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INFOCUS

ECONOMIC RESILIENCE

How to be resilient in today's economic climate

Korea's 21st century communications formula

Hong Kong: A virtual banking hub

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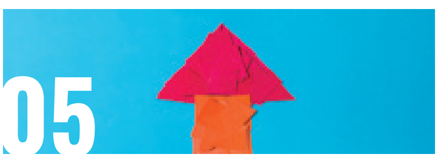

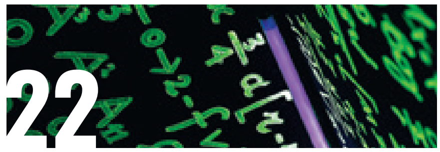

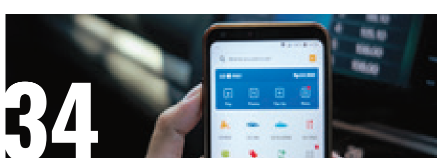

About IN FOCUS

It is a complimentary bi-annual publication. Its inaugural issue was published in November 2017 and it is an extension of WIEF Foundation's online bank of articles that is constantly growing to cater to the reading pleasure of the global business community. Do drop us a line on economic and business-related matters you think we should report on.

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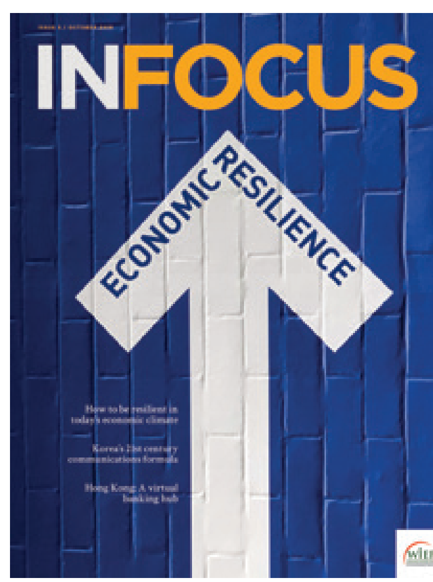
ON THE COVER, ISSUE 5
Economic Resilience
Photo by Nick Fewings



Architecting Economic Resilience

This issue of *In Focus* highlights economic resilience. The relevance of the theme speaks of the clear and present danger the global economy faces. It is now time for a discourse on how the global economy can attain rapid recovery, back to its previously healthy growth, if not better.

One way to achieve this is through inclusive growth. Inclusive growth is Sustainable Development Goal 8, and for most governments, it has become a political priority as well as a national agenda. This makes sense because it is an economic growth that distributes fairly across society and creates opportunities for everyone.

A key challenge is to achieve inclusive growth by providing social protection and empowerment to people. This in turn, strengthens human security which is fundamental because communities build economies.

Basically, equality promotes economic resilience because the opposite would jeopardise social unity and this significantly decreases a population's economic resilience.

To be resilient economically, it involves three aspects: one, able to quickly recover from a shock; two, able to endure a shock, and; finally, able to avert a shock. These three aspects require the ability to respond and develop a responsive capacity. Thus, this is where we are today, figuring out how to cultivate a responsive capacity.

A solution may well lie in technology but don't forget about human ingenuity that drives innovations for a durable future, for endurance, and survival from a tepid economic growth. In an age where everything is driven largely by the fusing of digital, physical and biological innovations, it is easy to discount the human touch.

Humans' inherent resilience has proven to abet in manoeuvring on-going trade disputes, and for more than a decade now, disruptive technology that has contributed to the shrinkage of workforces. Although, disruptive technology is also a catalyst for advancement and remarkable innovation.

The key here is, adaptability and embracing change. Global dilemmas such as declining job opportunities, exclusivity and climate change can be combatted with, for example, skill-upgrading through contemporary educational systems, ensuring inclusivity and practices of sustainable development.

While embracing change, remember that technology is an agent of change. It plays an integral part in absolutely everything in our lives and the onset of the 4IR marks the mammoth increase of our reliance on technology. However, when used right and for the greater good, technology will be a protagonist of the future.

So, on that note, I urge you to take the topics out of these pages, hold dialogues on building a resilient economy and progress towards advantageous collaborations that will inevitably lead to mutual economic benefit.

In short, be an architect of a resilient economy. ■

Tun Musa Hitam
Chairman of WIEF Foundation

How to be Resilient in Today's Economic Climate?

Here, ***Su Aziz*** compiles responses by individuals from varied backgrounds, which unwittingly divulge strategies to develop resilience towards an unstable economic period.

Christine Lagarde

Former Managing Director, IMF

June 2019, during a Special Engagement Session at the University of Malaya in Kuala Lumpur, part of the speech contained: 'Since 2000, Malaysia's real annual GDP growth averaged 5.5 per cent. Real income per capita grew by nearly 6 per cent per year. Average life expectancy has increased by almost three years. How did you get here? In part by pursuing economic diversification, strengthening the financial sector and focusing on sustainable growth. The result has been a more inclusive, resilient Malaysia that was able to withstand the impact when the global financial crisis struck in 2008.

'Malaysia capitalised on its geography to improve trading relationships and foster integration. It has established itself as a global manufacturing powerhouse… But Malaysia doesn't just produce, it also invents. Malaysia has become a hub of innovation. Over the last five years, startups ranging from digital media companies to web-based financial services to online professional recruitment agencies have sprung up across the country. And we know an entrepreneurial economy like this one can only thrive with an educated workforce.

'A compulsory education requirement could provide a much-needed boost to student enrolment rates and help hundreds of thousands get on the right track early…Investments in high-quality education can reduce skill mismatches, raise wages and help all Malaysians harness the potential of new technologies. And as the child of teachers I also have to say this - let us not forget the educators… One issue [Teach Malaysia is] focused on, is improving the quality of teaching - including incorporating more math and science into the curricula at all levels.'

H.E. Maria Castillo Fernandez

EU ambassador to Malaysia

An economy that can embrace and incorporate the challenges of climate change into its growth and development, that upholds the principles of governance, rule of law and prioritises the welfare of its citizens, is one that in the long term, will serve its citizens best.

Andrew Ching

CEO, E-Plus Ltd

Change happens whether we like it or not and we can only be prepared for it. With the recent unfolding of events, the business we are in – events and sports management – is one of the worst to be hit. Clients won't spend unnecessarily by engaging external services and consumers will pick and choose the events that they plan to participate in.

To get through these challenging times, firstly, we have to employ a defensive strategy whereby we ascertain how we can retain our current customers by providing value-added services and thorough knowledge of our customers is essential for this strategy to work.

Secondly, we have to look at a diversification strategy where we've to seek opportunities in regional markets rather than just local. Providing current and existing services to other nearby relevant markets would be able to generate additional revenue from other potential customers in the region.

Finally, a defining strategy is the most relevant in these times as we must continue to do business, sustain the company and give existing as well as potential customers the belief that we're able to provide the best services, and manage the most attractive events in the market regardless of the economic situation.

Though the economic climate may not be favourable at the moment, but we believe that by adhering as close as possible to our strategies, we will not only survive but we'll be able to pursue new opportunities.

Mobasher Zein Kazmi

Director, Zein Consulting

Resilience in today's climate, especially in the context of emerging and frontier economies, requires a combination of institution-building, technological innovation, market openness and sustainability. No country will be able to progress socio-economically if state institutions lack capacity, the legal and judicial system is found wanting and government machinery is weak as well as ineffectual. The various branches of government must deliver on good governance coupled with sound law and order, so as to provide the basis for sustained growth and macro-economic stability.

The next aspect of resiliency is focused on technological innovation where economic participants are encouraged and incentivised to invest in research and development of new solutions that address common problems. Technological innovation can be either organic and homegrown or externally driven through partnerships, which facilitate technology transfer and upskilling of human resources.

The third critical factor is market openness – this dimension increasingly gains importance in light of the ongoing trade wars between competing economic giants. Long-term economic resilience mandates that markets remain open for international trade, and free flow of capital and labour is to a large extent made possible through the formation, as well as active participation, in trade blocs or bilateral free trade agreements. Frontier economies must focus on specialisation to capture niche markets while diversifying their export product and service portfolios as their economies mature.

Finally, sustainability within the context of natural resources and the environment is paramount to offset wastage and depletion. Regulation, governance and awareness among key stakeholders are key planks of an effective sustainability regime.

Dr Ting Siew King

Senior Lecturer of Economics, Universiti Teknologi MARA Sarawak

In Malaysia, according to Central Bank of Malaysia's report, the household debt to GDP was 83 per cent or RM1.18 trillion in 2018, with main expenses in residential property loan (53.2 per cent) and the remaining 46.8 per cent in personal consumption including motor vehicles, credit card and personal finance. The high debt ratio has caused concern from various sectors in the economy.

Economy is a zero-sum game. A poor man's debt is a rich man's asset. How does individual household pay debt obligations in the event of a financial or health shock? We shall refocus and look into three basic players of household debt namely: households, financial institutions and governments.

Households must take initiative and responsibility to understand how financial system works and make informed decisions. With financial knowledge, households can avoid unnecessary borrowings and learn how to create wealth. The National Strategy for Financial Literacy (2019-2023) by the Malaysian government is indeed a good platform to nurture households' financial management skills in the long run.

The financial institutions should closely monitor the household debt in the economy. Adjustments of household debt is never an easy task. Over – or under – adjustments of household debt will undoubtedly have negative effects to the economic and financial stability. The household debt to GDP ratio of developing and developed economies should only be used as a guide in managing financial stability, given differences in politics, economy and social development in each country.

Governments play a crucial role in ensuring households' long-term financial resilience. Various strategic measures should be implemented by governments on household income growth, housing market, public transportation, and especially in East Malaysia: job creations and social well-being benefits with high level of transparency as well as accountability. ■

BEING INCLUSIVE AND RESILIENT

Prominent Malaysian economist ***Dr Jomo Kwame Sundaram*** answers some questions on Malaysian as well as global views of inclusion and economic resilience.

When asked about the future of the global economy, Malaysian economist, Dr Jomo Sundaram says, 'I am no fortune teller. I do not trust those who claim to know the future with any degree of certainty. This is true not only due to the earlier unpredictability of world economic trends, but especially with the current American leadership which thrives on being unpredictable. For example, no one would have predicted that former US Federal Reserve chair, Janet Yellen, would have supported the American interest rate cut, which President Trump seeks and her successor, appointed by him, seems to have been resisting.'

What will influence the global economy?

The uneven financialisation of the world economy has been reshaped, but not thwarted by the 2008-2009 global financial crisis and the varied policy responses to it. Instead of ensuring growth and stability, the Bretton Woods institutions (World Bank and IMF) have become handmaidens of some of the new forms of financialisation that are putting us all at risk. Limited reforms – mainly introduced at the national level, as there is very modest international financial governance capacity – have been largely rolled back over the last decade, leaving global finance and the real economy now more vulnerable than ever.

How can inclusivity guarantee economic resilience?

The notion of inclusion is the opposite of exclusion. One school of thinking presumed that poverty was due to exclusion. Such thinking implicitly rejected the possibility that poverty may be due to inclusion, rather than exclusion. For example, financial inclusion of the poor may deepen indebtedness, which could be impoverishing, rather than emancipating. In any case, such thinking argues that inclusion will reduce inequalities, for which there is no strong evidence, and that reducing inequalities will ensure greater social, political and economic resilience. There are many variations of such arguments which rarely stand up to critical scrutiny.

