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One Size Doesn't Fit All

When I look back, I remember how fascinating it was for me to observe the economy, and today, I still am a keen observer of how countries manage their resources. It is simply because economy permeates every aspect of life and it is an accurate predictor of the future of any country.

I recall the volatile economy during the 1980s and recession was inevitable. However, towards the end of that decade, the economy boomed. Following that, in 1990s, there was an economic downturn mainly in the west and this trend remained till the turn of the century. After which, the 2000s saw a healthy economic growth, especially for most of Asia and due to this, the middle class grew. This narrowed the socioeconomic gap between the rich and poor, which resulted in the world as we know it.

With the global economy facing various challenges including geopolitical headwinds and turbulences, countries are encouraged to shape their economy to be inclusive. This is to make national economies more equitable from bottom up. I regurgitate what has been said for the longest time, by economists and leaders alike: There's no one size fits all when it comes to economic systems. We know this to be true. What works in the west does not necessarily mean it will in the east, and vice versa.

I believe, in the long run, an inclusive economy can staunchly take shape when stimulated by a socially responsible financial model such as Islamic finance. It is because Islamic finance has community-prone financial components, namely waqaf, that are easily adaptable to diverse economies and can excite a stagnating GDP growth.

Without a doubt, across the globe, we want to see poverty eradicated, the hungry fed, wealth and talent evenly distributed, as well as equality fully instated. I have faith that this day will come very soon.

So often I hear words such as inclusivity, trust and sustainability used to make good sense of what is occurring today and they aptly describe the direction towards which our world is heading. As you know, with the passing of time and the advent of technology such as blockchain, fintech and big data, national boundaries are becoming less relevant. Due to that, there is more solidarity, yet, there is also more complexities. In this ambience, an inclusive economy can form a climate of trust.

Inclusion, we must realise, is a choice. We need to make that choice to achieve sustainability and an inclusive economy.

Therefore, I invite you to reflect what is written within the pages of the second issue of our in-house magazine. It is between its covers that viewpoints from experts and practitioners shed light onto issues currently inundating the global economy, financial and technological industries.

If they inspire you – whether you're a business person, consumer or changemaker – then we hope you will take concrete action in making a change towards inclusivity.

The Honourable Tun Musa Hitam
Chairman of WIEF Foundation

Editorial Info

About IN FOCUS
Its inaugural issue 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 business-related matters you think we should report on. It is a complimentary publication and for subscription.

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Inclusive growth seems to be the element to rejuvenate a ragged long-running linear economy. Here, ***Su Aziz*** breaks it down for better understanding.

INCLUSIVITY

Lately, the term 'inclusivity' is ubiquitous, you hear it often and ardently uttered by policymakers and laymen alike. Inclusivity is the general direction now in which most economies are heading. More than that, it reflects the state of inequality the world has come to, which has bred uncertainty in economies and populations. Often times, many have wondered if inclusivity is the antidote that'll eradicate marginalisation rooted by the old economic model.

'Many countries in the [ASEAN] region have successfully shifted a large part of their resources into higher-productivity areas [such as] by moving from agriculture to industrial production, to advanced manufacturing and services. But this is not enough. To be sustainable, new growth models also [need to] be much more inclusive,' stated Christine Lagarde, managing director of International Monetary Fund (IMF) during her keynote speech at the High-Level International Conference 2018 in Jakarta. 'Recent IMF research has shown that, when the benefits of growth are shared more broadly, growth is stronger, more durable and more resilient.'

That's why, rethinking the traditional model of economic growth has been highlighted by the Organisation for Economic Co-operation and Development (OECD) for some time now. Reinstating certainty onto the global economy, it seems, may take a concerted effort. It's important for governments, institutions and businesses to foster inclusive growth. To orchestrate this harmoniously, OECD launched their Inclusive Growth Initiative in 2012 to establish a strategic policy agenda that'll shape this new vision of growth.

Furthermore, to create more opportunities for all people and steady a trembling economy, inclusive growth must be made to succeed. This is so that growth doesn't stagnate at the top level but instead, flows down to the lower strata of the society.

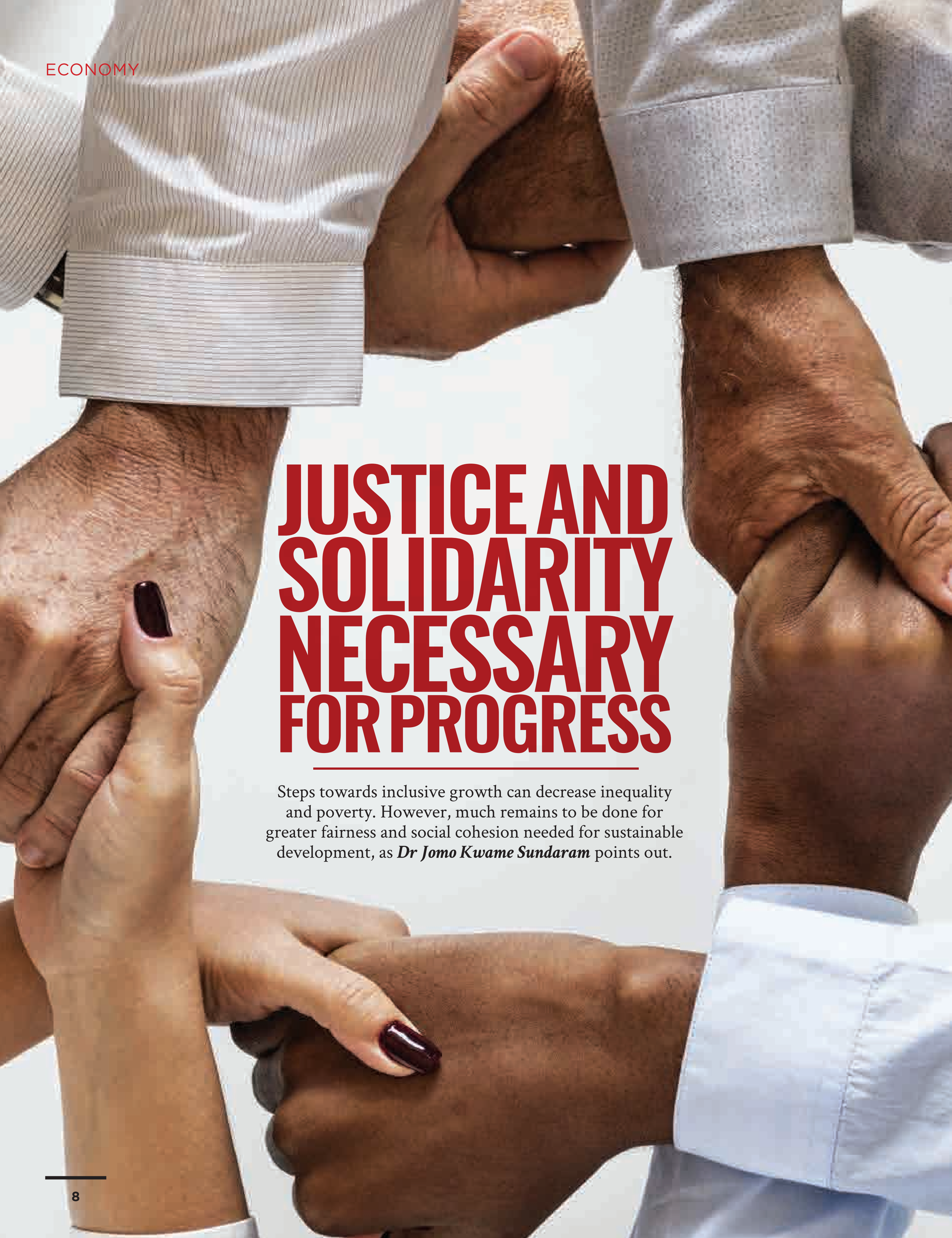
> *"Recent IMF research has shown that, when the benefits of growth are shared more broadly, growth is stronger, more durable and more resilient."*

That'll be ideal, of course.

The reality is, according to *The Five Characteristics of an Inclusive Economy: Getting Beyond the Equity-Growth Dichotomy* published by the Rockefeller Foundation in 2016, the concept of growth trickling from top down is proven to be fundamentally flawed. Instead, the article stated, it was discovered that when investments were made to make economies more equitable from bottom up there were positive results for everyone and for a longer term.

Making an economy inclusive, of course, takes more than just growth and equity. Other factors to consider especially in today's fast-changing world, according to the article, are: participants of the economy such as consumers, workers and business owners; whether growth is lasting and sustainable; whether people have an equal shot at economic opportunities, and; if there's some minimum level of security and predictability associated with the opportunities.

'We need to ensure that this new economy is not just a boost to productivity and growth, but also a foundation for a world that works for young and old, rich and poor, urban communities and remote villages. Our common responsibility is to help create a smarter economy, a fairer economy, an economy with a human face,' Christine Lagarde declared during the conference in Jakarta. ■



JUSTICE AND SOLIDARITY NECESSARY FOR PROGRESS

Steps towards inclusive growth can decrease inequality and poverty. However, much remains to be done for greater fairness and social cohesion needed for sustainable development, as ***Dr Jomo Kwame Sundaram*** points out.

The 2017 United Nations World Economic and Social Survey (WESS) underscored that international solidarity is necessary for reinvigorating the global economy as well as achieving inclusive and equitable development. Sustainable development is necessarily multidimensional and often context-specific, requiring strengthened state capacities and capabilities, strategic development planning and appropriate adaptation to local conditions.

A Step Forward

The United Nations' 17 Sustainable Development Goals (SDGs) involve specific targets to be achieved, mainly by 2030. Its agenda attempts to be inclusive, addressing inequality and discrimination, and claiming roots in universal human rights.

The UN has been ahead of the curve on many issues, especially on closing gaps in human well-being between and within countries. From early on, it has urged developed countries to support socio-economic progress in developing countries – not only in their own interest as trading partners, but also to maintain conditions for greater economic stability and more equitable global development. It has also long called for predictable transfers of finance and technology to developing countries, and for opening up developed country markets to developing countries' exports, especially of manufactures.

The 1944 Bretton Woods conference created the International Monetary Fund (IMF), not only to help countries overcome balance of payments difficulties, but also 'to direct economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability, with due regard to its circumstances'.

More recently, many governments claim to have learnt from the 1997-1998 Asian financial crises and the 2007-2009 global financial crisis. But while some measures implemented since may be effective in preventing their recurrence, others associated with deepening global financial integration may be inappropriate, inadequate or worse, even counterproductive.

Finance Follows Investment and Growth

Research points to reverse causality – of financial development necessitated by growth, supporting renowned economist Joan Robinson's claim that 'where enterprise leads, finance follows', i.e., more money and credit become available as demand for both increases with economic growth.

Investors' demand for finance leads to greater financial development. After all, money and credit are supposed to lubricate the real economy. Emerging and developing economies start from relatively low incomes, and therefore have greater growth potential.

In developed and 'emerging market' economies, especially in the Eurozone, finance continues to grow even as growth slows. Apparently, savings adjust slowly to sluggish income growth, resulting in a rising wealth-to-GDP ratio. This, in turn, creates demand for finance as households seek to 'park' their savings, borrow for consumption and buy new consumer durables.

Thus, the financial system grows even though economic growth declines. This may result in rising household indebtedness or increasing debt-to-income ratios, ending in debt bubbles and then defaults.

This is important as short-term capital inflows cannot enhance productive long-term investments. Short-term capital flows are easily reversible, and can suddenly leave, plunging countries into financial crisis.

Appropriate Regulation

Besides being cognisant of 'too much finance' beyond a tipping point, policymakers need to be aware that causality may run in both directions. Therefore, financial development should accompany productivity enhancement. Financial liberalisation or other financial development policies alone will not spur productivity growth. Without entrepreneurship, finance will prove to be an illusory source of growth.

If the financial sector continues to grow after growth potential falls, it greatly increases the relative size and role of finance, thus accelerating the likelihood of financial, and in turn, economic instability. Countries need strong macro-prudential regulations to contain such vulnerabilities. After all, the lack of good financial intermediation constrains growth in developing countries.

Policy ownership will ensure greater legitimacy and should include capital account regulation and choice of exchange rate regime. As likely international financial reforms are unlikely to adequately provide what most developing countries need, national policy independence in regulatory and interventionist functions must be assured.

A Step Back

Increasingly, the main benefits of economic growth are being captured by a tiny elite. Despite global economic stagnation for almost a decade, the number of billionaires in the world has increased to a record 2,199 in 2017. The richest one per cent of the world's population now has as much wealth as the rest of the world combined. The world's eight richest people have as much wealth as the poorer half.

In India, the number of billionaires has increased at least tenfold in the past decade to 111 billionaires, third in the world by country. But, over 425 million, the largest number of the world's abject poor, also live in the same country. Meanwhile, the number of people living in extreme poverty in Africa, according to the World Bank, has grown substantially to at least 330 million from 280 million in 1990, despite its decade-long resource boom until 2014.

Poor people in Europe bore the brunt of draconian austerity policies while bank bailouts mainly benefited the wealthy. Surprisingly, 24.4 per cent of the population in the European Union are at risk of poverty, albeit measured against a higher, more meaningful poverty line. Between 2009 and 2013, the number of Europeans without enough money to heat their homes or cope with unforeseen expenses, rose by 7.5 million to 50 million people, while the continent is home to 342 billionaires.

The global Gini index has declined since the 1990s due to rapidly rising incomes in China and India, while within-country inequality has generally increased. Gini coefficients fell in five of seven world regions for five years until 2013 despite, or perhaps, because of much slower growth and the adverse impact of the financial crisis on the rich.

