

MIGHT
Malaysian Industry-Government Group
for High Technology

myForesight®

MALAYSIA'S NATIONAL FORESIGHT MAGAZINE

30th Edition
2 | 2020

PUBLISHED BY
myForesight®

PP17630/12/2012(031478)



**BUSINESS UNUSUAL:
POST PANDEMIC FUTURES**



THEMES INCLUDE:
FUTURE OF WORK
COMMUNITY WELLBEING
URBAN DESIGN

KISAH Futures COMPETITION

This short-shorts writing competition aims to explore visions of future, post-COVID scenarios.

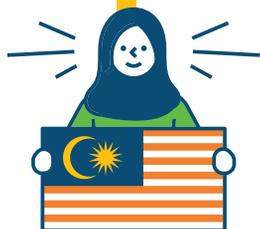


accelerator
labs

IN PARTNERSHIP WITH



thinkCITY



**SUBMISSION
DATE:**

01-31 OCT 2020

**STAND A CHANCE TO
WIN CASH PRIZES OVER
RM 10,000
+GET PUBLISHED**

Follow Think City's Social Media for Updates:

FB Think City **IG** @mythinkcity
TW @mythinkcity

“Cross-cutting technologies such as artificial intelligence (AI), blockchain, and robotics were already on the path to rapid application and adoption..”



30th Edition
2 | 2020

inside myForesight®

08



LESSONS FROM THE PANDEMIC

12



GOING DIGITAL: A NEW NORMAL IN HIGHER EDUCATION

28



ESPORTS EXPLOSION ONE OF CREATIVE INDUSTRY'S BRIGHT SPOTS

33

- **EDITOR'S NOTE**
02 Initial Thoughts
- **IN PERSON WITH**
06 Datuk Dr. Mohd Yusoff Sulaiman
09 Arij Van Berkel: "COVID19 Acts as a Catalyst on Global Transitions "
- **INSIGHTS**
12 Lessons from the Pandemic
- **VIEWPOINTS**
16 Road to Recovery: Rejuvenating Malaysia's SBSR Industry
21 Redesigning Global Consumption Models with the Circular Economy
28 Going Digital: A New Normal in Higher Education
- **EDITOR'S NOTE**
33 Esports Explosion One of Creative Industry's Bright Spots
- **IN PERSON WITH**
39 Artificial Intelligence (AI), an Effort to Remake the Healthcare Industry
- **INFOGRAPHIC**
42 So What's with COVID19?: A Reality Check on How the Pandemic is Affecting the Local Landscape
44 COVID19: A Timely Nudge to Change?
- **FORESIGHT INTERCONNECT™**
47 Happenings
49 myForesight® book club

EDITORIAL BOARD

ADVISOR

Datuk Dr. Mohd Yusoff Sulaiman

EDITOR-IN-CHIEF

Rushdi Abdul Rahim

WRITERS

Datuk Dr. Mohd Yusoff Sulaiman
Arij Van Berkel, PhD
Aznil Mohd Amin
Liz Alexander, PhD
Mohd Hasan Mohd Saaid
Nadia Sullivan
Natrah Mohd Emran
Nur Amira Muhammad
Sri Widias Tuti Asnam Rajo Intan

CONTRIBUTORS

Ahmad Nazri Abudin
Amallia Ahmad Zaini
Mohammad Idzaan Yazid
Mohd Azli Aliashak

PUBLISHED BY

Malaysian Industry-Government Group for High Technology (320059-P)
MIGHT Partnership Hub,
Jalan Impact, 63000 Cyberjaya,
Selangor, Malaysia.

FOR INQUIRIES

myForesight

+603 8315 7888
foresight@might.org.my
www.myforesight.my

DISCLAIMER

Any article included in this publication and/or opinions expressed therein do not necessarily reflect the views of the myForesight® but remain solely those of the author(s).

The Publisher is not to be held responsible for any copyright violation of articles, which have been provided by contributing writers.

PP17630/12/2012(031478)

myForesight® is pioneering a national level foresight initiative to facilitate technology prospecting for local businesses. myForesight® advises and provides a common platform for the government, industry and academia to share experience, insights and expertise on 'futures' strategy, both locally and at a larger global level.

Key components of myForesight's mission are intelligence, research, competency framework and community engagement. myForesight® raison d'être is set out to accomplish the following:

1. Anticipate Malaysia's future possibilities;
2. Promote foresighting at national, sectoral and corporate levels;
3. Identify key technologies to support sectoral development;
4. Outline key future R&D areas.



• EDITOR'S NOTE

Initial Thoughts



RUSHDI ABDUL RAHIM
rushdi@might.org.my

GREETINGS & SALUTATIONS,

I sincerely hope all of you are well and your family are safe wherever they are. Though our work here at myForesight® normally focuses on long-term, this issue's focus however is relatively short term—looking at businesses' peculiar post-pandemic futures.

As we get on with our daily lives, we are constantly reminded that all is not well with the world. In Malaysia, everyday, Malaysians patiently wait for the official COVID19 case announcement by the Ministry of Health in the hope that the pandemic continues to be contained in our country.

In our previous issue, I highlighted our relative success on doing so and touched on the subject of “preparedness vs the willingness to act.” The capacity to anticipate and prepare means nothing without the willingness to act.

However, any success of containment comes with a hefty pricetag. We are faced with the lockdown paradox where tighter containment measures will get us past the virus faster, but this will also result in greater economic impact. Until today, we are still recovering from a supply chain shock that has disrupted global demand, supply and confidence.

“

The current pandemic has been, to say the least, grim for business. However, during this crisis, some companies have been thriving because of dramatic shifts in consumer behaviour.

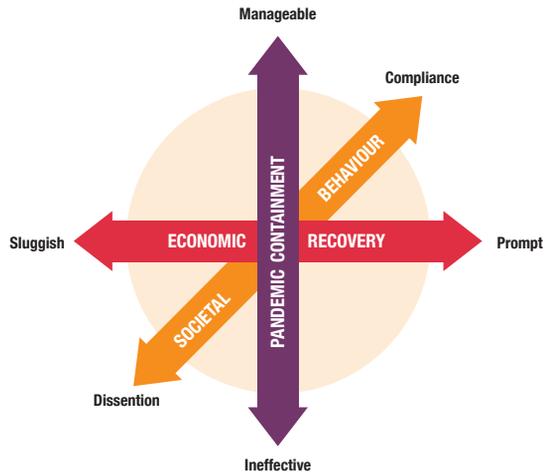
Globally, due to lockdowns and movement restrictions, we are witnessing the largest decline in economic activity. In the travel and tourism sector, if current restrictions remain in force for the remainder of the year, travel activities will fall around 80%. Hotel occupancy on average has dropped 80% across Asia Pacific and according to the International Air Transport Association (IATA), "Typical airlines had 2 months of cash at the start of the year" therefore a prolonged lockdown period will likely result in a potential crash for the industry.

Therefore, most countries have announced sizeable fiscal stimulus packages to buffer the economy from a steeper downturn, but even this won't be enough to prevent it. At best, most governments are seeking safety and hoping that this will help their economy for a quick rebound. However, the shape of the rebound will largely depend on how the timing, severity, duration and effectiveness of the lockdowns and restrictions are implemented.

With reference to Organisation for Economic Co-operation and Development's (OECD) Country Policy Tracker— globally, world countries' responses can be categorised into the kinds of work that go into containing the spread of coronavirus, helping low-income families, small businesses and the economy to weather the crisis.

Economic assistance and solutions are typically implemented with the following measures and instruments:

- Cash stimulus payments
- Unemployment benefits
- SME assistance
- Supplementary 2020 national budget
- Corporate tax relief
- Special aids for hard-hit industries



In relative terms, the Malaysian government has announced a bigger than expected fiscal stimulus package amounting to RM250 billion, which is 17.1% of the nation's Gross Domestic Product (GDP). These additional fiscal measures focus on providing immediate help to struggling businesses and workers and at the same time, ensure adequate liquidity. According to Oxford Economics - it is expected that the fiscal deficit to widen to 4.6% of GDP this year.

For the past few years, we have talked about how exponential technologies have been disrupting traditional industries at an ever-increasing pace. However, the pandemic has basically put these changes into hyper-speed. Never have we had the opportunity to rewrite entire sectors, redefine the problems they address, and reinvent their solutions. The current pandemic has been, to say the least, grim for businesses. However, it is not all bad news. During the crisis, some businesses have also thrived because of dramatic shifts in consumer behaviour. This has created new opportunities for several businesses.

Inevitably, there is a need to adopt the new normal. The new normal depends on the following drivers of change:

	Health – Our success in pandemic containment
	Economy – A swift economic recovery
	Society – Cultivating new behaviour

If you have been reading the news, you will be fully aware of countries that have problems managing these drivers. In turn, their struggles will continue to weight them down in facing the post pandemic futures.

To move forward, a number of trends will be key in defining and shaping our post pandemic futures (See infographics). At MIGHT, we believe that the industries and businesses that are able to embrace these trends can truly take off and beat the odds posed by the pandemic's grim outlook.

Lastly, I wish all of you are safe and well. Please be mindful of #physicaldistancing and adhere to the standard operating procedures (SOP) outlined by our health authorities. I hope you'll find this issue an interesting read and complements your thoughts in whatever change direction you will embark on.

UNCOVERING NEW OPPORTUNITIES AMID A PANDEMIC

The pandemic has been grim for businesses to say the least. During the crisis however, a select group of businesses have thrived as dramatic shifts in consumer behaviours come to shape. While the pandemic takes a toll on restaurants, offices and sports facilities as people stay home to halt the spread of the coronavirus, some business have enjoyed a brisk turnaround of fortunes from new opportunities.



While most prominent tech companies fret about the effects of the COVID19 pandemic, Netflix may become even more important in the daily lives of people forced to stay at home and in front of their televisions. The movement control orders across the globe, combined with the loss of live events and sports, accelerate the adoption of the types of streaming services that Netflix pioneered. During the pandemic, Netflix reported 16 million new subscribers.

For people who can work remotely, online meeting platforms have become ubiquitous communication tools.

Slack Technologies added 9,000 new paid customers, an increase 80% compared to the previous quarter. Not only are they adding more people, users are becoming chattier: "The number of messages sent per user per day increased by an average of 20% globally.

Zoom video conferencing tool, has clearly been the biggest brand to break out. The company hosts 300 million meeting participants a day, crossed 200 million daily meeting participants in March. Its stock is up 120% for the year.



The region's food delivery market is expected to grow to an estimated US\$8 billion in 2025.

In Malaysia, it was reported that some delivery companies had recorded more than a 30 percent increase in orders since a Movement Control Order (MCO) was enacted on 18 March.

Ride-hailing companies, Go-Jek and Grab have jumped on the bandwagon too to compete with food delivery "pure-plays" like Deliveroo and FoodPanda

Cloud kitchens are fast gaining momentum in Southeast Asia.



Popular video games like first-person shooters, football and cute animals have been a boon for the top gaming companies.

Activision Blizzard's "Call of Duty: Modern Warfare" sales were up 21% compared with last year.

Electronic Arts revenue grew 12% compared with last year benefited from people staying at home and looking for a distraction.

Nintendo profit in the first three months of 2020 more than tripled compared with the previous quarter.



Following the COVID19 outbreak, Fitness enthusiasts found a way to exercise at home through online courses and home equipment. Fitness equipment sales grew by 170% during the lockdown.

Peloton makes in-home workout products, including bikes and treadmills reported a blowout quarter: Revenue grew 66% and membership for its app rose 30%.

Fitness app Keep, posted a webpage of fitness live on its app on Jan 31 and had about 56.5 million viewers by early February.

People can't stop sanitising, bleaching and cleaning. That's benefiting Clorox and Reckitt Benckiser, the makers of the world's top cleaning products.

Clorox overall sales jumped 15% for the first quarter. Sales of Clorox's cleaning segment, which includes its wipes and bleaches, jumped 32%.

Reckitt Benckiser that makes Lysol and Dettol, is also seeing record sales. First-quarter sales rose 13.5% because of "strong consumer demand" for disinfectants. In March and April, the sales of aerosol disinfectants jumped 230.5% and multipurpose cleaners 109.1%.



Online grocery shopping numbers are officially crazy as the growth we're seeing was supposed to happen over four years, not two weeks. Downloads for online grocery shopping saw surges of more than 100%. Though no one is predicting that brick-and-mortar grocery stores are going anywhere anytime soon, the landscape is changing far faster than anybody would have predicted, and a significant chunk of the business is now moving to online ordering.

Orders for Amazon groceries have been as much as 50 times higher than normal. In the U.S. online sales of consumer packaged goods grew 56%.



Demand for personal safety and health related gadgets surges in lockdown.

3M reported "strong growth" for its personal safety products as first-quarter revenue grew nearly 3% to \$8.08 billion, bolstered by a 21% growth in its health-care segment and 4.6% in consumer goods, like Scotch-Brite sponges.

Withings Thermo contactless thermometer once reported inventory depletion. Use of the Thermo is significantly higher than usual for this time of year.

Garmin revenue grew by 12% in Q1 2020 driven by demand for personal health gadget.

TRENDS THAT WILL DEFINE POST PANDEMIC FUTURES

Infection Control



Practice of hygiene, sanitation and testing that continues past the crisis

Remote Work and Commerce



Not bound to geographical location to conduct business and commerce

Improve Resiliency



Increase local self reliance and rethinking supply chain

Better Agility



Policies, practices, technology and processes that enable flexibility and adaptability

Macroeconomics Impact



Impacts of different scenarios on macroeconomic outcomes

THIS WILL RESET THE LANDSCAPE OF INDUSTRIES

Thoughts on the shape of the next normal

The coronavirus crisis is a world-changing event and the future will not be what it used to. Here are nine elements to consider as we plan forward for the next normal.

1

More Government Intervention

The implications for the role of the government will materially affect the way business is conducted; business leaders in many more sectors will have to adjust to the next normal of greater government intervention.

2

More scrutiny on businesses

With many businesses likely to be operating to some extent with public money, the scrutiny will be intense. That could show itself in the form of more regulation, particularly in regard to domestic sourcing and workforce safety.

3

Changing industry structure, consumer behaviour and sector attractiveness

Business will be under pressure to change to ensure continuity of supply is just as valued as cost and speed to market. Changes of consumer attitudes toward physical distance, health, and privacy impacting the tourism, travel, and hospitality sectors and may see their businesses subject to long-term changes in business and individual travel preferences.

4

Resilience will be the new buzzword

Even when lockdown restrictions begin to ease, businesses will need to figure out how to operate in new ways. Companies need to rebalance their priorities, so that resiliency becomes just as important to their strategic thinking as cost and efficiency.

5

Distance Is Back

Protectionism and more restrictive immigration and visa policies are expected. There are more than three billion people live in countries whose borders are now totally closed to non-residents; 93 percent live in countries that have imposed new limits on entry because of the coronavirus.

6

On The Bright Side

The crisis is increasing the pace and scale of workplace innovation. Businesses are forced to do more with less, finding better, simpler, less expensive, and faster ways to operate. Possibly public sector and regulatory organisations could be forced to transform and reform.

7

More Contactless Interfaces and Interactions

In three areas in particular—digital commerce, telemedicine, and automation—the COVID19 pandemic could prove to be a decisive turning point. With automation, it is becoming possible to imagine a world of business—from the factory floor to the individual consumer—in which human contact is minimised.

8

More Digital Events

At present organisers as well as persons involved with events are switching to digital events - here are pros and cons of both. There is no capacity issue, plus there were attendees logged on from all around the world. Event organisers will figure out ways the digital aspects can complement in-person events.

9

Rise of Esports

Esports are thriving. There are even e-versions of F1 car racing on television, and although it might not be the same as traditional Formula 1 racing, it's giving people a "sports" outlet. Unlike mainstream sporting events, e-sporting events can easily transition online.

● IN PERSON WITH

CONTENTS

COVID19 promises to be a great catalyst for rapid technology adoption.

Non-physical contact services such as food delivery and online purchases are booming.

Managing COVID19's shocks and aftershocks calls for the ability to think differently, being agile and open.

Datuk Dr. Mohd Yusoff Sulaiman

President and CEO,
Malaysian Industry-Government Group for
High Technology (MIGHT)

“

For Malaysia, the pandemic laid bare some pain points – that our supply chain while super connected is also highly vulnerable, our digital reach has yet to effectively meet the needs of the underserved segments of the population and that our food and border securities may not be as strong as we would like them to be.”



To arrive at the ideal future envisioned by the nation, MIGHT President and CEO, Datuk Dr. Mohd Yusoff seeks to connect people and possibilities. To date, Datuk Yusoff has been largely successful in synthesising the power of innovation and cross-industry ties to elevate MIGHT as an extensively networked group of trend leaders.

With backing from numerous centres of excellence around the world, Datuk Yusoff's current interests span developing a future-proof marketing framework to empower the high technology industry's agenda.

In this edition, we recently caught up with Datuk Yusoff to explore how MIGHT's incisive management and operations practice helps shape the latest technology, engineering and science trends. In addition, apart from untangling an increasingly complex world, this lends to local players' growth through research and innovation by transforming fresh ideas into real-world solutions.

VALUABLE LESSON LEARNED FROM THE COVID19 PANDEMIC

The COVID19 pandemic has resulted in a financial and humanitarian crisis of such scale and magnitude that even the most well prepared of us could not have anticipated. The pandemic which to date has infected almost 30 million people has resulted in the worst global recession on record since the World War II. In July 2020 the IMF predicted that global output will shrink by 4.9%, a downward revision from a 3.0% contraction earlier predicted in April.

For Malaysia, the pandemic laid bare some pain points – that our supply chain while super connected is also highly vulnerable, our digital reach has yet to effectively meet the needs of the underserved segments of the population and that our food and border securities may not be as strong as we would like them to be.

On the flip side, however, and if we play our cards right, COVID19 promises to be a great catalyst for a broad-based, rapid technology adoption in all economic sectors, and in this 'new normal' permeates almost every aspect of human life.

