTOR PLEASE STAND UP?

There's more to understanding impostorism than meets the eye.

Social psychologists Drs Roy McElwee and Tricia Yurak – whose research expands on the work of Prof Mark Leary, co-originator of the Impostorism Scale – break down impostor syndrome into two forms, i.e. strategic impostors versus true impostors (see **Table 1**).

Individuals with the impostor phenomenon experience **INTENSE FEELINGS THAT THEIR ACHIEVEMENTS ARE UNDESERVED AND WORRY THAT THEY ARE LIKELY TO BE EXPOSED AS A FRAUD.** This causes distress and maladaptive behaviour. Initially, the impostor phenomenon was believed to only affect professional women.

They report: "Although theory predicts that impostors should report that others view them more positively than they view themselves, recent research has failed to support this hypothesis and suggests instead that impostorism may be used as a self-diminishing self-presentation strategy."

What this means is that not all people who say they experience impostor syndrome, actually do experience it. Some people – strategic impostors – intentionally project the outward persona of impostor syndrome in order to manipulate or regulate the impressions other people have of them.

Drs McElwee and Yurak iterate that context in this situation is important in distinguishing true impostors from strategic impostors. They emphasise that the impostor phenomenon is very real and synonymous with low self-esteem, eroded confidence, and negative emotions. Thus, it is important not to undermine or negate people who may truly be suffering from it.

NIP IT IN THE BUD

Covid-19 has contributed to a rise of individuals experiencing impostor syndrome due to the radical change workers have had to face. However, if managers and team leads are serious on building a successful team, it's important they learn to understand and spot the signs of impostor syndrome early on to provide timely support to colleagues.

Research shows that impostor syndrome is part of the spectrum of anxiety, depression, and self-esteem

IMPOSTORISM SCALE

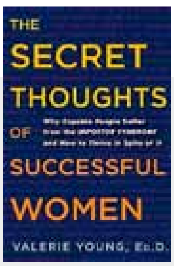
Read each of the following statements carefully and indicate how characteristic it is of you using the following scale:

SOURCE: Leary, M. R. (2013).

1 — **NOT AT ALL** characteristic of me.

2 — **SLIGHTLY** characteristic of me.

3 — **MODERATELY** characteristic of me.



PERSONAS OF IMPOSTORS

According to Dr Valarie Young, author of *The Secret Thoughts of Successful Women*, there are five personas to impostor syndrome.

THE PERFECTIONIST

Tendency to set high standards for themselves. They tend to believe if they do not tick all their 'to do's' off the list by the end of the day, they are failures.

THE EXPERT

Obsessively research a topic for a project as they do not want to appear daft and still feel like they do not know enough. They may refrain from speaking up or asking questions in meetings. Experts can also be seen as overachievers, looking at any way to upskill themselves and only apply for the job if they check off every requirement in the job description.

THE NATURAL GENIUS

May have never had a difficult time learning or grasping new themes or acquiring new skills. Therefore, if they do find themselves in a situation where they are having a difficult time, they see themselves as failures.

THE SOLOIST

Often have a hard time asking for help. They believe that tasks given to them need to be completed by them and them alone. Asking for a bit of guidance or reassurance can seem off-brand and they feel like frauds.

THE SUPERMAN / SUPERWOMAN

They need to excel in every aspect of their lives and have the tendency to go further than above-and-beyond the call of duty. They are often under a lot of self-induced pressure and stress when they believe they are not accomplishing what they have set out to do.

issues, all of which can negatively impact performance. People who suffer from such anxiety disorders have difficulty concentrating and exhibit physical ailments like headaches and stomach upset, increasing the risk of prolonged sick leave and time away from work. Behaviour-wise, those who suffer from impostor syndrome also exhibit poor self-esteem and an unwillingness to advocate for themselves.

Studies prove that higher levels of stress and burnout are part of the territory and will likely decrease overall job performance over time. Especially for new recruits starting out in the workforce during the pandemic, imagine how it must feel to be shut in at home alone and thrown into the corporate world without any physical interaction, face-to-face support, and guidance. Or getting a promotion without some aspect of a real-life exchange with only half a team on-site. These seemingly little things can snowball and have a domino effect resulting in lower levels of organisational performance and job satisfaction.

Here's how the experts say you can spot signs of impostor syndrome:

+ **You feel like a fraud.** Believing you do not deserve success or praise for your accomplishments. Maybe you feel as though you were hired as a mistake. You find yourself accrediting your feats to luck and all the external factors you can think of other than you.

+ **You strive for perfection and try to overachieve.** You find yourself completing every task mainly on your own or fixing up work from your peers. You are not always happy with what you

4 **VERY** characteristic of me.	**5** **EXTREMELY** characteristic of me.