Last Words

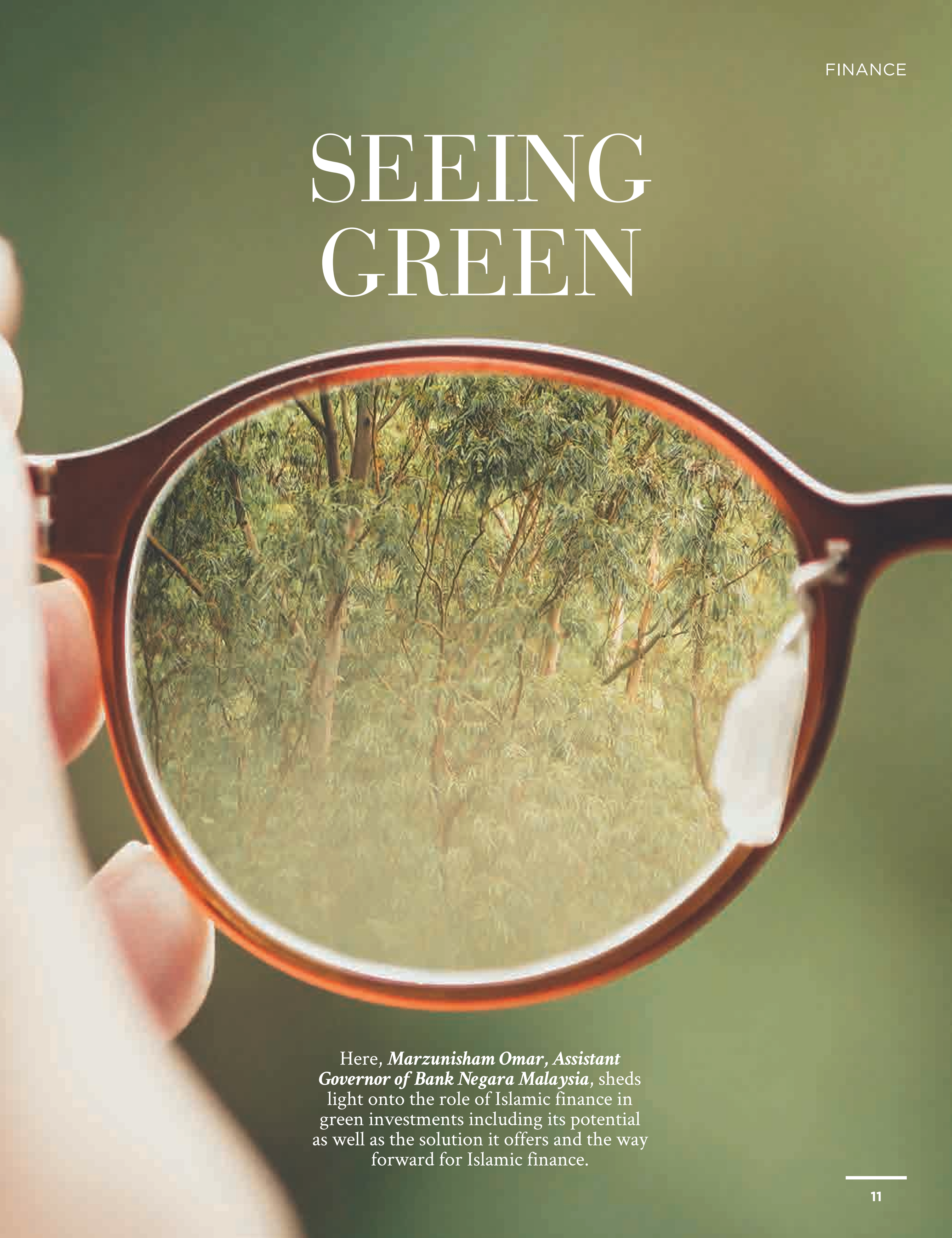
These are but a few examples of apparently contradictory recent trends. Unequal distribution of both income and wealth is still widespread, arguably growing in most economies and dangerously destabilising, besides being unfair and unjust. The current economic system, if it can be called that, serves the wealthy well, but also threatens to engender tendencies which undermine it.

Globally, concern about inequality has grown as every major economic, social and political crisis has been preceded by rising inequality. Clearly, it is time for change. ■

About the author

Dr Jomo Kwame Sundaram is a prominent Malaysian economist who held the Tun Hussein Onn Chair in International Studies at the Institute of Strategic and International Studies in Malaysia during 2016-2017. Until 2012, he was the United Nations Assistant Secretary-General for Economic Development in the United Nations Department of Economic and Social Affairs (DESA) (2005-2012) and then an Assistant Director-General and Coordinator for Economic and Social Development at the Food and Agriculture Organization of the United Nations in Rome until 2015.

SEEING GREEN



Here, ***Marzunisham Omar, Assistant Governor of Bank Negara Malaysia***, sheds light onto the role of Islamic finance in green investments including its potential as well as the solution it offers and the way forward for Islamic finance.

The Role of Islamic Finance in Green Investments

Islamic finance is grounded in the principles of *maqasid al-shariah* or goals of shariah which, among others, call for the preservation of life and property. As such, environmental protection and sustainable growth are objectives that are already embedded within Islamic finance.

This therefore, strongly positions Islamic finance to advance green investments, primarily in two key ways:

First, the structure of Islamic financing instruments, such as bank financing or sukuk, is subject to stricter requirements with respect to the purpose of financing. A key tenet of Islamic finance is that finance must have underlying economic activities. This places Islamic finance in a strong position to structure financing for green investments that are clearly in line with the intended outcome of Islamic finance. Sukuk is a good example of financing instrument for green investments and 2017 saw the introduction of the world's first green sukuk in Malaysia.

Second, there's a strong pool of Islamic finance investors. It's significant in size – total global Islamic financial system valued at USD1.9 trillion and Islamic funds holding USD56.1 billion of assets under management as at end of 2016, according to IFSB Islamic Financial Services Industry Report 2017. It's also self-selective, given the nature of Islamic finance described earlier, participants naturally predisposed towards advancing the sustainability agenda.

The Islamic finance industry is therefore poised to take a leading role in meeting the climate and energy challenges of the near future.

Importantly, there is a growing demand for such needs. According to the International Energy Agency in the World Energy Investment Outlook 2014, annual investments in low carbon technology and energy efficiency will need to increase six times to USD2.3 trillion by 2035 from the USD330 billion in 2013 in order to meet the goals of the Paris Agreement. These are astounding numbers but the costs and risks of inaction are far greater.

The Economist Intelligence Unit (EIU) estimates that up to USD43 trillion or 43 per cent of the total global stock of assets is at risk of losses due to climate change in the 21st century. Put another way, this is also a USD43 trillion opportunity for Islamic finance to tap into while promoting the sustainable industries of tomorrow.

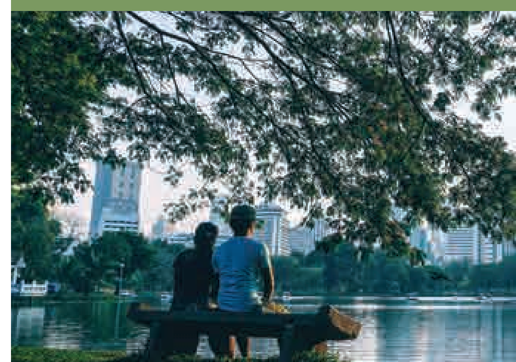
Islamic Finance Efforts in Advancing Green Finance

Malaysia has been working to advance the green finance agenda for a number of years.

Our early focus had been to generate interest among financial institutions in financing viable and innovative green technology projects through educational efforts and economic incentives. A key initiative is the establishment of the Green Technology Financing Scheme in 2009, which involved the sharing of financial risk between financial institutions and the government in financing sustainability-related projects. This scheme is important to initiate a nascent industry. To date, the scheme has benefitted over 272 projects with an allocation of nearly RM3 billion. Of this, according to Malaysia Green Technology Corporation, almost half of the financing offered is shariah compliant.

Since then, efforts have turned towards developing more industry-driven and market-based solutions.

Environmental protection and sustainable growth are objectives that are already embedded within Islamic finance



In 2014, the Securities Commission Malaysia issued the Sustainable and Responsible Investment (SRI) sukuk framework that promotes innovation in the SRI space, including green sukuk. A recent highlight was the issuance of a RM250 million sukuk to finance a 50-megawatt solar farm in July 2017, thus introducing the world's first green sukuk.

Going forward, we expect to see a deepened integration of the green agenda within Islamic finance. In July 2017, Bank Negara Malaysia and the financial industry jointly launched 'value-based intermediation'. It's an approach that aims to deliver the intended outcomes of shariah of making a positive impact on the economy, community and environment. This is an ambitious vision, but will be built on concrete, practical improvements in the day-to-day running of Islamic financial institutions. One example is the incorporation of environmental and sustainability factors in the business strategy and risk management of banks.

A key initiative is the establishment of the Green Technology Financing Scheme in 2009

Next Steps for Islamic Finance in Greening the Global Economy

Islamic finance can play three key roles going forward:

First, as a **Specialist**. Islamic financial institutions should establish a niche in strategic and risk assessments for sustainable businesses. This is an area that, at present, remains relatively novel or esoteric. With the growing demand for more sustainable businesses, entrepreneurship in this area is poised to evolve and expand. Upskilling the talent pipeline will be crucial in ensuring that Islamic finance can meet the industry's needs, be it in terms of financing or advisory. With this manner of specialisation, Islamic finance will secure its position as the primary choice for companies and consumers in our future economic landscape.

Second, as an **Educator**. To an insider, the potential of Islamic finance in the sustainability agenda may be obvious. However, awareness remains relatively low among companies and individuals that are likely to need it most. Islamic financial institutions can do more to bridge that gap. This may include intensifying efforts to identify relevant clients and educate them on the suitability of Islamic finance as a partner for their SRI and ESG objectives. Islamic financial institutions can also lead the way in elevating public awareness about the readily available avenues through which individuals can invest in green solutions.

Third, as an **Advisor**. Around the world, the Paris Agreement goals are being translated into ambitious national targets and strategies. These will entail significant capital outlays. Islamic financial institutions can play a fundamental role in driving engagements with the relevant government agencies and businesses. This includes understanding their unique financing requirements, the financial risks involved, and developing tailored solutions. This is a role that Islamic banks are beginning to spearhead today here in Malaysia. Through a process of continuous learning and improvement over the years, we are confident that efforts to advance Islamic finance in Malaysia can evolve into a global solution to the sustainability challenge. ■

SHIFTS IN ISLAMIC FINANCE

Strategic shifts are taking place within Islamic banking today and to address this, ***Mobasher Zein Kazmi*** of RFi Group, outlines their view on how the industry is evolving.

If you look at the size of the Islamic finance industry today, which is projected to have exceeded USD2 trillion, this represents only a fraction of all global financial assets. The implication is clear that Islamic finance has significant potential and room to grow. Its role within the international financial system is to provide market participants with alternative options for financing or investment.

The industry must leverage its key value proposition that Islamic finance is linked with the real economy and *shariah* based products, contracts and transactions are underpinned by tangible assets. Therein lies its appeal, which needs to be continuously highlighted and underscored.

According to RFi Research, the global average of Islamic banking share of assets across 16 key Islamic finance markets in the Middle East, North Africa and South Asia region (MENASA) has reached 30 per cent, bolstered by jurisdictions such as Iran, Saudi Arabia and Qatar. This will likely rise further as the strategic roadmaps of the United Arab Emirates (UAE), Malaysia as well as Indonesia are rolled out and implemented.

Similarly, Islamic finance has begun to make inroads in the west but these initiatives are few and far between, and its impact relatively localised or segmented. For Islamic finance to gain traction it'll require a concerted effort on educating the average customer, given that a general lack of understanding of how Islamic finance works, exists.

The one standout remains is the United Kingdom, which has more shariah compliant providers than any other western country. It's the first non-Muslim country to issue a sovereign sukuk (Islamic bond). In this regard, the institutional support provided by the United Kingdom government is highly commendable.

Strategic Shifts Taking Place within Islamic Finance

While the Islamic finance industry remains dynamic and vibrant the industry is increasingly recognising the need for greater innovation in product development and structuring as well as standardisation of contracts. We're also seeing a gradual shift away from shariah compliant products to shariah based ones as Islamic banks look to diversify their service offerings and balance sheets.

Increasingly, Islamic finance is also being serviced to support the emerging global Islamic economy that mandates halal (permissible) fashion, food and travel. Thus, becoming an enabler for halal lifestyle. If we are to consider retail banking specifically, data from RFi's Global Islamic Banking Council 2017 indicates that at a baseline level, one in two customers hold at least one sharia compliant product in Malaysia, Saudi Arabia, Indonesia and the UAE. At a retail level Islamic products and services are beginning to take root in these commercially sensitive markets.

Another favourable development has been the issuance of green sukuk that seeks to encourage investments in environmentally-sustainable projects, the recent sovereign green sukuk issuance by Indonesia is a case in point. The role that Islamic microfinance has started to play towards financial inclusion in Indonesia, Pakistan and Egypt must also be recognised as these countries continue to work towards poverty reduction and social uplift.

Elements Influencing Shifts in Islamic Finance

Fundamentally, we'd attribute this to end users of Islamic financial services be they retail or corporate, especially in key Islamic banking markets in Southeast Asia or the Gulf Cooperation Council (GCC).

There's an acknowledgement, at least by a section of the Islamic finance customer base, that imitation of conventional products is no longer tenable. In Malaysia for instance, RFi Research reveals that while 87 per cent of the total banked population is open to the idea of subscribing to Islamic banking products or services, 45 per cent of these customers would only choose Islamic banking products and services, suggesting that shariah compliance is fast becoming a key consideration for banking product take up.

Value-based intermediation has become a need of the Islamic finance market and regulators such as Bank Negara Malaysia have demonstrated bold and visionary thinking by introducing relevant measures to facilitate value creation and enable the industry to transform itself as agents of change.

Strategic Shifts within Islamic Finance in the Next Decade

The next decade in Islamic finance will be a period of consolidation in the industry. We believe that mega mergers will materialise in different key markets both within Islamic banking and possibly takaful sectors. The business model of Islamic banks will necessitate mergers and acquisitions to enable sustainability and competitiveness of shariah banks with their competitive peers.

We also believe that shariah governance will become a key area of focus for regulators as central banks seek to introduce comprehensive frameworks that will encompass all functional areas of shariah compliant financial institutions.

There'll be continued standardisation and harmonisation of business practices of Islamic financial institutions. Also, enhanced oversight by regulators in terms of certification of shariah-compliant companies, shariah screening criteria, functions and responsibilities of shariah advisers, external and internal shariah audit, and application of accounting, auditing and governance standards. Mitigating any perceived shariah risk especially on compliance issues will be essential to address concerns of market participants.

From a customer standpoint, we're expecting to see a continuous build-up of brand affinity with Islamic products. Based on RFi Research, Islamic banking product holders are more likely to advocate for their Islamic provider than conventional product holders. This is primarily being driven by customer service but the opportunity to segregate funds is fast proving to be of significance for customers in Southeast Asia.

Evolution of Islamic Finance and the Economy in the Past Decade

The nascent Islamic banking industry came of age during the Global Financial Crisis (2007-2009) emerging unscathed and resilient. While the undercurrents of the Global Financial Crisis reverberated across the international financial architecture, Islamic banking assets grew rapidly as excitement and interest in shariah compliant products began to take shape. Both retail and corporate borrowers looking for stable and committed partners began to take the Islamic banking proposition seriously, creating enormous opportunity for growth in this segment.