GOVERNMENT AND INDUSTRIES' ROLE AND COOPERATION IN BOOSTING THE ECONOMY

Managing the shocks and aftershocks from COVID19 particularly its socio-economic impact calls for the ability to think differently, being agile and being open to change to form close partnerships and collaborations with others.

Both the government and industries have long been aware of the benefits and catalytic effects of technology

in elevating the Malaysian economy. Cross-cutting technologies such as artificial intelligence (AI), blockchain, and robotics were already on the path to rapid application and adoption. The challenge post-COVID19 however is one of acceleration. Organisations that do not prioritise digital transformation will quickly lose relevance.

Both sectors need to input into how to overcome legal and regulatory barriers that hamper economic advancement, and other ensuing matters such as resources and financing. The parties need to continuously engage the various members of the ecosystem which include not only the local players but also Multinationals (MNCs) and community-based organisations to ensure a more holistic approach.

On this note, both the public and private sectors should leverage on the strengths and experiences of MNCs in navigating the challenges brought about by COVID19. Many of them are cluster-based and bring about ecosystem benefits to their clusters. Working on strengthening the clusters opens up new opportunities and defensive strategies in facing industry challenges.

In engaging start-ups, the government, through MOSTI has launched the National Technology and Innovation Sandbox (NTIS) to nurture and facilitate the capability and capacity of technology start-ups. This effort is further enhanced by the Advanced Technology Cluster Programme which will connect the start-ups and their solutions and innovations with major industry players through a collaborative network approach.



Cross-cutting technologies such as artificial intelligence (AI), blockchain, and robotics were already on the path to rapid application and adoption. The challenge post-COVID19 however is one of acceleration. Organisations that do not prioritise digital transformation will quickly lose relevance.”



“

The wide acceptance of WFH, coupled with the greater use of online engagement promises to improve the Government delivery machinery and expedite efforts toward digitalisation of Government services.”



An area of potential improvement is how the government can play a more active role, through collaboration with industries to improve the capability of semi-skilled and skilled workers through re-skilling and up-skilling programmes and engagements to open up new job opportunities.

TURNING THE CURRENT SITUATION INTO NEW OPPORTUNITIES

The Movement control order (MCO) restriction has forced people and businesses to rethink how they move forward. On the social side, we are seeing a boom in non-physical contact services such as food delivery, online purchases, banking and online media communication. These are new opportunities in post-COVID19 time which were not significant pre-crisis.

An even larger scope is the nature and future of work itself. With greater use of technology and changes in the dynamics of the work place, an estimated 48 per cent of employees worldwide will work remotely at least part of the time post COVID19 as compared to 30 per cent before the pandemic.

Working from home (WFH) is now the new normal and is accepted by the society and has proven to improve productivity and costs in many organisations. It promotes work-life balance and opens up new opportunities to organisations that are not location dependent namely in the digital industries.

The wide acceptance of WFH, coupled with the greater use of online engagement promises to improve government delivery in expediting efforts towards digitalising government services.

Another aspect of technology that merits further attention is telemedicine. Taking a leaf out of US' experience and consumer adoption at the outset of COVID19, the number of consumers using telehealth rose from 11 percent in 2019 to 46 percent recently after the pandemic has skyrocketed. Replacing cancelled healthcare visits, the market potential presently stands at a quarter trillion dollar in a post-COVID19 scenario.

Malaysia has a proven track record in various aspects of medical sciences and services. We have already made considerable strides in the area of medical tourism and medical equipment and our medical services are among the best in the world. Malaysia is in good stead in terms of both capacity and capability as well as having enough demographic variations to develop the appropriate scenarios for telemedicine.

Across many levels, education has also been greatly affected both in Malaysia as well as globally. Again, this makes us all too aware of the fragility of the education delivery mechanism. At the height of the crisis, over 1.725 billion learners had either no access to education or were unable to attend schools or colleges worldwide. Once again, a business-as-usual proposition is neither desirable nor possible.

Developing an internet or cellular network-based delivery system seems to be the only viable hybrid solution in place of traditional face-to-face methods. This multi-faceted endeavour and its components include content development and delivery, platform infrastructure and learning management systems, among others. A private-public sector collaboration is key to the success of this effort.

In building social capital, we need to capitalise on the strengths of our digital natives and develop new sources of income for the country. Now, more than ever, Malaysia needs to embrace openness and agile new ways of doing things that will be a formidable trend in the digital economy to truly harness our strengths.

“

In building social capital, we need to capitalise on the strengths of our digital natives and develop new sources of income generation for the country. Now more than ever Malaysia needs to harness the characteristics of agility and openness.”

● IN PERSON WITH

CONTENTS

COVID19 will boost some “lingering” societal and technological changes.

A crisis typically propels existing solutions that were previously struggling to become relevant to prominence.

Malaysia is well-positioned to benefit from the changes induced or accelerated by COVID19.



ARIJ VAN BERKEL, PhD
Director, Research
Lux Research

COVID19 ACTS AS A CATALYST ON GLOBAL TRANSITIONS



Arij is a Director at Lux and leads the energy research team. Arij and his team provide strategic insights in the rapidly changing landscape of energy supply to mobility, residences, and industry.

Prior to joining Lux Research, Arij worked for Shell and TNO, the public research and technology organisation of The Netherlands. At Shell, he conducted research into process safety and combustion. At TNO he worked on a variety of topics including food preservation, emission reduction and biomass conversion. His last position there was innovation director for the chemical industry, P&L responsible for TNO's entire project portfolio for the chemical industry and liaising with the Dutch and EU governments on innovation policy.

Arij holds an M.Sc. degree in mechanical engineering from Twente University and a Ph.D. from Eindhoven University.

“

A new technology or a new way of thinking in society doesn't materialise overnight. During a crisis there is no time to invent entirely new technologies. Instead, a crisis propels existing solutions that were previously struggling to become relevant to prominence.”

As we enter the third quarter of the global pandemic, the fall-out of the crisis is taking more shape. During the initial lock-downs, road traffic was sometimes up to 70% less than usual. Even though it has since slightly recovered, there are still about 30% less cars on the road. Air traffic is still over 60% less than usual. Most countries are reporting economic growths that are more than 10%-points less than originally expected for 2020. The economic impact of the pandemic will stretch well into 2023 and some industries such as the oil industry may not recover until 2025. It is our estimate that the oil industry alone will lose \$8 trillion in revenue as a result of the pandemic.

This puts COVID19 on par with the major transformative crises from the past such as the Great Depression, WWI and WWII, and the oil crises of the 1970s. Looking back at those crises from the past, the common denominator is that they have all boosted some “lingering” societal and technological changes. They have accelerated already existing trends and technologies and made them prominent.

A new technology or a new way of thinking in society doesn't materialise overnight. During a crisis there is no time to invent entirely new technologies. Instead, a crisis propels existing solutions that were previously struggling to become relevant to prominence. The Great Depression of the 1930s resulted in the construction of major infrastructure. It turned out to be the final nudge to connect a majority of households in Europe and the US to electricity and to make cars affordable for everyone. The oil crises of the 1970s were the ultimate wake-up call to the oncoming environmental crisis. Even though the debate about the consequences of

unlimited economic growth had been lingering already, the oil crises raised awareness and resulted in the Club of Rome report “Limits to growth” and the UN “Brundtland committee” that published the landmark study “Our common future”.

So, what are the “lingering” societal and technological changes that the COVID19 crisis can accelerate? I think there are three categories of changes that will be accelerated by this crisis.

COVID19 IS CHANGING THE WAY WE TRAVEL AND WORK

Teleworking, virtual meetings, telemedicine and all sorts of other remote or virtual working were already lingering long before this crisis. Many people have been debating the possibilities and advantages of being able to connect and work across the world without travel. For examples there were already experiments with remote surgery using robots and haptic feedback controls.

“

With the infrastructure in place and the mindset to embrace the possibilities we will see many new ways of using the technology to boost productivity and make cooperation easier.”

The lock-downs have forced people to make use of the possibilities offered by the internet to work remotely at full scale. Where organisations have previously been cautious and apprehensive to use these new ways of working, they have now been forced to try them at scale and to invest in the infrastructure required for it. As a result, virtual meetings and remote working have experienced a breakthrough. They have been promoted from a lingering, promising technology to a mainstream solution. We are now only at the start of this development. With the infrastructure in place and the mindset to embrace the possibilities we will see many new ways of using the technology to boost productivity and make cooperation easier.

COVID19 IS ENABLING THE CREATION OF LOCAL VALUE CHAINS

During the initial shortage of medical supplies (with Malaysia particularly important for gloves), countries scrambled to create their own production and, in many cases, succeeded. The lesson was that creating local value chains is not as hard as everyone thought. Globalisation is not a law of nature; it's an economic choice that can be reversed if desired or needed. That "discovery" aligns very well with lingering sentiments in society that call for local ownership and involvement in value chains, such as evidenced by Naomi Klein's book "No logo" (1999).

The realisation that local value chains can be created, will accelerate a number of technologies. It will help to boost biobased feedstock for chemicals and materials since local value chains require locally available raw materials. Similarly, it will accelerate technology for recycling and circular economy business models. It will likely also result in a scale-up of robot technology to make local production competitive with off-shoring to low-wage countries.

“

...countries scrambled to create their own production and, in many cases, succeeded. The lesson was that creating local value chains is not as hard as everyone thought.”

COVID19 BOOSTS ELECTRIFIED PERSONAL TRANSPORTATION

Large-scale public transit systems are suspect in a time of a global pandemic. People seeking to avoid the subway or crowded buses and trains are looking for affordable, convenient and fast alternatives. The winning options appears to be electric bikes and scooters. As cities see less cars on the streets, there is more room for bikes and scooters. This also helps to reduce air pollution and this mode of transportation is more affordable to many. Companies like Uber are already hedging by investing in bike and scooter sharing companies. The growth of electric bikes and scooters will be faster than that of electric cars.

WHAT I THINK IT MEANS FOR MALAYSIA'S INNOVATION

Malaysia is well-positioned to benefit from the changes induced or accelerated by COVID19. Telemedicine can be a major growth market because Malaysia has a large potential home market that it can use to develop services that it can then export. To fully benefit, invest in the development of affordable medical sensors that can connect to laptops and smartphones.

Malaysia is also well-positioned to benefit from the development of local value chain. It is a good opportunity to export the knowledge the country has accumulated on biobased materials.

Finally, small-scale electric mobility presents a good growth opportunity to Malaysia with a good starting position and a large and growing home market.

“

People seeking to avoid the subway or crowded buses and trains are looking for affordable, convenient and fast alternatives. The winning options appears to be electric bikes and scooters.”



● INSIGHTS

CONTENTS

We should not think of the pandemic as a “Black Swan” event.

The world has been warned of the likelihood of a virulent new pandemic for years.

To be truly effective in these uncertain times, science education needs to teach students how to deal with dilemmas.



LIZ ALEXANDER, PhD
Futurist, Author, Consultant,
Speaker

Dr. Liz Alexander has been named one of the world's top female futurists. She combines futures thinking with over 30 years' communications expertise to produce publications that showcase the advice of fellow futurists on issues including the future of education, and how businesses can practically benefit from working with the futures community.

Dr. Liz is the author/co-author of 22 nonfiction books published worldwide, that have reached a million global readers, and has contributed to leading US technology magazine Fast Company, Psychology Today, and journals such as Knowledge Futures, and World Futures Review. She earned her PhD in Educational Psychology at The University of Texas at Austin.

LESSONS FROM THE PANDEMIC



Of the five programs I taught at The University of Texas at Austin's Professional Development Center my favourite was always Crisis Communications. Each semester there were so many topical case studies to study, showing how leaders representing some of the biggest brand names in the world failed to anticipate and manage major crisis events. Few if any of these highly educated senior executives appeared to learn the lessons from businesses whose prior lack of anticipation had led to loss of profits and sometimes bankruptcy.

There is much we can learn from studying others' failures. With the coronavirus pandemic it's certainly instructive to review the differences between those countries that have successfully managed to "flatten the curve" (Malaysia, Germany, New Zealand, and South Korea for example), and those like the United States, Brazil, India, and Mexico where COVID19 continues to ravage their populations.

Since this is a magazine focused on foresight, I would first like to quash any notion that this pandemic was unpredictable or unforeseen; in no way should we think of it as a "Black Swan" event.

As the following examples demonstrate—and there are countless more—the world had been warned for years, by scientists and other experts, of the likelihood of a virulent new pandemic. These were not "weak signals":

- In 2014, an SBS Insight episode that aired in Australia entitled Pandemic, featured World Health Organisation and other virology experts who predicted that the next pandemic event would likely "be a respiratory illness that originated from animals somewhere in Asia."
- In March 2015, Bill Gates gave a TED talk entitled: The Next Outbreak? We're Not Ready. To date it's had almost 37 million views.
- For The Atlantic Magazine's July/August 2018 issue, Ed Yong wrote the cover article entitled: The Next Plague is Coming. Is America Ready?

If foresight was not the problem—even if ignoring the warnings was—then perhaps the issue was the lack of relevant crisis preparedness plans? Unfortunately, even when there is a plan, this doesn't necessarily mean it will be followed. The Obama White House, for example, left a 69-page crisis preparedness document entitled, Playbook for Early Response to High-Consequence Emerging Infectious Disease Threats and Biological Incidents. Replete with questions to ask, decisions to make and recommendations to follow, it was reportedly "scrapped" by the incoming Trump administration. With just 4.25 percent of the world's population and a reputed 25 percent of global COVID19 deaths, we have seen how badly that has worked out for the United States of America.

MALAYSIA BOLEH!

Thankfully, Malaysia is one of the world's success stories. As Prime Minister Tan Sri Muhyiddin Yassin reported on 8th August, the country's COVID19 recovery rate of 96.8 percent is one of the highest in the world. As of this writing (10th August, 2020), Malaysia has reported just over 9,000 cases and 125 deaths. This is a remarkable achievement, especially when you compare those figures to Peru, with a similarly sized population, that has seen close to half a million cases and over 21,000 deaths; or Sweden with only a third of Malaysia's population whose disastrous "herd immunity" approach has resulted in more than 83,000 cases and 5,766 deaths.

Malaysia's strategy has been similar to that of other standout countries including Canada, Germany, South Korea, Taiwan, and New Zealand, namely:

- Swift, decisive, and brave political action that included closing borders and non-essential businesses at the outset;
- Clearly communicated precautionary measures such as temperature taking, hand sanitising, social distancing, and using technology to facilitate contact tracing;
- A centralised response informed by science, not political ideology. The "face" of Malaysia's COVID19 strategy has largely been that of endocrine surgeon, Datuk Seri Dr Noor Hisham bin Abdullah, who has provided vitally important consistent and transparent communication.



Malaysia's COVID19 recovery rate of **96.8%** is one of the highest in the world.



To better prepare ourselves for what could happen, and enhance future decision making, we need to broadly educate individuals who have an appreciation of subjects beyond S.T.E.M: like world history, psychology—and communications.

This last point is particularly important, since we can see from some of the worst examples in the world, namely the United States and Brazil, how political leaders who disdain science and refused to mandate the above-mentioned precautionary measures allowed their country's case and death figures to soar.

So, is this a reason to ensure science education predominates in our schools and universities? My answer to that would be "Yes, but..."

BOOST "NOVEL" THINKING

As much as they are to be admired, scientists and medical professionals are not infallible, and it is best not to be unrealistic in our expectations of them. As one commentator put it, science is "a process of being less and less wrong over time." This is certainly the case when dealing with a novel coronavirus like COVID19, a new strain of pathogen for which we cannot rely on existing assumptions or biases. For example, the notion that COVID19 is a respiratory illness has changed. Not only has the virus caused strokes in some people, but also neurological symptoms and heart damage.

To be truly effective in these uncertain times, science education needs to teach students how to deal with dilemmas, in which they have to select from a number of alternative, possibly equally undesirable choices, rather than assume they will find the right answer, as most schooling tends to train them to do.



Another much-needed aspect of science education highlighted by the current pandemic is greater emphasis on the question: What if we're wrong? This is an excellent habit to inculcate in all students, yet it's one that scientists and other experts in Sweden and the UK apparently did not consider when adopting the classic epidemiological approach known as "herd immunity." As a child growing up in the UK, if a classmate or friend contracted measles we were sent to play with them so we could catch it too; our parents did not expect us to die or suffer long-term health effects. But applying the same thinking to COVID19 presupposes that this coronavirus is no worse than the seasonal flu. According to one Swedish infectious disease expert, Sweden's herd immunity strategy for COVID19 was supposed to result in fewer than 1,000 deaths and halt the spread of the disease in that country. As the above-mentioned figures indicate (5,766 deaths in Sweden, and counting), this expert was incorrect, not least for failing to ask himself: "What if I'm wrong?"

As University of Southern California Dornsife sociologist, Andrew Lakoff pointed out when discussing the dismal response to COVID19 by the United States, "We have to learn about the disease on the fly and figure out what works to mitigate it as quickly as possible."

Are we currently educating our young scientists and medical students to think "on the fly"?

NOT JUST S.T.E.M.

Another lesson we might take away from the current pandemic is to look more favourably on a liberal arts education. Anyone with a knowledge of global history would not go around saying that COVID19 was "unforeseen," as the Pandemic Timeline on page # makes clear. Knowing that the "Russian Flu" in 1889 took just 70 days—a little over two months—to reach the United States, would provide

a greater appreciation of how fast viruses can infect countries on the other side of the world, especially now we have air travel.

Foresight professionals rely on historical context to help identify trends, as well as discover events that happened once and could do so again. In his book, *Learnings from the Long View*, internationally renowned futurist Peter Schwartz wrote about a project his organisation undertook for the U.S. Department of Defense, which wanted to be better prepared to “think the unthinkable” regarding the implications of abrupt climate change. Schwartz’s team looked back 8,200 years to discover that there had already been a time in history when the northern hemisphere had cooled rapidly in under a decade, remained cool and dry for around a century, then warmed up again in less than a decade. To better prepare ourselves for what could happen, and enhance future decision making, we need to broadly educate individuals who have an appreciation of subjects beyond S.T.E.M: like world history, psychology—and communications.