1. Sometimes I am afraid I will be discovered for who I really am.
2. I tend to feel like a phony.
3. I'm afraid people important to me may find out that I'm not as capable as they think I am.
4. In some situations, I feel like an impostor.
5. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.
6. In some situations, I feel like a 'great pretender'; that is, I'm not as genuine as others think I am.
7. In some situations, I act like an impostor.

put forward and infrequently ask for help as you can perceive it as a weakness. You may find yourself overthinking even the smallest of critiques. Your office or workplace culture encourages friendly competition that may translate to an unhealthy competition to outperform your peers.

+ **You are in constant self-doubt.** This stops you from living up to your true potential and hindering your possible success.

SPOONFUL OF SUGAR

If any of these personality traits or behaviours resonate with you or anyone you know, overcoming it requires a move in the opposite direction – a spoonful of positivity that leaders and co-workers can inject into their work culture to help out an ailing team member.

Here are some things that you can do:

> Let them know that they are not alone.

> Understand who in your company may be more susceptible. One helpful tool is the Impostorism Scale (see above) developed by Prof Leary, a 7-item instrument focused on determining one's awareness of being an impostor or fraud.

> Help them understand their cognitions and thoughts. This means they must become more aware of the thought process and catch themselves from getting trapped in a cycle of negativity. This helps deconstruct feelings in a more rational and logical way, enabling them to acknowledge accomplishments and hard work. Remind them that they deserve to be where they are and having a learning curve is normal.

> Incorporate mental health awareness and discuss impostor syndrome on its own. Understand its implications in productivity, devise policies for mental health, and talk about the comorbidities. Destigmatising this phenomenon may make it easier for employees and individuals to be more at ease.

> Build a culture and a positive community in the workplace. It is important to credit and reward work, especially those working from home who may struggle with mental health as they try to navigate the new normal. Therefore, a stronger community in the workplace should be built through team building exercises and emphasising that everyone's well-being is important.

Remind yourself you are doing your best and if you are just starting out, be kind to yourself. Do not be afraid to ask for help from your peers and managers. Learn to give yourself some time, make mistakes, and constructively learn from them, and understand the context of what you are going through.

This is a much-needed refresher that we are not alone and there are strategies and tips that can be taken to aid with these overwhelming moments that never seem to fade away.

For more information around Impostor Syndrome and the recommendations mentioned, please see the above mentioned ACCA Global and *Harvard Business Review* article. Further research includes, *Prevalence, Predictors and Treatment of Impostor Syndrome: a Systematic Review* by Bravata et al., 2020., and *Time*'s online article, *Yes, Impostor Syndrome Is Real. Here's How to Deal With It* by Abigail Abrams. ✱

Is Your Data Decision-ready?

By Julia Chong

Pure reliance on tech isn't enough. It's time to blend the best of humans and machines for optimal outcomes.

Anyone can make a decision, but the best managers and executives know that there is more than meets the eye when it comes to making the right decision.