However, the exuberance has tempered off in recent years. Partly due to low oil prices in select markets and also due to the lack of scale of Islamic banks that strained operational profitability, thereby limiting expansion. Having said that, the industry continues to hold momentum and based on RFi Research, the 3-year Compound Annual Growth Rate (CAGR 2014-2016) growth of Islamic banking assets was a stellar 10 per cent buoyed by Qatar, the UAE and Turkey.

Forecast on the Next Big Steps for Islamic Finance

The focus for the Islamic finance industry remains on offering products and services built on the universal values of ethics, sustainability and social responsibility while contributing to economic welfare.

According to RFi Research, the strengths of Islamic banking providers lie in their ability to provide an ethical way of banking, quality shariah explanation and prompt resolutions to queries, while contributing to overall community welfare and development.

Certainly, products developed should continue to provide returns that are competitive to those offered by its conventional cousins while incorporating appropriate risk management. Islamic finance is well positioned to become the go-to universal provider of choice for all consumer segments.

Contribution of Islamic Fintech to Inclusive Growth

The Islamic finance industry has been relatively slow in partnering or collaborating with new fintech players compared with their conventional peers. There are some positive signs, however, in terms of new startups launched and funding received for these ventures both in the GCC and Malaysia. The stumbling block is really around the lack of standardisation, processes and potential contracts that would underpin those transactions.

The announcement late last year in Bahrain by KFH Bahrain, Al Baraka Banking Group and Bahrain Development Bank on establishing a dedicated company to research and develop in the sharia compliant fintech sector, is a step in the right direction. RFi's view is that, Islamic fintech has vast untapped potential waiting to be realised, not only in driving financial inclusion in Muslim geographies but also improving operational workflow of Islamic banks. The industry must either embrace this transformation or fear being left behind. ■

Keeping Up with Geoeconomics

By ***Mobasher Zein Kazmi***

Geoeconomics was conceptualised by noted political scientist, Edward Luttwak. RFi believes that geoeconomics comprises two dimensions: one that relates to how nation-states utilise various economic levers and instruments to promote specific national security objectives. While the other is where these nation-states leverage their defence capabilities to secure and protect their own economic interests. The interplay between these complimentary forces encapsulates the rise of geo-economics in a post-Cold War era.

Geoeconomics and its Relevance to Today's Economy

RFi believes that geoeconomics comprises two dimensions:
1) it relates to how nation-states utilise various economic levers and instruments to promote specific national security objectives, and;
2) these nation-states leverage their defence capabilities to secure and protect their own economic interests.

Geoeconomics is very relevant in today's globalised economy, especially given the rise of large multinational corporations and role of supra-national organisations that directly impact global trade flows and investment.

In our opinion, countries that are unable to craft a sensible geoeconomic strategy will be left weakened economically and vulnerable militarily. This can result in a decline of their international standing and erosion of sovereignty. Economic stability and growth are key ingredients in ensuring and maintaining a viable national polity. This is why market integration and formation of regional economic blocs is proving advantageous to middle-income countries.

Geoeconomics and Islamic Finance

Islamic finance is predominantly centred in the Southeast Asia and the Middle East regions. More specifically, it's being spearheaded by Malaysia and the UAE respectively as both aspire to maintain their leadership positions within global Islamic finance. Both countries have demonstrated their strategic intent to position Kuala Lumpur and Dubai respectively as the global Islamic financial centre of choice.

What this also translates to, is being able to wield influence in terms of setting the agenda within the global Islamic finance industry. Also, lead the conversation with key stakeholders in the broader international financial regime. Our view is that in the short to medium term it is highly unlikely that either country will utilise Islamic finance as a projection of force or articulation of national will until and unless a degree of critical mass is achieved. ■

About the Author

Mobasher Zein Kazmi is the Director of Consulting for global financial services intelligence specialist, RFi Group. Based in Singapore, he's responsible for the research business function across all subject matter areas including retail, SME, commercial and Islamic banking in Asia. He was Head of Research at The Asian Banker and is an Islamic banking expert who has written on numerous Islamic banking and finance topics, for a range of media publications in the GCC and Southeast Asia.

RFi Group is a global financial services intelligence specialist, focusing exclusively on financial services and has offices in six cities across the globe. They combine global intelligence and local knowledge to provide insightful, valuable and actionable recommendations.

THE PROMISING REJUVENATOR

Is the glass half empty or half full for Islamic finance? An expert, ***Professor Syed Othman Al-Habshi***, indites its potential to be a rejuvenator of a stagnating global economy.

Asking about how Islamic finance (IF) can rejuvenate the stagnating economy, in particular Europe, is a very interesting question. The West has in recent years been involved in 'Socially Responsible Investment (SRI)' or sometimes in 'ethical investment'. These are akin to Islamic principles but not 100 per cent. The United Nations has also introduced what is called the Social Development Goals (SDGs) that contains 17 different goals for human development.In terms of objectives, both the SRI and SDGs are very akin to Islamic objectives. However, the investment structures of SRI are certainly not based on Islamic principles. Similarly, with the SDGs. What we as Muslim scholars could do is to prove that the Islamic investment structures are more able to fulfil the objectives of SRI and Islamic development methods are more effective to achieve the goals of SDGs.

The other point that must be raised here is the fact that sukuk or Islamic bonds have been well accepted by a few non-Muslim governments such as the United Kingdom and Japan. Most of the corporations today are happy to invest in sukuk although they are not conducting other affairs in Islamic fashion. What I'm pointing out is that in order to rejuvenate the stagnating economy of Europe and elsewhere, we have to demonstrate the success of Islamic economics and finance to the point that they cannot reject.

Sustainable Traits of IF

The most important sustainable traits of IF are the requirements of justice to all parties and the integration between the real and financial sectors. Justice is the overarching requirement of every contract, every transaction involving different parties. These contracts are not only confined to financial but should extend to social, economic and even political spheres.

The integration of real and financial sectors will certainly reduce volatilities in the economy as experienced by the present system. The reduction of such volatilities will dampen the inflationary and other critical economic pressures. The economy would be more stable with growth rates that are moderate but positive.

Has or Will IF Impact the Economy?

On the global scale, IF constitutes only about one per cent of the world financial sector. Given such difference, it would not be possible for IF to influence the global finance. However, for individual countries,

> “I think, in the next five years, there is every likelihood that IF in Malaysia and in some other Muslim countries will demonstrate its potential to dominate the respective economies.”

such as Malaysia, the IF assets have grown from around four per cent in 1990’s to around 28 – 29 per cent in 2018.

The reported rate of growth of IF assets hovers around 14 to 15 per cent compared to that of the conventional financial asset which grow at around seven to eight per cent. Based on such rapid growth there is every likelihood that the IF assets in Malaysia will double every six to seven years. When this happens, there is also great likelihood that the Malaysians would opt for Islamic rather than conventional transactions in future. This will further push IF towards dominating the economy.

It is also believed that Indonesia is another country that will follow suit, as well as Turkey and other Muslim countries. In other words, what we need to do is to prove that IF is here to grow and help sustain the economy of such countries.

I think, in the next five years, there is every likelihood that IF in Malaysia and in some other Muslim countries will demonstrate its potential to dominate the respective economies. IF may not yet dominate any economy in five years but it will be close to achieving it. This will bring a very significant impact on the thinking of the conventional economists who have started to question the problems of the conventional economic system.

Next Steps for IF: Fintech and Innovative Products

Apart from ensuring current growth patterns, IF must be able to innovate new structures and products that further integrate the real and financial sectors so as to move to a new level. This is very important because IF has received criticisms in not innovating new products that could propel itself to new heights.

Fintech will have to be embraced somehow for many reasons. The populace will need it. The financial institutions have to embrace it to meet the demands of the consumers. More importantly, fintech is opening up a new space for IF, namely, the voluntary sector that will see growing at tremendous speed.

The voluntary sector, particularly waqf or Islamic endowment will be a very important vehicle of economic development when fintech is fully embraced. It will catalyse the voluntary transfer of funds from surplus to deficit units. This can happen because fintech allows transparency of information through blockchain technology that increases the trusts of donors. Every donor knows where and how his donation goes and being used.

The free flow of such information will rapidly escalate the waqf development that will spur the economy. Waqf being an Islamic structure will naturally require Islamic financial instruments to be adopted. Hence, I foresee the significant contribution in the further development of IF.

Last Words

Theoretically, IF has been mathematically proven to be a resilient finance system. However, in practice it has not been able to move away from the clutches of the conventional system. It cannot be denied that there is no complete Islamic finance system in practice today. The countries that practice IF do practice the dual economic system. This is the biggest challenge because the customers tend to compare between the two similar products. Despite this big challenge the recent financial crises have proven that the IF has been least affected.

To me, the development of voluntary sector that is integrated with fintech is going to escalate the IF in the future. Secondly, innovative financial products and instruments that strongly integrate the real and financial sectors will be the answer to sustainable and resilient IF in the future. ■

About the author:

Professor Datuk Dr Syed Othman Al-Habshi has been an academician since 1969. Due to his long-running studies and readings on Islamic economics, Islamic banking, finance and the like, he has been recognised as an authority in these topics. For a decade, until 2017, he was a professor and deputy president (academic) at the International Centre for Education in Islamic finance (INCEIF).

A question to Professor Syed Othman: What sparked your interest in Islamic finance?

When I was doing my master's degree in statistics at the University of Wisconsin, USA, I attended some Islamic conference and was exposed to what was common in those days – Islamic economics. As a graduate of economics myself, I began to read about it as well as the history of Islam, particularly the Golden Age of Islam. I became convinced that Islamic economics must have flourished then and hence we need to work towards reviving it.

When I returned after my degree, I was attached to Universiti Kebangsaan Malaysia (UKM) and within a year or so, I became Dean of the Faculty of Economics and Management. Interest in Islamic economics started to emerge even among some of my students. Hence in 1975, I started teaching a course on Islamic Economics which was not well received by some academics at the beginning. However, my passion grew stronger and I defied all criticisms and pushed on, albeit successfully.

When International Islamic University Malaysia (IIUM) was established in 1983, I had the privilege of becoming the founding Dean of the Faculty of Economics. The position gave me tremendous opportunity to craft and design the first ever Bachelor of Economics with inputs from both shariah and Islamic economics. I insisted that it should be called Bachelor of Economics instead of Islamic economics. My principle reason was to ensure my graduates will be easily marketable by both the conventional and Islamic sectors.

At the same time, Bank Islam Malaysia Berhad (BIMB) was established. I believe the establishment of the two institutions were coincidental and complemented each other. IIUM graduates became the choice talents not only for the mushrooming of Islamic financial institutions in 1990s, but also because of their good command of English as well as their shariah and Islamic knowledge.

From then on, my pursuit for Islamic finance never stopped till this day. ■

A METHOD TO **RESOLVE DISPUTES**

There's more to blockchain than people think. A blockchain expert believes that it can help developing countries resolve major issues such as land disputes. ***Samar Al-Montser*** reports.

Since the beginning of the blockchain surge, more people are trying to understand how to better utilise this technology. The potential of this public ledger is huge. It's just a matter of time before these advances change the way things are managed.

According to Larry Christopher Bates, blockchain can help solve problems faced by developing countries. Larry is the chief security officer and president of Bitland, which is a development platform that aims to show how technology can develop the future of the country. He believes that issues of land settlements and disputes can be managed better with blockchain technology – by overcoming transparency problems with its public ledger.

In Africa, 90 per cent of the rural lands are undocumented or unregistered, according to the World Bank. This makes land ownership processes a tireless struggle, maintaining a persistent gap between the rich and poor communities. This situation, however, could see a shift in the coming decade. With 202 hectares of land, and about half of the world's total uncultivated and fertile land, Africa has the potential to do much more, if managed well.

At the core of the problem of land disputes is proving the chain of custody, and blockchain can do just that. Larry explains that, through any transaction history on blockchain, any title or property exchange that happens will have an irreversible record that will have gone through proper channels to ensure that the original information was valid.

However, this only applies to disputes that occur on-chain. Blockchain technology can do absolutely nothing to settle land disputes that occur off-chain. 'In the case that a dispute occurs over an on-chain property, the immutable record will provide irrefutable evidence as to the proper owner or tenant, and effectively makes the ownership "undisputable",' Larry explains.

At the core of the problem of land disputes is proving the chain of custody, and blockchain can do just that.

Misconceptions

Bitland was founded by Narigamba Mwinsuubo in Kumasi, Ghana, in 2014. The idea rose out of the most extreme living conditions. Due to concern over the lack of infrastructure and electricity, Narigamba saw that blockchain could promise an end to corruption. Narigamba had set out to solve gaping holes in bitcoin's practical implementation by the bitcoin network with Bitland. 'Experts within the bitcoin community didn't understand certain complexities and pushed the misinformation that bitcoin could solve all the problems facing under-represented populations,' says Larry.

Narigamba then formulated a protocol to create the Bitland project. 'The protocol was specifically created only for recording monetary transactions. Anyone that says bitcoin is necessary for any of this is either misinformed or misinforming intentionally,' he explained.

Laws of the Land

While every country has different laws, the decentralised community of blockchain has simplified many aspects. 'It positions itself as a solution to every centralised industry,' says Larry. In the case of Bitland, it can only put land titles on a blockchain that are recognised by the local government. 'Anyone can put a property on a blockchain, but whether the local government recognises that blockchain as a valid registry is what's important,' Larry explains.

Bitland has been working to connect with federal governments around the world to make the case for establishing blockchain based land registries as a government utility. According to Larry, in cases where that's not possible, Bitland operates as a real estate company that digitises titles in the process of selling. This way, the digital registry can be created in areas where the government doesn't recognise blockchain technology, while simultaneously creating an immutable record that is compliant with the local real estate laws.

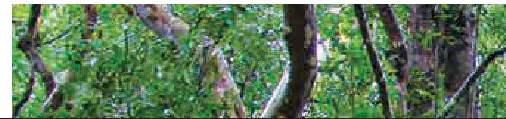
At this stage of the process, Bitland agents will get involved with handling the data input in order to ensure the integrity of what is being entered. 'As the protocol becomes more robust, the individual property owners will be able to upload their own documents to be registered. Government officials will then also have a tool to verify the accuracy of the data. A third party represents the mutual interests of the people and the government to oversee the transaction,' Larry explains.

While security has always been an issue with technology, blockchain experts say ensuring security and accuracy is one of the biggest benefits of blockchain technology. Its decentralised nature of data management establishes a network that an individual actor can't overturn an entry in the blockchain. This creates dedicated access control points to determine exactly which official is approving or denying requests, which isolates suspicious or corrupt acts within the system. If a corrupt attempt disrupts the network, the time, access point and user who attempts the act gets isolated.