COMMUNICATION IS KEY

With two global champions already, FameLab Malaysia helps guide young scientists on how to explain difficult scientific concepts to lay people. I believe it is hugely important to teach such communication skills to a broader swathe of students, those who will become tomorrow’s politicians, business leaders, health professionals and, hopefully, well-informed, curious citizens.

As the best communicators know, we largely make decisions with our hearts, not our heads; only by touching our emotions do they inspire us to action. Consider how New Zealand rallied their citizens around the slogan: “Unite against COVID19,” and issued messages saying, “We are dependent on you,” and “Act as if you have COVID19. This will save lives,” rather than just the usual dry, factual information put out by other countries. The word pandemic has two Greek roots: pan meaning all, and demos meaning people. Unlike epidemics that affect only one region (the Great Plague of London in 1665, for

example), a pandemic sweeps the globe. This means that all of us—all people—have a part to play. As Dr. Noor Hisham reminds us: “When the numbers go down, people let down their guard...when we succeed, it breeds complacency and that in turn can breed failure. It’s a vicious circle. We want to do prevention; now the onus is on the public to comply.” This is an important message for everyone to take on board. As recent events have shown, even New Zealand has suffered an uptick of new coronavirus cases, but this challenge can best be addressed with effective, emotion-focused communication that urges everyone in the country to “unite.”

As I pointed out earlier, when mentioning my Crisis Communications program, there are valuable lessons we can learn about how not to handle crisis events, such as observing the coronavirus debacle taking place in the USA and elsewhere. What this also teaches us, I hope, is to be proud and grateful for the kind of people Malaysians are, the majority of whom are largely complying with the SOPs, and what Malaysia as a coronavirus standout nation has so far achieved.

As the best communicators know, we largely make decisions with our hearts, not our heads; only by touching our emotions do they inspire us to action.



● VIEWPOINTS

CONTENTS

The road to recovery for the domestic SBSR industry sits between promise and reality.

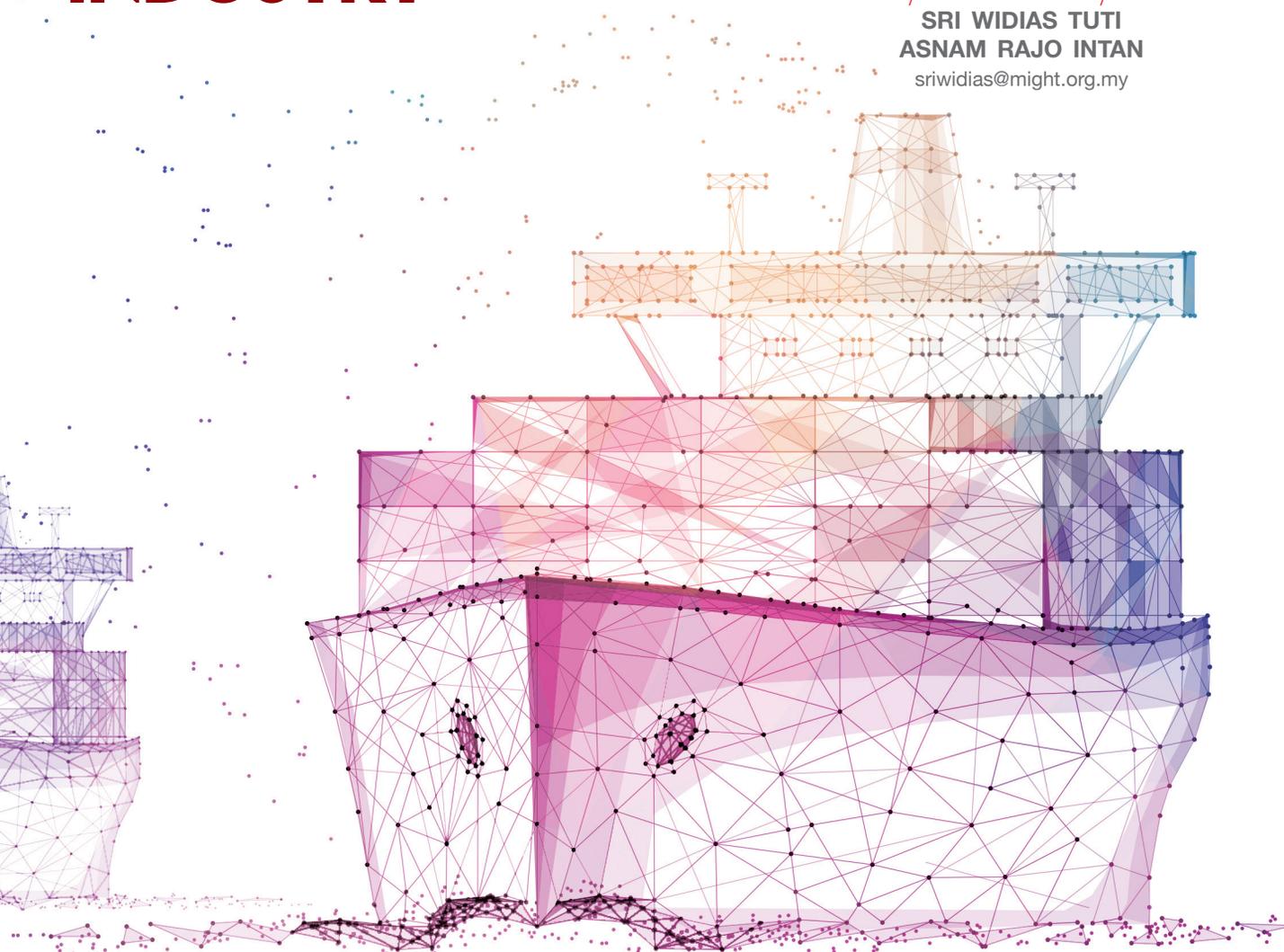
Local SBSR players should turn their focus on domestic market opportunities.

Industry challenges must be addressed technology-enhanced tools, processes and practices.

ROAD TO RECOVERY: REJUVENATING MALAYSIA'S SBSR INDUSTRY



**SRI WIDIAS TUTI
ASNAM RAJO INTAN**
sriwidias@might.org.my



OVERVIEW

As COVID19 continues to disrupt the global economy, the ship building and ship repair (SBSR) industry has not been spared by its after-effects. In a way, this has put many global industries in a transition, anticipating newer technology, practices, and processes will provide them an uplift in the future. Despite this, many SBSR companies have flattened and this transition does not always imply progress. The truth is, local SBSR companies still grapple with numerous challenges that are being driven primarily by a highly fragmented industry structure and thus, progress comes with the risk of backsliding into slow recoveries.

Clearly, this scenario underlines the need for new strategies. After the pandemic arrived, three strategies for restarting the economy have emerged to fight and resist economic downturn. To move past these obstacles, this demands local SBSR companies to be prepared to turn the challenges into opportunities and this is going to be fuelled by cost-reduction potential. While recovery will no doubt take strenuous work, by shifting towards new ways of doing things, Malaysia's domestic SBSR industry can complement growth with predictable revenue streams. Ultimately, by incorporating the new, the local industry can plan for a stronger future amid rising operational complexity.

UNPACKING THE NUMBERS AND FIGURES FACING THE INDUSTRY'S FIGHT TO RECOVERY

The market is expected to decline from \$192 billion in 2019 to \$177.9 billion in 2020 at a compound annual growth rate (CAGR) of -7.4%. This decline is mainly due to economic slowdown following COVID19's outbreak and the measures taken to contain it. Now, the market is expected to recover and grow at a CAGR of 3% from 2021 and reach \$191.9 billion in 2023. Currently, Asia Pacific is the largest region in the global SBSR market, accounting for 51% of the market share in 2019 followed by Western Europe with a

20% market share. Meanwhile, Africa is the smallest.

For Malaysia, prior to COVID19, SBSR companies had already envisaged the future as a survival struggle. Between mid-2014 and early 2016, the global economy faced one of the largest oil-price shocks in modern history—a 70 percent price drop over the two-year period. Since, industry players have faced a difficult time. The significant drop in the number of new build orders is an alarming indicator. Worse yet, SBSR companies are securing fewer jobs from key sectors such as oil & gas sector apart from battling overcapacity and dependency on government SBSR projects. However, contrary to the news or public opinion, to stay afloat, local SBSR players should instead focus on capitalising domestic market opportunities.

POST COVID19 RECOVERY: IMPLEMENTING NEW IDEAS AND TECHNOLOGIES TO FRESHEN UP AN UNDERWHELMING INDUSTRY

The three lenses for building a secure future for Malaysia's SBSR industry

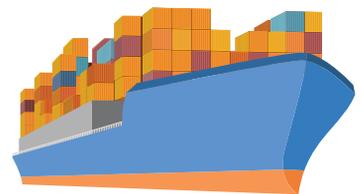
1

Reorganise the industry through technology

Surely, the crisis is an opportunity for SBSR companies and talents to reinvent themselves. Yet, there is no better time to do so than now. In light of this, the snapshot below focusses on some of the industry's lowlights and challenges that must be addressed by a rapid uptake of new technology and people-oriented practices.

- The SBSR industry is too labour dependent.
- Over reliance on foreign vessel design expertise and global supply chains for parts, raw materials and components make the industry vulnerable and less resilient compared to its competitors.

- The industry's strategies are mired in traditional ways and lack technology leadership.
- Companies are cautious to invest because many are cash-strapped in today's circumstances.
- Some shipyards are wary of using new technologies due to a lack of knowledge.
- Vessels' unique designs and systems make automation limited to welding and steel plate pre-processing functions. Thus, applying new methods in new areas pose a steep challenge for local SBSR operators.
- Many SBSR companies are unable to implement new technologies because of cost-prohibitive investment.
- The cost of adopting digital solutions such as 3D Digital Twin design is negligible.
- However, the costs of poor quality construction, variation orders, rework, mistake repairs, late delivery, waste and so on account for about 15% to 20% of local yards operating costs. All these will cost more than adopting new technologies such as VR, AR, 3D printing and robotic welding to eliminate these said shortcomings.



By shifting towards forward-looking strategies and embracing new ways of doing things, the SBSR industry can complement growth with predictable revenue streams.

2

Productivity gain

The coronavirus pandemic has largely warped the industry's productivity. At the same time, this new reality has also magnified the importance of implementing new technology to achieve higher productivity gain. This effort however must be approached objectively, measured frequently and implemented widely in areas where it is critical. But that's hardly the whole of it. In the future, the battle for competitive edge between Malaysia's SBSR industry and its competitors will be decided by technology-driven innovation. Technological excellence alone may not be enough to achieve an energetic circle of growth. Therefore, it is very important for local SBSR companies to shift their focus to small wins and this is where higher productivity can give them the upper hand..

- The Industry needs to embrace technology for higher productivity gain.
- Today, digitalisation is a crucial enabler of higher productivity and efficiency.

- For local SBSR companies, the most accessible technology upgrade is digitalisation. For example, 3D Digital Twin design and Product Life Cycle are the latest and most effective digital solutions. However, these solutions present today's prerequisite upgrade to high productivity and competitiveness.
- Robotics can be widely used in the industry for heavy functions that are prone to human errors such as lifting heavy metal parts.
- Robotics increases efficiency and reduces accidents.
- Automation in services such as welding, blasting and painting need to be a common sight across local shipyards in order to be competitive.
- At South Korea's Geoje shipyard, 68% of its production processes are carried out by robotic systems.
- Product Lifecycle Management (PLM) offers a huge potential for process improvements and cost savings.

3

Supply chain support

For the local SBSR industry to recover and sustain growth, varying levels of support should be available to all industry players, regardless of their worth or importance to the supply chain's value. In addition, government contract, procurement and tender practices should be further streamlined to ensure Malaysia's public sector fully supports industry growth and development. In Malaysia, the unique composition of local and government-owned SBSR players run almost the full spectrum of the industry. Therefore, the government needs to introduce a new normal for government contract acquisitions to ensure good governance, growth and sustainability.

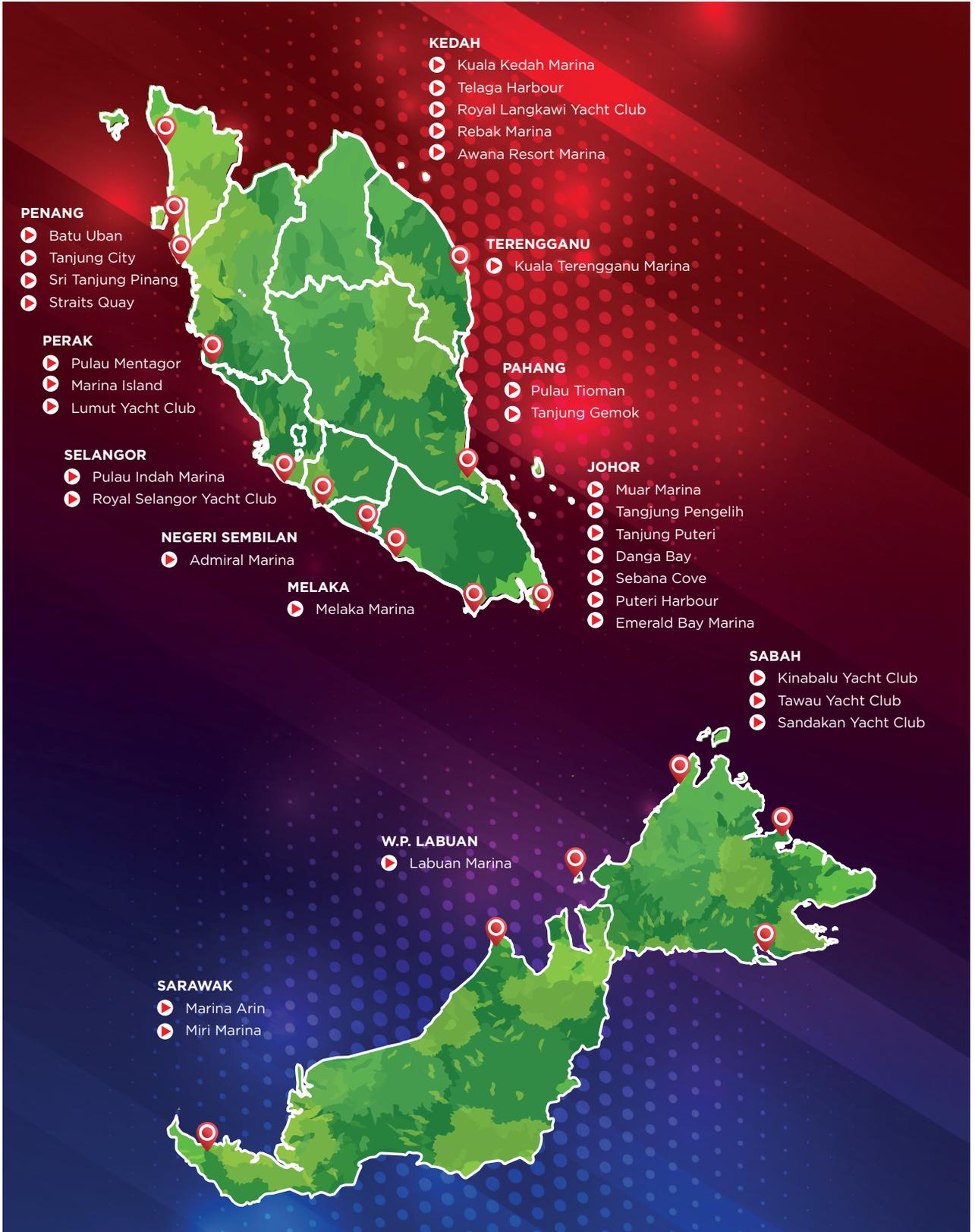
LOCAL INDUSTRY POTENTIAL AND OPPORTUNITIES

Sector	Commercial sectors				
	Defence sector	Oil & Gas (OSV)	Fishing vessel	Leisure Industry	Others
Shipbuilding Value	RM11 billion <ul style="list-style-type: none"> • 6 Littoral Combatant Ship, • 2 Littoral Mission Ship, • 3 Offshore Patrol Vessel, • 6 New Generation Patrol Craft (NGPC) • 18 Fast Interceptor Craft 	RM3.2 billion <ul style="list-style-type: none"> • 24 Anchor Handling Tug Supply (AHTS) 80t BP • 22 General Purposes Vessel (GPV)/ Speciality Vessel (SPV) • 17 Fast Crew Boat (FCB) > 20 Knots • 10 Utility Vessel (UV) • 9 Landing Craft Tank (LCT) • 3 Platform Supply Vessel (PSV) • 2 Anchor Handling Tug Supply (AHTS) 60t BP TOTAL 87	Modenisation of fishing boat C type (from wooden to Fibre glass, steel, aluminium etc.) from existing license owned by boat owners. (to replace wooden boat)	*RM200 million <ul style="list-style-type: none"> • Building Yacht for recreational industry • Building boats and ferry for river transportation, eco tourism and leisure industry 	<ul style="list-style-type: none"> • Replacement old tug boat that supporting operation in 17 major and small in Ports in Malaysia's
Ship Repair/ Conversion/ MRO Value	RM 700 million Value of contract every year to maintain defence and security assets	RM200 million Average of 250 vessel operated to serve oil & gas platform Every year, estimated 50 vessel need to under go compulsory (special/renewal survey) dry dock Average repair for each boat per year RM4,000,000	*RM 30 million Zone Total License boat C 2,448 C1 540 C2 19 Total 3,007 Average repair for each boat per year RM10,000	<ul style="list-style-type: none"> • Boats & ferry for river transport in Sabah and Sarawak • Yacht in 25 Marina across Malaysia 	<ul style="list-style-type: none"> • Repair of Tug boats in operation across all ports in Malaysia

Source: Department of Fisheries Malaysia, MIGHT Analytic and MOSVA.