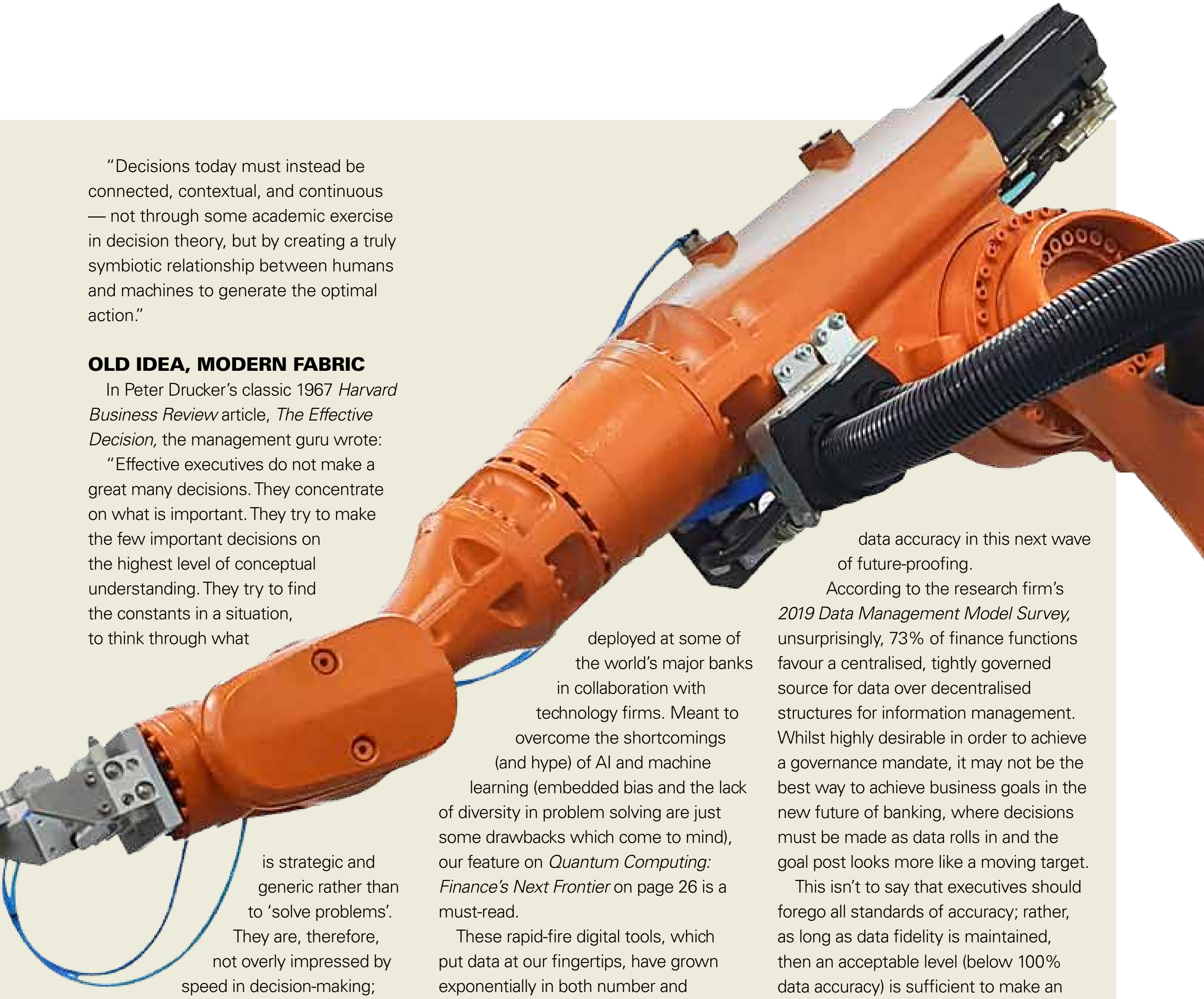
With so much focus on tech and digital, it's easy to get carried away with the feeling that data is the be-all and end-all, but data should not be mistaken for knowledge. The most effective managers and decision-makers still possess that rare, sparkling quality of piercing through the 'white noise' of data to derive true insights – a blended, middle-path approach that straddles both worlds, combining the emotional quotient of human intuition with the hyperscale of tech.

This blended approach, touted as one of the future trends in data and finance, is designed to glean the most from data analytics. It isn't enough to just have data and dashboards; what's needed is analytics that are grounded in business reality, making it decision-ready. Global IT research firm Gartner's Clement Christensen, Senior Principal Advisor, states in a blog post: "Business leaders largely agree that data from finance are often out-of-date, inconsistent, or incomplete. Finance must think more broadly about making data decision-ready."

The IT firm posits that decision-ready data will be the next business imperative for financial institutions seeking to gain or retain its competitive advantage in the coming decade: "Progressive organisations are already complementing the best of human decision-making capabilities with the power of data and analytics and artificial intelligence (AI) — to create opportunities to fundamentally change what they do. The quality of the decisions being made by these data-driven organisations is giving them a competitive edge, especially on digital initiatives.

Decision-makers need organised information for feedback. They need reports and figures. But unless **THEY BUILD THEIR FEEDBACK AROUND DIRECT EXPOSURE TO REALITY** — unless they discipline themselves to go out and look — they condemn themselves to a sterile dogmatism.

"Decisions today must instead be connected, contextual, and continuous — not through some academic exercise in decision theory, but by creating a truly symbiotic relationship between humans and machines to generate the optimal action."



OLD IDEA, MODERN FABRIC

In Peter Drucker's classic 1967 *Harvard Business Review* article, *The Effective Decision,* the management guru wrote:

"Effective executives do not make a great many decisions. They concentrate on what is important. They try to make the few important decisions on the highest level of conceptual understanding. They try to find the constants in a situation, to think through what is strategic and generic rather than to 'solve problems'. They are, therefore, not overly impressed by speed in decision-making; rather, they consider virtuosity in manipulating a great many variables a symptom of sloppy thinking. They want to know what the decision is all about and what the underlying realities are which it has to satisfy. They want impact rather than technique. And they want to be sound rather than clever.

"Decision-makers need organised information for feedback. They need reports and figures. But unless they build their feedback around direct exposure to reality — unless they discipline themselves to go out and look — they condemn themselves to a sterile dogmatism."