What has made Malaysia's economy inclusive?

As Malaysian political discourse has been ethno-populist since the 1930s, and especially after the elimination of the left in the mid-1960s, the New Economic Policy (NEP) is widely believed to have been responsible, not only for eliminating poverty, but especially for reducing inter-ethnic disparities, particularly between Muslim Malays and non-Muslim Chinese. In this sense, inclusion is associated with reductions in overall income inequality as well as inter-ethnic disparities.

From another perspective, most Malays were excluded from the modern capitalist economy, and participation, it is presumed by those who share this view, implied inclusion as well as progress for them. This ignores the fact that most workers, especially in primary production, were poorly paid, although they may have had higher cash incomes than farmers who produced at least some of their own food and other needs.

The development of capitalism in the country dates back to the colonial period, spreading from trade to finance and production, as the books, *Charting the Economy and Striving for Inclusive Development* by Raja Nazrin Shah, the Sultan of Perak, and other books show. Industrialisation got a boost with new policies after independence, which accelerated economic growth and transformation in the last four decades of the 20th century. These slowed in the last two decades after the Asian financial crises, especially under the post-Mahathir regimes.

Is Malaysia's economy resilient, at least, for the next five years?

Despite prudential macro-financial measures introduced following the 1997-1998 Asian financial crisis, new vulnerabilities have emerged, with continued financial innovations and reactionary policy responses to globalisation's discontents, especially in the last decade. Malaysia's economy is now open on many fronts, with most posing vulnerabilities. The economy isn't only heavily reliant on international trade and foreign markets, but also on foreign direct and portfolio investments as well as technology, all of which involve economic losses of various kinds.

Such openness poses huge problems as globalisation and its reactionary discontents have become more significant in the last decade with unpredictable responses and consequences. However, it is financial integration, especially with fast changing financialisation, and its enablers – including private banking, investment banks and universal banking as well as non-bank financial institutions – which pose the greatest dangers to the world economy.

Last Words

The ideal example of an inclusive economy? Well, by definition, the ideal is not to be found in the real world. Further, the answer depends heavily on what one means by inclusion. It seems useful to think of inclusion as 'double-edged'. For the vast majority, who are wage-earning employees, inclusion means an income associated with employment, but it also means greater income streams for their employers from their work efforts. Furthermore, there's no agreed definition when it comes to measuring a country's economic inclusivity, and frankly, I do not find it terribly useful for understanding the world we live in.

Lastly, in the midst of many economy-affecting issues such as trade and tech wars, ensuring sustainable economic growth is a challenge. Malaysia's high degree of openness and vulnerability, summarised earlier, makes it all the more difficult to ensure sustainable economic growth. Prudential measures are needed to reduce these vulnerabilities, but as such measures are not costless, it is necessary to make a careful critical assessment to identify those measures to be prioritised for minimally costly design and effective implementation or enforcement. ■

About the Author

Dr Jomo Kwame Sundaram was a member of the Council of Eminent Persons, and is a member of the Economic Action Council advising the Malaysian Government. A prominent Malaysian economist, he held the Tun Hussein Onn Chair in International Studies at the Institute of Strategic and International Studies in Malaysia during 2016-2017. He was the United Nations Assistant Secretary-General for Economic Development in the United Nations Department of Economic and Social Affairs (DESA) (2005-2012), after which he was Assistant Director-General and Coordinator for Economic and Social Development at the Food and Agriculture Organization of the United Nations in Rome until 2015.

BEING ECONOMICALLY SOUND

Former managing director of IMF, ***Christine Lagarde***, has spoken many times on economic resilience and inclusivity. Here are some highlights from her latest speeches on the topic.

During the opening remark at the World Economic Outlook Conference in January 2019, former managing director of the IMF, Christine Lagarde likened the world economy to a cross-country skier: the skier was moving at a relatively high speed the previous year but now the slope's changing and pointing slightly uphill. Although it's still a good trail to be on but it's harder to keep up the momentum.

Basically, after a strong growth in the past two years, the world economy is going through a slower growth rate than expected and, 'even as the world economy continues to move ahead, it's facing significantly higher risks [and] some of them [are] related to policy', Lagarde continued during her address. 'These risks are now increasingly intertwined: think of how higher tariffs and rising uncertainty over future trade policy fed into lower asset prices and higher market volatility. This in turn contributed to tightening financial conditions, including for advanced economies, which is a major risk factor in a world of high debt burdens.'

Could this be forecasting a recession? Lagarde had voiced a firm no, 'but the risk of a sharper decline in global growth has certainly increased. Add to this geopolitical worries and disappointing long-term growth prospects, and you have an economic picture with a clear message: address remaining vulnerabilities and be ready if a serious slowdown were to materialise. For most countries, this means harnessing the existing growth momentum to create more policy room to act.' The goal, according to Lagarde, was to make economies more resilient as well as more inclusive, and to increase collaboration.

During an address on IMF's approach to social spending in June 2019, Lagarde acknowledged how, 'for economies to be resilient and growth to be sustainable, this growth needs to be inclusive – which calls for social spending. This in turn provides the social and political buy-in for growth-supporting policies and in doing so, builds trust.'

The bottom line, Lagarde believed, was that social spending matters, especially today, because of several reasons: new challenges, more retirees which spells fewer workers, technological effects on work and wages, increasing inequality and demands for greater fairness, challenges women face to participate in the economy and realise their full potential, existential threat of climate change, diminishing trust, rising discontent, and a turn away from global cooperation.

'There's no simple policy response to these complex challenges,' Lagarde admitted during the address on IMF's approach to social spending. 'Yet, while social spending isn't the only lever in such a response, it's undoubtedly one of the most important. It's no surprise that surveys indicate rising public support for income redistribution policies in many countries. Social spending must therefore take its rightful place at the centre of macroeconomic policy discussions.'

Lagarde made it clear that social spending wasn't just an expense, 'but rather the wisest of investments in the well-being of societies. Expansion of access to education and health generates broader productivity gains across the population, allowing all citizens to flourish. To reap the rewards of a stronger global economy tomorrow, we must begin by strengthening social programs today.' However, Lagarde admitted that in reality, the best of intentions run up against the firmest budget constraints.

How, then, should we proceed? 'We must start from the premise that social spending needs to be adequate, yet also efficient and financed sustainably. Spending adequacy. Spending efficiency. Fiscal sustainability. These are the yardsticks we'll use to assess the "macro-criticality" of social spending,' Lagarde responded. 'Of course, there's no one-size-fits-all when it comes to designing social spending programs to reduce poverty, boost inclusion, and protect vulnerable households. Countries have different preferences, face different challenges, and hold different long-term aspirations. But by working together, we can ask the right questions and hopefully find the right answers.'

In a nutshell, Lagarde reminded that everyone has an obligation to the poor and vulnerable, to those facing financial insecurity and poor health, to those left behind with few opportunities, including women and girls, and to future generations. 'We have an obligation to help countries achieve the Sustainable Development Goals by 2030,' she concluded. 'This isn't just ethically right, it is [also] economically sound.' ■

Ways to Absorb Economic Shocks

Christine Lagarde advises three ways to be ready for an economic slowdown during her opening remark at the 2019 World Economic Outlook Conference.

RESILIENT

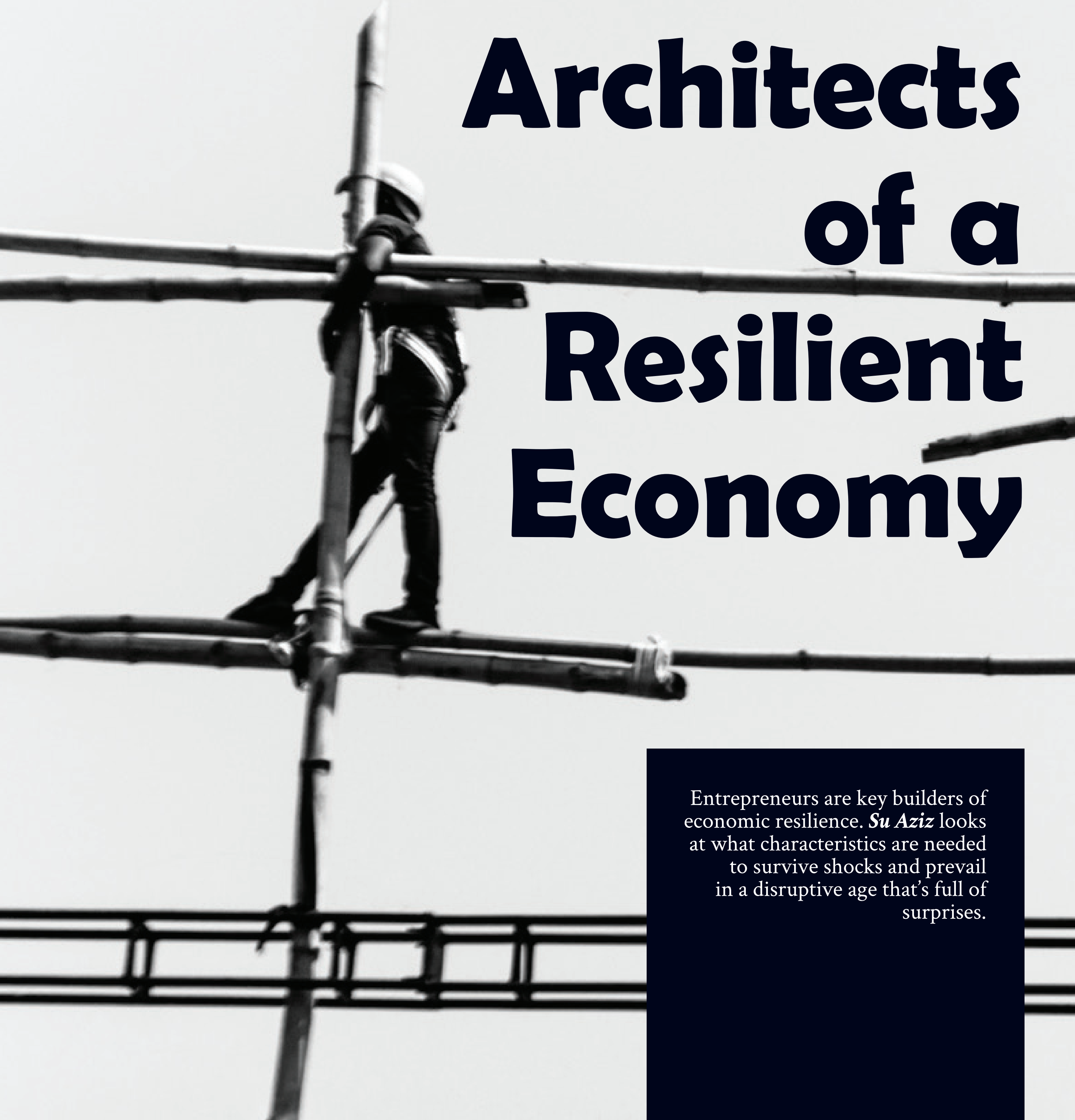
Reducing high government debt would open the space needed to fight future downturns – but this must be done in a fair and growth-friendly way. Monetary policy should be data-dependent and exchange rates should be allowed to act as shock absorbers. Developing macroprudential toolkits will help further financial sector stability. This also remains the time for economic reforms to lift growth, especially in labour markets and infrastructure investment.