* Estimated

LIST OF MARINAS IN MALAYSIA





LOCAL MARKET OPPORTUNITIES

Projecting clear convictions is important to grow the local industry. Looking at the local industry's figures between 2018 and 2020, there are obviously many pockets of opportunities for local SBSR companies. Despite a gloomy global outlook, the vigour of domestic commercial and defence sectors' long-term growth remains intact. Also, these sectors offer local players numerous routes to organic growth. However, to help local SBSR companies thrive, this will require a policy tilt by our lawmakers. For example, the government needs to introduce measures that will reduce our local maritime industry's reliance on foreign vessels. But the caveat here is, our local players need to step up their game.

Interestingly, now, there are 31 marinas located throughout Malaysia's shorelines. This favourable ecosystem presents abundant of cross-sector opportunities for local SBSR and tourism industries' players such as yacht rental, maintenance and repair. This will also open up many new opportunities for leisure activities around these locations.

CONCLUSION

By and large, the industry now is more about surviving a rising tide that's looming ahead, less so about getting the industry to mature into new ways and trends. Despite this, there is still enormous potential for Malaysia's SBSR industry. Of course, the key opportunity lies in creating clearly defined goals skewed towards capturing local opportunities and then expand them globally.

On the road to recovery however, the journey lies between promise and reality. It is long and winding, and full of potholes. However, there are clear dangers in ignoring what's happening around global trends reshaping the industry in order for our local SBSR companies to remain relevant. One thing is for sure, the industry is in need of a rapid uptake of new technology and this should be propelled at a manageable speed. At the same time, there should be a clearer delineation of roles for government-owned SBSR companies tasked with scaling up the industry. So much so, how things shake out regarding what our government-owned SBSR companies do will largely determine the fate of our domestic SBSR industry. Taking into account post COVID19's new norms, local SBSR companies should tap into the disruptive digitalisation forces of the industry. A major overhaul is indeed needed to advance the industry to the next level to stay on par with global players.

REFERENCES:

1. <https://www.weforum.org/agenda/2020/04/coronavirus-covid-business-resilience-preparedness-skills/>
2. <https://www.businesswire.com/news/home/20200611005323/en/Global-Ship-Building-Repairing-Market-Report-2020>

● VIEWPOINTS

CONTENTS

Today, Malaysia consumes resources that are far beyond its capacity to produce.

Current economic and environmental constraints are driving the circular economy.

The circular economy seeks to generate the development of new business opportunities.



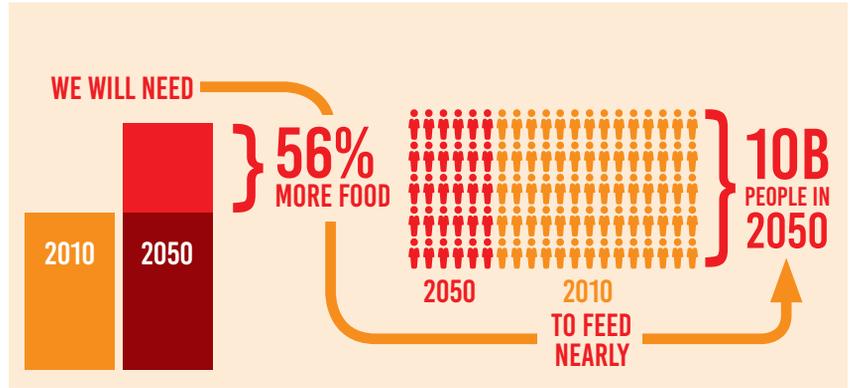
MOHD HASAN
MOHD SAAID
hasan@might.org.my

REDESIGNING GLOBAL CONSUMPTION MODELS WITH THE CIRCULAR ECONOMY



Looking at global consumption, the world consumes more than it can produce. If current food consumption trend continues unabated, it is assumed that the world needs to produce 56% more food to meet rising demand by 2050.

In a recent 'Road to Recovery' (episode 2) - Circular Economy session organised by MIGHT. Prof. Tan Sri Zakri Abdul Hamid was quoted saying that "Malaysia runs ecologically deficit using more resources and its ecosystems".

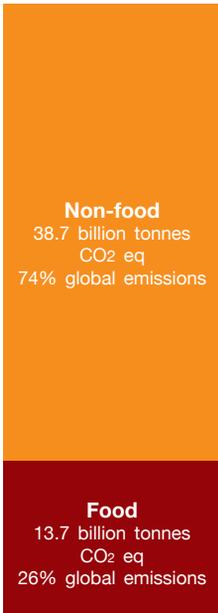


Source: wri.org/sustfoodfuture

WHAT ARE THE ENVIRONMENTAL IMPACTS OF FOOD AND AGRICULTURE?

GREENHOUSE GASES

26% of global greenhouse gas emissions



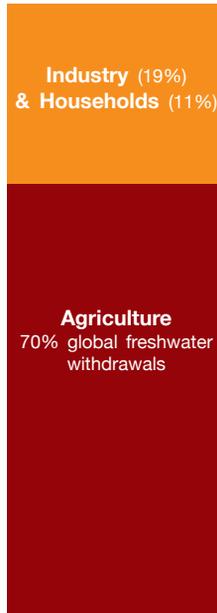
LAND USE

50% of global habitable (ice and desert-free) land



FRESHWATER USE

70% of global freshwater withdrawals



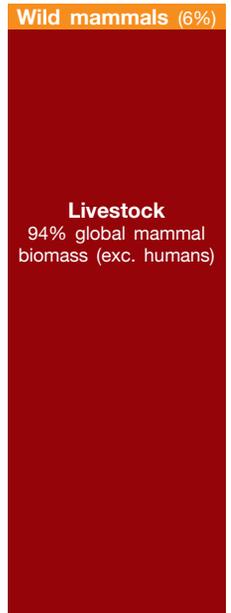
EUTROPHICATION

78% of global ocean & freshwater pollution



BIODIVERSITY

94% mammal biomass (excluding humans)



Source: wri.org/sustfoodfuture

As governments and businesses look to rebuild the global economy post-pandemic, a new study from the World Economic Forum (WEF) has found that 'nature-positive' solutions can create 395 million jobs by 2030.

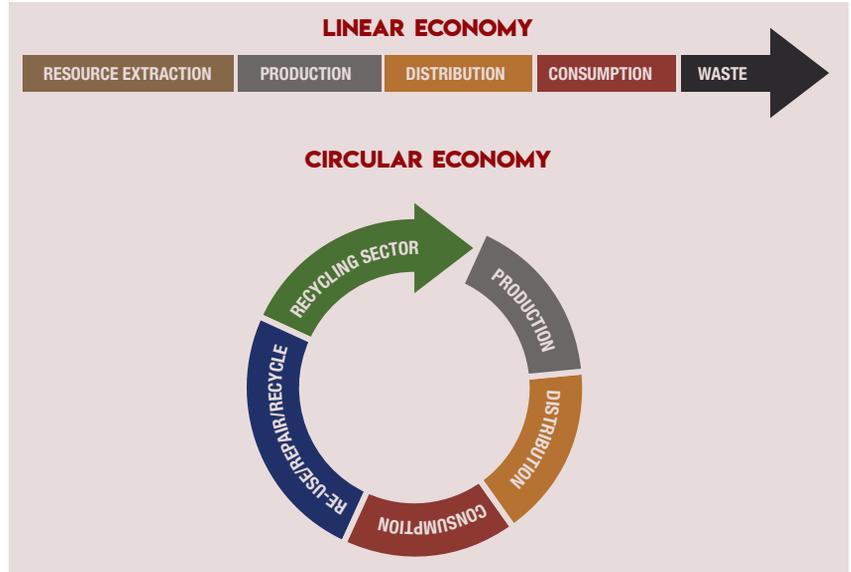
In light of this, the visualisation above summarises the global impacts concerning our consumption trends:

- Food accounts for over a quarter (26%) of global greenhouse gas emissions;
- Half of the world's habitable (ice and desert-free) land is used for agriculture;
- 70% of global freshwater withdrawals are used for agriculture;
- 78% of global ocean and freshwater eutrophication (the pollution of waterways with nutrient-rich pollutants) is caused by agriculture;
- 94% of mammal biomass (excluding humans) is livestock. Livestock outweighs wild mammals by a 15 to 1.4 ratio out of the 28,000 species evaluated to be threatened with extinction on the International Union for Conservation of Nature's red list.
- Agriculture and aquaculture are listed as a threat to 24,000 of them.

After Covid19 broke out, the pandemic has since disrupted a large majority of global businesses. All the while, this has also prompted a drop in CO₂ emissions as well as pollution from travel, tourism and logistics activities. However, in the long run, these issues need to be tackled if we are to make any real progress towards sustainability. Apart from the drop in some consumption areas, on the flip side, the world is experiencing an increase in others such as food and personal protective equipment or PPE as a result of the pandemic's latest swells. In a lot of ways, these economic and environmental constraints are driving what we now call the circular economy.

For years, sustainable development concepts have been discussed at length across various global levels, most notably at a summit in 1992 and the World Summit on sustainable development in 2001 with the latest one in 2015 where the global community signed off a 2030 development agenda structured around 17 goals. Going

LINEAR ECONOMY Vs CIRCULAR ECONOMY



Source: World Economic Forum

forward, the all too familiar concept built around 3R, or reduce, recycle, replace has now been combined to form the circular economy.

Interestingly, a report published in April when Covid19 was peaking shows that two-thirds of world citizens argue that climate change is as pressing or serious as the coronavirus. But how do we tackle the question in today's economic climate? Decidedly, the solution lies within the concepts and strategies of the circular economy.

Contrary to the linear economy, the circular economy does not only target minimising environmental impact throughout all stages of material and energy uses. But more importantly, the circular economy seeks to rejuvenate the development of new business opportunities born out of natural systems to improve people's well-being. As such, the circular economy thoroughly considers potential economic conflicts in relation to existing jobs and the environment. In addition, beyond the current take, make and dispose business model, the circular economy is really about restorative and regenerative activities by design. Essentially, from an industry perspective, the circular economy employs three key operational strategies.

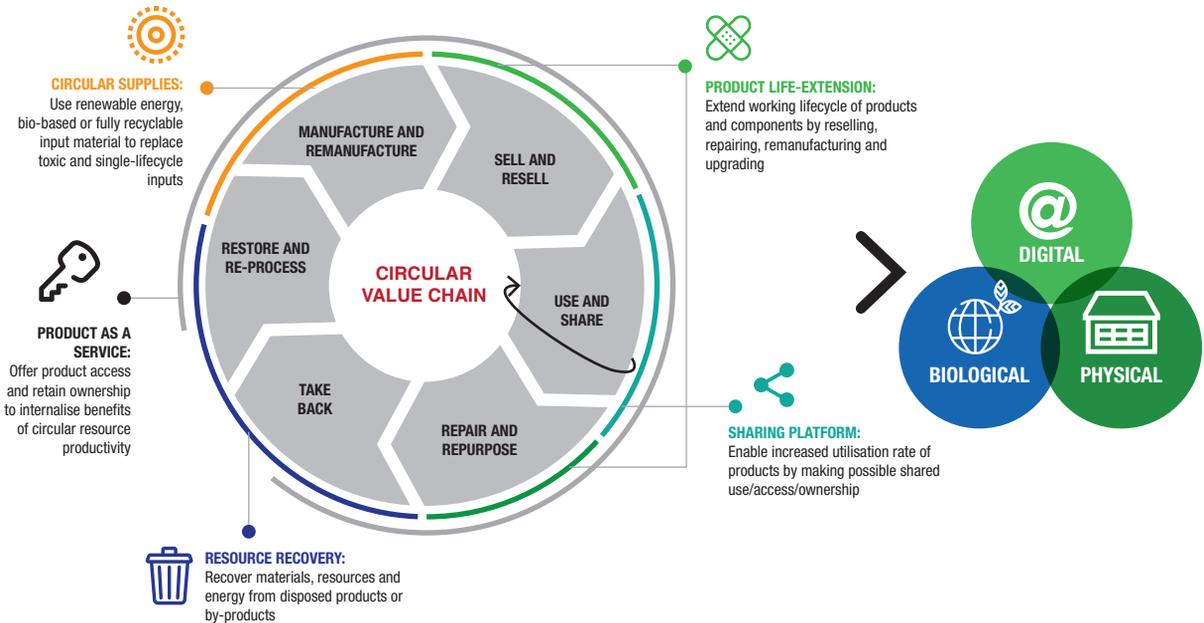
The first strategy involves the use of sustainable and less harmful waste. Next, the second strategy improves efficiency or use of materials and energy across all stages of production and consumption. In other words, this strategy hinges on a system that produces more with less. The third strategy maximises perpetual recycling of end-of-life materials to make sure that it's not just a one-time recycling. Often, businesses would choose sustainable inputs as a guide to increase their productivity. In part, mergers give businesses the flexibility to prevent wasteful activities in their key operations. By sourcing alternative materials, businesses often demonstrate the potential for providing added-values and jobs to the localities where they operate.





In a CEO Guide to the Circular Economy’s publication, The World Business Council identified five business models and three technologies that’ll facilitate the transition to a circular economy. Among the five business models, a supply chain or a circle of supplies promotes the use of renewables and resource recovery. It’s about using secondary resources and sharing platforms where renting, sharing and leasing come into the picture.

FIVE BUSINESS MODELS AND THREE DISRUPTIVE TECHNOLOGIES



Source: CEO Guide to the Circular Economy, The World Business Council

MALAYSIAN CONTEXT

To gauge how we can maximise Malaysia’s circular economy potential, we must first look at our local industries and talents. These two are key imperatives to scale Malaysia up as a circular economy hub for ASEAN. In Malaysia’s Zero Single-Use Plastic Roadmap 2018-2030, one of the action plan’s core activities revolves around developing and implementing a circular economy roadmap. The roadmap covers all the bases, particularly in relation to revamping the entire plastic value chain from product design to circularity and waste recycling. Today, Malaysia consumes resources that are far beyond its fair share of capacity to produce. Although Malaysia’s consumption rate is not

the largest in the world, but if every person in the world consumes like an average Malaysian, we will be pushing the bounds of the world’s resources. Below, we can see what The Fourth Industrial Revolution (4IR) and the promise of the circular economy can offer:

- There are nine technological trends that have great potential to contribute to the development of a circular economy.
- Big data and analytics will enable faster and smarter collection and analysis of large data.
- High performance, decentralised manufacturing technologies such as 3D printing will be key in prototyping and producing components from recyclable materials.

In Malaysia’s Zero Single-Use Plastic Roadmap 2018-2030, one of the main action plans is to develop and implement a circular economy roadmap.

BUSINESS IMPLICATIONS

When we look at 4IR's potential, many technology trends would have an impact on the circular economy and some of which would be beneficiary to the Malaysia's economic growth. However, Malaysia needs to solve how big data and analytics can enable faster and smarter collection and analysis of data to make progress on this front.

To some extent, Malaysia already has some bits and pieces of the circular

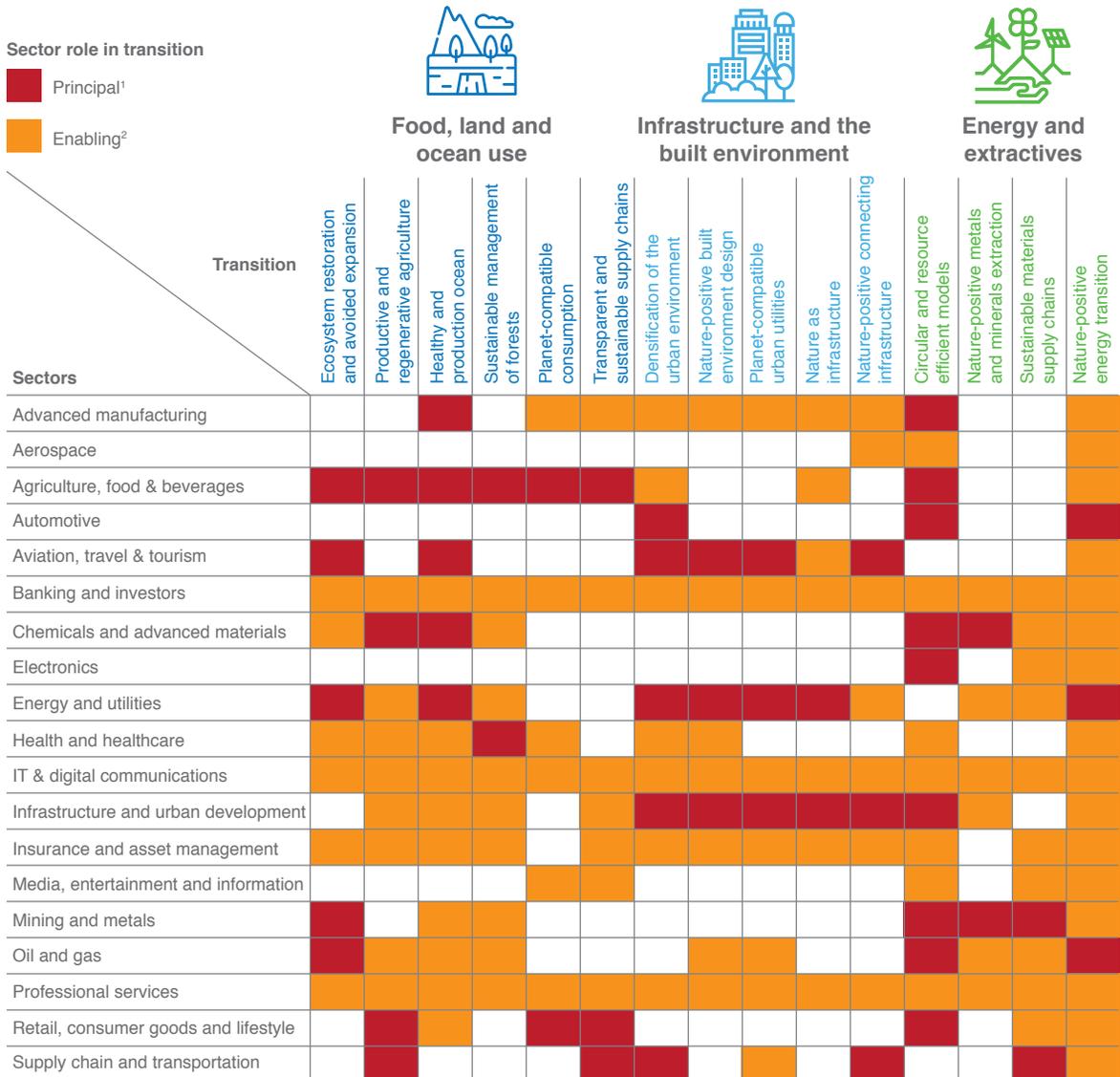
economy in place. But not much has been done to encourage the public to appreciate the concept. We are still at a pace where our society is still mired in linear consumption models.