One promising and emerging source for data speed and accuracy is the burgeoning field of quantum computing, currently deployed at some of the world's major banks in collaboration with technology firms. Meant to overcome the shortcomings (and hype) of AI and machine learning (embedded bias and the lack of diversity in problem solving are just some drawbacks which come to mind), our feature on *Quantum Computing: Finance's Next Frontier* on page 26 is a must-read.

These rapid-fire digital tools, which put data at our fingertips, have grown exponentially in both number and complexity. Nonetheless, stripped to the bare basics, the fundamentals of what constitutes an effective decision haven't changed that much. All that is required of managers and executives is to update their references and gain a few extra tools to incorporate new tech and data points into their everyday decisioning.

Gartner's 5 Steps to Integrate Human and Machine Insights on the following pages is one such handy tool.

SUFFICIENT VERSIONS OF THE TRUTH

A note of advice, specifically for leaders in finance who have been traditionally trained to adhere to data accuracy at all cost: be prepared to forego some level of data accuracy in this next wave of future-proofing.

According to the research firm's *2019 Data Management Model Survey,* unsurprisingly, 73% of finance functions favour a centralised, tightly governed source for data over decentralised structures for information management. Whilst highly desirable in order to achieve a governance mandate, it may not be the best way to achieve business goals in the new future of banking, where decisions must be made as data rolls in and the goal post looks more like a moving target.

This isn't to say that executives should forego all standards of accuracy; rather, as long as data fidelity is maintained, then an acceptable level (below 100% data accuracy) is sufficient to make an effective decision.

The benefit of this 'sufficient versions of the truth' strategy can be significant. The survey reports organisations that pursue this strategy – as opposed to the 'single source of truth' approach – are 2x more likely to improve the quality of decision-making and business outcomes. This may be incentive enough to get executives to rethink their approach and steer clear of Drucker's "sterile dogmatism" to successfully future-proof banks. ✱

■ *Julia Chong is a researcher and writer with Akasaa, a boutique content development firm with presence in Malaysia, Singapore, and the UK.*

Five Steps to Integrate Human and Machine Insights

Here, Gartner's framework is a useful reference for leaders bent on reengineering the decision-making process in their organisations for strategic advantage. Adapted from its 2021 research paper *5 Key Actions for IT Leaders for Better Decisions*, the following steps are nonetheless applicable for all managers and executives – IT or otherwise – intent on extracting the most out of their data reports whilst leveraging the experience and expertise within existing teams.

01
Identify what decisions to reengineer and why.

02
Prioritise decisions, analytics, and data.

03
Consider the degree of augmentation required from advanced analytics and AI.

04
Understand the role of a data fabric.

05
Identify new skills, habits, and competencies needed.

01 Identify what decisions to reengineer and why.

> **Set the vision.** Consider how you expect reengineered decision-making to move your organisation forward. For example, will it drive digital transformation or provide competitive advantage? Articulate how decision-making in your organisation should look in 2025 or later.

> **Create the business case.** Ask which decision-making processes should be reengineered first and create some targeted use cases and business cases. This approach enables you to master the art of reengineered decision-making before you scale it.

> **Assess capabilities and deficits.** For each of the decision components, assess how well you are doing, and to what extent you would be able to create a repeatable approach. Where weaknesses exist, ask if those capabilities are critical to decision-making. If so, build those skills or technological capabilities.

> **Understand your stakeholders' decision-making.** Establish your starting point by diagnosing the current state of decision-making in your organisation. Identify decisions where complexity has become unmanageable, where data is abundant and insights are few, and where opportunity exists to bring multiple silos of decisions together. Observe meetings in which decisions are made, document rules for operational decisions, interview stakeholders and ask them to walk you through some examples of decisions. Take the lessons and break them down into decision components. Define decision-making principles and identify decision-making habits.

Make this an iterative process.

02 Prioritise decisions, analytics, and data.

Decisions.

> Start identifying and assessing which decisions are insufficiently connected, contextual, or continuous. This is your starter set.

> For each of these decisions, understand their connectedness, what internal and external context is important, and the need for a more continuous process.

> Model these decisions using decision intelligence technology.

Analytics.

> Inventory your current analytics solutions.

> For each solution, determine the extent to which it is used, how effectively it is used and — importantly — why it is used: Do insights offer sufficient context to the decision? How do behavioural or social aspects impact decision-making?

> Start improving analytics solutions, for instance by adding augmented, diagnostic, or predictive analytics or by improving data literacy skills among decision-makers.

Data.

> If you haven't done so already, start initiatives to improve data quality, master data consistency and metadata management (including data catalogues and business glossaries or ontologies).

> Apply data virtualisation to improve (unified) access to data warehouses, data lakes, or other internal or external data sources.

> Complement data management with streaming data capabilities, enabling continuous intelligence.