INCLUSIVE

If we are to deliver on the promise of the digital revolution – in terms of productivity, employment and long-term growth – then we must make sure it delivers for people. This includes helping workers displaced by automation and creating new and better opportunities for women and young people.

COLLABORATION

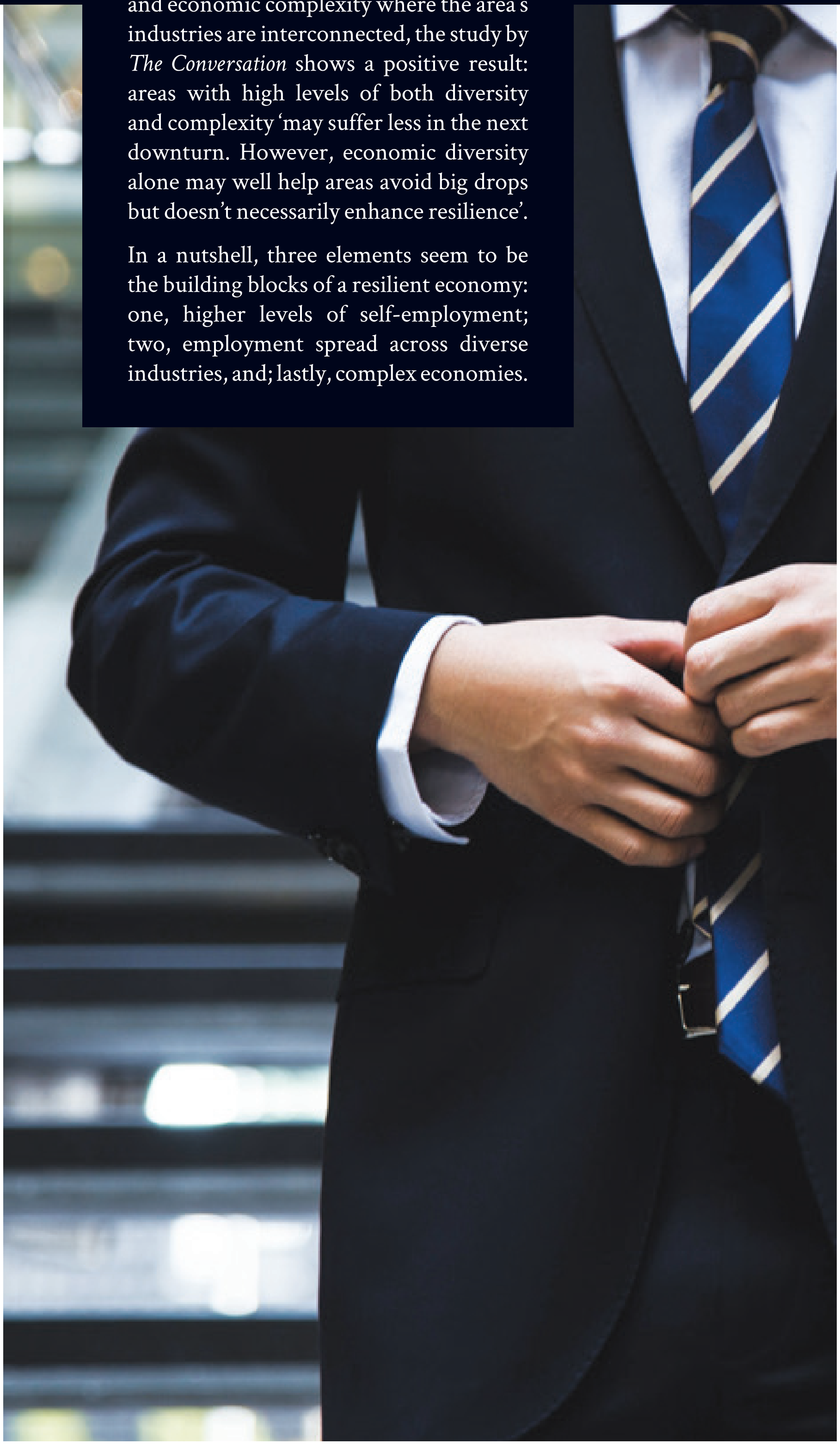
Effective international cooperation comes down to fairness, flexibility and a commitment to the common good. So, let us redouble our efforts to resolve shared problems – from fixing the global trade system, to fighting corruption and tax evasion, to addressing the existential threat of climate change.



Architects of a Resilient Economy

Entrepreneurs are key builders of economic resilience. ***Su Aziz*** looks at what characteristics are needed to survive shocks and prevail in a disruptive age that's full of surprises.

TO achieve economic resilience, like everything else, requires people. To be more precise, a workforce. Interestingly, key findings of a study done by *The Conversation,* an Australian not-for-profit media, shows that areas with a majority of workforce between the ages of 25 – 45 years old have lower resilience and this suggests a more experienced workforce can better help their economy bounce back. The same study discovered that having a more highly educated workforce don't guarantee resilience. However, a larger percentage of self-employed workers is 'unambiguously associated with greater resilience'.



Now, when it comes to industrial diversity and economic complexity where the area's industries are interconnected, the study by *The Conversation* shows a positive result: areas with high levels of both diversity and complexity 'may suffer less in the next downturn. However, economic diversity alone may well help areas avoid big drops but doesn't necessarily enhance resilience'.

In a nutshell, three elements seem to be the building blocks of a resilient economy: one, higher levels of self-employment; two, employment spread across diverse industries, and; lastly, complex economies.

Personality of Resilient Enterprises

When the global economy is at a low, a typical strategy is to tighten belts and reduce cost. However, this alone isn't effective to survive negative economic shocks. In fact, to build economic resilience requires a blend of processes. Recent studies from both business and academia, according to Deloitte's article on *Building Business Resilience to the Next Economic Slowdown,* identifies three areas that are vital in ensuring that enterprises survive a downturn and use the unfavourable conditions to their own advantage:

1 | Anticipation capabilities and collateral pathways:

Ability to anticipate the unexpected before others do is essential for resilience. Thus, it ensures an enterprise to have a backup plan and be able to adapt to a current situation, as well as absorb the shock and think ahead.

2 | Availability of a broad set of resources:

A fundamental component when it comes to readying for an emergency is financial resources that's needed to activate other key resources such as human capital which can bolster successful recovery from a shock, and advanced use of information as well as communication technologies which boosts efficiency and competitiveness.

3 | Network relationships:

External network increases collaborations as well as contributes to an enterprise's resilience to challenges and shocks because it increases knowledge transfer and dissemination of innovation.

Look Inward, Go Local

Change, as in the late Michael Jackson's song, begins with the man in the mirror and the best place to start building resilience is locally. As proven by various studies, entrepreneurship aids economic rejuvenation and increases resilience to shocks in areas experiencing industrial decline, during which time, it's also fundamental in the reworking of local economies and encourages two traits of a resilient economy which are capacity development and diversification.

Still, it isn't fair to depend on enterprises alone to drive change as well as adjustments, and cultivate resilience. Policymakers hold a key role in it too. Policies that are business-friendly and therefore, stimulate business growth that encourage people to start businesses. This in turn, plants seeds of economic prosperity in an area and a resilient local economy.

A framework by Locality, Keep it Local for Economic Resilience, states six characteristics of a resilience local economy:

1 | Diverse, responsible local enterprises that are committed to the place, growing the local economy and provide good quality employment opportunities.

2 | Stable and inclusive financial institutions that provide access to affordable finance, financial advice and promote financial capability.

3 | Positive flow of money and resources with long term investment, a high local economic multiplier and public sector procurement is local by default.

4 | Strong local asset base where local people are skilled, healthy and financially secure, as well as access and control over productive resources.

5 | Active and connected citizens with good local access to public services, high levels of democratic participation and a strong sense of community.

6 | Clean and sustainable environment which translates to a community operating within environmental limits, as well as with strategies for sustainable use of food, land and energy.

Looking at the Big Picture

According to 2019 Global Resilience Index by FM Global, an American risk management consultancy firm, as of the second quarter of 2019, Norway is the most resilient economy out of 130 countries ranked. This is based on top 10 ratings in economic productivity, political stability, control of corruption as well as corporate governance. What's more, Norway has low natural hazard exposure and has lessened its economic reliance on oil.

Meanwhile, in the eastern hemisphere, only two countries made the top 25 of the Index and they are Hong Kong at 18th place and Singapore at 21st place. In fact, FM Global ranked Singapore as one of the top 10 for strong economy, low political risk, excellent infrastructure, low corruption and natural hazard risk, making it an attractive choice for companies interested in creating a stronger Asian presence.

Uncertainties in the past two years, in the form of trade wars from both the east and west, Brexit, natural disasters such as earthquake that affects Japan's economy, wildfires in Australia, hurricanes in the States and floods affecting countries such as India, among others, have all contributed to the weakening of the country's economy and are classified as shocks caused by external impacts.

Other shocks are constituted by downturns in the national or global economy that affect demand for local goods and spending, as well as downturns of particular industries critical to local economic activities. Thus, driving home the critical role resilience plays. ■

SUSTAINABILITY AND ECONOMIC RESILIENCE

Dr Renard Siew, advisor for CENT-GPS talks about his global view of a resilient economy, its way forward, and how sustainability plays a large part in it.

Let's cut to the chase. If anyone asks me, 'what will be the state of the global economy in the next five years?', I'd say, developing economies such as Indonesia, Turkey, Brazil and Egypt will all be moving up the ladder. In fact, by 2023, I'd estimate that seven of the world's largest 10 economies by GDP will be located in emerging markets.the need for governments to play a role in the sub sectors and help to mainstream social entrepreneurship in the education system.

What's more, India and China will account for 35 per cent of the global population and nearly 25 per cent of the world's working-age populace will be elsewhere in Asia. However, the biggest regional mover will be Africa, where young, fast-growing populations will mean that continent has more people aged 16 to 64 than China.

With the divide between emerging and developed economies closing at a seemingly faster rate than ever before, this should be seen as an interesting opportunity for all investors taking a long-term view.

A Dose of Sustainability

Sustainability can ensure and drive economic resilience. Sustainability is about meeting the needs of the present without compromising the ability of future generations to meet their own needs. At the end of the day, it's about finding the right balance. While development is needed for the economy but we mustn't 'over-exploit' natural or social capital as these are valuable inputs for production.

The principle of sustainability in itself is about 'leaving no one behind' and encourages integrated or systemic thinking to ensure that economic, environmental and social systems can all thrive. It's important to realise early on that there's no economy without the planet or people.

I believe, for a country to have economic resilience, it boils down to having a strong governance on sustainable development. Governments need to ensure that different parts of their cabinets have very clear goals and are aligned to the aspirations of the 17 Sustainable Development Goals (SDGs) and 169 targets.

These goals are what I consider to be the not-so-secret sauce to ensuring a resilient economy. Where most people fail though is in terms of execution. The SDGs encompass issues around the need to end hunger, promote quality education, reduce gender inequality and enhance climate resilience while ensuring that biodiversity is protected. Goal 17 focuses on strong partnerships, encouraging stronger synergies between developed and developing countries.

There also needs to be a focus on the future of work. Currently, there's a debate on how current jobs might not exist in the future and there's a need for countries to ensure that groundwork is being done to ensure that they are prepared for such scenarios. Basically, the ability to connect the workforce with meaningful jobs is also key to economic resilience.