How it Helps

Generally, investors and developers seeking to work with underdeveloped countries on any project, can face many challenges including the lack of transparency in certain processes and transactions. 'Blockchain as a supply chain tracker can accelerate this development for various reasons,' Larry assures. 'The supply chain can be tracked end to end, which reduces the risks associated with investing in underdeveloped countries. It becomes much more difficult to add unjustified purchases when the supply chain is transparent.' In certain underdeveloped countries, where NGO projects have failed to be executed due to lack of transparency, blockchain can also help.

'Blockchain is nothing more than an immutable database, it's a tool,' Larry says. Blockchain can be used for good and bad purposes but it's up to the people to find the roots of major social problems and find ways to solve them. Blockchain technology, alone, can't solve problems and it'll take a concerted effort between private sectors and regulators to actually solve any problem. ■



How blockchain can change these industries:

Healthcare

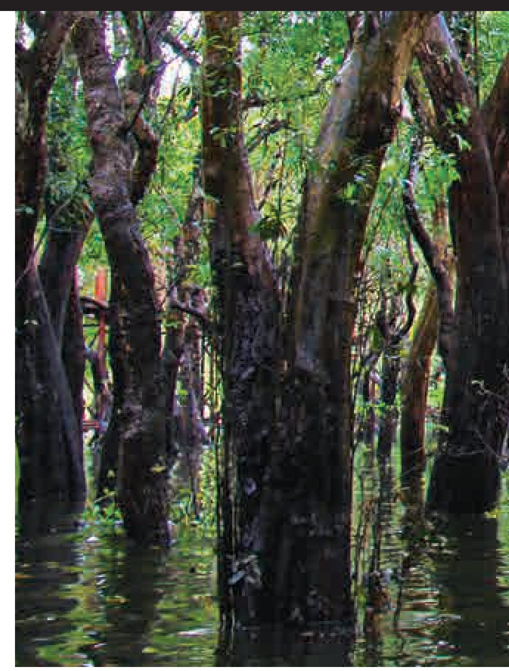
Records securely stored on a blockchain and selective sharing only with permission of owner.

Education

Content, testing and certification or degrees on a secure ledger offered by blockchain platform.

Transportation

Peer-to-peer transportation network (eg: Uber without Uber).



Here's a thought: How would an expert explain blockchain to a 5-year old?

'Blockchain is a global network of computers that connects everyone on earth. It empowers anyone to have their own wallet to hold many different kinds of coins and to safely send these coins to anywhere on earth,' replies Alan Laubsch, an entrepreneur and blockchain strategist with Lykke.blue and, the fairly new, Blufolio AG.

Now, for the grownups: 'Blockchain is the next generation of the internet. It enables the Internet of Value which is far greater than the Internet of Information. Blockchain also powers decentralised applications. It's the most significant innovation of our time, and we're likely to see the greatest value creation in history, in the coming decade,' Alan says. Basically, blockchain is the way forward for economy and growth.

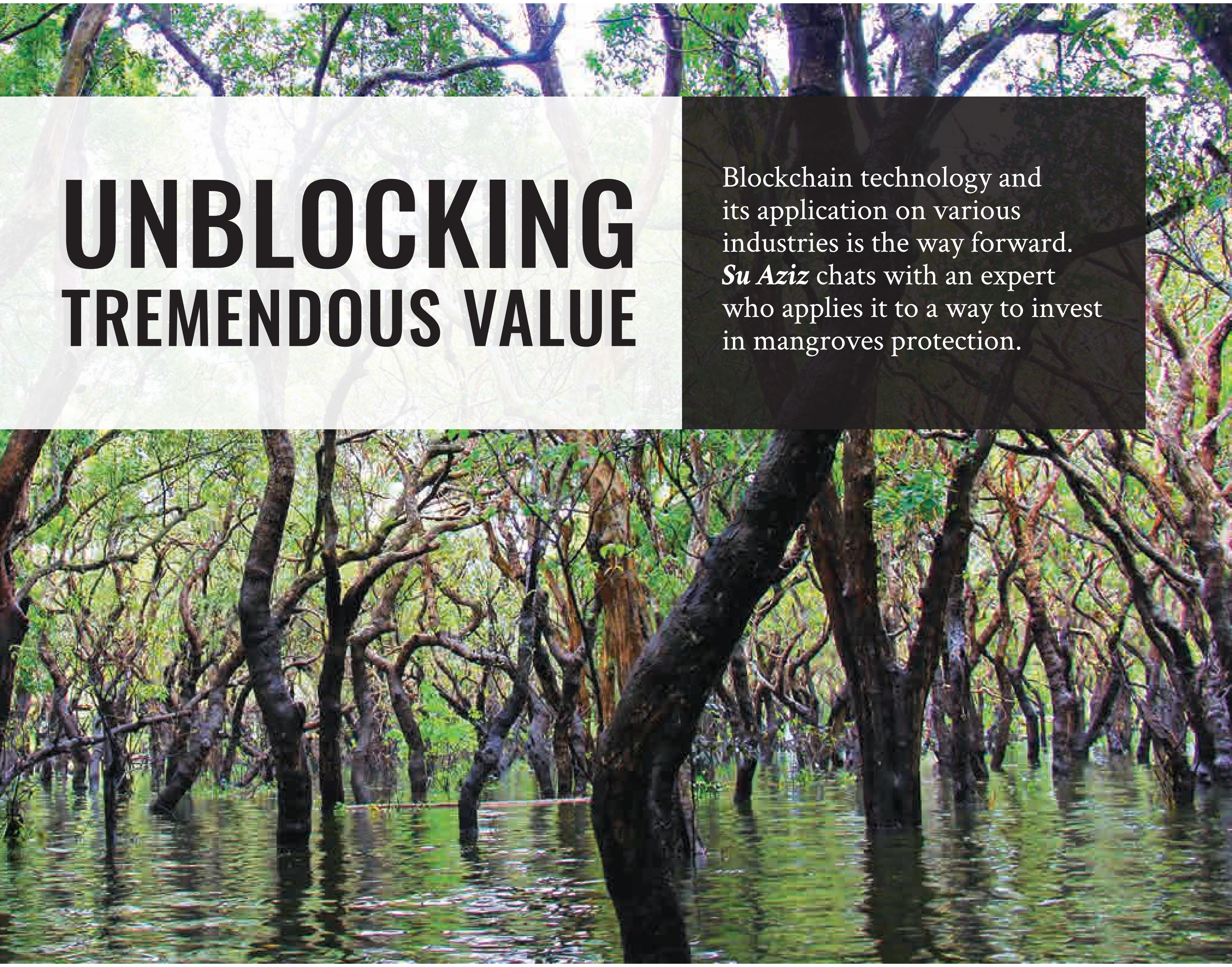
As for which industries stand to benefit most from blockchain technology, Alan's convinced that it's useful for any industry where trust is required. 'It can unlock tremendous value in real estate – especially in developing nations without sound land registries. Entrepreneurs across all industries can benefit from tokenising their business model. Retailers especially will benefit from the lower transaction fees,' he stresses. 'Renewable energy networks will get a boost from peer to peer energy trading. Innovators and consumers will broadly benefit as new network-powered businesses emerge.'

The common value blockchain offers in multiple industries, according to Alan, is that it acts as a decentralised notary service and creates a trusted network as well as enables secure and immediate value transfer and storage. However, it's not without its challenges. 'Broadly there are technical and regulatory challenges to overcome. Blockchain technology is evolving rapidly, making great progress in terms of the range of use cases, performance and energy efficiency,' he reminds and adds that these challenges can be overcome by assembling a competent team and advisors.

Alan founded Blufolio, a Swiss based digital asset manager. He's also its chief strategist. He established Natural Capital Markets at Lykke's Exchange and listed the world's first mangrove and carbon credit backed digital token, TREE. Based in Bangkok, Alan was born in Germany and grew up in two continents of Europe and North America. At 47, not only is he a kite flyer and ocean lover but has also acquired over two decades of risk management experience with leading financial institutions and a founding member of the RiskMetrics Group, a JPMorgan spin-off.

Applying Blockchain onto Ecosystem Care

Alan explains how blockchain enables digitalisation of any asset or service and this includes natural capital. 'Natural



UNBLOCKING TREMENDOUS VALUE

Blockchain technology and its application on various industries is the way forward. ***Su Aziz*** chats with an expert who applies it to a way to invest in mangroves protection.

capital consists of the ecosystems that make life possible. Working with mangrove restoration NGO WorldView International Foundation, we pioneered a mangrove tree backed digital token called TREE which is available for purchase in Lykke Wallet,' he says.

Each TREE protects a mangrove in Thor Heyerdahl Climate Park in Myanmar and also entitles holders to special discounts with partners such as Wonderfruit Festival, Misool Eco Resort and Starboard.

'The positive impact of blockchain on ecosystem care is that it can be used to incentivise the protection of our global commons, powered by sensors and AI. Anyone acting to protect vital areas will be able to immediately earn digital tokens from positive actions that are verified. These tokens can then be exchanged for cash or goods. Put simply, if we make protection of forests more profitable than destroying them, the forests will live,' says Alan.

However, Alan warns, there are many challenges to overcome when it comes to applying blockchain for ecosystem care. 'Currently, front line eco heroes are outgunned by enemies with big war chests. Our mission at Lykke.blue is to empower eco heroes with blockchain and this includes tokenising and raising capital. Crowdfunding is vital, as is corporate support.' ■

Alan's Experience:
Applying Blockchain for Sustainability

Blockchain hold tremendous opportunity for building a sustainable global economy, which operates in harmony with the natural world. An allocation of just one per cent of global wealth to natural capital will enable the protection of our global commons. 'Let's provide incentives to make it more profitable to protect forests than destroying them,' Alan says.

Of special importance to Alan, is the restoration of mangroves. 'Able to grow in salt water, mangroves are a vital biodiversity nursery. They are also climate superheroes, sequestering CO_2 at up to five times the rate of dry forests. Despite their vital role as a keystone species, rampant deforestation has left mangroves at risk of extinction globally,' he stresses.

'Blockchain technology now makes it possible to invest in mangrove protection with the press of a button. Just download Lykke Wallet on your phone and buy TREE, a digital token that protects a mangrove on one square metre in Thor Heyerdahl Climate Park. The park is managed by international NGO WorldView International,' he says.

TREE, according to Alan, makes it easy for anyone to be Climate Positive. Each mangrove sequesters up to one tonne of CO_2 in 20 years. A forest of 1,000 mangroves therefore makes the average global citizen tenfold Climate Positive by sequestering up to 50 tonnes of CO_2 per annum.

'TREE is a currency with purpose. It can be held securely in Lykke Wallet and it can be exchanged for other currencies without fee. TREE can also be used as a discount with corporate partners such as Wonderfruit and Starboard,' Alan adds and concludes the interview with, 'May the forest be with you, and your family.' ■

For more information:

Climate Positve Development Program
www.c40.org/other/climate-positive-development-program

More information and updates on TREE
tree-volution.com

NGO WorldView International
www.wif.care

Lykke.blue
lykke.blue

Bluefolio AG
blufol.io

FUTURE OF SHOPPING

The merging of the analogue world and the digital one naturally changes the retail industry's landscape. ***Sehra Yeap*** lays out a few facts for shoppers seeking the complete shopping experience.

If the accepted wisdom is to be believed, traditional brick-and-mortar stores are considered a dying breed, and only corporate behemoths like Tesco, Walmart or Aldi will be left standing when the Great Retail Wars of the early 21st century have left a trail of destruction across the global consumer retail landscape. The same outlook says that retail has become an all-digital industry and e-commerce is set to take over completely.

Traditional shops are adapting their strategies and no longer strictly rely on walk-in customers. They've opened virtual stores and do business via smart phone apps and desktop websites run by e-commerce retail giants like Alibaba-owned Lazada, Shopee, Zalora and many others. Online stores display their products and information, while the e-commerce provider processes orders, payments and shipping. The result is a seamless shopping experience for the customer.

Blending of Analogue and Digital

In its most successful form, the future of shopping will be a strategic blending of analogue and digital. Looking in that direction, the latest e-commerce apps are giving consumers the opportunity to scan in-store inventory, find their size or colour and pay for their purchase before taking it home. The key to this blending of analogue and digital spaces is providing consumers with a previously unheard-of combination of quality, choice and convenience across multiple platforms.

85%

85 per cent of consumers still enjoy the in-store shopping experience.

2.2%

In the first quarter of 2016 retail sales only grew by 2.2 per cent from the previous year.

15%

E-commerce sales have been expanding by a yearly average of 15 per cent.

The truth is much less dramatic than the headlines. Recent data suggests that up to 85 per cent of consumers still enjoy the in-store shopping experience. The general retail trend had been moving against traditional stores. The United States (US) Census Bureau reported that in the first quarter of 2016 retail sales only grew by 2.2 per cent from the previous year, while e-commerce sales have been expanding by a yearly average of 15 per cent.

Adapting Strategies

However, US brick-and-mortar sales bounced back last year with a 4.2 per cent increase, proving there's much more to the continuing evolution of the retail sector that first meets the eye. Despite the massive shift toward online shopping, there's undoubtedly still a place for *real* stores. Southeast Asia is a perfect example of how the two sectors are blending in a mutually beneficial fashion.

Upswing Continues in 2018

2017 was pivotal for e-commerce in Southeast Asia – Google and Singapore sovereign fund Temasek reported the region's digital economy grew to approximately USD50 billion (RM203.94 billion) by the end of the year. The upswing is continuing in 2018 as Southeast Asian consumers led the way, spending an average of 3.6 hours per day on social media, which is a key entry point to online shopping.

The numbers are impressive but the potentially complementary role of in-store shopping cannot be underestimated. Many customers still believe there is genuine value in seeing, touching and checking products in person before buying. The emotive, instant-gratification factor consumers feel with the immediate ownership of a purchased product should also not be underestimated.

As buyers' expectations rise with their access to more and more retail options, front running e-commerce giants are working hard to develop powerful new technologies that can give savvy and highly connected consumers the tools they need to shop easily from any device, any location and at any time.

Online Uses Offline to Succeed

E-commerce fashion giant, Pomelo, is one of several formerly online only companies that saw tremendously positive customer feedback after they incorporated a brick-and-mortar location into their overall retail strategy.