As we head into a future that will be anchored around new economic models, surely, new products will be based on new materials and designs. As a result, industrial operations will require a more thorough planning and control. Knowledge, in part, will be employed strategically and businesses will be supported by new performance

standards so their actions produce higher levels of performance that the circular economy demands.

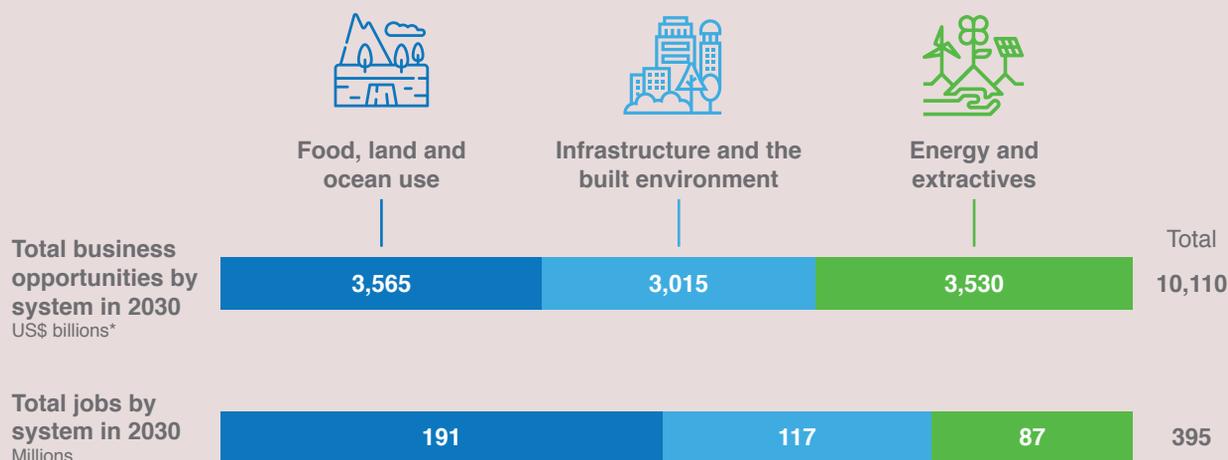
Such requirements call to the stage new innovative enterprises that provide services that optimise new processes that accelerate circularity. In contrast to more conventional manufacturers for example, these innovative enterprises build their business around the tenets and principles of the circular economy. The following is an analysis that provides potential solutions for businesses:

A NUMBER OF KEY SECTORS IN THE ECONOMY WILL BE CRITICAL TO ENGAGE IN THE BUSINESS AGENDA ACROSS SOCIO-ECONOMIC SYSTEMS



1. Principal role implies that the sector is directly involved in components of the transition that will halt and reverse biodiversity loss
 2. Enabling role implies that the sector can potentially support key activities in the transition

15 TRANSITIONS IN THE THREE SOCIO-ECONOMIC SYSTEMS COULD DELIVER \$10.1 TRILLION OF ANNUAL BUSINESS OPPORTUNITIES AND 395 MILLION JOBS BY 2030



*Based on estimated savings or project market sizing in each area. These represent revenue opportunities that are incremental to business-as-usual scenarios. Where available, the range is estimated based on analysis of multiple sources. Rounded to nearest US\$5 billion.

Source: Literature review, Market research; Expert interviews; AlphaBeta analysis

Most recent global circular economy initiatives:

- Toronto's organic waste: Organic waste collected from local households is converted into biogas to fuel diesel engines or generate heat.
- New York: 4,000 New York city businesses have laid a stronger focus on repair, reuse and the sharing economy. In addition, by implementing a carbon tax, the city rewards businesses that are successful in shrinking their carbon emissions and penalise those who don't.

CASE 1: FOOD WASTE

Recently, Malaysia came up with statistics to show that 15,000 tons of food waste are discarded on a daily basis. So, for those who do not know much about food waste, food waste is divided into two categories—avoidable and unavoidable.

So what's exactly unavoidable and avoidable food waste? Avoidable food waste is food waste that can still be consumed, discarded or eaten across the supply chain. This food waste category however, can be avoided and minimised through tighter implementation

of sustainability measures. Today, many private organisations are helping out in this respect, such as project soup kitchen. Food is collected and donated to needy groups, or even processed into other forms.

The next category is the non-avoidable food waste. Under normal circumstances, people can't take this kind of food anymore. Leftovers such as bones and shells however include organic waste discharged from food processing plants, domestic and commercial kitchens, restaurants and the likes.

On this count, MAEKO, a company that converts waste into valuable resources has designed a machine that combines biological and chemical systems to convert all types of food waste into compost within 24 hours.

This concept is called waste valorisation. It can help consumers reduce greenhouse gas emissions by 66 percent and cut off the need to send waste over to landfills. While a normal composting process usually takes up to three months, this new practice presents a convenient and sustainable solution for urban development.

CASE 2: PACKAGING

Interestingly, Free the Seed Sdn. Bhd is a company that champions a 'waste

to wealth' economy. Here's what it does; the company aims to slowly introduce biodegradable packaging products into the economy. After years of R&D in biodegradable packaging products, the company recently discovered an ingenious innovation derived from paddy waste's cellulose fibrous biomass material.

By adopting the circular economy, the company has now benefited nearly 1330 farmers from the northern parts of Malaysia and soon, hopefully, the entire supply chain. Notably, Free the Seed has achieved success on two accounts, one, implementing real on the ground circular economic activities, such as creating jobs for the B40 low income group and mitigating open burning of paddy straws. Two, through assistance and mentoring from MIGHT's Global Cleantech Innovation Program (GCIP), Free the Seed is set to become a world-class green tech start-up that promotes sustainable agriculture.

The problem that Free the Seed's business model is trying to solve in the global market is in the use of single use plastic or SUP. For example, SUP poses a huge environmental impact to the ocean. SUP also creates another problem whereby its production necessitates the need to create new landfills to manage its waste. Further, SUP production uses depleting natural

Going forward, a viable, sustainable and circular economy-based solutions need to be introduced quickly to mitigate greenhouse gas pollution from the supply chain of single use plastic.”

resources like petroleum and this is simply not sustainable anymore.

This explains why many countries have introduced a ban on SUP. Malaysia, too, has followed suit with its “Roadmap Towards Zero Single-Use Plastic 2018-2030” policy. Following this, a number of viable and sustainable solutions that adhere to the circular economy’s standards will be introduced to mitigate greenhouse gas pollution from SUP use.

Having been around for more than five years, Free the Seed is putting forward a green innovation that provides an alternative to plastic. As an R&D company, its products are clean, green and sustainable. Above all, the company’s manufacturing and

supply chain activities conform to the main tenet of the circular economy.

To date, Free the Seed has built in some resilience into the company as a part of an intervention measure in case something like a global pandemic, an economic crisis or a supply chain disruption happens with its 2M strategy. The first one is material security. In this regard, the company has secured upstream raw materials it needs for the next ten years. So, this supply chain concept involves 1,300 paddy farmers and works well in a critical situations where farmers will still be able to harvest and discard their paddy waste.

Secondly, by having raw material security, the company is also able to manage its market security. Quite significantly, innovative products that are recession-proof are crucial to sustain any kind of business. Therefore, the company’s focus on innovation ensures its products are sellable in any market or economic situation including the current pandemic. Apart from opening up a new horizon, at the same time, the company is also doing its bit to reduce greenhouse emissions.

POLICY IMPLICATION

Today, there is a need for a renewed political will in order to increase the adoption of the circular economy at speed. If we look elsewhere, for example, Europe, Japan, Korea and the US are all doing the same.

In fact, all this can also be called the green new deal. The green new deal is the latest buzzword to have surfaced in relation to the circular economy. It demands government policies concerning the environment and sustainability to be revised within government ecosystems. Also, to successfully coordinate a positive response from all responsible ministries and departments, the Malaysian government needs to look into legislations and policies that do not work in favour of the circular economy. For instance, currently, Malaysia’s fuel subsidy bill costs the country close to USD 11 billion every year.

Furthermore, to foster higher participation, the Malaysian government needs to engage the private sector to be more involved in the green economy. At the same time, the government also needs to address the issue regarding aging academia involved in most of the nation’s R&D activities. Therefore, all four stakeholders need to work together to move the circular economy’s performance needle.

Certainly, the imperative has now moved away from pushing innovative new trends and products to avoiding a catastrophe caused by climate change, ocean degradation or soil acidification. Taken together, it could be very likely that we will face another serious scenario if all these challenges are not addressed soon.

REFERENCES:

1. Road To Recovery [Episode 2] - Circular Economy, https://www.youtube.com/watch?v=DX-hVrCf4w0&feature=emb_logo
2. WEF Brief Explores Opportunities for Circular Plastics Economy, <https://sdg.iisd.org/news/wef-brief-explores-opportunities-for-circular-plastics-economy/>
3. To build a resilient world, we must go circular. Here’s how to do it, <https://www.weforum.org/agenda/2020/07/to-build-resilience-to-future-pandemics-and-climate-change-we-must-go-circular/>
4. Towards the Circular Economy: Accelerating the scale-up across global supply chains, <https://reports.weforum.org/toward-the-circular-economy-accelerating-the-scale-up-across-global-supply-chains/>
5. World Resources Report: Creating A Sustainable Food Future, <https://research.wri.org/wrr-food>
6. The Future Of Nature And Business, http://www3.weforum.org/docs/WEF_The_Future_Of_Nature_And_Business_2020.pdf
7. CEO-Guide to the Circular Economy, <https://www.wbcasd.org/Programs/Circular-Economy/Factor-10/Resources/CEO-Guide-to-the-Circular-Economy>
8. A blueprint for business to transition to a nature-positive future, <https://www.weforum.org/agenda/2020/07/future-nature-business-action-agenda-blueprint-climate-change-biodiversity-loss/>

● VIEWPOINTS

CONTENTS

Only 60% of the world's population is online.

The quality of remote learning is heavily dependent on the quality of digital access.

Implementing online teaching and learning on an emergency basis is a challenge.

GOING DIGITAL: A NEW NORMAL IN HIGHER EDUCATION



NADIA SULLIVAN

nadasullivan@might.org.my



Currently, Malaysia's education industry is populated by 20 public universities and 467 private higher learning institutions (HLIs). Unfortunately, when COVID19 cases spiralled, the industry has had to deal with a host of immediate negative repercussions. To illustrate the situation, almost every university and HLI is either facing a revenue disruption or stalling operations. Although digital has fundamentally changed the way students learn, not everyone has access to the same tools. After several months of inactivity, e-learning or digital education has emerged as an alternative solution to cope with teaching and learning downtime. But its execution however, remains difficult. But why are we facing this difficulty? This owes to Malaysia's inadequate digital infrastructure and a gaping digital divide that's largely hampering student learning. For lower income students, especially the B40-group students (A household group identified by the Malaysian government as the urban poor community), loss of access to school and university buildings also means they're losing studying space and tools such as computers. As universities and colleges shift to temporary, yet prevalent online teaching and learning models, experts believe that in the future, the solution to bridging the digital gap lies in collaboration. Decidedly, collaborations between governments, universities and the industry will reshape the education sector for the 'new normal'. If the education sector is to fulfil its role as a social ladder, this combination needs to optimise technology in teaching and learning to foster sustainable growth.

THE FUTURE COMES EARLY

Online classes are common place even before the global crisis. For instance, some colleges or universities have long offered weekend online classes to accommodate working adults and students from remote locations. Before this, haze was an issue that pushed the education sector begin its migration online. Although not all of us were ready at that time, it was the only viable choice then.

However, implementing online teaching and learning out of emergency has

been a challenge. We are still lacking behind as far as transitioning from in-person to remote learning is concerned, especially when technology is required. Although most faculty members have managed to establish online-skewed teaching frameworks, others are still fazed by the task. Teaching courses designed for a physical classroom thus presents a steep challenge for educators when they are required to teach via online platforms.

Amid rapid coronavirus spread across Asia, Europe, Middle East, and the United States, the world is now cautious. Many have been moved to take swift and decisive actions to mitigate the worst-case scenario of a full-blown pandemic. Schools, colleges, and universities are now forced to enter a new education territory. These risk-control decisions have led millions of students into temporary 'home-schooling' situations, especially in some of the most heavily impacted countries, like China, South Korea, Italy, and Iran.

Students, too, are adjusting to this new reality. Now, students are expected to learn just as much despite the absence of social connection and the energy of a residential and in-person learning environment. Also, it didn't help that before COVID19, online learning was only a small share of higher education. Nonetheless, it is too early to judge how reactions to COVID19 will affect education systems around the world. But, there are signs suggesting that it could have a lasting impact on the trajectory of learning innovation and digitisation. Below, we break down three trends hinting at future transformations:

1

Pushing education to change could lead to surprising innovations

COVID19 has become a catalyst for education institutions worldwide in the search for innovative solutions. In a relatively short period of time, universities and colleges have shifted to digital and their students are now learning at home via mobile and desktop apps. Although not all students have the privilege to study online or access these apps at home, governments in most countries are proactively creating learning materials through live television broadcasts.

This ensures that no students are left behind.

At the other end, students have begun to leverage online learning. This even applies to subjects such as physical education. Students shoot and send videos of their athletic training and sports to their teachers as "homework". On the plus side, this is pushing young students to pick up digital skills. Although the work out only takes a few minutes, students would typically spend more time shooting and editing their videos.

As 5G technology is becoming more prevalent in countries such as China, US and Japan, surely, we will see more technology and service providers embracing the digital education's 'learning anywhere, anytime' concept. Traditional in-person classroom learning will be complemented by new learning modalities—from live broadcasts to 'educational influencers' and virtual reality experiences. As a result, learning will become a habit integrated into daily routines and lifestyles.

2

Public-private partnerships must change static educational structures

During the pandemic's case surges, public and private stakeholders joined hands and utilised digital platforms as a social distancing measure. Publishers, educators, technology providers, and telecom network operators have found that digital is the way of the future. Across emerging countries however, where education is predominantly provided by the government, digital could become a consequential prevalent trend to future education.

As 5G technology is becoming more prevalent in countries such as China, US and Japan, surely, we will see more technology and service providers embracing the digital education's 'learning anywhere, anytime' concept.

Moreover, the less affluent and digitally savvy individual families, for instance students who come from the B40 families are left behind.

In China, its Ministry of Education assembled a group of diverse constituents to develop a new cloud-based system. The system involves online learning and a broadcasting platform—an upgrade for a suite of education infrastructure. To achieve this, the effort was mobilised by a three-pronged collaboration, involving the country's Ministry of Education, Ministry of Industry and Ministry of Information Technology.

Whereas in Malaysia, its Ministry of Education (MOE) called for a refresh of its digital learning platform. As a result, a programme called DELIMa or 'Digital Educational Learning Initiative Malaysia' was born out of the initiative. Essentially, this platform is the culmination of efforts that go back several years between the ministry, Google, Microsoft and Apple.

Going forward, DELIMa will offer all the applications and services required by teachers and students within Malaysia's schooling systems. This includes digital learning, technology and resource enablers such as Google Classroom, Microsoft O365 and Apple Teacher Learning Center.

3

Plugging the digital divide

While most schools in affected areas are looking for stop-gap solutions to continue teaching, the quality of learning is heavily dependent on the level and quality of digital access. After all, only 60% of the globe's population is online. While virtual classes on personal tablets may be the norm in most emerging country, many students in less developed economies rely on lessons and assignments sent via WhatsApp or emails.

However, for the less affluent families who are less savvy in terms of digital, for instance chances of them being left out are far superior. Case in point, students from B40 families might struggle when classes transition online for two reasons. One, these students might lose out as a consequence of being deprived of expensive digital devices and two, they can't afford the data plans that will enable them to participate in online learning.

Thus, unless the costs of owning digital devices and subscribing to data plans decrease considerably throughout the world, the gap in education quality and socioeconomic equality will be further exacerbated. Compounding this situation is the quality of internet access in some parts of the world. Given all these challenges, the digital divide could become even more pronounced as access to education is firmly dictated by the access to technology.

THE GAME CHANGER

COVID19's global outbreak has seen many shocks and surprises. Numerous unprecedented measures were taken to save lives and keep economies afloat. At the same time, governments have had to ensure that their education systems are able to function, albeit in a socially distanced learning environment. As a result, education has changed dramatically. The distinctive rise of e-learning allows teaching to take place remotely on digital platforms.

While many sectors have been disrupted by technology over the last

decade, higher education has remained largely in its traditional format through bricks and mortar set-ups and face-to-face delivery. Interestingly, despite all the talk of disruptive technologies in recent years—AI, big data, machine learning, blockchain, VR and AR, the reality is far from assuring. Universities are still using low tech applications or ones that they already own to deliver remote learning. As faculties around the world frantically work to transfer learning materials online, perhaps this is the time to pause and take a longer-term view of how higher education could innovate and transform itself.

Foreseeably, this will also create opportunities. Imagine if you are taught by the best subject matter faculty regardless of where they or you are in the world? Or the fact that learning is no longer bound by traditional semesters, credit hours, or having to spend hours traveling to a class that equates to less time wasted. Never before, we are now in an era where all this is technologically possible.