On Being Resilient

The question is now, how do you measure a country's economic resilience? Well, most people rely on GDP as the measure of the health of an economy. I personally feel that it's a poor measure of progress of resilience. It increases as we destroy the natural capital of our planet. What we need is a 'quality adjusted' GDP linked to transactions which recognise how much social and natural capital we're building.

I like the suggestion of using the Genuine Progress Indicator (GPI), which is an alternative to the more often used GDP, to measure economic resilience. GPI takes GDP and corrects it for various social as well as environmental factors such as inequality, costs of underemployment and costs of pollution.

Right now, I don't think there's one particular ideal model of a resilient economy but rather several pockets of excellence. Some people see countries recovering quickly from the global financial crisis as a form of economic resilience while others look at it from an adaptive perspective: how quickly do you bounce back from, say, a catastrophe.

Interestingly, the German independent foundation Bertelsmann-Stiftung 2017 paper on economic resilience explores some of the concepts of economic resilience in greater detail, arguing that there's a lack of precision in terms of definition of a resilient economy (which I agree with). It makes for a really good read.

Dr Renard Siew

Architects of a Resilient Economy

So, who should be the architects of a resilient economy and why are they considered the architects? First of all, a number of stakeholders play the role as architects of a resilient economy. Needless to say, governments of course, have such a pivotal role just by nature of their function of monitoring the health of the economy, public services, promoting quality education and managing utilities like water and electricity. Furthermore, as I had mentioned earlier, we need stronger sustainability governance.

Another important stakeholder is the private sector. In fact, the UN projected that two thirds of financing for a sustainable and resilient economy will come from the private sector or banking institutions. The choices that they make in terms of capital allocation will play a role in helping shape the future of our economies.

Lastly, civil society plays such an integral part in nudging both governments and the private sector, steering them in the right direction, so to speak. Their contributions cannot and should not be undermined.

Last Words

Moving forward, I believe there are four key tenets of a sustainable economy:

1 | a secure, efficient and decarbonised power sector;

2 | resilient and efficient low carbon-built environment;

3 | an integrated and secure transport system that enables ultra-low carbon choices, and;

4 | sustainable consumption patterns that are supported as well as encouraged by policy frameworks, business models and resilient supply chains.

My three tips to start building economic resilience will always be, sustainability, sustainability and, of course, sustainability. Sustainability should be in the way that we think, the way that we govern and the way that we partner or collaborate with one another. We must never lose sight of the bigger 2030 SDGs agenda and ensure that all parties are well-aligned on this. ■

Main factors influencing the global economy in these five years

by Dr Renard Siew

Climate crisis – It's a number one threat to the global economy. It has been estimated that trillions of dollars will be spent to rebuild livelihoods and damaged infrastructure as a result of extreme weather patterns such as floods and droughts. Industries such as agriculture, property, construction and manufacturing will be severely affected if there are no mitigation and adaptation measures. Countries that don't invest in low carbon solutions will be at risk of losing out.

Investment in Physical Capital – Improvements and increased investment in physical capital such as roadways, machinery and factories will help reduce the cost and increase the efficiency of economic output. Investment in improving infrastructure, such as the Belt and Road Initiative, improves accessibility. Factories and equipment that are up-to-date and well-maintained are more productive than physical labour. Higher productivity leads to increased output. Labour becomes more productive as the ratio of capital expenditures per worker increases. Improvement in labour productivity increases the growth rate of the economy.

Availability of Natural Capital/ Resources – Quantity and availability of natural resources will impact the rate of economic growth. Apart from the discovery of natural resources, such as oil or mineral deposits that'll give a boost to the economy by increasing a country's production capacity, there's also a need to balance availability of natural resources to avoid 'overexploitation'. The effectiveness of a country at utilising and exploiting its natural resources is a function of the skills of the labour force, type of technology and the availability of capital. Skilled and educated workers are able to use natural resources to spur the economic growth.

Improvements in Technology – Improvements in technology have a high impact on economic growth. As the scientific community makes more discoveries, countries need to find ways to apply and integrate these innovations. The push for better technology means the same amount of labour will be more productive and economic growth will advance at a lower cost. Technological innovation and more education for workers will improve economic output which eventually lead to a better livelihood.

About the Author

Dr Renard Siew is an advisor for the Centre for Governance and Political Studies (CENT-GPS), a Kuala Lumpur-based behavioural and social science research firm. He holds a PhD and a bachelor's degree in engineering from the University of New South Wales, as well as a postgraduate certificate in sustainable value chains from Cambridge University. His research interest lies in sustainability or integrated reporting, socially responsible investment, climate change and sustainable construction for the infrastructure sector.

A 21ST CENTURY FORMULA

Just like everything else, communications too must be reassessed to adapt to the disruptions of the 21st century. ***Su Aziz*** speaks to Professor Choi Jung-wha from Hankuk University of Foreign Studies in Korea.

'Both methods and contents of communication have changed a lot in the past 30 years, thanks to new and improved technology that's being developed every day,' says 63-year old Choi Jung-wha, a professor at Hankuk University of Foreign Studies in Korea. 'Then, we didn't have any form of mobile phones nor was there internet that made emails and instant messaging possible. Now, we can do just about anything on smartphones that are more of a mini-computer that we carry around with us everywhere, making it possible to communicate with people instantly. This quick and easy access to communication plays a vital role today, both in our personal and business lives.'

From the many interviews Professor Choi has held, they pretty much say the same thing about her: that she's a crusader of marketing Korea to the rest of the world – its culture, heritage, language, lifestyle and food. In fact, she has written over 30 books on the subjects. On the other hand, she also wants to globalise Koreans' perspective. Professor Choi's decades-long effort to bridge Korea and the world has earned her the Yeongsan Diplomat Award in 2018.

Having been a professor at Hankuk University for three decades where she taught interpretation and translation of French, Korean and English, Professor Choi founded a non-profit public diplomacy organisation registered under the Ministry of Foreign Affairs, called CICI (Corea Image Communication Institute) in 2003. It was also the year Professor Choi was awarded France's highest award, Legion d'Honneur. She was the first Korean woman to receive the honour.

A legion of noteworthy individuals such as diplomats, corporate executives, scientists and journalists have been CICI members or graduated from its programs. Although CICI organises year-round networking events, it's CICI Korea Image Awards that has garnered a lot of esteem. The award is a recognition of those who contribute significantly towards promoting the image of Korea globally. Past awardees include renown YouTubers Korean Englishmen who showcase Korean cuisine to their more than three million subscribers worldwide. It has been said that the 'list of CICI awardees reads like a who's who for prominent Koreans and foreigners who have made great contributions' to the promotion of Korea.

Globalising Koreans

'Communication is a two-way street,' begins Professor Choi. 'While I originally started CICI to promote Korea as well as Korean culture to the world, and focused more on showing Korea to foreigners, it was also vital that the flow of communication wasn't just one-way. In order to promote Korea effectively, Koreans also need to understand and communicate with other cultures, playing a more active role to become citizens of the world. This not only applies to Koreans, but to everyone in the world.'

Recognising how the use of internet and growth of social media interconnects our world more than ever, Professor Choi advises, 'We all must learn to respect and listen to each other to prosper together. I hope more Koreans become more open to learning and accepting other cultures. Last year, I published the book *Global Etiquette* which offers basic guidelines of proper etiquette and some easy English expressions that can be used in certain settings. Through this book, I hope to introduce and explain etiquette that many Koreans may not know or didn't understand, perhaps due to our country's long geographical ethnic isolation.'

Communication Power of K-pop and K-drama

CICI was born out of the need to put Korea on the world map. Having lived in France for a decade since 1978, Professor Choi discovered just how invisible Korea was and often was asked if she hailed from China, Japan or even Thailand, instead. Fast forward to the 20th century and the unstoppable rise of K-pop, K-drama and today, K-beauty products, Korea has become the apotheosis of modern lifestyle. Thus, one of the candidates considered for CICI Korea Image Awards 2020, is… (drum rolls) …BTS.

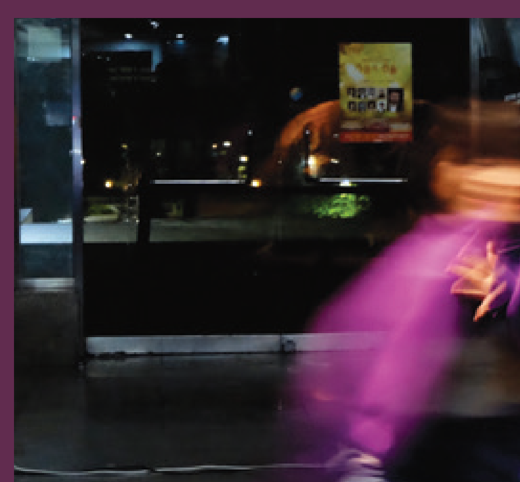
The seven-piece K-pop group needs no introduction. 'We're still looking at candidates and BTS is one of the most mentioned potential candidates. The group received top social award at the Billboard Music Awards two years ago and that was merely the beginning of their amazing journey. The seven of them were the first K-pop group to speak at the UN and this happened last year. As a rule though, awardees must attend the CICI Korea award ceremony to receive the award in person, so we shall see,' explains Professor Choi.

'I believe K-pop and K-dramas most effectively show Korea's modern-day lifestyle, and not only through their songs or videos. Many people who become fans of K-pop singers and K-drama actors decide to learn the Korean language. They even visit Korea to personally experience our culture,' Professor Choi continues.

K-pop and K-dramas have a certain quality about them that is uniquely Korean. Both genres have gained much popularity in many Asian countries for years now. What with BTS playing a huge role in the global music industry, more Westerners are also becoming more interested in K-pop and K-dramas,' explains Professor Choi.

'I briefly mentioned this before, but I believe it's worth mentioning again: many people who show interest in K-pop and K-dramas start learning the Korean language, as well. Around a decade ago, only fans from the Asian region visited Korea to know more about our country and culture. Now, Europeans and Americans do, too. Korean courses have been added in many schools worldwide, with the rise in demand,' she adds.

Professor Choi believes, stems from the wish to learn more about Korean culture. Thus, leading many to visit Korea for first-hand experience. 'Even if the fans aren't interested in learning the language, they're usually interested in learning more about other aspects of Korean culture, such as our society, psychology, clothing, food and more.'



Communication in the 21st Century

Professor Choi believes that culture acts as a sturdy bridge between countries and no two countries can have the same culture, 'But we can compare, respect and admire them, even collaborate with them. In today's globalised world, communicating through your culture will play a key factor for successful branding.' Therefore, 'cultural communication' sets the direction for 21st century communication.

Next, of course, comes technology. Its omnipresence forces CICI to focus on the digital world. 'The popularity of social media platforms has been soaring and I believe it'll continue to do so for a long time,' she speculates. 'I recently saw an article that said the average daily social media usage worldwide in 2018 was 136 minutes [per day, which is a minute more than the previous year]. People are also becoming more interested in mobile content rather than static photos and texts.' And that's why CICI is focusing more on this and plans to utilise the likes of Instagram and YouTube. 'It's difficult though, with the lack of financial resources, as we are a non-profit organisation. But thankfully, many of our supporters have been lending their support and offering guidance. Sometimes, even technological support as well.'