The company opened what is known as a pop-up store in Bangkok's upmarket Siam Square. In a 20 December 2017 article in the news section of regional branding services giant, aCommerce

Asia, Pomelo Fashion Co-Founder and CEO David Jou said, 'In fashion, the number one barrier to purchase is still the need to try a product on for fit, coupled with the hassle of returns. An offline footprint addresses this barrier head on. Additionally, customers can be acquired offline and data from online can be used to drive higher sales and greater operational efficiencies offline. In short, a mix of offline and online is the optimal strategy for fashion retail going forward.'

Shoppers Can Mix and Match Devices

Complementing that kind of mixed retail operation is an exciting new concept known as 'unified commerce'. It allows shoppers to interact with several sales and media channels at once without leaving the platform. They can compare prices, read product descriptions, check reviews and make purchases. The consumer's preferences are kept on file as they browse through different products and suppliers.

Unified Commerce also allows customers to mix and match devices, browsing on a desktop, comparing prices on a mobile device, then visiting a brick-and-mortar location to purchase the item they have chosen. Or they can have it delivered to almost any location. Using cloud technology, Unified Commerce also allows retailers to have a 360-degree view of their operation while integrating consumers' data for more efficient control of inventory, advertising and other costs.

Digital Free Trade Zone Established

Governments are fully aware of the importance of e-commerce trends with countries like Malaysia expecting online penetration to continue growing rapidly. The nation has 22 million currently active Internet users, a figure that's expected to expand by nearly 25 per cent in 2018.

Seeking to stay ahead of the curve, Malaysian officials established the Digital Free Trade Zone (DFTZ) in cooperation with mega-entrepreneur Jack Ma's e-commerce giant Alibaba. The National eCommerce Council (NeCC), made up of relevant ministries and agencies, was created to implement the roadmap towards doubling Malaysia's e-commerce growth rate and help small and medium enterprises (SMEs) keep pace with ever-changing technologies.

Alibaba Cloud Malaysia's country manager, Kenny Tan, during a 2018 interview with Malaysian English newspaper, *New Straits Times*, outlined one of the key advantages of widespread e-commerce penetration through faster delivery of information technology services, digital services in the country can now offer businesses the capabilities once only to be had by massive corporations.

National Customs as Sales Opportunities

Neighbouring Indonesia has also seen a dramatic increase in internet use by consumers and subsequently online shopping. Indonesians now spend an average of three hours and 16 minutes per day on social media, just below the regional average.

With these kinds of figures, it is a must for e-commerce players to optimise social media as a marketing channel, while taking advantage of regional and national customs as sales opportunities. For example, as one of the biggest Muslim countries in the world, Indonesia sees booming e-commerce business during Ramadan. This is just one aspect of e-commerce moving towards the next step in the evolution of the retail industry, by redefining and refining platform customisation.

Platforms for Point-of-Sale

In another example of how analogue and digital are being blended together, apps are beginning to appear that allows consumers to simply scan items in online ads and buy them rather than fill out a time-consuming form. This turns any image or text into an instant point-of-purchase.

Social media, email, websites and all other digital platforms become sales funnels. The point-scan-and-buy option also works with analogue spaces like billboards, posters and paper magazines and catalogues. In fact, any platform that can support the now ubiquitous square-shaped QR code becomes a potential point-of-sale. Smartphone scanning apps can also be used for payment, bagging and checkout at stores, along with online buying in advance and picking up in person.

With the world's total retail sales projected to reach close to USD25 trillion in 2018 and USD28 trillion by 2020, the blending of the brick-and-mortar and e-commerce sectors is not just a convenience but a necessity in the never-ending effort to refine and improve consumer choice, convenience and the total shopping experience. ■

OPENING UP POSSIBILITIES

Examples of startup hubs in different environments not only open up possibilities for entrepreneurs but also cultivate a new generation of active job creators rather than job seekers. ***Su Aziz*** writes.

A MECCA FOR STARTUPS

Sharjah, the third largest and third most populous city in the United Arab Emirates (UAE), has been catching the world's attention as an emerging entrepreneurship hub. Its entrepreneurial ecosystem has the strong support of its government and the growing support from the private sector looking to collaborate and help startups grow. So, in 2016, this environment has sparked off an entrepreneurship centre called Sheraa, in Sharjah's American University.

Sheraa means 'sail' in Arabic. In that sense, it helps startups sail toward success. 'Sharjah has a unique talent base courtesy of UAE's more than 20,000 student population. We're based in the university in order to tap into that talent and create an entrepreneurial culture early on,' explains Sheraa's general manager, Najla AlMidfa. 'One of the best qualities that university students and fresh graduates possess is the eagerness and willingness they bring to the table. They're more open to possibilities, they're original thinkers, and often, they're looking for more than the struggle of finding employment in a saturated job market.' This makes them more open to entrepreneurship and all the potential for success that such a path provides, making them a vital resource for both startups and corporations alike.

Sheraa supports entrepreneurs from A to Z as they embark on the

Najla's three tips for startups when choosing a product or service to provide:

1. First, find a field you're interested in and are passionate about.
2. Second, identify a problem you feel needs to be addressed within that field and then confirm whether this is indeed an issue for most consumers.
3. Finally, invest your time and energy towards coming up with a product or a service that solves that problem. But passion is the most important factor in this equation. You have to care.

For more information on Sheraa, log onto: ***www.sheraa.ae***

A course in session at Sheraa

journey to launch their startups – laying foundations for a thriving community of entrepreneurs who'll contribute to the growth of UAE and the region. 'We've programmes that cater to all stages of startup,' Sharjah-born Najla reveals. Sheraa started its incubator scheme with 50 start-ups in early 2017. It aims to harness entrepreneurial skills of the region's youth, be a talent hub and an incubator for innovation.

Furthermore, Sharjah has a lower cost base than Dubai. 'There's a need for a place like Sheraa because Sharjah and the region are filled with incredible potential. Now more than ever, as we stand on the cusp of the Fourth Industrial Revolution and a rising youth bulge, it's the time to harness that potential and cultivate a new generation of active job creators rather than job seekers,' says Najla. 'We want to inspire entrepreneurship, teach relevant skills and provide a foundation on which sustainable enterprises as well as thriving careers can be built.'

Sheraa instils entrepreneurial spirit through outreach programs in different classes of the different campuses in Sharjah's University City. It includes inspirational talks, workshops teaching the soft skills necessary for entrepreneurship – pitching your idea, for example – and business connections as well as providing attractive benefits such as equity-free funding, free business licenses and rent-free use of their co-working space.

This hands-on idea-to-startup journey, under the guidance of seasoned entrepreneurs and Sheraa's network of corporate partners and investors, doesn't only give students and graduates the confidence required to jumpstart their entrepreneurial ambition, but also helps position their venture's long-term success. 'It provides the support early-stage startups need through seed-funding, a free Sharjah-based license, rent-free co-working space, mentorship, market access, focus group tests and real-time customer engagement,' Najla elaborates.

However, it's more than just an incubator or accelerator for startups. 'Our uniqueness lies in our focus on cultivating entrepreneurs and the entrepreneurial spirit from the ground up – be it through youth leadership programs, inspirational events or free workshops teaching essential skills from pitching to coding.'

Everyone's welcome in Sheraa. 'Every individual, irrespective of nationality, with a vision and mission to add value to the region's economy is welcome. The idea must be relevant and viable, with a commercial footprint in the UAE. They must be willing to be based out of Sharjah, though,' Najla reminds.

The three popular industries for startups in the UAE, according to

Najla, are the food and beverage industry, innovations in technology – especially AI and blockchain – and healthcare. 'They're popular because a mix of both global and local economic as well as social factors play a role in what industries receive the most attention and require the most innovation,' she explains. 'As problem-solvers seeking to fill gaps in the market and cater to consumer interests, entrepreneurs naturally find themselves drawn to these industries.'

The main challenge startups face isn't necessarily the lack of funding. 'But rather, the lack of a network of corporations, government entities and SMEs that are willing to support them,' clarifies Najla. 'Sheraa seeks to change that by partnering with stakeholders to cultivate a cooperative, supportive ecosystem that helps startups grow.' Don't forget too, there's the issue of culture. 'Our culture is unaccustomed to acceptance of failure and so, we're less open to experimentation and risks. Both of which go hand-in-hand with entrepreneurship. This will certainly change with time as the ecosystem continues to grow. For now, it limits our innovative thinking and thus, limits what startups feel they can and can't do.'

The limits of UAE startups going global includes cash flow to finding the right investors willing to take their business globally. 'Finances, capital and networks form the ladder for a startup to go global, as does thorough market research,' says Najla. 'Rushing into developing an idea without truly understanding its nature and position in the global market could prove a threat.'

However, there are ways to overcome them. Sheraa partners organises various events with international names such as Facebook, IBM and One Young World as part of its commitment to enhance aspiring entrepreneurs' experience and ensure business growth. Their collaborations with global players aim to support entrepreneurs and harness their creativity as well as passion to come up with innovative ideas and solutions suitable for the international market.

Last Words

Sheraa's ultimate goal is to help make Sharjah the entrepreneurial hub in the UAE and beyond. 'Providing a one-stop shop for anyone with entrepreneurial ambitions and creating a talent pool of innovators who will help establish the UAE on the global startup map.

Just as career centres are now a staple of all leading universities, we believe Sheraa-like entrepreneurship platforms should also be a standard offering in order to continue cultivating that culture of experimentation, innovation, critical thought and creating a pipeline of future entrepreneurs,' Najla concludes. ■

Dat Quoc Pham lists three examples of popular industries for startups in Asia:

1. Education. Because investing in education has always been part of Asian culture, I think. They are many people who don't have access to high quality education yet.

2. Sharing Economy. I think this is more a sub-trend right now. I'd say e-commerce and mobile commerce are growing quickly in Asia. But this industry is full of big players, which means that young startups would have a hard time to break into it.

3. Fintech. This one's obvious since the unbanked population is huge.

Young, enthusiastic entrepreneurs during a HATCH! session

HATCHING UP POSSIBILITIES IN VIETNAM

While lunching with colleagues, a 21-year old got an idea for a centre where young Vietnamese entrepreneurs can develop, connect, exchange knowledge and, even fail, safely. So, it came as no surprise when, in 2016, Dat Quoc Pham made it onto *Forbes'* Vietnam 30 Under 30 list. He was merely 25 years old then, and four years before that he started HATCH!, a startup ecosystem builder in Vietnam. It aims to capture the value and entrepreneurship spirit forged by millennials and the future generation Z by creating a community in which each individual can connect, develop and prosper.

'We want to expand our current space as a service business as well as create new funds to invest in our startups,' Quoc Pham explains. 'We see ourselves as a place where people can connect and interact with other entrepreneurs, mentors and investors. We become a value partner to our startup entrepreneurs. Entrepreneurial skills in Vietnam may not be as strong as other developed markets, but many young Vietnamese want to start a business. I think HATCH! is a perfect place for young entrepreneurs to safely develop, learn, test and even fail.'

Quoc Pham, born and bred in Hanoi

Challenges startups face in Asia, according to Dat Quoc Pham:

1 Education level of young workers.

2 High turnover rate.

3 Lack of supporting regulations.

4 Lack of international experience.

For more information on HATCH!, log onto: www.hatch.vn

An attractive, lively HATCH! event

and holds a bachelor's degree in foreign trade from Hanoi University, believes that a centre like HATCH! is needed in his city. 'Based on a research, two out of three millennials want to start a business within the next three years. Young Vietnamese – and even around the world – demand to be in a community. We're creating and maintaining a community for these young entrepreneurs,' he says.

> "We see ourselves as a place where people can connect and interact with other entrepreneurs, mentors and investors.

In Vietnam, according to Quoc Pham, there are 150,000 graduates per year, there are a lot of coders and living cost is relatively low. Vietnam's GDP is booming. It's one of the fastest growing economies and its real estate market in Vietnam is growing very fast too. 'Of all the places I've been to,' Quoc Pham says, 'Vietnam still shows massive changes within a very short amount of time. What's more, we have a young and growing middle class. By 2035, half of Vietnam will be a part of the global middle class. I think it's fair to say that this is the market to be in.'

While a country's growing GDP can certainly be a catalyst for a startup but, as Quoc Pham points out, a large population such as China or Indonesia, is helpful too. However, to go global, Quoc Pham believes, is something an entrepreneur need to think about from day one. 'Since Vietnam's market is small, the number of internet users and smartphone users is even smaller. We can't just depend on local market to grow our companies,' he adds. 'But the challenge here is diversity – there are many cultures, ethnic groups and spoken languages in Asia. Startups will have to adapt faster.'

'How can a startup identify the product or service they want to provide? Well, I don't think there's a perfect formula for this. Many startups I work with develop their companies based on personal experiences. I don't think there's a perfect way to do this,' he concludes. ■

CROATIA'S ENTREPRENEURIAL LEARNING CENTRE

More information on SEECEL log onto: ***www.seecel.hr***

Entrepreneurial learning is defined as a key competence in the EU. Thus, the European Commission financially supports SEECEL, the South East European Centre for Entrepreneurial Learning, which is a regional non-profit institution based in Zagreb, Croatia. It supports structured regional cooperation in entrepreneurial learning and by 2016, has garnered 13 South East European countries cooperation in building entrepreneurial ecosystems on local and international levels. It's also financially supported by all of its member countries of Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Turkey and Moldova.

Very simply put, SEECEL, backed by strong support, shapes tomorrow's entrepreneurs by ensuring that populations are able to think and act entrepreneurially. In building lifelong entrepreneurial learning system, the centre identifies three important elements:

1 **Entrepreneurial student:** Students work with educational experts and practitioners to develop instruments for teaching. Also, piloting instruments in partner educational institutions and specific attention given to European Entrepreneurship Competence Framework with defined learning outcomes for whole educational system starting from early education with economic and financial literacy included.

2 **Entrepreneurial teacher:** Teachers work with national teacher training authorities and teacher training institutions to develop and implement pre-service and in-service teacher training modules on entrepreneurship as a key competence. They also work with teachers on applying entrepreneurial learning teaching methods in the classroom implementing the impactful cross curriculum approach that learning outcomes are integrated in all.

3 **Entrepreneurial school:** The centre works with other school managements and school boards to strengthen support for entrepreneurial learning and to develop stronger school-community-business connections. It fosters interschool cooperation at national and regional levels for entrepreneurial learning. To preparing communities for Industry 4.0, schools need to be open lifelong learning lighthouses and act as a nest of entrepreneurial and digital literacy.

Croatia deems entrepreneurship as very important. It's because the majority are micro, small and medium-sized companies and they are the backbone of Croatia, the EU and the surrounding countries. The Croatian government is very supportive of entrepreneurship, especially women entrepreneurs. There's a strategic governmental framework in place for the long term that supports startups.