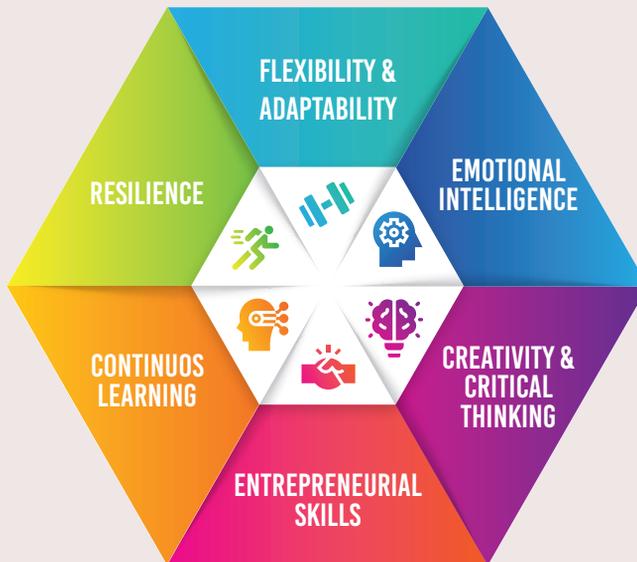
REDEFINING THE ROLE OF THE EDUCATOR

The stereotypical image of educators is one of imparting knowledge and wisdom. But this however, no longer fits 21st century's shared education goals. With a wider access to knowledge, students are now able to learn and pick up new skills at their fingertips. Therefore, there is a need to redefine educators' roles in the lecture theatre. This may also mean that the roles will move towards facilitating young people's development as contributing members of the society.

The role of educators will need to move towards facilitating young people's development as contributing members of the society.



REDEFINING THE ROLE OF THE EDUCATOR



Source: World Economic Forum

DRAFTING THE RIGHT STRATEGY

Learning and collaborating in an online environment might not come naturally to teachers and students. Since it is usually done on an ad-hoc basis, teachers and student are left with no option but to adhere to the new norms. Irrespective of the current COVID19 situation, digital must be central to any institution's learning strategy given its potential for enabling reach and its increasing popularity with today's students.

In general, the right digital strategy must address both; course design and delivery. Setting the rules for digital course design or ensuring a smooth transition from instructor-led (classroom or face-to-face) components to learner-led (digital or self-paced) ones is critical. Here are some considerations laid out by the OECD for policymakers:

- Balance digital with screen-free activities.**
 By simply replacing school hours with online lectures and discussions is likely to have a toll on students' health. Lectures can be shortened and combined with non-digital learning activities.

- Keep an eye on students' emotional health.**
 The context of the virus and school closures have the potential to be unsettling and disorientating for students. Technological solutions need to find ways to provide connection, interaction, and support when learning happens, particularly in times of uncertainty.
- Access to devices.**
 Students are more likely to have access to smartphones than laptops at home, where there might be more students than devices. Governments could lend laptops or provide alternative resources (printed work booklets).
- Manage access to IT infrastructure.**
 Having all students connected at the same time may be a problem in some places, and access to IT infrastructure should also be monitored to provide good access to all, perhaps within certain time frames.

POST-COVID19 ERA: CAN LEARNING INSTITUTIONS GO BACK TO 'NORMAL'?

This year is the first time we will be witnessing graduation ceremonies conducted online. Despite our ability to adapt to the new reality, governments all over the world are struggling to balance public health and social recovery. One thing for sure, COVID19 is unlikely to be the only shock. There could be others in the future; another pandemic, a financial crisis, political instability, industry disruption or the worst-case scenario—technology failure itself. Taking the current pandemic as a heads-up is a good measure to anticipate how prepared



Irrespective of the current COVID19 situation, digital must be central to an institution's learning strategy, given its potential for enabling reach, and its increasing popularity with the learners of today.



we are to weather the next storm, especially in respect of the education industry.

In the context of school closures, various forms of online education and resources should be mobilised. Affected countries should repurpose their existing online distance courses. And whenever possible, encourage education technology companies to make their resources available for free.

In addition, to encourage broader collaborations, governments, universities and schools need to diversify their teaching delivery modes to cater to students of all ages and capacities. Although tertiary education institutions are largely used to delivering online courses and have a rich bank of online materials, this is less systematically true in primary and secondary education.

■ Use existing online distance learning platforms

Distance online platforms may already have curriculum courses and resources in various digital formats (text, video lectures, etc.), usually with a catalogue of accompanying exercises. Typically, teachers select lectures and exercises they want their students to watch and do, and then tutor them through text messaging and synchronous classes. In places where such platforms do not exist, open educational resources can be used.

■ Develop virtual classrooms

Virtual classroom platforms allow students and teachers to use the online space to participate in teaching and learning from anywhere. Teachers will then be afforded the flexibility and freedom to teach remotely via these online user-interface platforms. A number of “virtual classroom” services are now available in some countries. To date, these services have already been deployed in China and Singapore at scale in the wake of the Covid19 crisis.

■ Partner with private educational platforms

One difficulty with existing resources is that their massive use is not always possible simultaneously. Some private sector platforms have already made their resources and services freely available to some schools to expand response capacity.

■ Collaborate internationally to mutualise existing online educational resources

While countries and sometimes regions have different curricula, they tend to teach similar subjects. Alternatively, schools, colleges and universities can also consider translating foreign digital resources that are parallel to their curriculum as supplementary learning materials.

■ Use all electronic means as appropriate

Older electronic means such as streaming lessons on TV is more appropriate for young students or in poor countries where modern digital infrastructure is scarce.

■ Provide teachers with digital learning opportunities

Countries may provide or facilitate teachers with online teacher training resources (e.g. ITA) on online platforms. This allows teachers to share their resources as well as give and receive peer feedback.

CONCLUSION

Regardless of background, Malaysian students run the risk of lagging behind academically due to the massive disruption of classes opened and a digital divide. As classrooms are high-risk environments, the industry needs to accelerate adaptive learning opportunities and resources. Ultimately, as basic education functions consolidate on the road to recovery, what was once niche educational media, digital and agile tools are going mainstream as the face of the education industry.

To encourage broader education collaborations, governments, universities and schools need to diversify their teaching delivery modes to cater to all learner ages and capacities.

REFERENCES:

1. <https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-is-reshaping-education-and-what-changes-might-be-here-to-stay/>
2. <https://www.weforum.org/agenda/2020/03/4-ways-COVID19-education-future-generations/>
3. <https://bloncampus.thehindubusinessline.com/b-school-corner/will-covid-make-tech-the-game-changer-for-higher-education/article31417334.ece>
4. OECD - Education responses to COVID19: Embracing digital learning and online collaboration
5. <https://bloncampus.thehindubusinessline.com/b-school-corner/will-covid-make-tech-the-game-changer-for-higher-education/article31417334.ece>
6. https://www.bbc.com/future/article/20200424-why-it-will-be-so-hard-to-return-to-normal?ocid=global_future_rss
7. <https://www.weforum.org/agenda/2020/03/4-ways-COVID19-education-future-generations/>

● VIEWPOINTS

CONTENTS

Asia and North America the two largest Esports markets.

Esports arenas are the new movie theatres.

Esports' global fan-base is expected to grow by 59% in the next five years.



**MOHD HASAN
MOHD SAAID**
hasan@might.org.my

ESPORTS EXPLOSION ONE OF CREATIVE INDUSTRY'S BRIGHT SPOTS



VIDEO GAMES AS A SPECTATOR SPORT

SPORTS



Sports refer to all forms of athletic activity that require physical prowess and exertion through causal or organised participation.

Individuals or teams competing against each other must be present in a same physical location.

Sports require more physical movement or large muscle movement.

Football, basketball, and baseball are among the most profitable sports leagues in the world.

ESPORTS



Esports is a form of highly organised, competitive level gaming using video games wherein teams of players compete against each other.

Players are not necessarily required to be present at the same physical location to play the game.

Esports primarily involves fine motor movements, volume and intensity.

The top revenue generating Esports titles are Fortnite, Minecraft, Dota 2, League of Legends, Overwatch, and Counter Strike: Global Offensive.

GAMING



Refers to the act of playing video games.

Involves playing against non-player characteristics, commonly referred to as a bot.

Does not promote live matches.

THERE ARE FIVE MAIN FACTORS THAT MAKE UP THE ESPORTS ECOSYSTEM:



Publishers

Publishing Esports titles and creating the basis of their competitive environments



Events

The driving force of Esports' popularity, bread and butter of the industry's exposure



Teams

Creating brands, competing for glory, and maximising their profits



Sponsors

Financing events and teams, balancing out the industry and effectively selling their products



Players

Highly talented individuals doing all the hard work in the industry

TYPES OF GAMES IN ESPORTS

In traditional sports, we have football, basketball, baseball and other types of sports. The same goes for Esports. There are four main gameplay types within the Esports' industry and each one of them has their own fans and professional players.



Player vs. Player (PVP)

This type of game sees one or more players playing against one another. The most common PVP games are fighting games such as Street Fighter and also the sports games such as football's FIFA 2020 franchise.



First Person Shooter (FPS)

FPS refers to the genre of game in which you see the whole world through the perspectives of your character's eyes. It shows your health bar, the weapons you use and also the amount of ammo/armour you have left in the game. Examples: CSGO, Battlefield (BF).



Real-Time Strategy (RTS)

A game where you compete with one another in a defined map, and each player starts out with the same amount of resources. Each player's role is to strategise how to grow their resources and their army while defending their base from attacks. Example: Starcraft.



Multiplayer Online Battle Arena (MOBA)

MOBA has the same view as an RTS game but it involves a group of players working as a team. The players' characters typically constitute various skills and abilities that improve over the course of the game that can contribute to a team's overall strategy. Some major examples of MOBA's games are Dota 2 and League of Legends (LOL).



THE GROWTH OF THE ESPORTS INDUSTRY

Currently, the highest prize pool for a single Esports tournament is held by an event called the International. It is the world's biggest tournament for an online multiplayer game, Dota 2. The tournament takes place every year since 2011 and offered a prize pool of \$1.6 million in its first year. When the first edition concluded, the champion bagged home \$1 million from it. From 2011, the prize pool for the International has only gone upward year after year in line with Dota 2's growth. And in 2018, the tournament's prize pool had then reached a staggering \$25 million. All this adds up as the largest cumulative prize pool compared in comparison with other tournaments like Daytona 500 (\$15.5 million) or the U.S. Open golf tournament (\$12 million).

For gaming, certainly, this is a moment of trend convergence. Professional Esports leagues are growing more popular and more serious, as evidenced by the huge prize pools paid out for single games. Today, these numbers have snowballed to about \$571,920,232.83 over various Esports tournaments and games played since 2011 around the world.

It was inevitable. The coming few years will see Esports' revenues surge exponentially. In 2020, the global Esports market was valued at just under one billion dollars. According to estimates, global Esports market revenues will reach almost \$1.6 billion in 2023. A huge chunk of these revenues come from sponsorships and advertising. Meanwhile, the rest will be generated from media rights, publisher

TOTAL PRIZE POOLS FOR SELECTED ESPORTS AND TRADITIONAL SPORTS TOURNAMENTS



Source: Wimbledon, Esportsearning.com, NBC Sports, Sports Illustrated, Cycling Weekly

fees, merchandises, tickets, digital and streaming. In this respect, Asia and North America account for two of the largest Esports markets, while China alone is about one fifth of the market.

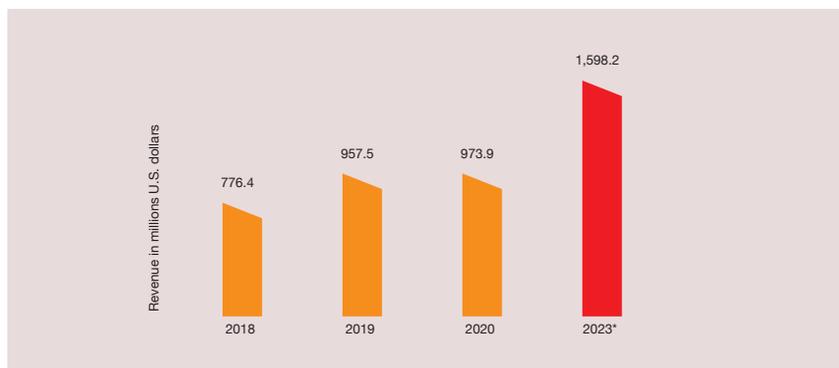
Granted, Esports is a growing industry with a big revenue potential. Much of this is powered by the sports' growing audience. In light of this, a number of countries have started to support the industry. In the United Kingdom (UK), its Department for Digital, Culture, Media & Sport (DCMS) has formed a committee to explore the industry's potential among other tech trends. The DCMS committee is interested in studying Esports' impact towards virtual reality (VR) and augmented reality (AR) in the future. In China, the country's Ministry of Human Resources and Social Security (CMHRSS) announced two new professions in the country—Esports professional for players and Esports operator for those who organise Esports tournaments and events.

At the same time, Esports' development in Malaysia has also come to shape. As part of the national plan to embrace the 4IR, Esports has been viewed as a key digital industry by the Malaysian government. Given Esports' growing popularity, Malaysia's Ministry of Communications and Multimedia now regulates the Malaysian National Creative Industry Policy. No less significantly, the ministry has identified the gaming industry as one of the ten main categories of the creative industry. Central to this is Malaysia's Ministry of Youth and Sports' Esports' initiative called the Strategic Plan for Esports Development 2020-2025 announced at the end of 2019 in a bid to nurture local Esports athletes.

As part of the strategy, five priorities were outlined:

- Standardising Esports athletes' contracts, health programmes and career planning.
- Safeguarding competitive integrity and improving gender equality.
- Building a national venue and academy for Esports.
- Encouraging further Esports talent development and investment.
- Introducing licenses for players, referees, and training centres.

ESPORTS MARKET REVENUE WORLDWIDE (2018-2023)



THE MALAYSIAN GAMER KEY CONSUMER INSIGHTS

NUMBER OF GAMERS

14.0
Million

TOTAL GAME REVENUES

\$586.7
Million

#21
MARKET IN THE
WORLD



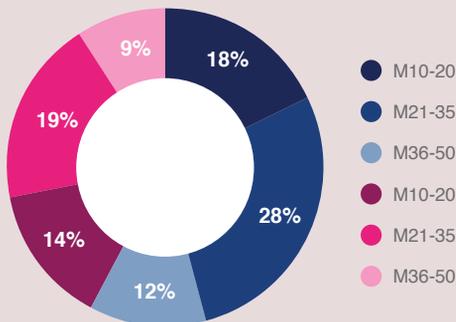
WATCHES VIDEO
CONTENT

59%
OF PEOPLE WHO WATCH
GAMING VIDEO CONTENT
WATCH TIPS AND TRICKS
FOR GAMES

AGE/GENDER

ACTIVE PC/LAPTOP PLAYERS*

*These consumer insights are representative for the online urban population



CROSS-PLATFORM
GAMERS

39%
OF GAMERS PLAY PC,
MOBILE & CONSOLE
GAMES



OWNS A GAMING
CONTROLLER

45%
OF ALL GAMERS
OWN A GAMING
CONTROLLER

Source: newzoo.com/consumer-insights, *Malaysia Strategic Plan for Esports Development 2020-2025*

Prior to this, RM10 million had been allocated by the Malaysia Digital Economy Corporation (MDEC) in 2018 to develop Esports. The announcement was made at Malaysia's Budget 2018 tabling and the fund was managed under the watch of Malaysia's Ministry of Youth and Sports. One of the local circuit's sponsors is the CEO of Razer, a gaming hardware company, Min-Liang Tan. Following the announcement, Tan commended Malaysia's effort to develop the industry and was reported to invest RM10 million himself for the cause to create more opportunities for Malaysia's youth in Esports.

Similarly, corporate players too have weighed in on Esports' development. AirAsia's Allstars Esports Club president, Allan Phang, for example, said that the company's first foray into Esports was aimed at supporting the region's top talents. Since, AirAsia has partnered with Team Saiyan, a top-tier professional team which later rebranded as AirAsia Saiyan at the ASEAN World Electronic Sports Games (WESG).

SPORTS LEAGUES TURN THEIR ATTENTION TO ESPORTS AND ITS YOUNG FANS

As the industry grows, so will its audience. This is a trend that has been picking up steam over the last few years. Based on recent The Statistics Portal data, Esports is watched by an estimated 173 million viewers in 2018. This figure was then expected to reach 201 million viewers in 2019. Today, the number is expected to be around 395 million. The parallels are there in numbers and as a result, Esports' value is expected to grow 15% to USD454 million in 2019. Notably, the number of Esports viewers keeps growing every year, springing its growth even further.

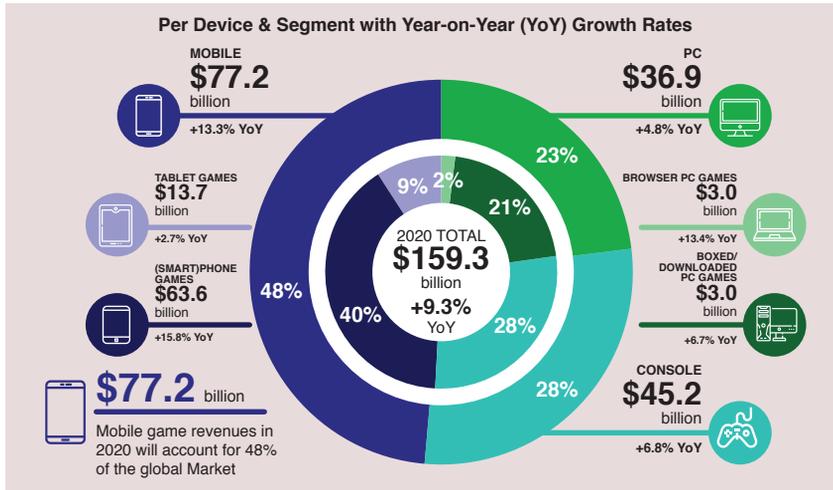
There are plenty of reasons why people watch Esports. A large majority of Esports viewers watch the games because they want to improve their playing while some simply derive genuine pleasure from watching others play. As evidenced by Magid and Battlefy's survey, 89% of viewers said they watched the games to improve

their playing, 83% said they liked watching the games being played at professional-level intensity and 58% said that they liked the community's culture. At the same time, 49% said story highlights of Esports' teams and players were compelling and 40% said they liked the high-stakes rivalry between teams. In general, viewers find Esports' competitive culture an immersive experience—almost like watching real life games.