Professor Choi Jung-wha

Also, these social media platforms are certainly a way to target the younger generation. 'In fact, our last major annual event, the Culture Communication Form CCF 2019, focused on content creators,' Professor Choi adds. 'In this rapidly changing digital age, we've got to make sure to stay on top of the changing trends. This will be vital in managing inventory. Also, have a "signature" or "slogan" that's uniquely the brand's that is easy to remember and leaves a lasting impression. No matter how good your product may be, if it doesn't grab the interest of the consumers, it's of no use. And last but not least, be open to receiving feedback from customers. Openness to receiving feedback, even if it's critical, can go a long way to maintaining the brand's image.'

Last Words

'Ultimately, I hope people worldwide will know and see Korea's true image as it is today and see it as a place they're comfortable visiting,' says Professor Choi. 'I so clearly remember the first time I met a foreigner who knew about Korea. It was in 2003, when I was visiting a temple in Indonesia with my husband. A man we bumped into asked me if I was from Korea. I was so elated at the question, I burst out "yes!" and proceeded to ask how he knew. He replied that he was from Guus Hiddink's country and that he had visited Korea the year before for the World Cup.' As the whole world know, Korea has come a long way since then.

'Those working in communications are responsible for letting people learn about things they didn't know before, not just for making them understand,' concludes Professor Choi. '21st-century communication requires global etiquette, national acumen.' ■

Professor Choi's three tips for effective communication in the 21st century

Firstly, be fast. Everything moves at a rapid pace now, with trends changing by the day. You have to be able to keep up with the changing world around you.

Second, be truthful. It's easy to create an image of yourself or an item online, but remember that the truth will show eventually.

Last but not least, be open to new ideas. In this digital age, you have access to new ideas and knowledge. Keep an open mind and you may be pleasantly surprised.

VIRTUAL BANKING: THE HONG KONG EXPERIENCE

Motivations for Hong Kong to encourage virtual banking include promoting financial inclusion, provides better customer experience and promotes fintech innovation, explains ***Hong Kong Monetary Authority.***

The convergence of banking and technology is a global trend. More and more tech companies, riding on technological innovations, have ventured into finance to provide more personalised and integrated financial services to customers. In some jurisdictions, it has proven to be technically feasible and commercially viable for virtual or branchless banks to operate.

Hong Kong's motivation to encourage virtual banking runs into fintech development and innovation of solutions to the banking industry – this includes use of innovative technology solutions for remote customer on-boarding, big data and AI in risk management, and provision of personalised products and services.

These solutions will motivate incumbent banks to enhance business operations and services, thereby raising the overall quality of banking services. In addition, as virtual banks will engage primarily in retail banking business and aren't allowed to impose any minimum account balance requirement or low-balance fees, they're expected to help promote financial inclusion.

Hong Kong's Journey of Virtual Bankings

Hong Kong is the premier international financial centre in Asia and has been at the forefront of smart banking in terms of digital banking. By and large, banks in Hong Kong are offering safe and efficient banking services to customers, both through the conventional branches and through digital banking.

In view of the explosive advancement in technology in the last few years, and rising aspirations of customers for more personalised and integrated services, Hong Kong aims to proactively embrace the trend and seize the opportunity to upgrade its banking system.

Therefore, the Hong Kong Monetary Authority (HKMA) took the lead and helped the banking sector to rise to a higher level as well as embrace the enormous opportunities brought about by the convergence of banking and technology by rolling out virtual banking in 2018, which is one of its Smart Banking Initiatives unveiled in 2017.

The introduction of virtual banking is one of the HKMA' s key initiatives for spearheading Hong Kong into a new era of smart banking. A major milestone was achieved when the HKMA granted banking licences to eight virtual banks in the first half of 2019.

Criteria of a Virtual Banking License

As of September 2019, there are eight virtual banking license holders in Hong Kong. A statutory objective of HKMA, which is the currency board of Hong Kong and de facto central bank, is to maintain the stability of the banking system in Hong Kong.

Based on the business plans of the eight virtual bank license holders, the total amount of capital deployed and the human resources required in their first three years of operation will only represent a small portion of the banking industry. Thus, it's expected that the impact of the introduction of virtual banks to the banking system in Hong Kong should be acceptable.

Same as conventional bank licences, when assessing the applications for virtual banking licences, HKMA has to be satisfied that the applicant can meet all of the licensing criteria set out in the Seventh Schedule to the Banking Ordinance, including adequate financial resources and adequate systems of control.

HKMA also considers whether the business plan is in line with its three policy objectives of introducing virtual banks to Hong Kong:

1 | Promote fintech development and innovation in Hong Kong

2 | Offer better customer experience

3 | Promote financial inclusion

Going forward, HKMA aims to observe the operations of virtual banks after they commence business, the response of customers, market acceptance and the impact of virtual banks on the stability of the local banking system before considering whether to further process virtual bank applications. HKMA expects to be able to conduct a comprehensive assessment of the situation about one year after the first virtual bank has launched its service in Hong Kong.

Challenges and Solutions

The eight virtual banks are currently completing the build-out of their systems and processes, with the aim to begin rolling out virtual banking services before the end of the year. Before commencing business, a virtual bank must put in place adequate systems and controls to manage the risks to which it is exposed, and demonstrate to the HKMA's satisfaction that these systems and controls will operate effectively.

Like conventional banks, virtual banks must have an effective risk management framework for monitoring and controlling different types of risks including credit, interest rate, market, liquidity, operational, reputation, legal and strategic risks.

This notwithstanding, HKMA has identified three key risk areas that are more pertinent to virtual banks and will devote greater resources to supervising the virtual banks' management of these risks:

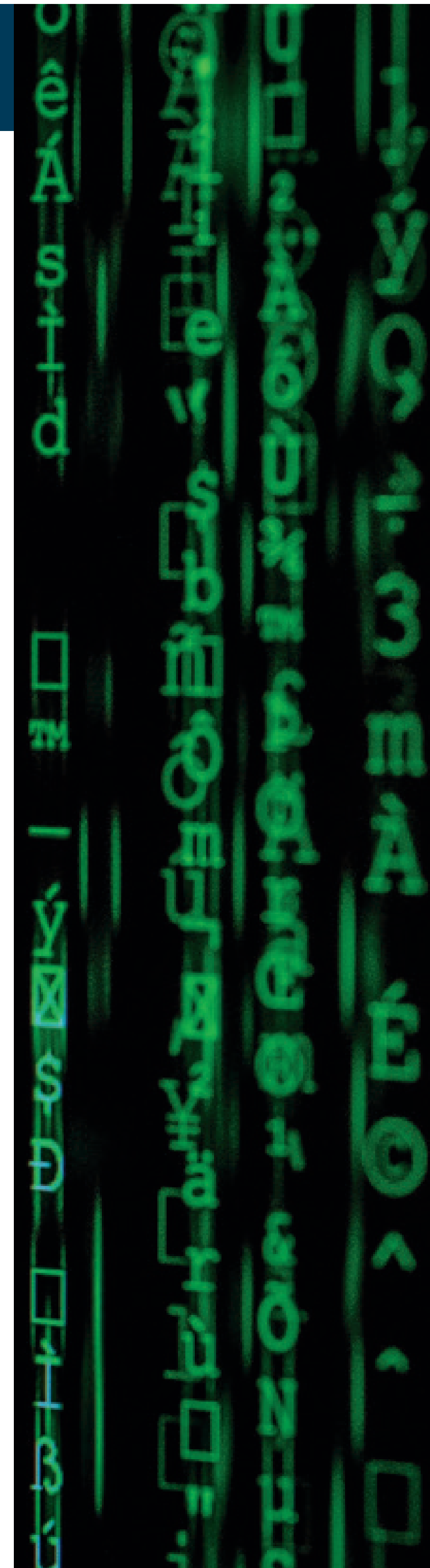
1 | Technology risk management is of vital importance to virtual banks given their tech-driven business models and sole use of digital channels to deliver banking services. HKMA requires virtual banks' security and tech-related controls and arrangements to be 'fit for purpose', regularly reviewed to ensure that they remain appropriate in light of latest technological developments, and subject to a detailed independent assessment before business commencement.

2 | Customer data privacy and protection since virtual banks face the possibility of higher data privacy risks, which arise from their use of big data and behavioural data analytics in the design and marketing of their products and services, as well as in risk management processes. HKMA requires virtual banks to implement appropriate safeguards to ensure that they comply with the data privacy requirements in Hong Kong and embody the spirit of data ethics. Virtual banks should also comply with the Code of Banking Practice and adhere to principles in the Treat Customers Fairly Charter.

3 | AML/CFT since virtual banks will primarily deliver banking services through the internet or other forms of electronic channels, their risk assessments should take into account the specific risks which arise from their digital-based business model, such as impersonation risk and establish effective mitigating controls.

So, to help virtual banks manage the risks associated with the use of innovative technologies, HKMA encourages them to make use of its Fintech Supervisory Sandbox. This allows banks and their partnering technology firms to conduct pilot trials of fintech initiatives in a controlled environment without the need to achieve full compliance with HKMA's supervisory requirements.

Virtual banking is a new business model in Hong Kong and market receptiveness to virtual banks will need to be observed. With this in mind, HKMA requires each virtual bank to have an exit plan in place before business commencement so it can unwind business operations in an orderly manner. In general, an exit plan should cover matters such as the circumstances under which the plan will be triggered, the authority to trigger the plan, the channels to be used to repay depositors and the source of funding for making the payments.



Driving Collaborations

Key to the development of virtual banking is collaborations between banks and non-banks. With this in mind, the HKMA has rolled out the following programmes:

1 | Industry liaison: Events and Haccelerator Programme

The Fintech Facilitation Office (FFO) of HKMA regularly organises industry liaison events such as workshops and seminars for banks and non-banks to not only exchange ideas and insight into fintech development, but also to explore collaboration opportunities.

Since 2016 to now, the FFO has organised 44 events, attracting more than 15,500 participants locally and from around the world. HKMA organised networking events and panel discussions during the annual Hong Kong Fintech Week the past three years. This enabled HKMA, banks and non-banks to touch base as well as connect with each other.

FFO launched the Haccelerator programme in 2017 in collaboration with Cyberport, offering banks and stored value facility (SVF) operators a platform to run fintech-related competitions including hackathons and accelerators to explore innovative solutions, identify talents, and seek co-operation opportunities with fintech startups and innovators. To date, four banks and one SVF operator have organised competitions using the platform.

2 | Regulatory interface

HKMA has launched the Fintech Supervisory Sandbox (FSS), which allows banks and their partnering technology firms to conduct pilot trials of their fintech initiatives in a controlled environment without the need to achieve full compliance with HKMA's supervisory requirements. The usage of the FSS has continued to increase steadily since its launch in September 2016 with very positive feedback from the industry.

Until the end of July 2019, 70 cases of pilot trials were allowed in the FSS. Additionally, with the launch of the Fintech Supervisory Chatroom in November 2017, banks and tech firms can obtain HKMA's regulatory feedback during the early stage of their fintech projects, thus reducing abortive work and expediting the rollout of new technology applications. As at end July 2019, 331 Chatroom requests had been received.

3 | Research and application

HKMA published an Open Application Interface (API) Framework in July 2018 following the completion of a two-month public consultation. The framework's conducive to the collaboration between banks and non-banks as it serves as a guide for banks and third party service providers to work together under a secure, controlled and convenient operating environment and develop innovative and integrated banking services that improve customer experience.