"Very simply put, SEECEL, backed by strong support, shapes tomorrow's entrepreneurs by ensuring that populations are able to think and act entrepreneurially.

SUSTAINABILITY'S VITAL INGREDIENT

Studies have shown how sustainability is crucial to our planet's survival. Here, ***Sehra Yeap*** deliberates on sustainability's main ingredient for its endurance, a new economic model.

We've all seen those distressing images in our newsfeed, such as teeming seas of garbage, enormous piles of landfill and floating plastic waste killing marine life.

Yet, for all that, there it all is. The Great Pacific Garbage Patch, first discovered around 1985 – 1988 in the Pacific Ocean, is a sea of floating plastic and chemical sludge stretching about 1.5 million square kilometres. That's about three times the size of France and it's not the only one. There's one in the North Atlantic Ocean, too.

With the world facing environmental destruction, circular economy couldn't only help save the planet but become the next great driver of the world's economy.

The environmental awareness efforts of the past few decades have made most of us realise, in order not to add to the massive problem of waste that gets harder to ignore with each passing year, we should:

- Bring your own reusable bag
- Separate our household trash for recycling
- Remember to bring our own cups to our favourite coffee joint for our daily caffeine fix

The Plastics Crisis

The biggest challenge facing the planet's health today is the sheer size of what's called 'the plastics crisis'. The worst affected environment is the world's oceans, lakes and waterways. At the June 2017 United Nations Oceans Conference in New York, Secretary-General Antonio Guterres said that by 2050, the oceans may contain more weight in plastics than fish. The issue is already critical, with those giant islands of waste found in the Pacific and Atlantic Oceans, the Caribbean and elsewhere.

Dutch non-profit organisation, The Ocean Cleanup, has tackled the issue by developing technologies that are expected to eliminate half of the Great Pacific Garbage Patch within five years. But that's just one part of what is an enormous global problem. The Ocean Cleanup calculates that rivers annually transport between 1.15 and 2.41 million metric tonnes of plastic waste into the world's oceans – two-thirds comes from the 20 most polluting rivers, with most in Asia. The Ocean Cleanup founder and CEO, Boyan Slat, explained, 'For our work in the deep ocean to succeed in the long run, it's crucial that governments and other organisations speed up their efforts to mitigate the sources of the problem we aim to resolve.'

Is the fact that we're bringing bags to the supermarket and getting our lattes to go in reusable cups making any difference at all? The short answer is yes – because little by little, our efforts are feeding into something called the circular economy. The theory of a circular economy has its origins in academic circles of the 1960s and 70s but only began to be adopted by businesses after 2000. It has slowly been gaining widespread acceptance only in the past few years. The traditional product cycle is linear or 'make, use and dispose' – new resources are exploited to manufacture products, the products are used by consumers and then end up as trash.

Designed to be Recycled

In a circular economy, products are designed to be easily recycled. Waste produced during the manufacturing, distribution and transportation is also recycled. After the consumer uses a product it is eventually recycled, creating a closed loop.

Companies of all sizes have seen the potential and are integrating the circular economy into their business models. Industries like steel are also well positioned to use the circular economy. This is because, for every tonne of scrap metal recycled, approximately 6.79 tonnes of carbon dioxide (CO_2) – the main greenhouse gas warming the planet – doesn't enter the atmosphere. Steel makers around the world are following suit,

Today, our oceans may contain more weight in plastics than fish.

collecting and recycling steel they have produced and sold, and then re-manufacturing it as new products.

Another critical area is food waste. According to the World Business Council for Sustainable Development (WBCSD), one-third of all food produced globally goes to waste, including half of all fruits and vegetables. That's 1.3 billion metric tonnes of food, at annual cost of USD800 million. Food waste produces 4.4 gigatons of CO2 every year globally. In other words, if food waste was a country, it would be the world's third biggest emitter of CO2, after the United States and China.

The current perception of environmental responsibility is that it costs more to be good global citizens, that taking steps to recycle manufacturing waste costs more than just dumping it into the nearest landfill or river. The WBCSD is working to change that perception, and to convince companies that good practices not only cost less but can actually be profitable. WBCSD is developing seamless circular economy networks that any company can plug into and use.

A USD4.5 Trillion Opportunity

WBCSD Managing Director, Dr Maria Mendiluce told a TEDx Talks audience, at Vienna's Donauinsel Island that enterprises should be ready to take advantage of a 'USD4.5 trillion opportunity'. 'It's not only an opportunity for big business, but an opportunity for all of us,' she added. A key part of putting the concept to work is increasing the value of waste. CO2 is a perfect example. Over 180 companies are participating in the WBCSD's Low Carbon Technical Partnership initiative (LCTPi), with many of them in the transport and logistics sectors.

Seeking solutions, scientists at California's Berkeley University, China's Dalian Institute and other research centres are recovering CO2 from food waste as well as other sources and converting it into biofuels for machinery, vehicles and power plants, along with soil-enriching fertilisers and low pollution incinerators. The resulting biofuels are already being used by large transport firms and are having a significant impact on reducing fossil fuels used by private cars and trucks.

You Must Do Your Part

It's not just businesses that need to undertake a radical shift toward sustainability and a circular economy. You must also become part of a collaboration that includes producers, consumers and recyclers. However, other than local recycling programs, there are presently very few national and no coordinated global recycling initiatives to gather discarded consumer products.

With the world facing environmental destruction, circular economy couldn't only help save the planet but become the next great driver of the world's economy. Our individual efforts may count, but with the global scale of this crisis, it's still up to governments and corporations to consolidate these efforts into truly meaningful solutions. ■

WHAT THE SEA BRINGS

An Indonesian startup is transforming seaweed into edible packaging that can replace plastic. Their products haven't only been proven to adhere to food safety but, impressively, they also dissolve in hot water without any chemicals. ***Su Aziz*** writes.

With every turn of the tide brings gratitude to seaweed farmers in Sulawesi. The Indonesian island that's mainly made out of four peninsulas sets great store by seaweed farming. Indeed, they should, because seaweed farming is an important economic revenue for them and a rapidly growing one in Indonesia, at that. It's worth noting that, currently, Indonesia supplies over 35 per cent of the world's seaweed.

Therefore, the question here is, how this recurring gift of nature can contribute to a sustainable ecosystem that conserves and empowers? The solution, very possibly, lies in the capable hands of Evoware.

Evoware has a really good answer to that question since middle of 2015. Although, to be fastidious and accurate, their research on edible seaweed packaging which led them to the inception of Evoware began five years before the company began. It was based on a research by Noryawati Mulyono, who's not only one of five co-founders of Evoware but also its chief of research and development as well as innovation.

'Noryawati decided to choose biomaterial as her research focus,' explained David Christian, another Evoware co-founder and chief of its marketing and impact. 'She won L'oréal-UNESCO for Women in Science, for material science, specifically on bioplastic development from dammar. With the grant, she designed a small machine for bioplastic and built a mini lab at home. She used her family savings to buy seaweed to complement the dammar.' Persistence on her research had won Noryawati the support of the Indonesian government and she patented her innovations a few years before they started work at Evoware.

Weeding Out the Facts

A relatively small startup, Evoware is set to make a rather large impact environmentally. Initially founded by David Christian and Edwin Aldrin Tan, it aims to reduce plastic waste through innovative and best solutions to packaging.

Its first product is the Ello Jello edible cup made out of seaweed that replaces single use plastic cups and its development kick-started the company during the middle of 2015. Ello Jello edible cup hit the market in 2016 and today, they've added new seaweed-based packaging products.

'It took six years to create the perfect bioplastic but even now, we're still developing and bettering our products to ensure the best experience for users,' David explains. 'The challenges stand in making their innovation applicable to people's needs and in educating the people about the danger of plastic waste on the environment, human and animal.'

Admittedly, packaging made out of seaweed costs more to produce that one out of plastic. 'But with growing interest the company hopes production costs will go down,' David hopes. Besides, Evoware is very possibly the only one in the world right now producing seaweed-based packaging and whose patent have been granted internationally.

Although Evoware's team of 10 is based out of Jakarta, they currently buy seaweed from Sulawesi. 'But during our research phase, we've thoroughly screened the seaweed from many seaweed centres in Indonesia such as Lampung, Thousand island, Bali, Nusa Penida, Tual, East Nusa Tenggara, Sabu and Waingapu,' David recalls. 'We haven't measured exactly our impact on the livelihood of Indonesian seaweed farmers but since we're working with the seaweed farmers' cooperation, we've come to know the farmers' financial condition as well as debt rate and we already made a target on increasing income rate for them.'

A Fundamental Ingredient

There's no question on just how vital technology is in birthing their products. 'It's what made it possible to have bioplastic right now,' David says. 'Also, technology or specifically biotechnology plays an important role in enabling us to provide bioplastic on a large scale. What's more, technology helps us produce our products with minimum carbon footprint.'

From seaweed to product, there are four main stages and it starts with the preparation of raw materials before production of packaging and cutting of packaging as well as sachet forming begin, followed by, storage and packing of packaging. 'We use sustainable production process and combine with well-planned waste water treatment system to achieve Good Manufacturing Practice (GMP) standard and food safety. We use no chemical in our packaging production. They're made entirely from seaweed,' David explains.

To maintain the consistency of product quality, they already have several quality analysis tools for raw materials, semi-finished products and finished products. 'This include analysis [of] impurity content in seaweed and packaging thickness. We've also collaborated with an accredited laboratory to perform testing of mechanical properties of the packaging,' he adds.

Last Words

To date, even though Evoware doesn't currently have technology that can be transferred directly to the farmers, they'll inevitably be increasing farmers' livelihood by going on a larger scale of production. 'It'll fulfil global demand of seaweed-based packaging this year (2018). We'll also launch more seaweed-based innovations such as water-resistant packaging, drinking straws and even rigid bioplastic. We'll keep innovating other sustainable packaging,' David concludes. ■

Evoware's core team (L-R): Surianto, Edwin Aldrin, Noryawati, Benyamin Gunawaran and David.

SUSTAINABLE, APPEALING FASHION

A different awareness of ethical fashion is emerging. It's not about being modest but about the production and quality of the garments. It's slow and sustainable fashion that's keeping customers loyal for years. ***Samar Al-Montser*** reports.

The fast textile producing lifecycle is detrimental to the environment. Like fast food, fast fashion is consumed faster than it's produced. Runway fashion show collections eventually become waste when they're worn out or out of fashion. 'Often, fast fashion corporations deliberately make clothing so that it wears out after just a year or two to keep you coming back, regardless of how much that damages the environment,' says Tom Cridland, founder of the Tom Cridland sustainable fashion brand.

Another reason for big stores high turnover of goods is that they usually outsource production due to lower labour cost. Some find this textile industry process rather unethical for the labourer, consumer and the environment. Tom says that fast fashion is making the textile industry the world's second most polluting. This awareness has caused the trend in fashion to shift towards being more mindful of what is worn. The sustainable fashion concept first appeared in the late 1980s and it focused on materials and process involved in the making of clothes.

The 30-year Collection

One of the world's leading sustainable clothing company is Tom Cridland, founded by Tom Cridland and Debs Marx in 2014 in the United Kingdom. The company was a result of his dismay towards the fashion industry and its consequences. 'As an entrepreneur, I saw the gap in the market for a cool sustainable fashion brand. So, I developed the 30-Year Collection and made it my mission to try to make sustainability appealing to consumers,' he says.

Tom was a university graduate of Bristol, the United Kingdom, when he started the company with the simple aim to make the perfect pair of men's chinos. Then, at 23 years old, a small government startup loan gave him the opportunity to make signature chinos for Hollywood actors such as Leonardo DiCaprio and Daniel Craig. Tom's unisex collection of sweatshirts are handcrafted out of Italian cotton and guaranteed to last 30 years. He offers free repairs for them, even though they're made to last a lifetime and backed by their signature 30-year guarantee. 'It certainly is profitable for us, so it's really a win-win for customers and sustainable for us as a business too,' he adds.

Their cotton, wool and cashmere are sourced from Biella in Northern Italy. While the clothes are made in Serra da Estrela in Portugal and Parma in Italy. 'Our clothing is designed in London by us and since I'm half Portuguese and Debs is half Italian, we incorporated our mothers' heritage into our production process,' he explains.

Tom's unisex collection of sweatshirts are handcrafted out of Italian cotton and guaranteed to last 30 years.

Celebrity Outreach

With the all too prevalent fast fashion ethos, sustainable clothing brands like Tom Cridland are trying to fight their way through. Tom's taking measures to ensure their employees are treated ethically and paid fairly, and that their clothing is durable to help protect natural resources. 'We need to encourage an attitude of buying less and buying better among consumers so that we can reduce the huge swathes of clothing and textile waste that are ending up in landfills, year after year,' he says. In 2017, Tom travelled across America and appearing on television in over 20 cities to talk about why attitudes to clothing need to change. In April 2018, he released the Half Century Jeans – a Japanese, highly in demand, selvedge denim with a 50-year guarantee.

'At first, getting the brand off the ground with just a GBP6,000 government startup loan was, undoubtedly, the biggest challenge. It was barely enough to afford a stock order of just four different colours of chinos,' Tom says and it helps to offer clothes online only which helped not only made a profit within the first year but also grow organically. Now, they support charities such as Deki and Help Musicians.

The brand only experienced being in a brick-and-mortar location in early 2016. Tom was offered a shop in Chelsea, rent free, by someone who had read an article about them and admired their sustainability attitude. 'It was a wonderful experience,' he recalls. 'Selling directly to customers without retail markups is a crucial part of our business model. We simply don't want to work unnecessary markups into the price of our products, as we want to make luxury clothing accessible, in terms of value, to encourage fewer people to turn to fast fashion,' he explains.

Through celebrities like Leonardo DiCaprio, Ben Stiller and Clint Eastwood, Tom keeps true to his environmentally friendly agenda. 'If we're going to make complimentary clothes for someone, we genuinely want to admire their work,' he says. 'Don't fall victim to mountain thinking or get frustrated when success doesn't happen overnight. A good way of looking at it is that overnight success can take years,' he advises. ■

FACE TO FACE WITH A DISRUPTOR

Besides singlehandedly building the Apple computer that disrupted the world, Steve Wozniak has an interesting advice on how companies can deal with disruptive change and he divulged it, among other things, during the 13th WIEF in Kuching, Sarawak. Here, ***Su Aziz*** recaps.