03 Consider the degree of augmentation required from advanced analytics and AI.

Decision Support

Decision made by human(s), based on principles and ethics, experience and bias, logic and reasoning, emotion, skills, and style (solo, delegated, collaborative).

Machines provide visualisations, exploration, alerts, and other support for human decision-makers.

Decision Augmentation

There are multiple forms of augmentation – machine suggests, human decides; human suggests, machine decides; or human and machine decide together. Each have their own dynamic.

Machines use AI to generate recommendations and may provide diagnostic analytics for human validation and exploration.

Decision Automation

Risks must be managed by, for example, guard rails or a human-in-the-loop for exceptional cases.

Autonomous decision-making by machines, using predictions, forecasts, simulations, rules, optimisation, or other AI.

04 Understand the role of a data fabric.

To free data from silos and combine the best of humans and machines in decision-making, you must assume that all data will be reused in multiple scenarios and you'll need an infrastructure that supports this 'integration always' approach. Data fabric provides that kind of flexibility. Data fabric is an AI-enabled data management architecture that continuously applies analytics to your data to define metadata relationships and to find associations that power analytics, business applications and decisions. It can find connections among data — and not just data you brought together deliberately. It dramatically changes the economics of data management and starts to build insights autonomously. Data fabric can scan the actual use of data for new patterns, new types of metadata, and new forms of data orchestration, enabling machines to infer and impute as well as report data. The data fabric presents leaders with an opportunity to replace separately deployed and maintained data management technology and infrastructure. Data fabrics can remove a lot of human effort and error, leaving humans with more time for the creative inputs for decisions at which they excel.

05 Identify new skills, habits, and competencies needed.

Data is not the only driver of good decision-making. Leaders also need to foster organisational and analysts' skills and competencies to improve decision-making. Four things to focus on:

> **Increase data literacy throughout the business.** To make good decisions, all stakeholders must be able to read, write, and communicate data in context.

> **Create new decision-making habits.** For example, systematically use logic to make rational trade-offs, channel emotions productively, and build experience in extrapolating the consequences of decisions.

> **Consider decentralising decision-making.** One option is to establish a data centre of excellence to collaborate with multiple decentralised teams and communities and the centralised office of the chief data officer or whoever is the champion for data in your organisation.

> **Position some analysts as 'decision engineers' tasked to diagnose and rethink decision-making processes, optimising the roles of humans and AI.** These specialists can proactively design better ways of making optimal decisions, leveraging techniques such as portfolio analysis, Monte Carlo analysis, simulation, decision modelling, systems modelling, statistics, and optimisation modelling.

THE USE OF AI/ML TO SHARPEN DETECTION

By Deloitte Southeast Asia

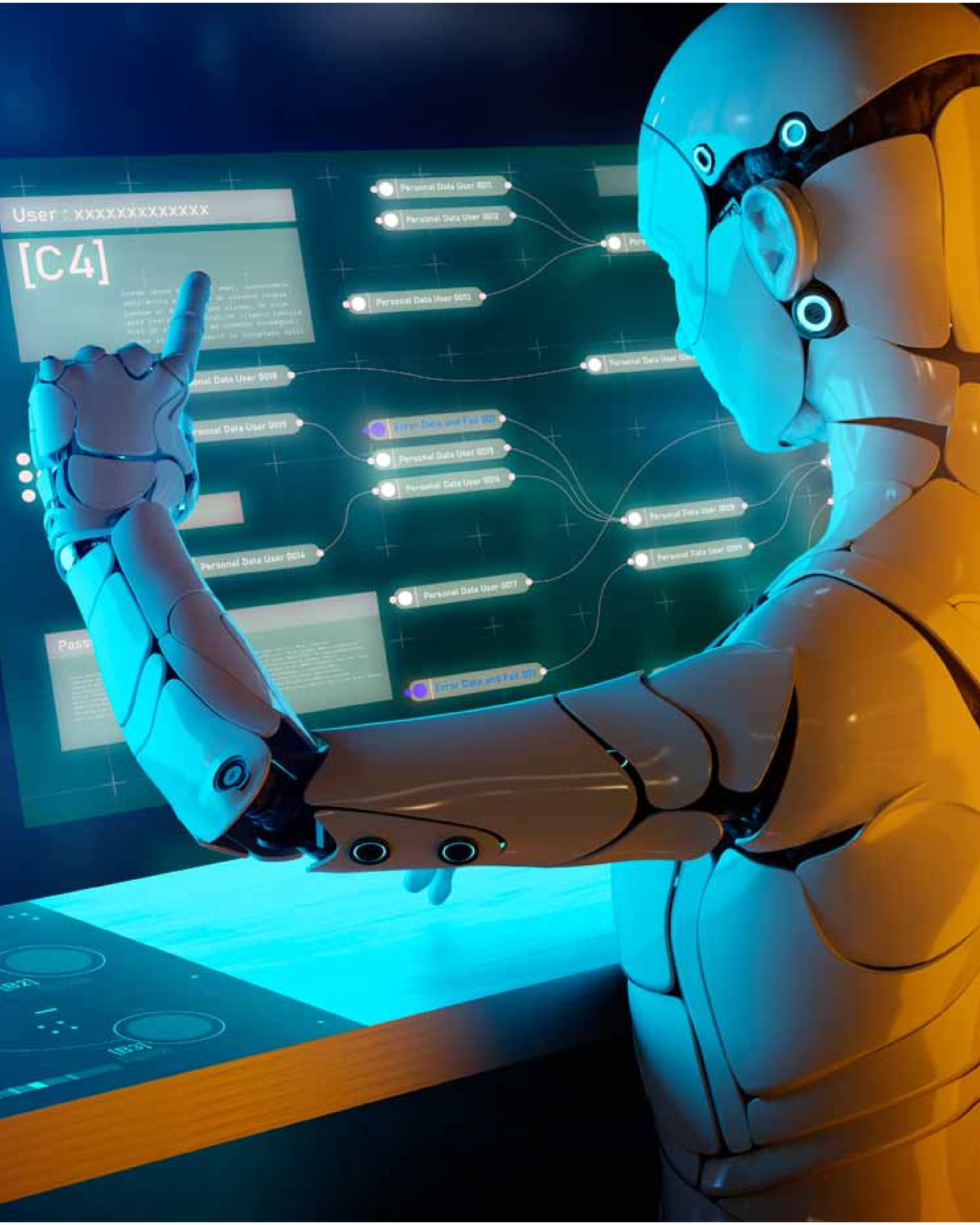
Cognitive technologies help tip the scale in the battle against money laundering.