HKMA began a research on Distributed Ledger Technology (DLT) in 2016 and conducted Proof of Concept (PoC) trials to explore the collaboration between banks and non-banks in terms of application of DLT in financial services. The PoC trials were on trade finance, mortgage valuation applications and digital ID management respectively. Riding on the success of the trade finance PoC trial, a blockchain-based trade finance platform named eTradeConnect was launched in October 2018 to digitise and share trade documents, automate processes, and reduce errors as well as the risk of fraud.

Impact of Virtual Banking

The business model and target customers of virtual banks are usually different from those of conventional banks. Unlike conventional banks, virtual banks primarily deliver retail banking services through the internet or other forms of electronic channels instead of physical branches. In addition, virtual banks normally target small customers, be they individuals or small-to-medium sized enterprises.

This should provide a commercially more viable alternative for banking operators, Islamic banks included, to better serve communities whose population is less concentrated or under-served because of costing consideration of banks.

Its Next Big Step

The next big step for virtual banking in Hong Kong and its move towards Smart Banking era will be the virtual banks' formal commencement of business. The eight virtual banks are currently completing the build-out of their systems and processes, all along in close communication with HKMA.

According to the virtual banks' latest indications, virtual banking services are expected to be rolled out to the public in the fourth quarter of 2019 at the earliest. HKMA will monitor and assess the impact of virtual banks on the local banking sector after they commence business and carefully take such observations into account when determining how to take forward virtual banking in Hong Kong. ■

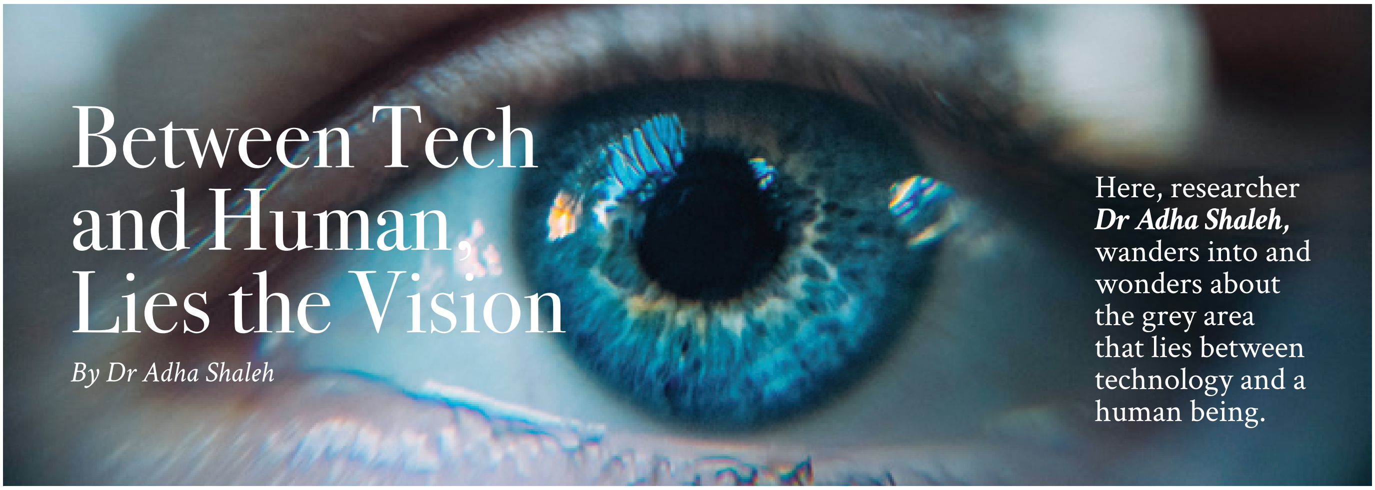
Tips for Virtual Banking Startups

HKMA's monitoring of the eight virtual banks provides necessary guidance and they are:

1 | Like conventional banks, a virtual bank should put in place an effective risk management framework to identify, manage and control the risks they're exposed to. HKMA expects the boards of directors as well as senior management of the virtual banks to foster a sound corporate and risk culture across the bank. Any attempt by a virtual bank to rapidly grow businesses at the expense of effective risk management and internal controls can end up holding back business growth, as HKMA may require the virtual bank to implement remedial actions before it can pursue further growth.

2 | When launching their businesses, virtual banks should aim to achieve HKMA's three policy objectives mentioned earlier for introducing virtual banking in Hong Kong. Virtual banks should strive to offer customer-centric experiences supported by technology, whilst conducting their businesses in a safe and sound manner.

3 | As virtual banks are new to Hong Kong, they may need to adjust their business strategies more frequently than the established conventional banks to respond to customer feedback and competition in the banking sector. The business model risk shouldn't be underestimated, especially as some of the conventional banks are playing catch up and accelerating their fintech development as well as digital offerings. Therefore, virtual banks should be alert to the strategic challenges faced by them.



Between Tech and Human, Lies the Vision

By Dr Adha Shaleh

Here, researcher ***Dr Adha Shaleh,*** wanders into and wonders about the grey area that lies between technology and a human being.

Let's face it, and let's look at it from a global perspective, and admit that the pedagogy is changing, and it is changing fast. Few would want to disagree with education reform, a critical idea to blend creativity with critical thinking, together with self-learning and other skills.

The deployment of high-speed internet such as 5G, brings more resources to learning and teaching, and it is the speed that makes both effective. Online platforms have the power to persuade learners to learn quick facts about basic knowledge, but truly, it is the fascination of interactive learning that make them intriguing. Let's think of virtual books, past realities are made possible today with only a pair of goggles that let the wearer travels through the 'virtual book.'

Now, if that imagination isn't pretty enough to lure new trends, the deployment of advanced technologies such as AI continues to register mass data, so learning institutions could personalise the education experience for tens of thousands of students. Time screen on mobile phone helps to understand their behaviours.

Leveraging on the data enables educators to create content learning that fits interests. This data analytics is doing what professors at a small college would do, which whenever they see something wrong or even right in students, they intervene. There's truth in what they say, 'without big data, we're blind and deaf.' I'd like to think of it this way: between tech and human, lies the vision. I love both, and here's why.

From the human technology perspective, the focus of online learning is that it would empower learners without being overly reliant on teachers. Human technology enables students to share ideas with peers without borders. The advanced online student learning space make this freedom possible.

From the human (without machine) perspective, a balanced level of activity allows for this entire evolution to progress well. Personally, I prefer a combination of online data, big data and offline human attribute. Offline attributes such as empathy, love, humanity, arts will survive machines.

Truly, what sets us apart from technology is morale, ethics, critical thinking, and these soft sides can't be experienced online. The complexities of the social world are better experienced, understood and interpreted through exploration – this is why we invented personal travelogue, travel blogs, fashion and food websites. There are people out there who want to read these blogs, and those who stay in touch with families and friends through stories. This human touch sets the boundary between me, you and machines.

I believe, it's that particular point of time in which you enter the world of others that contributes to the understanding of their social world. ■

A CONVENIENT LABEL

It's no longer the time to take the path of least resistance and inactivity will be a killer to any economy. ***Su Aziz*** deliberates on a vital tool for economic resilience.

The opening line from the first chapter of the book *Resilient School Leaders* by Patterson and Kelleher sticks resolutely in my head. Resilience, it reads, 'is a convenient label to describe things that bounce back'. The authors define resilience as, 'using your energy productively to emerge from adversity stronger than ever'.

Most people would have experienced some sort of broken heart or a major disappointment by the time they're a teenager. It's a rite of passage. However, teenagers are quick to recover from hurt and disappointments – as quickly as they swipe up while cruising social media platforms on their phones. They're built that way because at that age, it's way easier to bounce back. At that stage in life, humans possess a higher level of resilience than when they're older.

Patterson and Kelleher's rationale definitely applies to the characteristic needed to weather a stormy period in one's life, or for a country, a mercurial economic climate.

While a human's tools for resilience include self-respect, social skills and optimism, an economy may need something a little more, well, concrete. Logically, it'll be wise to use tools readily available to build up economic resilience. Technology could be an essential tool in this respect. Humans innovate through technology fuelled by science and this in turn enables economic recovery. Thus, facilitating technology to shape the future of an economy can only be beneficial.

Besides, there's no denying how technology is seeping into every crevice of life, be it work or play. There has been no industry that hasn't been disrupted by technology and the outcome has been more good than bad. Let's count the ways: agtech that has increased fresh produce tenfolds, 5G – that's about to be overtaken by 6G even before it has made a proper global debut – has made remote brain surgery possible and very soon, the visually impaired as well as those who can't drive will be able to own self-driving cars.

The future's here and we're basically living it. It's where electrical appliances in your kitchen talk to you, human-like robots greet you at the front desk of a hotel and kids are exceedingly tech-savvy with the world wide web as their playground. Acclimatise to the times. Because, what other choice do we have now? Resistance is a fruitless exercise. So, embrace technology, let it lead us to the path of resilient economic development.

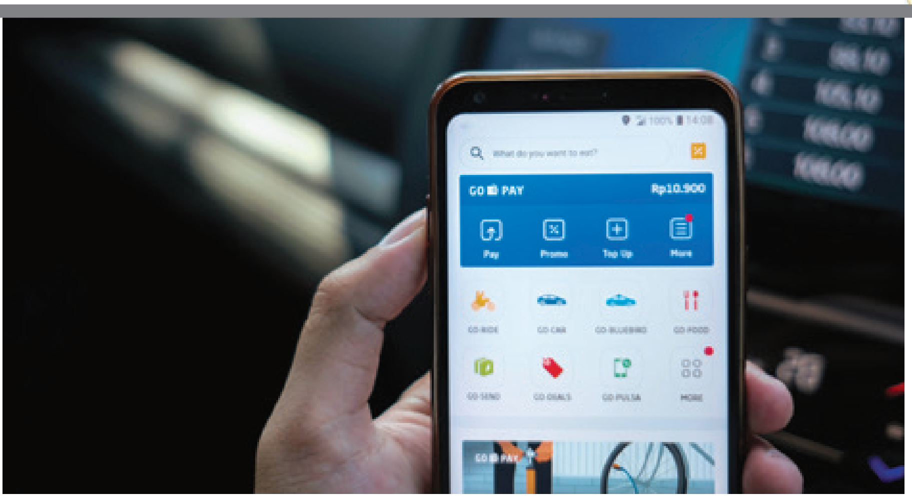
Now is the time to turn adversity into opportunities and that's what being resilient is all about – manoeuvring around challenges and adapting to when the going gets tough. It's survival of the fittest. Resilience, especially powered by technology, is most definitely a convenient label during this current, unpredictable, economic times. ■

Fintech Advances Islamic Finance

Islamic fintech industry started almost a decade ago and has an imminent role in the evolution of Islamic finance products and services offering, writes ***Mohd Sedek.***

A Advancement of technology has led to the rapid development of new and innovative financial services. The infusion of technology into financial services is commonly referred to as financial technology or fintech. Fintech's a portmanteau that integrates 'finance' and 'technology' fuelled by the combination of finance and emerging technologies – for instance, algorithm, big data, cloud computing and machine learning – with the objectives of competing, enabling or collaborating with financial institutions.