When it comes to sports, in most circumstances, men are more dominant. However, in Esports, physical attributes matter less as a key factor for success. Yet, the industry is still divided by gender. Although today the majority of Esports' players are males, the number of female players has been growing and we are expected to see a considerable growth in coming years.

According to a report by Interpret, a global market researcher, Esports' audience for the female demographic grew from 23.9% in 2016 to 30.4% in the fourth quarter of 2018. "Changing behaviours among a large segment of people is difficult. Progress of this size always takes time; however, a gain

2020 GLOBAL GAMES MARKET



Source: ©Newzoo | 2020 Global Games Market Report | April Update

of 6.5% in gender share over a two-year period is a trend that is heading towards the right direction”, said Tia Christianson, the vice president of research for Interpret in Europe.

The number of Esports fans globally is expected to increase by 59% in the next five years. This increase will be driven by many factors. It is now commonplace for Esports teams to get sponsored by traditional sports leagues and earn broadcast deals as teams are beginning to look to esports to engage with new fans. Besides increasing revenue streams, many businesses are starting to see this development as a huge business opportunity.

VIDEO GAMES TAKING OVER THE REAL WORLD

The gaming industry has innovated many upgrades to computer hardware, bandwidth, mobile internet and so forth. This has made top games more accessible across a wide range of devices and platforms, for example, mobile phones, tablets and PCs. So much so, Esports’ multiplayer video game competitions are forecast to grow over \$1 billion in revenue in 2020. In relative terms, Esports’ business models closely resemble professional sports—though competitions are far more fragmented with the majority of its revenues coming from advertising and broadcasting. Although still

relatively small in comparison with the overall gaming market, Esports remains relevant because the industry positively contributes to many aspects of gaming’s growth.

Interestingly, watching gaming live streams and on-demand videos has become about as large as gaming itself. During COVID19 lockdowns, these activities increased dramatically largely because of two factors, a new found free time that’s now available to the masses and their need for social interaction, which gaming engagingly provides. This said, not even gaming is immune to the coronavirus. Esports, with its reliance on live events, has been one of the first sections of the industry to be affected. As things appear, most Esports events have been cancelled or postponed, though some took place without an audience.

Directors, producers, broadcast engineers and professional gamers are all working remotely to recreate the excitement and quality of live events. Esports has been able to continue while traditional sports have not because the playing field is virtual and can be replicated online. However, nothing can truly replace the social vibe of a live-action spectacle.

Having gained more traction after COVID19’s rampant outbreak, sports leagues around the world have since turned to Esports to find new ways of engaging with fans. Several Esports competitions are now shown live on

TV, as broadcasters look to fill hours of scheduled sports contents that were cancelled as a result of the pandemic. Case in point, NASCAR was quick to augment cancelled events with its iRacing Series, with one event attracting close to 1.3 million viewers. Despite the fact that Esports’ revenues may have declined, the sector’s value has risen rapidly, thanks to its low-cost marketing during the crisis.

ESPORTS AS A CAREER

Currently, there are two Esports categories. One is the individual category and two, the team category. Team games such as Dota 2 and Counter Strike Global Offensive (CSGO) are some of the most demanding and boast highly professional teams assembled by worldwide talents. As such, the Esports industry has grown exponentially and is now one of the most sought after careers by today’s youth.

Evidently, many youths seek out Esports as a career because of the perks that sports offers. Today, it is no secret that professional Esports players earn up to millions playing video games competitively. In Malaysia, Esports players such as Chai “MuShi” Yee Fung and Zheng “MidOne” Yeik Nai are household names in the industry. Both had garnered millions in income from gaming. MuShi in particular was reported to make more than RM3 million while MidOne racked up about RM2 million from playing Dota 2 professionally. Following their success, both players have largely contributed to the growth of Esports’ fan-base in Malaysia.

The Esports industry has grown exponentially and is now one of the most sought after careers for youth. Many youths seek out Esports as a career because of the perks that the sport offers.

POTENTIAL FUTURE OF WORK IN THE ESPORTS INDUSTRY

Category	Players	Design & Development	Education, Training & Coaching	Healthcare & Mental Health	Branding & Marketing
Future of Work in Esport	Esports professional players and influencers	Augmented Reality Journey Builder in the "experience economy," seeking tens of thousands of talented AR journey builders who can help design, write, create, calibrate, gamify, build and – most importantly – personalise the next generation of mind-blowing stories and in-the-moment vignettes for our clients' trips in augmented reality.	There is an 'elite' scholarship for gamers with outstanding ability and an 'emerging talent'. Future of Work in education and training will be specialise for the need of Esports gamers, influencers and content developers.	The jobs is to make sure they get optimal sleep, nutrition, hydration and exercise to improve their performance physically and mentally. Most common Esports injuries are Carpal Tunnel Syndrome, Tennis Elbow, Back Pain, Metabolic Dysregulation, depression, anxiety and burnout of internet gaming disorder.	Leveraging Esports as a "critical" marketing strategy for the brand moving forward and has a "broad, dynamic consumer audience. Partnership could allow the company to transcend Esports and elevate its brand within a broader global audience.
Signal of Change	<ul style="list-style-type: none"> The Chinese government made headlines in February this year (2020) when they officially recognised the roles of "esports professionals" and "esports operators" as official job titles in the country. Esports debut in Sea Games 	<ul style="list-style-type: none"> IT workers and marketers can earn \$100,000, engineers as much as \$160,000, and Twitch is paying top dollar 	<ul style="list-style-type: none"> Waterford Institute of Technology (WIT) has launched an Esports scholarship. Malaysia's electronic sports governing body Esports Malaysia (eSM) has teamed up with Asia Pacific University of Technology & Innovation (APU), to set up the APU Esports Malaysia Academy. 	<ul style="list-style-type: none"> Regulations are required to protect Esports players' mental health There has been a recent trend of Esports organisations teaming up with medical teams, doctors and therapists to keep their players in tip-top condition. 	<ul style="list-style-type: none"> Twitch – an interactive livestreaming platform that lets gamers film themselves and their screens while they play video games Puma catches Esports fever with apparel collection for gamers

Source: MIGHT Analysis from various sources

CONCLUSION

Without doubt, Esports is on course to become a popular digital industry in the near future. With its values steadily increasing, it will soon become one of the most pulsating explosions in the digital economy. Plus, with maturing technologies such as 5G, AR, VR and tokenisation (blockchain) pushing the sports' envelope, this will further amp up Esports' growth. At myForesight®, we foresee there's going to be a massive change towards the development of Esports when the convergence of emerging technologies going mainstream eventually becomes available to the mass public. Inevitably, this will change people's expectations of what the industry can really become as more youths and businesses get swayed by it.

REFERENCES:

- <https://www.Esportsearnings.com/tournaments>
- <https://www.supanet.com/how-will-5g-change-the-Esports-industry-a20201.html?tags=5g>
- <https://www.globecast.com/blogpost/how-Esports-can-help-you-to-reach-millennials/>
- <https://www.teliacompany.com/en/news/news-articles/2018/5g-speeds-for-Esports-tested/>
- <https://theconversation.com/are-Esports-the-next-major-league-sport-74008>
- <https://venturebeat.com/2019/02/21/interpret-female-Esports-viewership-grew-6-5-percentage-points-over-two-years/>
- <https://upfluence.com/influencer-marketing/women-in-Esports>
- <https://blog.battlefy.com/why-do-people-watch-Esports-6ad7e8ec58b9>
- <https://gammatters.com/malysias-Esports-and-game-development-industry-getting-recognition-as-millions-of-ringgit-being-invested-on-the-scene/>
- <https://Esportsobserver.com/china-recap-feb6-2019/>
- <https://Esports-news.co.uk/2018/12/10/government-dcms-Esports-inquiry/>
- <http://www.rojakdaily.com/news/article/6146/how-this-local-company-is-quietly-but-surely-popularising-Esports-in-malaysia>
- <https://cic.org.sa/2018/05/al-khobar-city-of-saudi-arabia-becomes-first-recipient-of-5g-network-among-mena-cities-2/>
- <https://discoverEsports.com/what-are-the-game-types/>
- <https://www.weforum.org/agenda/2020/05/COVID19-taking-gaming-and-Esports-next-level/>

● VIEWPOINTS

CONTENTS

AI use cases in healthcare a sight of future healthcare trends.

AI can help us build safeguards against outbreaks that may occur in the future.

Data backs claim that AI mastery is crucial in dealing with a pandemic.



NUR AMIRA MUHAMMAD
amira@might.org.my

ARTIFICIAL INTELLIGENCE (AI), AN EFFORT TO REMAKE THE HEALTHCARE INDUSTRY



In the initial months of the pandemic, the world was in an uncharted territory. The gravity of the threats posed by the pandemic has seen many of the world's greatest cities unfilled as people stay indoors either by choice or movement control order. However, despite being kept physically distanced with no way of knowing when normality will return, technology has kept us supplied, connected and informed in this pandemic. Surely, this will make technology even more muscular in the future.

When COVID19 started in Wuhan around December 2019, it has spread worldwide in less than a year with high infection rates. Since, it has forced governments to act quickly based on information from a myriad of sources. However, the world's broad unease about the pandemic dissipated a little bit when action guided by technology helped to fight a largely invisible enemy. While almost everywhere now is a COVID19 vulnerable demographic, to understand how technology has assisted world governments and authorities in tightening policy and intervention, we need to look no further than Artificial Intelligence (AI) and Big Data Analytics (BDA).

Taiwan, for example, has performed admirably well in dealing with the

pandemic. As soon as the outbreak was reported in China, the Taiwanese government acted quickly by using AI to integrate its national health insurance and Immigration and Customs database into one. With the analytical data, Taiwan was able to produce early warnings of individuals entering the country based on their travel history and clinical symptoms to identify new cases. In addition, QR codes were also used to scan and report online travel history and health symptoms to classify the risk of tourist infection based on departure locations and travel history in the last 14 days.

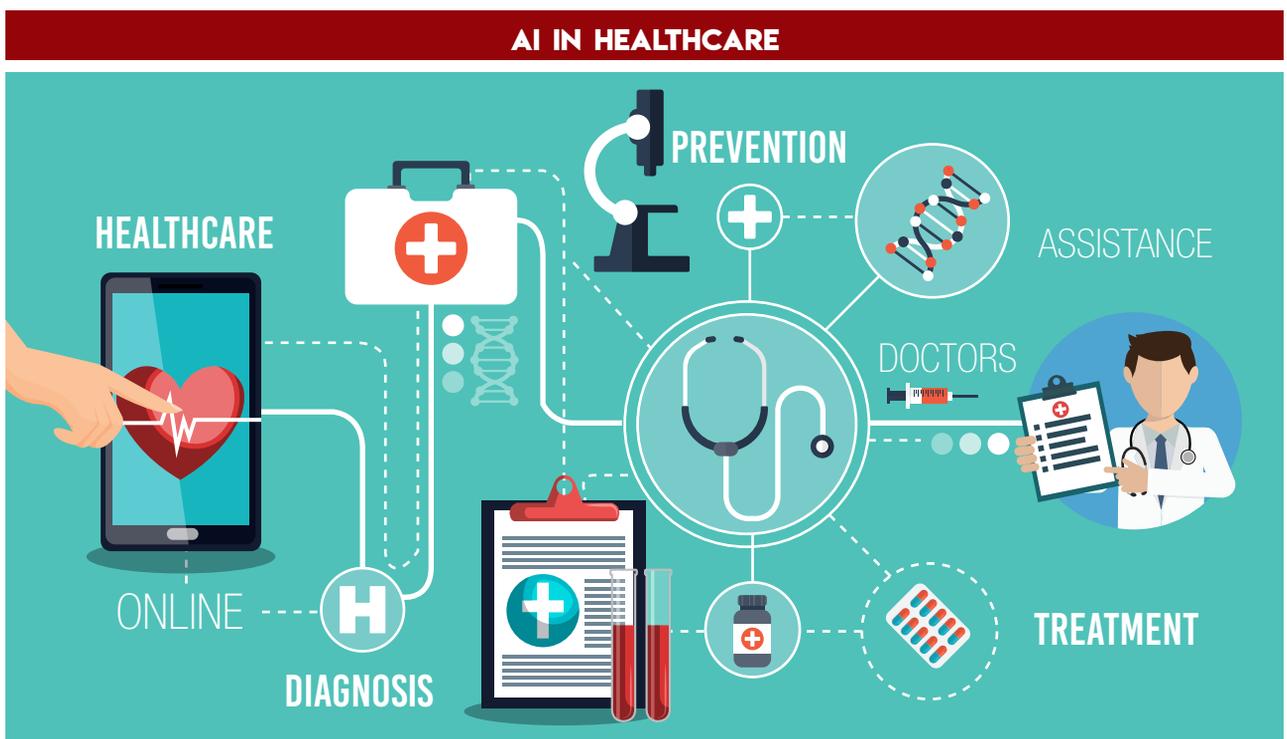
THE DEPLOYMENT OF AI TO COMBAT COVID19

The use of AI in healthcare is not entirely new. To battle COVID19, AI is used in many key areas such as detection, deployment, management and recovery. At the end of December 2019, an AI model was developed for the surveillance of infectious diseases in Canada. Surprisingly, the AI model had issued a pandemic warning nine days before the World Health Organisation (WHO) followed suit in respect of the disease occurring in Wuhan.

For detection purposes, AI can be used to develop a risk assessment model to identify potential individuals infected with COVID19 based on the data studied such as exposure, symptoms and history of pre-existing diseases (comorbid). Similarly, Malaysia's Universiti Sultan Zainal Abidin (UniSZA) has developed a system known as the COVID19 Health Assessment and Self Evaluation System or ChaSE. ChaSE combines medical expertise, data analytics, computer science and the experience of frontline staff to detect disease risks. To date, the system has been used by a number of local universities and ministries.

At the national level, the Malaysian government has also developed the MySejahtera application for risk assessment purposes. Interestingly, this application uses 'bluetooth' for

To battle COVID19, AI can be used across various phases namely detection, deployment, management and recovery.



CHASE AND MYSEJATERA APPS



the purpose of tracking contacts. Each user conforms to a 'secret handshake' through their phone when within a certain distance without violating data privacy ethics. On to the dissemination process, the use of certain algorithms in Machine Learning (ML) such as Association Rules (Ars) can help to understand how the dissemination process occurs such as the rate of distribution to other locations after a place has a positive case.

Understanding this descriptive data is a supply in providing a predictive model such as the study of the probability that a location will have a positive case after a nearby location receives the impact of COVID19. With this, an early warning will be issued. AI can also help build and understand new clusters as well as anticipate the feasibility of each cluster by optimising user algorithms in ML such as Social Network Analysis (SNA). For example, mathematicians at Imperial College London have studied the effects of an area's entry and exit restrictions on COVID19 (R rates) infection that have a positive impact after isolation and physical distancing.



THE IMPORTANCE OF AI IN DEALING WITH COVID19

Managing the spread of COVID19 with the help of AI is all too important in ensuring that we successfully win our battle against the virus. Apart from addressing the entire process of dealing with the pandemic, AI can also help us in the decision-making of identifying a vaccine. To this end, Google DeepMind has introduced AlphaFold, a new technology in 3D modelling for COVID19 'genetic sequence' to help the medical community better understand the COVID19 virus.

The use of scientific data can play an important role in analysing large-scale testing of the public in understanding the risks of COVID19. In the final phase of recovery, AI can be used to understand the data collected related to this pandemic to deal with new outbreaks that may occur in the future. Understanding historical data plays a major role in understanding, analysing and constructing new infectious disease prediction models that have very similar characteristics. AI can also be used for the purpose of testing the effectiveness of policies, public health initiatives and plans.

Based on the evidence provided, it turns out that mastery in the field of AI is very important to deal with a pandemic. We need to address the challenges to produce a comprehensive analysis such as data preparation, data reliability and avoid errors in interpreting data so that errors don't occur when making decisions. The method of data collection is also very important to avoid the phenomenon known as 'Garbage In Garbage Out (GIGO)' so that the spending of millions of ringgit invested in the construction of technology, is not in vain. In fact, we are on the right path in facing the current challenges of Fourth Industrial Revolution.

CONCLUSION

Thanks to AI, the importance of technology in fighting a national issue like a pandemic outbreak has come into sharp relief. But what are we unleashing with AI? At this stage, prevention is the best measure to cushion the potentially devastating impact COVID19 may have on vulnerable people and economies. In the longer term, AI's tireless and voluminous work can act as the first line of defence to prevent a similar pandemic recurring. As the pandemic accelerates a shift towards new solutions, we must also consider new ways to use the latest data and analytical models to help provide us some clues on what to do in critical times. With AI's enormous potential and ability, there's a lot that we can do with the information that we have at our disposal, and hopefully free us from the fear of going back to our once 'normal' activities.