Despite substantial investments in detection, prevention, and deterrence capabilities, financial crime remains a trillion-dollar problem and one of the top risks facing the financial services industry (FSI) and society in the world today. Criminals are becoming more sophisticated in their use of technology, identifying and exploiting flaws in financial systems and leveraging emerging technologies like new payment platforms and cryptocurrencies to conduct complex, multilayered transactions that are becoming increasingly difficult to detect and trace.

However, technology does not only impact how the crime takes place – it can be used to fight crime too. Digitisation, which has been accelerated by the impact of Covid-19, is changing the type of financial crime and the way law enforcement and regulators seek to detect it. For example, traditional cash flow metrics and physical document verification controls are becoming increasingly irrelevant to digital transactions. For businesses to see the greatest benefit of technology in the fight against financial crime, they will need to embrace it throughout the customer life cycle in an integrated fashion. However, different organisations are at different stages of technology adoption and have different needs and budgets to carry out such projects, especially since technology solutions often rely heavily on the ability to integrate efficiently with existing systems and require complete and accurate data.

AI/ML WORKING TOGETHER WITH TRADITIONAL SYSTEMS

Artificial intelligence (AI) refers to machines that can mimic human cognition and take on tasks that require relatively complex reasoning and decision-making.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AI can help to automate business processes, detect patterns in criminal behaviour, generate insights, and engage customers and employees through routine communications. This technology is being used to enhance transaction monitoring (TM) and name screening systems and processes by making them faster and producing more accurate anti-money laundering (AML) data, which allows an organisation to conduct thorough risk assessments.

Machine learning (ML) is a subset of AI that can continually improve a model, allowing the effective capture of subtleties and dynamism around criminal behaviours which are almost impossible to code effectively under a rules-based approach. Through continued exposure to data points, the machine 'learns' to grasp patterns in data or tasks beyond its pre-defined coding, therefore facilitating more accurate and predictive analytics from large, complex data sets, making it easier to adapt quickly to new threats and methodologies. ML is particularly relevant to TM, due to its ability to 'make judgments' about criminal behaviour, thereby increasing the accuracy of its risk assessments and thus reducing the risk of 'false positive' alerts (falsely alerting teams of suspected improper behaviour).

ML algorithms can be taught to detect and recognise suspicious behaviour and assess risks accordingly. For example, machines will learn and focus on 'bigger' risks, knowing when to ignore unusual transactions that present no risk as dictated by their records and customer behaviour. The greatest opportunity for AI/ML adoption lies in the monitoring of money laundering and terrorist financing transactions. Traditional systems detect very specific patterns and can be broken. In addition, the results of these traditional models contain more noise than 'risk signals' because the network is often spread out so as not to miss potentially suspicious activity. If the rule thresholds are relaxed to capture suspicious transactions close to 'normal' activity, there will inevitably be a greater number of alerts that will require expensive manual review to resolve. However, only a very small number of these warnings will result in suspicious behaviour requiring escalation.