The bright tropical weather in Kuching, Sarawak, on 21 November 2017, matched the energy that permeated the hall during Steve Wozniak's Face to Face session at the 13th WIEF. Speaking to a hall of around 3,000 people, the sole creator of Apple I revealed how his initial idea for a mini computer was rejected time and again by the likes of IBM as well as Hewlett Packard, the company where he worked at the time (they must have kicked themselves for not taking on the idea once it got off the ground).

However, in this context, rejection turned out to be a great thing for him, as well as the late Steve Jobs. It's because Apple I launched Apple during the mid-1970s and forever immortalised Steve Wozniak as one of the world's initial disruptor. This made him an apt choice as speaker for the 13th WIEF with its theme of *Disruptive Change: Impact and Challenges.*

'[Being a disruptor] does have a very serious real-life connotation to it,' he said during the session. 'Kind of like existentialism and that's how I think of disruption. My idea is that big companies should fear being disrupted. They should be very wary and conscious of what might come along and disrupt them.' Steve proposed companies employ an officer who don't report to the CEO of a company, a chief disruption officer (CDO).

A chief disruption officer, according to Steve, should report to the board of directors and have a small staff to study all sorts of new developments. 'The team of staff should range from scientist to chemist who can discover new materials or biotech researchers that may be able to use

DNA to store data, for instance,' he advised. He believed, if companies paid attention to what could be discovered by a CDO-led team, they could then figure out scenarios of how that might disrupt their business in the future and be ready for it. 'Eventually maybe hit on ideas, oh my gosh, this is one that might disrupt all our competitors too,' he added.

The 1.5-hour session at the 13th WIEF, showcased a disruptor who was well-versed in his field of innovation but consciously oblivious to current technological jargons and, unexpectedly, the Fourth Industrial Revolution.

What is the Why of Anything Steve Created?

'A lot of the greatest products in my life [happened] because they weren't designed for a mass buying public. They were designed to be the right product for one person with good sensibilities about simplicity, elegance and appearance,' Steve explained. Tesla, according to him, was a good example of that. 'Why would anyone build a large electric car? [It's because] Elon Musk had a large family. He needed a large car and wanted all electric,' he said.

> *" Big companies should fear being disrupted. They should be very wary and conscious of what might come along and disrupt them. "*

'See how it came from his own personal life? Look at the iPhone. Steve Jobs sat there and every little feature on the iPhone had to be approved by one person. It's right for me, it feels good, it feels right,' he recalled. '[Steve] wouldn't let it get out of control with everything every engineer in the world wants to put in. I mean, it's much more complicated now then it was then but it's still a much simpler approach to life than what we'd have had without it.'

Steve's Thoughts on Technology Today?

'Well, self-learning machines are possible, in science fiction we get to it,' Steve replied. 'In reality, we have no evidence yet that says we will get there because we don't know how the brain does it. We don't know how the brain is structured. As much as we talk about basically sensing the brain, putting probes in it that can detect that a neuron gets excited at a certain picture we see, doesn't mean that neuron is a memory. It just means it's in the processing step but we all get to think, "oh, now we know where memories are". We don't even know where memories are in the human brain.'

An unbeliever when it came to machines that could think and programme itself, Steve declared it to be just a theory. 'That's just a theory that when we get to singularity it really could do that. And I tend to not believe it,' he asserted. He believed that the Internet of Things would not make our lives significantly more productive and would prefer if the internet is for free.

'If I had universities, I'd just emphasise the education for anyone who has the ability to learn it – you know, the mathematical programming types – to learn how blockchain works, how to adapt it and how to apply it to many different things. It's going to be one of the big things that change the world, in my mind,' Steve anticipated. He advised for people to pay more attention, be interested and read on the development of blockchain and its potential.

Steve also anticipated that eventually all payment systems will be mobile. 'This is too far-fetched. It's really far-fetched. But I still predict it, I feel it, I want it. One of the reasons I want it is because it'll

simplify my life in many ways.'

When it came to the myriad realities created using technology such as virtual reality, augmented reality and mixed reality, Steve believed, 'They really aren't part of very many of our lives. We've experienced it, some of us, a few times.' However, he believed, their application could mainly be for gaming and training.

> "A lot of the greatest products in my life happened because they weren't designed for a mass buying public. They were designed to be the right product for one person with good sensibilities about simplicity, elegance and appearance."

Apple After [the other] Steve?

'It was two years, during a timeframe, Steve Jobs had died and the world was saying Apple will not be innovative without him,' Steve recalled. 'And Apple came up with a touch identification system that reads your fingerprint reliably, enough to be your identification. Soon as Apple did it, all the other phone makers had to come in with their versions of it. The touch system allowed Apple Pay. You walk up to a store's counter, put out your phone, just hold out your finger to identify yourself and it's done. It's so simple.'

'Once you do something, you realise you don't want to ever go back. It's like I have an electric car now. I plug it in my garage, I don't want to ever go to a gas station ever again in my life. I've gone through a one-way door. Once things get that nice and easy to use, you just don't want to go back. And those are usually the things that eventually the world gets to,' Steve said.

Why Should You Continue to Think Differently?

'You absolutely should because sometimes your way winds up winning for different reasons. Maybe you already control a bigger market or maybe your idea is better, or easier. Look at Tesla, they really made this electric car that can go anywhere. But wouldn't Tesla want every other company trying to make electric cars to be successful? Let the whole market grow and then you fight for your part of it by doing good work. But you don't want to hold a market back by being the only one there,' Steve concluded. ■

About WIEF, World Islamic Economic Forum:

It promotes global commerce, networking, exchanging of ideas, sharing of knowledge and economic wellbeing while being a bridge between the Muslim and non-Muslim business communities across the globe. It's a platform that stimulates robust dialogues on current economic issues and foster cooperation as well as collaborations between entrepreneurs, also investors. To date, the forum has attracted over 14,000 participants from over 157 countries.

THE COLLISION OF TECHNOLOGY & SOUND

Before there were sophisticated musical instruments born of modern technology, there was the theremin. ***Su Aziz*** chats with a thereminist to discover more about the world's first ever electronic music instrument.

The next time you watch an old school American science fiction film or listen to *Good Vibrations* by the Beach Boys, take note of a reedy, eerily ethereal sound in the background. That distinct, goosebump-producing sound is produced by the first ever electronic musical instrument invented by a Russian, two years after World War I. The year was 1920, the inventor was Leon Theremin and the industry-changing instrument was the theremin. Also known as thereminvox and etherophone.

'The theremin,' confirms Ng Chor Guan, internationally acclaimed Malaysian theremin player, 'is the very first electronic instrument being invented in the world.' The sounds it produces by are purely basic electronic sounds. 'With it, you get boundless possibilities and the room for extraordinary imagination,' he says.

First, Meet the Instrument

As explained by *Encyclopaedia Britannica*, what a theremin really is, is that it's 'made out of a box with radio tubes producing oscillations at two sound-wave frequencies above the range of hearing – together, they produce a lower audible frequency equal to the difference in their rates of vibration.'

Its pitch, the encyclopaedia clarifies, 'is controlled by moving the hand or a baton toward or away from an antenna at the right rear of the box. This movement alters one of the inaudible frequencies. Harmonics, or component tones, of the sound can be filtered out, allowing production of several tone colours over a range of six octaves.'

Chor Guan describes the theremin as one of the most basic electronic instruments. Technology is used only to enhance the composed musical piece and to create special effects with the theremin. 'There are already other instruments that have been inspired or based on the theremin, the closest being the ondes-Martenot, the electro-theremin and the persephone, just to name a few,' he adds.

Now, Meet the Thereminist

37-year old Chor Guan has been a thereminist ever since it captivated him. 'It was the way of playing the instrument, in the air without any physical contact. Yet, precise movements of the hand,' he confesses. That was in 2009. The instrument reminded him of his childhood dream of becoming an astronaut. 'It's the way you play a theremin – [fingers] hovering above the instrument, gives me an image of an astronaut floating in zero gravity,' he adds.

In less than a decade, Chor Guan produced 11 albums, his film music had won multiple international awards, he was invited as musical director of DanceNorth Australia, participated in OneBeat by the government of the United States and was selected by Austrian Ministry of Culture for a 3-month residency programme in Vienna. The latter gave him an opportunity to give a lecture in Academy of Fine Arts, Vienna. Back in Malaysia, he's a guest lecturer at Universiti Malaya.

Chor Guan's resume as a musician and composer is undoubtedly impressive. He and his, now, 8-year old theremin are going places.

Listen to samples of Chor Guan's composition: ***www.toccatastudio.com/productions/***

More about Space Age: ***www.toccatastudio.com/productions/space-age/***

"My dream was to become an astronaut. So, it's a dream come true to be able to bring the audience through this transformative piece in an immersive experience of travelling to outer space."

Where to catch Chor Guan's next performance:

His ***Space Age*** **world tour will be at SIPFest, Komunitas Salihara in Jakarta on 29 – 30 Aug 2018.**

Confessions of a Thereminist

Chor Guan, trained in classical composition, have been composing pure orchestral pieces that are acoustically performed but he's fully in the present when it comes to modern technology. 'I'm well equipped with the knowledge of both acoustic composition and technology,' he adds. However, it's combining both technology and humanity is his approach to reflect the current society and also to archive the era.

'I really enjoyed having a dance-music improvisation session. In particular, with the dancers of Tanztheater Wuppertal Pina Bausch, Germany,' he confesses. 'What interests me about them is their creativity of connecting through body movements and music, which are both the fundamental elements of human instinct, even before the development of language. It is this language that we practice on a daily basis to express ourselves in our respective fields.'

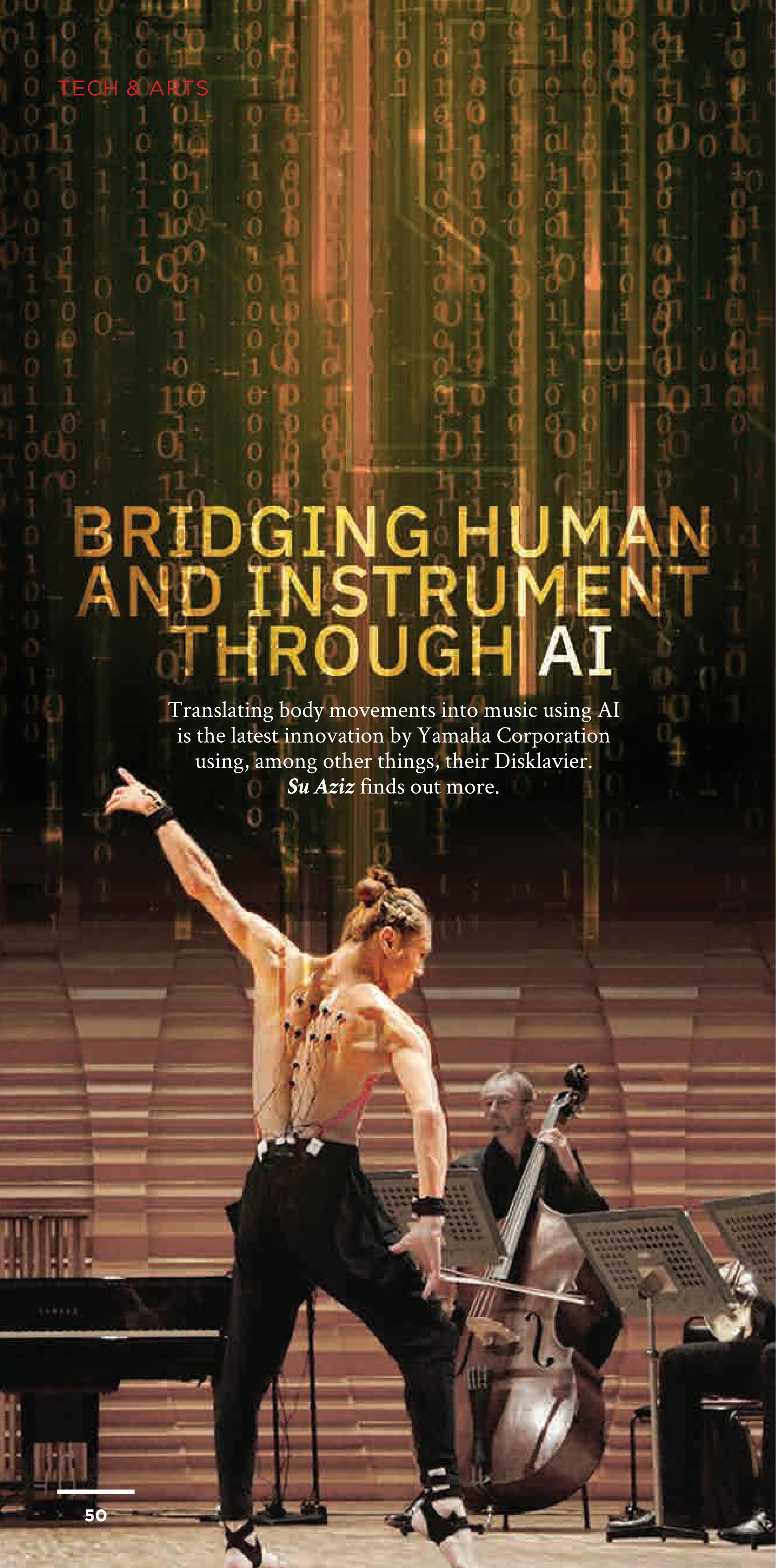
Chor Guan admits to countless of his compositions that feature the theremin. 'It's challenging to count due to the sheer volume of pieces I've composed over the years. I've been performing around the world, including my many scored compositions as well as all the instinctive improvisations sessions,' he says. 'My favourite piece has to be Space Age. It's currently on a world tour. The piece was materialised back in 2010. The restage of this, Space Age: The Phantom Power premiered in 2013 with new visuals.'

For him, Space Age evokes a time from when he was a child. 'My dream was to become an astronaut. So, it's a dream come true to be able to bring the audience through this transformative piece in an immersive experience of travelling to outer space. It gives the audience room for imagination and thinking outside of conventional means,' Chor Guan confesses.

What's Next?

'A couple of projects are still on-going,' Chor Guan confirms. 'Significantly, Project 2020. It's a 5-year project discussing the future, time and change, as well as being its agent. This project revolved around the integration of science and art in a live performance which debuted in 2015. The work features ideas of multiverse theory, perfect vision and the visionary, clones and time machines. Simultaneously, there are initiatives involving public participation such as roundtable talks, a series of forum-like sessions with a focus on profession and individual strength. Project 2020 offers the audience or participants new ways of accessing the future while moving towards better futures, real and imagined,' he concludes.