The concept of fintech has emerged and developed since the past six decades through the introduction of credit card in 1950 to mobile wallet and payment apps in 2000. Technology progression with proliferation of mobile and wireless devices, along with widespread penetration of the internet, has shaped the way consumers spend, save, borrow and make other financial decisions.



Islamic Fintech

From the stance of sharia, technology is neutral and only serves as an enabler. One of the developments in the field of Islamic finance refers to Islamic financial technology or Islamic fintech. Islamic fintech differs from its conventional counterpart as it is transparent, beneficial for both parties and sharia-compliant – Islamic law that deals, particularly, with monetary transactions.

The Islamic fintech industry has been established since 2010, reflecting the development of global fintech ecosystem. Fintech, within the Islamic finance domain, has an imminent role in the evolution of Islamic finance products and services offering. Advancement of technology functions as a catalyst that spurs the growth of Islamic finance in becoming competitive against conventional finance without compromising on profit margins.

The core impact theme in fintech can be classified into three: greater automation from insights to activity, reduction in the use of intermediaries, as well as decentralisation and security. In order to stay competitive in this thriving industry, fintech companies are required to have at least a combination of two core impacts.

Islamic Fintech and Financial Inclusion

The 2030 Agenda for Sustainable Development has been established and adopted by the world leaders since 2015, wherein 17 Sustainable Development Goals (SDGs) have been drawn for the sake of people, planet, prosperity, peace and partnership. Being a prominent enabler of other SDGs, the aspect of financial inclusion is highlighted specifically in the eighth goal.

Academic evidence has verified the fact that financial inclusion can support the achievement of broader SDGs. The Islamic fintech appears to be a perfect medium to achieving the SDGs via financial inclusion. The dynamic amalgamation of fintech and digital technology offers a strong enabler for Islamic finance to reach clients rapidly without the need to build a physical presence or distribution channel.

Data from World Bank Global Findex 2017 reveals that 1.7 billion of the world population remains unbanked, while the International Monetary Fund (IMF) in 2015 reported that less than 30 per cent households of Organisation of Islamic Cooperation (OIC) member countries had an account at a financial institution. As such, fintech enhances access to financial services, apart from reinforcing the role of Islamic finance in promoting the financial inclusion agenda.

Evolution in Islamic Fintech

Despite the focus on the development of shariah-compliant businesses and consumer financing in the early years, the Islamic fintech has advanced rapidly since 2015. The positive impacts of fintech, from the stance of Islamic finance consumers, are due to the choices offered by the fintech innovation that meet the needs of consumers. Additional options are beneficial to consumers due to the competitive costs in providing financial services.

One of the successful Islamic fintech establishments, Wahed Invest, is a US-based halal-focused investment firm and also the world's first shariah-compliant robo-advisory platform. Parallel to the Ernst & Young definition of fintech, Wahed Invest integrated technology with innovative business frameworks in order to provide and improve financial services. In their automated financial planning, their investment decisions and processes are algorithm and technology-driven, respectively, with either minimal or nil human interference.

As for the business models, a minimum investment of USD200 per month can indirectly generate possibilities for a low-income earner to have a robo-adviser investment portfolio. In providing more efficient shariah-compliant investments, the function of intermediaries is completely discarded, which allows lower chargers to clients.

As far as fintech is concerned, the integration of technology results in operational efficiency, cost effectiveness, as well as the capacity to support the escalating demand of sharia-compliant products and services. According to ICD-Thomson Reuters 2017, Islamic banking assets stood at USD1.7 trillion in 2017 and have been set to hit a whopping USD3.8 trillion by 2023 with 1,400 Islamic institutions established across 80 countries.

Fintech is an innovative approach for asset managers to manage investment capitals. A number of asset managers have pursued analytics-driven quantitative or systematic investing. To date, big data refers to a highly sought and a new approach for executing analyses, primarily to offer crucial insights in making accurate investment decisions.

Through the effective use of big data that creates information edge, investment managers can be significantly ahead in their trade and exchange, apart from reaping profits due to the 'information arbitrage' gained from their advanced models, in comparison to those who adhere to outdated and traditional analytic approaches.

A success story pertaining to effective implementation of technology approach in managing investments refers to Arabesque. Arabesque is an established firm that manages global asset by executing the self-learning quant models and big data to analyse both the performance and the sustainability of globally listed companies. Arabesque's S-Ray tool, which is integrated with big ata, environment, social and governance (ESG) factors, as well as Islamic finance principles, has been reckoned to generate a massive range of stocks that satisfy the sustainability and performance metrics.

S-Ray tool has combined more than 200 ESG metrics in a systematic manner with news signals from over 50,000 sources in 15 languages to enable the monitoring of sustainability for over 7,000 world's largest corporations and firms across 70 nations. Additionally, the preference filter embedded in S-Ray possesses the ability to filter the trade and exchanges of companies in accordance to Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) sharia rulebook. Thus, generating a multitude of stocks that isn't only sustainable financially, but more importantly, ethical and Islamic-compliant.

As mentioned earlier, fintech has fundamentally transformed the payment system from usage of credit cards to online banking, and to date, payment apps. In order to remain relevant amidst the continuous cutting-edge innovations that transform both technology and financial terrains, it's essential for Islamic philanthropies, particularly those involved in zakat, waqf and *sedeqah* (charity), to manoeuvre and reinvent themselves in light of compliancy to regulations and governance. From zakat calculation to collection, innovative payment technologies have introduced new speed and convenience to charitable organisations by enabling people to contribute to their communities, as easy as they tap for e-hailing service.

Blockchain technology provides a massive opportunity for financial progression due to several reasons, as follows: uncompromised quality assurance, elimination of human error, cost efficiency, high traceability, permissible peer-to-peer transactions and protection of data from potential tampering activities. Hence, charity organisations can easily prove their donors that their money is used both wisely and honestly. Aid:Tech and Finterra are two companies that offer services for the Muslim community to perform sedeqah, zakat and waqf using payment apps as well as blockchain technology.

Last Words

The Islamic finance industry assets, as a whole, have been projected to reach a staggering figure of USD3.8 trillion by 2023, as reported by Thomson Reuters. This offers a bright prospect for Islamic fintech. The rapid growth of fintech is driven by the increasing interest in Islamic fintech, as well as the availability of funding and regulatory support. Islamic fintech promotes ethical and responsible finance, apart from presenting an opportunity that leads and influences all forms of finance globally.

The next progressive phase of Islamic banking isn't only driven by shariah-compliant offerings and its position that's on par with conventional banking, but also distinguished in light of innovation-driven advancement. Islamic fintech innovations can be further enhanced with encouragement offered by monetary authority, strong awareness amidst Islamic finance stakeholders and facilitative regulatory settings across Islamic financial markets. ■

Blockchain addresses problems in the agricultural industry and ***VFarm team*** shares how the technology helps with their urban farming endeavours.

BLOCKCHAIN AND AGRICULTURE

Supply chains have been perceived as one of the torrid areas for agriculture blockchain development. The current system is plagued by a host of problems, from outdated record keeping to ethical concerns – the general problem is origin. The answer does exist but it's buried in a filing cabinet somewhere. Farms, processors, shippers, distributors, retailers and consumers generate a profusion of data that's spread across a multitude of siloes, making answers of any kind difficult to find. Not being able to comprehend the importance of the supply chain means that buyers and sellers are often not optimally organised and leads to significant inefficiencies such as food waste.

VFarm, an agriculture social enterprise that initiates urban farming in Kuala Lumpur, uses blockchain and through VFarm Agro Traceability Blockchain (ATB), we address these issues in order to greatly enhance food safety and security through establishing trust and transparency. ATB features make it possible for the various networks – farms and consumers – to register and share information with maximum safety, trustworthy, transparency and tamperproof. Blockchain allows for data entered to be visible to all. Also, there's freedom to approve or reject the information. Once data is validated, it gets recorded into blocks which gets organised in a chronological chain and unable to be altered by anyone.

Why bother? Simply because, as what Nèstle Global Head of Supply Chain claims, 'People want to know what are the ingredients in the product, where the ingredients come from.' Blockchain gives instant data related to, for instance, seed quality, soil moisture, climate as well as environment related data, and more, all in one platform. It helps in establishing a direct link between farmers and consumers.

What's more, blockchain will empower farmers to organise themselves and network, to reach the intermediary market without middlemen. This means, it'll reduce the problems arising from dealing with middlemen. The transparency enables farmers to get the real price for their produce, not forgetting to eliminate barriers, efficient supply of products, fair pricing and improved product tracking. Farmers would be able to do real-time management of the stock, with all the information starting from seed procurement, harvest to sale at Point of Sales system which can be recorded on the blockchain. What this means is, farmers as well as consumers can conveniently quantify, monitor and control risks throughout the agriculture process.

The Usefulness of Blockchain in Agriculture

Collaborating with Malaysian Agricultural Research and Development Institute (MARDI) allows us to identify and address concerns pertaining to blockchain in agriculture. We've installed sensors at the planting rack in order for the data of the environment, irrigation, lighting and plant sensor for the crop growth to be captured via IoT with all the data shared via 'one big ledger in the cloud'. Nevertheless, there are impending issues relating to the implementation of blockchain, including high development cost, lack of industry wide funds available in Malaysia and policy related.

Before the introduction of blockchain and its decentralisation concept, data entry and record keeping are done manually, in fragments and often blunders the operation. The bridge of trust and transparency within agriculture supply chain was also established via long term engagement, awareness activation and track record of performance. However, it's very much restricted to a centralised parameter and it's strenuous to verify the authenticity of the trust built. In brief, blockchain's a useful tool for agricultural practices to become more precise and efficient.

Urban farming has always been questioned for the way crops are produced and compared to conventional farming. Blockchain-powered IoT can put all these debates to rest when it's constantly gathering data of different aspects of crops – from the temperature of the environment to the mineral and nutrient contents in the water. Due to the transparency of blockchain those with access can have full closure of the crops they'll be having. In a way, it gives consumers a boost of confidence in the consumption of produce and also enables farmers to utilise the data to the fullest in improvising the farms if needed.

Blockchain in VFarm's Future

VFarm plans to establish a marketplace via ATB that'll enable small farms to participate directly in the urban market. Blockchain provides an open platform for both small farms and buyers to negotiate for reasonable prices of their produce. Small farms can make direct mobile payment transactions to the buyers. This eliminates intermediaries and brokers. Retailers, farmers and manufacturers can claim premiums of some products by using this technology. It connects ecosystem users directly, simplifying the ordering process. Buyers can decide on multiple criteria such as price, environmental and social impact including carbon as well as water usage footprint and farms managed by BoP (base of the pyramid).

The marketplace will also support contract farming and supply. Small farms can access financial help since many can't afford the capital to modernise their farming, through ATB. Mobile banking keeps track of the ledger account for easy entry to financing and blockchain provides a decentralised platform that gives transaction history and a reliable farmer's identity. With the digital information, farmers can acquire loans systematically.

Achieving Food Security in the Decade

Food security is a measure of the availability of food and a person's accessibility to it – this includes their affordability. During the 2019 SEAVEG (Southeast Asia Vegetable) Symposium in Melaka, organised by MARDI, academicians and researchers collectively agreed about the minimal progress that has been made when it comes to food security. According to the committee of World Food Security, food security is defined as, 'all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy lifestyle'.