ML models, combined with the output of existing systems, can be trained to identify characteristics or indicators of behaviour, highlighting when an activity is truly suspicious. ML technology (such as anomaly detection) can be used to identify previously undetected transaction patterns, data anomalies, and suspicious person-entity relationships. This type of ML technology no longer requires static rules but is based on known and trending patterns or threats, making it more difficult for criminals to hide in the banking environment.

ML can be applied to name screening where systems are required to screen customer names against global lists of known criminals, and blacklisted and sanctioned organisations and individuals. The challenge for many financial institutions (FIs) is to strike a balance between 'fuzziness' and accuracy. In other words, current text matching algorithms are not an effective tool to track potential data capture nuances, such as the order of names, titles, salutations, abbreviations, name variants, and common misspellings. In addition, the task is complicated further when dealing with common names where it is difficult to pinpoint the exact individual. The prevailing rules-based approach is both onerous and manual, resulting in increased workload for compliance, as well as potential gaps in surveillance and monitoring. Applying ML to improve match

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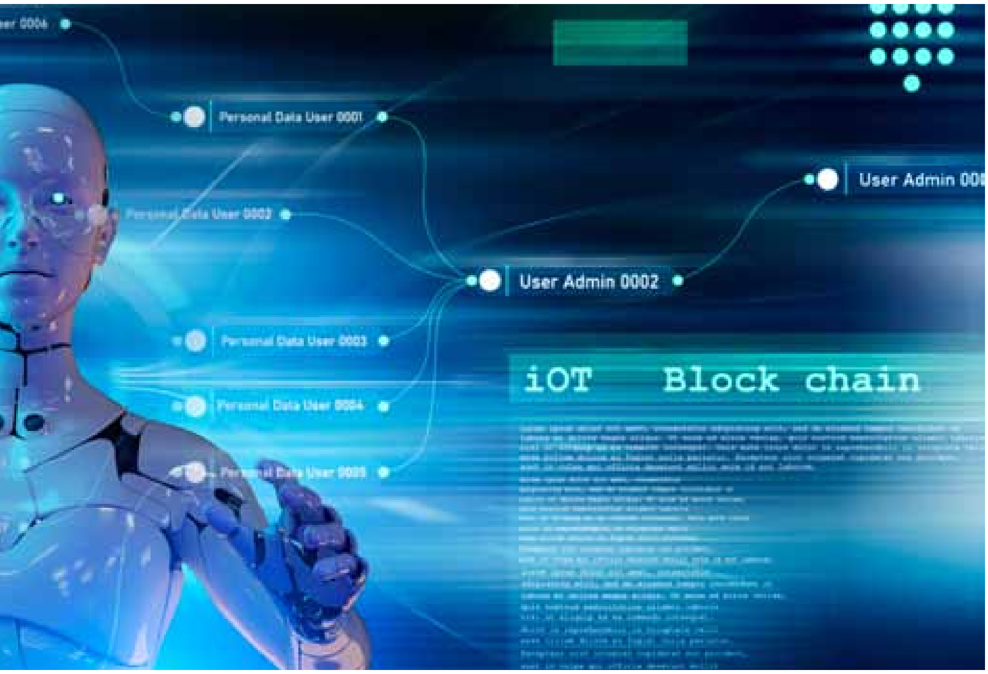

criteria and predict the likelihood of name matching can significantly increase efficiency when it comes to identifying hidden links (parsed from available links) or relationships. Enriching the data with more contextual information about the entity (such as demographic, network and behavioural data) can significantly improve the accuracy of the matching process. Other areas of ML that are becoming more prominent include fraud detection, automated reporting, and enhanced surveillance, including monitoring of voice, video, text, and pattern transactions.

MITIGATING THE RISKS

Although AI and ML models benefit FIs in various ways, we must not overlook the potential risks associated with them. Firstly, the input data in ML models are vulnerable to risks such as biases in the data used for training. This particular data comprises of incomplete, outdated, or irrelevant data; insufficiently large and diverse sample size; inappropriate data collection techniques; and a mismatch between the data used for training the algorithm and the actual input data during operations. Furthermore, the algorithm design is susceptible to risks, such as biased logic, flawed assumptions or judgments, inappropriate modelling techniques, coding errors, and identifying spurious patterns in the training data. Finally, output decisions are vulnerable to risks, such as incorrect interpretation of the output, inappropriate use of the output, and disregard of the underlying assumptions. All of the above risks can be mitigated if the right approach for operationalising and documenting the AI process, with a particular focus on deployment into production and an in-depth understanding of the models and algorithms used, is adopted.