Chor Guan will be in Malta in May 2018 for an artist residency and a scheduled performance for the closing ceremony of a festival in Malta. This is in conjunction with title of European Capital of Culture 2018 bestowed upon Valletta, the capital city of Malta. ■



BRIDGING HUMAN AND INSTRUMENT THROUGH AI

Translating body movements into music using AI is the latest innovation by Yamaha Corporation using, among other things, their Disklavier. ***Su Aziz*** finds out more.

At Yamaha, Motoichi Tamura believes, 'AI will become a bridge between humans and musical instruments.' The general manager of Yamaha Corporation's Development Department No. 1 of their research and development division, explains how they are continuously innovating. 'It's because Yamaha wants to enable people to have freer and more direct expression through musical instruments,' he adds.

Therefore, 2012 saw research work began on a piano AI system that followed human musical performances. The system was used in a concert in 2016, after which, they started research on the dance to piano performance system. After a number of experimental performances, Yamaha succeeded in a joint performance with world-renowned dancer, Kaiji Moriyama, in November 2017.

Here, Motoichi sheds light onto the process.

Who was responsible for the idea?

Isao Matsushita, vice president of Tokyo University of the Arts, sought Yamaha's advice on the feasibility of a new type of concert with advanced technologies. Yamaha proposed a joint performance by a dancer and an ensemble of musicians, both performing as 'musicians'. Isao decided that the performers should be Kaiji and the Berlin Philharmonic Orchestra, the Scharoun Ensemble.

What were the challenges?

From a technical point of view, the most challenging task was to develop a system that could respond immediately to the dancer's movements. Unless the system could produce sounds instantly after when the dancer was about to move, the result couldn't be called a performance.

There are many examples of movement recognition using AI already but producing sounds along with the movements in real time was difficult. From a musical perspective, the challenge was to create a new form of artistic expression while giving proper regard to the existing *Hi Ten Yu* composition – created by Isao

Matsushita in 1993, was a concerto for Japanese drums and an octet ensemble. However, instead of using motifs from the rhythms of the strong and sonorous Japanese drums in the original composition, the piano was substituted with the drums.

In the resulting rearrangement, the dancer 'performed' the piano part while the part of the octet ensemble remained the same. Isao, Kaiji, and Yamaha's technical staff worked together to draw on the elegant musical expression by using the potential ability which the piano has. Thus, the composition became a new *Mai Hi Ten Yu* – in Japanese, *mai* means 'dance'.

What's the biggest lesson learned?

We learned the methods for integrating systems with a level of sophistication that enabled a world-renowned dancer to use it as a tool for expressing his art. Previously, we had attempted to transform the movements of gymnasts – floor exercise and balance beam performers – and badminton players into music. However, these experiments were limited to transforming a portion of the body movements into piano phrases using sensors.

The biggest theme we challenged this time was how to transform the beautiful movements of the dancer's whole body into sounds and make this available to be enjoyed as a form of artistic expression. To make it possible, as a first step, we observed the body movements of Kaiji. Then, we classified them and conducted experiments on what sensors we could use to detect these movements.

As a result, we decided to use four types of sensors – namely, those measuring acceleration, gyro, extension/contraction and muscle potential, also the 34 kinds of sensor signals emitted by these four sensor types. We experimented with various methods for attaching the sensors to Kaiji's body to ensure that, even when he engaged in furious motions, the sensors wouldn't come loose and the signals would be detected.

In addition, to enable Kaiji to move freely on the stage, we adopted a wireless system. To create a system that could recognise the various types of movement using the signals emitted from the sensors, we let Kaiji himself repeat his basic movements over and over. Then, we used machine-learning methods using this data. Based on the data generated by machine learning, the system was able to recognise the various movements of the dancer instantaneously. Each time, we also spent time to adjust the systems to transform these movements into phrases for the piano.

Can this technology be easily transferred to other types of piano?

Yes. Provided the musical instrument can receive and process data in the MIDI standard music performance telecommunications protocol. This system can be performed not only on acoustic pianos but also on digital pianos as well. For the performance this time, to ensure the best sound in a classical music concert hall, we used a Disklavier CFX, Yamaha's flagship CFX concert grand piano, especially installed with a player piano function.

In less spacious concert halls, a smaller grand player piano or upright pianos can be used. There are also instances where digital pianos and other digital sound sources are used. The use of the system is not limited to piano sound. Reproduction of the sounds of other musical instruments or recorded audio data of specified music phrases is also possible.

Do the movements control what musical notes are produced?

Basically, yes. More precisely, this system 'looks for' an appropriate musical phrase which will best match the dancer's gestures, from the phrase database we created for this composition.

For example, since movements of the hands and arms are supposed to go well with brilliant sounds, they are linked to relatively high sounds from the piano. To give a masculine expression to go with the movements of the lower half of the dancer's body, the piano plays relatively lower sounds. Since the relationships between body movements and sound are composition dependent, it's desirable to prepare phrases tailored to individual compositions.

Does the piano follow the dancer or vice versa?

Both. Sounds are generated by the dancer's movements and then, these sounds have an influence and change the dancer's movements. We didn't aim to reproduce piano phrases that had been determined in advance. Instead, we aimed for a system that would generate sounds based on the dancer's inspiration. As the dancer uses the system and practices movements over and over, he gains the ability to create musical expressions of his own will.

Why do we need to link people to musical instruments?

At present, the body movements needed to perform music differ from one instrument to another. It's necessary to practice movements over and over. Moreover, each movement's only for a specific musical instrument. It means that it isn't possible to create other artistic expressions by the movements.

On the other hand, in dancing, gymnastics, figure skating and other activities, it's possible to move the body along with music but the performer can't control the music. If the performer can eliminate this limitation, and if he can manipulate the image and ideas of his own expression with both movements and sound at will, we believe it'll be possible for performers to express themselves more intuitively and persuasively.

What is next for this technology?

We want to reduce the 'distance' between people and musical instruments and develop systems that enable many people to express themselves through music freely. ■

For more on Yamaha Corporation's innovation, visit: https://www.yamaha.com/en/news_release/2018/18013101/

Sublime Results

The best way to describe 29-year old Dinara Kasko's desserts is that they are precisely sculpted, uncommon edible forms. The architectural student from Ukraine is a self-employed pastry chef in Kharkiv, Ukraine, who uses her design and technical background for sublime results.

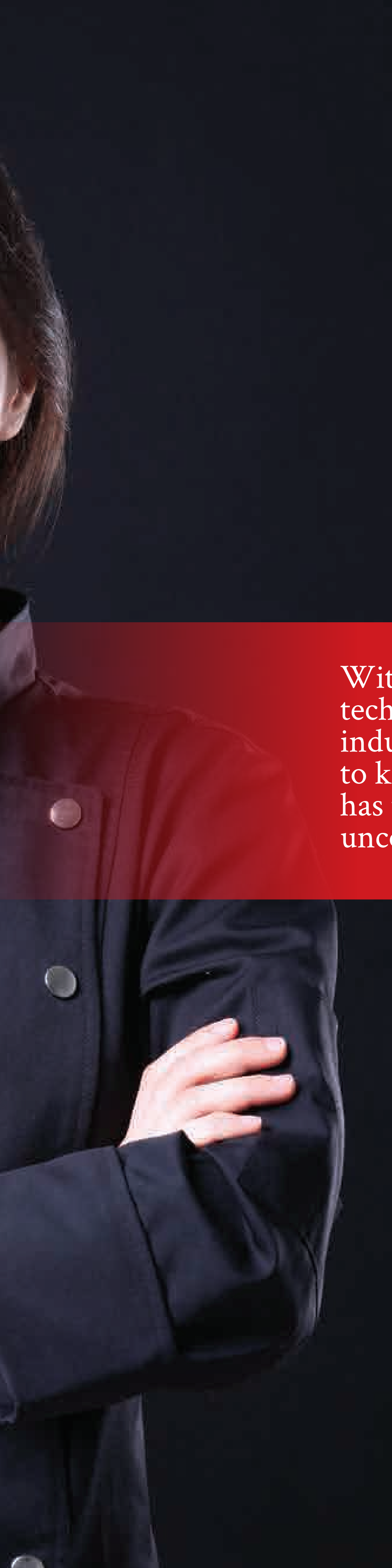
'At first, all I wanted was to create my own moulds and I didn't know how to realise my idea. So, I used cardboard and metal shapes,' Dinara recalls. 'My ideas appeared to be too complicated and I decided to create models first out of some solid material and very accurate sizes.' That was when the idea of 3D printing crossed her mind and the rest, as the sublime results prove, is history. Since then she had been creating moulds this way.

'It might be a coincidence or it might not, but just then, a very famous Spanish magazine asked me to write an article about the connection between architecture and pastry art. And I did. Since then, I've kept working in this direction,' explains Dinara, who's also a mother of a 3-year old little girl.

While Dinara's been baking for six years and teaching it for three, she'll only admit to being a pastry chef for the last two years. It's because, this is when she feels that she has gained enough experience. She created her first mould around two and a half years ago and have been teaching others make their own for about a year and a half.

Tools of Her Trade

Dinara's architecturally-influence designed cakes are made possible due to the precision of 3D printing.



She admits to design and technology playing vital roles in her creations. 3D models for the mould are created on the computer using various software such as 3ds Max, Autocad and Grasshopper before anything else can happen.

Then, an Ultimaker 3D printer realises physically what has been on screen. 'There are times when I do use a milling machine as well as a laser machine,' she adds. 'I read a lot of books to learn something new. Recently, I bought a compressor. And of course, I use a lot of different pastry tools.'

With the advent of truly high-tech technology, the food industry has stepped up its game to keep up and a pastry chef has taken her desserts up to an uncommon level. ***Su Aziz*** writes.

One of Dinara's most impressive creation is an 81-piece algorithmically-modelled cake featuring Barry Callebaut's ruby chocolate. For this creation, she used the software Grasshopper to create the mould for each piece which was inspired by the geometric paper sculptures of Matthew Shlian. Her structurally remarkable creation was part of the unveiling of the fourth type of chocolate in Shanghai in 2017.

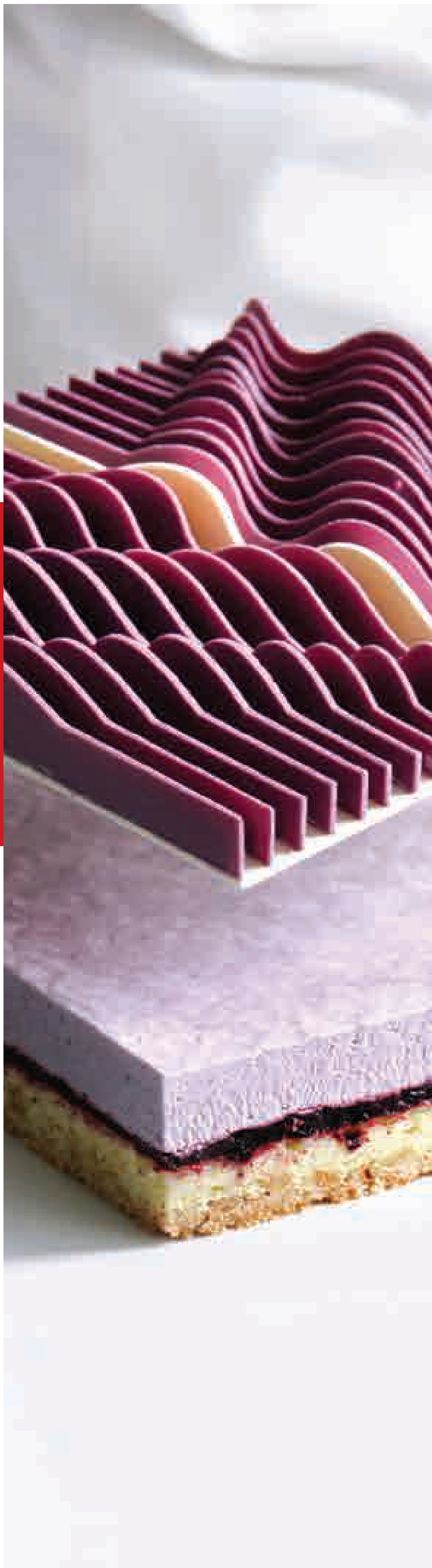
Dinara's one wish if she can better the technology she uses is, that modelling software to be more clear and simple to use. 'Everything is in English and it can be an issue at times,' she says and after some thought adds, 'I'd like 3D printers to print much faster. Actually, for my work I've all the necessary stuff. I just don't have any assistants who can help me and I always lack time for my work.'

Uncommon Edible Forms

Despite the significant ease technology offers her, Dinara takes about a month to create a new mould and a new recipe. 'Of course, the time varies,' she says when asked about

duration from inception to finished product. 'It usually takes several tries to get the mould I want. It's almost impossible to create something new in a week. If we are talking about moulds that have already been created and the recipes that have already been developed, then it's possible to bake numerous cakes in a week.'

The challenges Dinara faces during the creative process include finding time to create a 3D mould and a



recipe, to persevere when the first attempt doesn't turn out well and, she adds, 'It's work that exhausts me at times, both mentally and physically.' After saying that, Dinara admits to liking all the steps involved. 'Every single step is interesting in its own way. It's interesting to work on ideas. It's interesting to take a look at what we get after printing and at the silicone mould we get. It's interesting to make experiments with recipes, to taste cakes and so on. All the steps are interesting because these are steps to something new.'

> "A very famous Spanish magazine asked me to write an article about the connection between architecture and pastry art. And I did. Since then, I've kept working in this direction."

Besides attending one of Dinara's classes or an event which she happens to be a part of, there's no other way to experience her cakes or their extraordinary forms. 'I don't create made to order cakes because I don't have time for that. Since I don't have any assistants, who'd help me? I only create moulds based on my ideas,' she stresses.

Last Words

Citing that inspiration is everywhere and in everything, Dinara's cake-making journey started with simple shapes and equally simple recipes. 'At first, I used someone else's recipes before I started bringing something of my own into it,' Dinara recalls.

'Then, I started creating my own moulds and my own recipes. As for the evolution of my creations, I try to create cakes of my own style, so people could recognise they're mine from how they look. I work a lot on recipes, textures and flavours. I try to keep working in this direction and keep creating something new,' she says with an easy smile.

'I like all desserts. But good quality ones,' Dinara confesses before concluding the interview. 'I like cakes of different flavours and of different textures. I like ice-cream, eclairs, cookies and so on. I often cook traditional cheesecakes as they are low in sugar and are very healthy.'

The point to take home from that is, cheesecakes are considered healthy. Well said, Dinara. We wholeheartedly concur. ■

Asia's most exciting region beckons

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