Below is the action plan that can be taken into consideration:

***Farmers* –** Current agriculture land is producing 50 per cent less than what it could produce. Thus, covering the yield lost with potential yield can be achieved by applying advanced technology into the agriculture, such as vertical farming which reduces the need of more land. Compliance to certain quality standard such as MyGAP (My Good Agricultural Practice), implementing new technologies as part of the value proposition to the produce, truthful and honest about the economic model, as well as actively engage in communal farming or marketing, will able to enhance sustainable food supply.

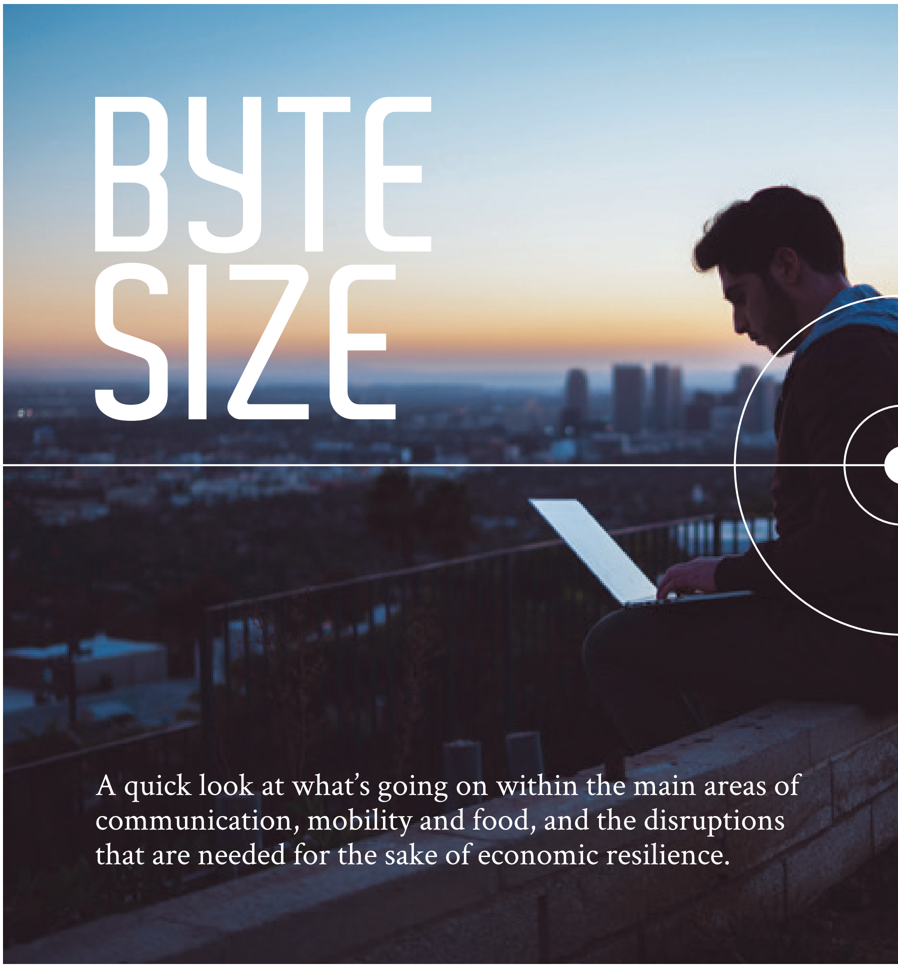
***Policymakers* –** To spur or support initiatives related to food security, few major actions can be implemented in stages for implementation to have a high industry standard practices, to empower technology adoption for producers, to raise awareness in national level, to invest in analytics technologies, to strive for a precise related data collection, to empower corporates to take on the challenge and to reward participation from different stakeholders such as producers and consumers.

***Economic Inclusivity* –** Empowering female farmers and agropreneurs in a male-dominated industry is crucial as women have been manning farms alongside their male counterparts in plenty of Asian countries. According to FAO, female share of the agricultural labour force has only increased slightly during the past three decades. Financial services and guidance should be provided for the up-and-coming farmers to get women on track.

***Food Waste* –** Food waste is an issue as well. Inefficient preparation of food production has generated 16,687.5 tonnes of food waste in Malaysia. This amount could actually feed 12 million individuals three times a day. Thus, managing an efficient food distribution is crucial and smart data can definitely be a great tool to help the process.

Last Words

Having suggested these actions, there's actually no silver bullet. Food security in particular, the food supply and demand, it is complex. In addition to date, there are no global analyses of food security in which different levels are addressed consistently to explore continental, regional, national and local contexts and solutions. We need to keep on engaging in conversations and efforts to establish pathways to security and VFarm strives to actively participate in the collective process. ■



BYTE SIZE

A quick look at what's going on within the main areas of communication, mobility and food, and the disruptions that are needed for the sake of economic resilience.

5G

A global 5G race is underway. Already in 2017, Korea Telecom rolled out a trial 5G network ahead of the 2018 Winter Olympics in Seoul and today, the city offers it almost everywhere. In July 2019, CGTN reported that Monaco has become the first European country to be entirely covered by a 5G network based on Huawei's technology. Huawei doesn't look like it's slowing down in the midst of current trade barriers because it has secured, according to CGTN, 50 commercial contracts in 30 countries in terms of 5G and has shipped 150,000 base stations worldwide. Despite the race, interestingly, PwC reported that only a third of consumers are willing to pay for 5G service.

5G's usefulness, besides super-efficient communication, extended to making a remote brain surgery possible in March 2019. Chief physician Dr Ling Zhipei started the 3-hour surgery while in Beijing, 3,000 km away from where the patient was in Sanya, China. Through China Mobile and Huawei 5G technology, the surgery was deemed a success. Dr Ling's remark was, 'You barely feel that the patient is 3,000 km away.' However, it wasn't the first. *China Daily* reported that a complicated hepatic operation was done in a hospital in Shenzhen under the real-time instructions of an expert 2,200 km away in Beijing. Thanks to the speed, large bandwith, low latency and high reliability of 5G, these remote surgeries were, and will be, possible.

Despite PWC's report, 5G will increase the number of devices connected to the internet. As it is now, according to IT Pro Portal, there are already 3.6 billion connected devices. This is almost half of the current world population. And it's growing fast.

Autonomous Vehicles

There are many hopes pinned onto autonomous cars. The main one is that autonomous cars will be able to reduce traffic congestion. Phys.org reported how researchers found that by controlling the pace of autonomous cars, these cars could control traffic flow by dispersing stop-and-go waves so that traffic wasn't oscillating as it would by human driven cars. What's more, even as small as five per cent of autonomous vehicles could significantly eliminate stop-and-go waves. Thus, reducing total fuel consumption by up to 40 per cent and braking events by up to 99 per cent.

Autonomous vehicles have been said to affect, for example, the shipping industry by reducing the number of human drivers and increasing safety, among other things. Still, at this moment, self-driving cars are still a concept. Tests are still on-going and according to *The Independent* article in April 2019, autonomous technology firm FiveAI has started testing five self-driving cars in Bromley and Croydon in the United Kingdom, as the latest step in its plans to eventually roll out an autonomous, car-sharing service in London. The company hopes to begin passenger trials in 2020.

Agtech

The world's current population of 7.7 billion is expected to go up by a billion in about a decade. Already at the turn of the century FAO had predicted a decline of annual agricultural growth of 0.7 per cent in the next three decades. Not good news since we're going to need an increase of food supply to feed 8.5 billion by 2030. Therefore, World Resource Institute has come up with steps on how to create a sustainable food future and it includes increasing food production as well as fish supply without expanding agricultural land, protecting as well as restoring natural ecosystems, reducing GHG emissions due to agricultural production and reducing growth in demand for food as well as other agricultural products.

Enter, agriculture technology, or agtech.

Startups have been main catalysts for the rise of agtech. In fact, its development has surpassed analysts' predictions with self-driving tractors, autonomous farm equipment that's able to plant, plow, weed, spray and more, and of course, robots that are able to do the jobs of human farmers.

On purely agriculture science, crops now have higher nutritional content, are more fertile and resilient to diseases. Agtech has been a great help in developing countries and in areas that aren't farming-friendly such as the dessert. FAO reported that currently smallholder farmers supply 80 per cent of food in sub-Saharan Africa and Asia. However, they're threatened by competitive pressure from, among other things, globalisation. Here's where agtech helps, with a little help from prominent benefactors to inject funding into innovative agricultural technology, these countries can adopt agtech to further their endeavour. Thus, be a part of the food security solution.

IoT

2018, it seems, was a good year for IoT. This year too, looks like. There are five things, according to *Forbes*, to watch out for in 2019 when it comes to IoT: its overall growth, deeper penetration in the manufacturing as well as healthcare industries, increased security at end points, smart common areas in cities globally and increased market penetration of connected smart cars. Most impressively, is the prediction that 87 per cent of healthcare organisations will adopt IoT in this year alone. This means endless possibilities including smart pills, smart home care and electronic health records.

For those wondering if it's time to buy a new car, Daniel Newman in his *Forbes* article thinks so. 'IoT's changing the way we experience automobiles,' he says. 'Now tonnes of vehicles have a connected app that shows up to date diagnostic information about the car. This is done with IoT technology. [However], diagnostic information isn't the only IoT advancement that we'll see in the next year or so. Connected apps, voice search and current traffic information are a few other things that'll change the way we drive.' ■

WIEF ROUNDTABLE SERIES

WIEF presents its Roundtable in different cities around the world as an avenue for business leaders to address economic challenges and showcase the multitude of opportunities for trade and investment.

Coming soon to Sabah, Malaysia

WIEF Roundtable (WRT)

WIEF Roundtable provides a unique avenue where regional and local entrepreneurs as well as investors congregate to discuss business issues. Also explore new creative ideas to existing objectives. This programme provides an important leverage on economic strengths that help transform a common vision into reality.

Roundtables have been held in many cities including:

Istanbul, Moscow, Johannesburg, Dhaka, London, Tokyo, Jakarta, Pnom Penh.

13 COUNTRIES

2,000 PARTICIPANTS

Close to 2,000 participants from 13 countries attended WRT.

WIEF Education Trust (WET)

WET is established to promote and strengthen human capital development through collaboration, education and training. It aims to provide educational opportunities to people at large by garnering support and resources from the Muslim world.

Programmes include:

Global Discourse Series, Social Enterprise Forum and Awqaf Development Exchange (ADEx).

15 COUNTRIES

1,000 PARTICIPANTS

Over 1,000 participants attended WET programmes from 15 countries.

WIEF Businesswomen Network (WBN)

WBN has paved paths for businesswomen to access relevant entrepreneurial resources through various programmes. Its global partnerships and collaborations with other businesswomen organisations, empower businesswomen and support their positive economic contribution.

Programmes include:

Online Marketing Workshop, Women Entrepreneurs Workshop and WIEF TeaTalk.

600 PARTICIPANTS

49 COUNTRIES

Over 600 women participated from 49 countries.

WIEF Young Leaders Network (WYN)

WYN aims to promote cross-border business opportunities and social projects for the common good. It's a global youth network for young pioneers and changemakers to connect as well as collaborate focusing on top-class leadership mentality under the tagline Learn.Empower.Earn.Return.

Programmes include:

IdeaLab and Young Fellows.

1,000 PARTICIPANTS

146 COUNTRIES

Over 1,000 youth participated in WYN programmes from 146 countries.