There are a few underlying factors that contribute to these risks, including the cognitive biases of model developers or users, which can result in a flawed output. In addition, the lack of governance and misalignment between the organisation's values and individual employee behaviour can yield unfavourable outcomes. The lack of technical rigour or conceptual soundness when it comes to algorithm development, training, testing, or verification may lead to an incorrect output, which in turn leads to an unreliable algorithm. Despite the reliability of vendors, flaws in the implementation of an algorithm, its integration with operations, or its use by end users can lead to inappropriate decision-making. Lastly, internal or external threat actors can gain access to input data, algorithm design, or its output, and manipulate them to introduce deliberately flawed outcomes. Hence, to effectively manage the risks of groundbreaking technology such as ML, FIs will need to establish a solid framework; to restructure and to modernise traditional risk management framework capabilities.

BENEFITS OUTWEIGH THE COST

A potential deterrent for FIs when it comes to implementing AI/ML models is the cost. It is common to overlook the cost of these revolutionary ML models as we are so enamoured by its capabilities, and in reality, vendors can charge up to millions to implement an AI/ML model into the existing AML technologies. However, the benefits typically outweigh the cost in the long run. Deloitte conducted an exercise to validate the models in UOB, a leading FI in Singapore and Southeast Asia, where we found that ML was able to drive new levels of efficiency and effectiveness. For its transaction monitoring framework, UOB focused on the optimisation of detecting new, unknown suspicious patterns and to prioritise known alerts. The outcome was overwhelming, and it proved to be a step in the right direction with a 5% increase in true positives and a 40% drop in false positives. On top of that, we also noted that the name screening module saw similar positive results. To enhance

The lack of technical rigour or conceptual soundness when it comes to algorithm development, training, testing, or verification may lead to an incorrect output, which in turn leads to an unreliable algorithm. Despite the reliability of vendors, **FLAWS IN THE IMPLEMENTATION OF AN ALGORITHM,** its integration with operations, or its use by end users can lead to inappropriate decision-making.

the name screening process and to improve detection, the module was designed to handle a wider range of complex name permutations. Simultaneously, the module was also designed to reduce the number of undetermined hits through enriched 'inference' features and the inclusion of additional customer profile identifiers. For its name screening alerts, there was a 60% and 50% reduction in false positives of individual names and corporate names respectively. The cost is a small trade-off for the many benefits that FIs can reap from using ML.

Apart from the validation performed at UOB, there are multiple case studies in the industry evidencing the efficiency gains from implementing AI/ML. What we observed from a case study of a Hong Kong SAR subsidiary of a large international bank was that the bank sought to significantly reduce the number of human interventions required to clear alerts by leveraging on AI/ML. An ambitious target was set to develop a fully automated solution, which would not only assign a probabilistic 'score' to alerts (based on the likelihood of possible criminal behaviour), but also issue well-reasoned, AI-generated recommendations to either escalate or close each case. Data from previous name screening alerts, including the decisions made by analysts in the review process, was used to 'train' the ML model. This 'training' was repeated several times until the model began to produce promising results, and an internal proof-of-concept could be conducted

In order to gain the biggest return on their investment, FIs will need to ensure that their AI/ML solutions are **DESIGNED WITH CONSIDERATION TO DATA QUALITY AND ACCESS,** systems, processes, organisational structure, and available technologies and technology providers.

to validate the solution. The main benefit of the FI's ML-based name screening solution is that it greatly improves the efficiency of the investigation process and reduces the number of alerts that require manual intervention by an average of 35% (and in some cases up to 50% of jurisdictions). This, in turn, streamlines the review process and increases the time analysts can spend reviewing flagged alerts. What we can gather from the case studies of multiple FIs is that AI/ML has had a positive impact in improving the efficiency in name screening, reducing false-positive rates, and reduction in alerts requiring human intervention.

Notwithstanding all the potential benefits that it may bring, AI/ML in AML/combating the financing of terrorism isn't a silver bullet yet. With the evolving capabilities and advancement in technologies, there is the possibility that we will see an uptick in the number of AI/ML models replacing the traditional AML framework in the future. Humans are still pivotal in developing these models – making sure they meet the regulatory requirements, evaluating the performance of the output, and making decisions on complex cases using predicted outputs. In order to gain the biggest return on their investment, FIs will need to ensure that their AI/ML solutions are designed with consideration to data quality and access, systems, processes, organisational structure, and available technologies and technology providers. Establishing diverse cross-functional and cross-regional teams and ensuring stakeholder buy-in will also be paramount to ensuring a successful outcome. In addition, robust governance frameworks, the establishment of ongoing training on financial crime risk management, and ongoing development of regulatory technology solutions will also ensure the continued success of AI/ML models. ✱

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