REFERENCES:

1. <https://diginomica.com/how-canadian-ai-start-bluedot-spotted-coronavirus-anyone-else-had-clue>
2. <https://edition.cnn.com/2020/04/04/asia/taiwan-coronavirus-response-who-intl-hnk/index.html>
3. <https://www.sinarharian.com.my/article/81090/KHAS/Koronavirus/Aplikasi-CHaSe-bantu-kesan-urus-risiko-COVID19>
4. <https://www.bernama.com/bm/tintaminda/news.php>
5. https://wwwnc.cdc.gov/eid/article/26/10/20-1702_article
6. <https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/COVID19/>
7. <https://www.mkn.gov.my/web/ms/aplikasi-mysejahtera/>
8. <https://deepmind.com/blog/article/AlphaFold-Using-AI-for-scientific-discovery>

SO WHAT'S WITH COVID19?:

By: **NATRAH MOHD EMRAN**
natrah@might.org.my

FEBRUARY 2020

6 February

- A Malaysian woman is the first case of local infection, increasing COVID19 cases to 14

27 February

- 1st Stimulus Package by Old Government **RM20 billion**



12 March

- 9 new cases of positive COVID19, cumulative cases in Malaysia rose to 158.
- WHO declares COVID19 a pandemic after taking into account the significant increase in cases in countries other than China.

16 March

- Extra Stimulus Package (SP) mainly Employment Retention Programme (ERP)

2020 Timeline of key COVID19 events in Malaysia

JANUARY 2020

23 January

- Wuhan Lockdown
- Restrictions on air travel led to severe effect on the Hospitality, Tourism and Leisure (HTL) industry



25 January

- Malaysia's Health Minister, confirmed the first case of COVID19.
- Ministry of Health (MOH) advises not to travel to China if there's no need.

31 January

- WHO declares coronavirus a global health emergency. MOH confirms an increase in COVID19 positive cases, cumulative cases now at 8.
- A special committee on humanitarian aid brings Malaysians back from Hubei province, China

MARCH 2020

23 March

- Special announcement, Employees Provident Fund (EPF) i-Lestari

18 March to 12 May

- Malaysia's Lockdown
- Movement Control Order (MCO) Phase 1 come into force, followed by Phase 2 and 3



26 March to 9 April

- Enhanced movement control order (EMCO) imposed in Kg Dato' Ibrahim Majid and Bandar Baharu Dato' Ibrahim Majid, Johor

27 March

- 2nd Stimulus Package by New Government **RM230 billion**
- Prihatin Rakyat Economic Stimulus Package or PRIHATIN
- RM128 billion** protecting the welfare of the rakyat
- RM100 billion** for supporting businesses + SMEs
- RM2 billion** to strengthen the economy

Prihatin
Pakej Rangsangan Ekonomi Prihatin Rakyat

CONSUMER BEHAVIOUR

How Have Malaysians' Buying Behaviour Changed During COVID19

69% of Malaysians are buying only essential products



Groceries



Snacks



Personal Hygiene Items



Preventive Care Item

27% Malaysians are still buying other products categories - driven by ongoing promotions and sales



Home Cleaning Products



Skincare and Health Supplements



DIY Items



Work From Home Related Items

Changing Expectations Towards eCommerce



eCommerce merchants and logistics service providers should be more **communicative**

Say 2/3 of Janio's survey respondents

A REALITY CHECK ON HOW THE PANDEMIC IS AFFECTING THE LOCAL LANDSCAPE

The analysis presented here is based on feedback gathered from respondents who participated in recent surveys by the Department of Statistics Malaysia and Janio Asia. However, the views and thoughts expressed herein do not necessarily represent Malaysians' general take on the pandemic. Thus, findings from the analysis should be interpreted with caution in assessing the impact COVID19 has in Malaysia and not as official statistics. Granted, these findings can be a set of useful indicators to reflect upon the current situation.

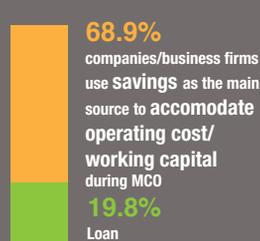


BUSINESS

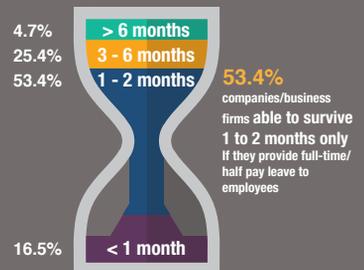
Source of Income



Source Of Finance



Duration Of Survival For Companies/ Business Firms That Provide Full-time/Half Pay Leave To Employee



11.3% Capital Injection

Impact On Employee

44.2% Full-time/Half Paid Leave



Our respondents believe that:

- Movement Control Order (MCO) period will see more Malaysians going online.
- Customer loyalty can be built by keeping customers assured.
- Customers can be assured by **setting the right expectations and providing fast and frequent updates.**



Please visit www.myforesight.my
 This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License

REFERENCES:

1. Special Survey 'Effects of COVID-19 on the Economy and Companies/Business Firms'- Round 1, Department of Statistic Malaysia (DOSM), https://www.dosm.gov.my/v1/index.php?r=column/cone&menu_id=Rk.JtOThJSIBJNSOV1iim1JsKzdZUT09
2. Special Survey on Effects of COVID-19 on Economy & Individual - Round 2, Department of Statistic Malaysia (DOSM), https://www.dosm.gov.my/v1/index.php?r=column/cone&menu_id=Skp1WWWdzalp0aVZ6MG9JRUdlbXdWUT09
3. COVID-19'S Impact on Malaysia's Ecommerce Market, Janio Asia - <https://janio.asia/articles/ecommerce-online-shopping-malaysia-covid-19/>
4. COVID-19 Impact and Response, Crowe - <https://www.crowe.com/my/insights/covid-19-impact-and-response>

COVID19: A TIMELY NUDGE FOR CHANGE?

ECONOMIC CHALLENGES WROUGHT BY THE PANDEMIC ARE OPPORTUNITIES FOR EDUCATION AND R&D SECTORS

By: AZMIL MOHD AMIN
azmil@might.org.my



EDUCATION AND TRAINING IN MALAYSIA

347
private college

53
private universities

37
university colleges

10
foreign branch campus



By **2025** Malaysia aims to be an international education hub, targeting **250,000** international students

1,325,699 students pursuing higher education in Malaysia

692,355 students (52.3%) in 20 public universities and branch campuses

International students' enrolment
PHEIs : over 70% (92,415 students)
Public Universities : 30% (39,099 students)

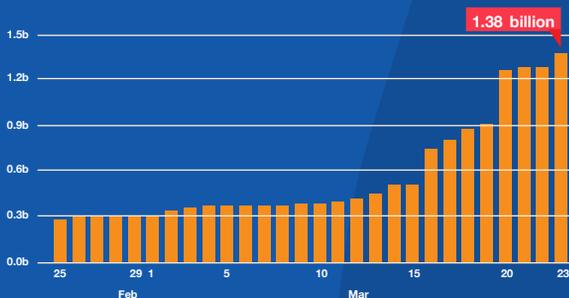
633,344 students (47.7%) are in over 400 private HEIs (PHEIs).



Source: 'The Way Forward for Private Higher Education Institutions: Education as an Industry (2020-2025) (Ministry of Higher Education)

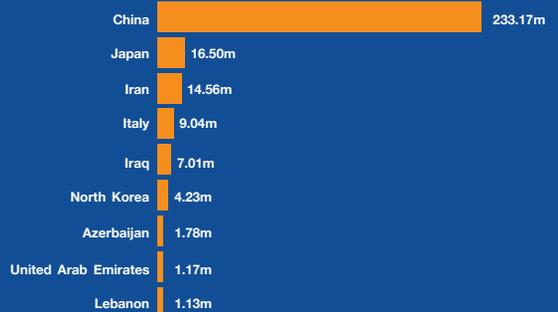
COVID19'S STAGGERING IMPACT ON GLOBAL EDUCATION

Number of children impacted by country-wide school closures due to the coronavirus



THE CORONAVIRUS IS KEEPING MILLIONS OF KIDS OUT OF SCHOOL

Number of learners impacted by national school closures worldwide



Figures refer to learners enrolled at pre-primary, primary, lower-secondary, and upper-secondary levels of education, as well as tertiary education levels.

* As of March 4, 2020. Refers to learners enrolled at pre-primary, primary, lower-secondary, and upper-secondary levels of education

OPPORTUNITIES BORN OUT OF A CRISIS

THE EDUCATION INDUSTRY'S CORONAVIRUS RESPONSE: NOW AND THE FUTURE

What can governments and education institutions do to adapt? World Bank proposes options for higher education institutions and governments so that tertiary education systems can emerge stronger from the crisis.

GOVERNMENTS

- **Develop and implement quality assurance regulations** for flexible learning, with focus on accountability and transparency.
- **Draft and implement policies on the ethics and security of technology.** Policies on the use of data, the extent of privacy, and the rights of citizens need to guide the ethical use of technologies, even during a crisis.
- **Implement data management and quality measures.** More data requires better ways of managing data, and the current jump in online learning offers lessons and opportunities to make improvements going forward.
- **Tackle the digital divide.** Students from poorer families, living in rural areas, or who are marginalised in other ways, are often excluded from innovation.

INSTITUTIONS

- **Diversify funding.** Work with private sector partners, foundations, multilaterals, and international organisations. Rethink online offerings to reach new domestic and international students, through virtual exchange alliances, virtual internships, shorter courses, micro-credentials, or digital certifications.
- **Develop and diversify infrastructure.** Transform digital infrastructure towards a more agile and flexible system for digital pedagogy, investing in learning science, and training of faculty. Develop a basket of low-tech innovations to reach disadvantaged students with the same learning opportunities.
- **Increase collaboration.** Invest in public-private partnerships to address challenges to accessing innovative technologies, infrastructure, and digital skills training. Many organisations, including the World Bank and UNESCO, have also shared a range of resources for countries to use. Building collaborative relationships with open universities could also guide policy and practice to ensure quality.
- **Position universities as critical contributors to building national resilience.** Beyond the need for specialist research, resources, and knowledge to combat COVID19, the East Asia region is plagued by environmental challenges. Universities could be critical partners in tackling challenges affecting all sectors of society.
- **Provide flexible learning pathways.** Introduce more aspects of flexible learning into regular face-to-face courses. In addition, introduce a variety of courses to complement national skills' needs.

OPEN AND DISTANCE LEARNING (ODL)

In response to the new normal, Malaysia's higher learning institutions must embrace e-learning and implement a more flexible approach to **Open and Distance Learning (ODL)**.

- Open and Distance Learning (ODL) is an emerging trend that improves access to quality education and lifelong learning opportunities. It offers a flexible mode of learning and a conducive environment for young school leavers, university communities and the working population.
- Students participate in online lectures, tutorials and self-directed online learning; while online tests and assignments allow students to instantly review their marks and performance to help them improve in their next exam sittings

Currently, there are more than 10 universities and colleges that offer ODL programmes in Malaysia. Every one contributes significantly towards mobilising Malaysia's holistic human capital development goals.

Private HEI with ODL offerings;

- Open University Malaysia (OUM)
- Wawasan Open University (WOU),
- GlobalNxt University,
- Asia E-University,
- SEGi University,
- Veritas University College,
- MAHSA University,
- UNITAR International University,
- Universiti Tun Abdul Razak (UNIRAZAK),
- Al-Madinah International University (MEDIU) &
- Genovasi University College.

e-learning through Massive Open Online Courses (MOOCs) in Public Universities

- Premier public universities in Malaysia such as Universiti Sains Malaysia (USM),
- Universiti Utara Malaysia (UUM),
- Universiti Malaya (UM),
- Universiti Teknologi Malaysia (UTM) &
- Universiti Teknologi MARA (UiTM)



TIPS FOR PROVIDING REMOTE LEARNING

- Assess the capabilities of students, teachers, and infrastructure to adopt high-technology and low-technology solutions.
- Explore various options for distance learning tools including: online virtual lessons, downloadable lessons, MOOCs, mobile-phone and social media blasts, accessible material for students for example using screen readers.
- Radio and television programs useful in particular for younger students and their caregivers).
- Prioritise subjects and grades that are associated with exams that are perceived as high stakes by parents (if possible).
- Train teachers how to instruct and engage all students through distance learning tools.
- Appreciate that distance learning is not interactive and work within that framework. Keep time and track of student engagement, possibly through WhatsApp groups.
- Blend appropriate approaches and limit the number of applications and platforms. Not all tools are adaptable to all country contexts.
- Emphasise tools that are compatible with smartphones as they might be more widely available.
- Engage in agreements with telecoms to eliminate cost of accessing resources for MoE sites.
- Create support communities among teachers and students to cross-reference questions and solutions.
- Ensure accessibility and availability of education services for students with disabilities.

Adapted from: UNESCO's How to plan distance learning solutions during temporary school closures



RESEARCH & DEVELOPMENT IN MALAYSIA

NATIONAL SURVEY OF RESEARCH AND DEVELOPMENT (R&D) IN MALAYSIA 2019

GERD for Malaysia and OECD Countries, 2018



GERD for Malaysia and Selected Asian Countries



Total Researchers (Headcount), 2018



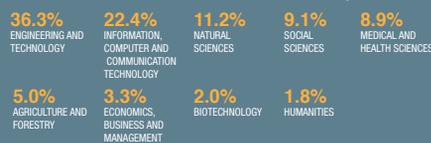
Total Researchers (Headcount) per 1,000 Labour Force, 2018



R&D EXPENDITURE BY TYPE OF RESEARCH, 2018



R&D EXPENDITURE BY FIELD OF RESEARCH, 2018



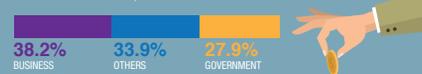
R&D EXPENDITURE BY FIELD OF RESEARCH, 2018



R&D EXPENDITURE BY NATIONAL PRIORITY AREA, 2018



SOURCE OF FUNDS, 2018



Source : MASTIC, MOSTI

CRAFTING A RESPONSE TO OPPORTUNITIES UNRAVELLED BY COVID19

Malaysia is participating in a number of R&D initiatives for COVID19, including a clinical trial to test tocilizumab in severe COVID19 cases. The WHO-led SOLIDARITY trial and the Clinical Research Coalition for COVID19, which brings together an array of health experts, including public sector research institutes, ministries of health, academia, not-for-profit research and development organisations, NGOs, international organisations and funders are all committed to finding COVID19 solutions for resource-poor settings.

Others who were interviewed thought that domestic diagnostics and vaccine development could be improved, stressing the importance of investments in local production to prevent future shortages due to an over-reliance on other countries. Malaysia is now revisiting plans for a National Vaccine Centre to develop localised vaccine expertise for future pandemics.

Other R&D areas include special booths for performing nasopharyngeal swabs, the use of robots in COVID19 wards and collaboration between local and international researchers on clinical trials and vaccines.

Summary of Malaysia's approach (Lesson Learned)

- A **co-ordinated and comprehensive** response in a pandemic requires a nimble public health system
- **Acting quickly** in a pandemic is crucial – speed trumps perfection
- Malaysia has a gap in **domestic production capacity** for reagents, as well as a gap in vaccine R&D expertise that requires investment
- Clinical trials must reflect **ethnic and geographical diversity** and more trials should be conducted in resource-poor settings
- Criteria for **global health security indices** should be revised
- **Effective communication** is key in pandemic response
- Neglect of migrant human rights constitutes a COVID19 infection risk and highlights the urgent need for a **cohesive response** at all government levels to improve the welfare and living conditions of the documented migrant population
- Malaysia's relative success is due to a combination of **early preparedness and planning, experiences in previous pandemics, diagnostics, public health system, contact tracing and a strict lockdown**, but may also be attributed to **socio-demographic factors** such as having an overall younger population than countries in the West.

Excerpts from : The Malaysian Response to COVID19: Building Preparedness for 'Surge Capacity', Testing Efficiency, and Containment
A report by Fifa Rahman* in collaboration with www.dndi.org

Dr Fifa Rahman is an access to medicines expert who is Board Member for the NGO Delegation on the Executive Board of Unifaid, a WHO-hosted multilateral health agency investing in innovative health technologies for HIV, TB, malaria and now COVID19. Based in the UK, she is also interim NGO representative on the Diagnostics Pillar of the ACT-Accelerator for the Global COVID19 Response.

Source: UNESCO

Please visit www.myforesight.my
This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License



● INTERCONNECT

myForesight®

HAPPENINGS

TRIGGERING A BOOM IN HEALTHCARE GROWTH TO DRIVE SDGS

11th-12th August 2020, National Institute of Health (NIH)

myForesight® recently facilitated a one-day Foresight workshop on the topic of 'Health for Our Future Generation' in conjunction with the Ministry of Health's 'Health in the Sustainable Development Goals (SDG) and Universal Health Coverage (UHC)' seminar. The workshop explored the healthcare industry's future scenarios by 2030. As a result, 11 drivers that would have a significant impact on the local healthcare landscape were identified.



FUTURE OF CUSTOMER SERVICE IN THE PUBLIC SECTOR

12th August 2020, Kompleks Setia Perdana, Jabatan Perdana Menteri



On the 12th of August, myForesight® facilitated a Foresight and Futures Thinking workshop at The Malaysian Administrative Modernisation and Management Planning Unit's (MAMPU) 'Bengkel Pelaksanaan Kajian Semula Pekeliling Kemajuan Pentadbiran Awam.' From the sharing session, three unavoidable and interrelated perspectives were considered with respect to discussions about the future of customer service in the public sector, which are the future of public service, the future of work and the future of consumerism. These perspectives will be taken into account to address the main components of the public sector's service delivery ecosystem. This includes deliberation on the public service as the service provider, the Rakyat as the service recipients and the nature of the service. The sharing on Foresight and Futures Thinking is also expected to encourage MAMPU officers to challenge their strategy thinking and practices in the review of the 'Pekeliling Kemajuan Pentadbiran Awam' circular.

PREPARING THE NEXT GENERATION OF INNOVATORS TO TACKLE SUSTAINABILITY CHALLENGES

14th August 2020, Wisma Sumber Asli, KeTSA



On the 14th of August, myForesight® shared insights on world pandemic responses from the perspective of Foresight and strategic thinking at the Ministry of Water, Land and Natural Resources' (KeTSA) ASTAKA programme. Significantly, the programme seeks to empower Malaysia's talent pool as tenacious innovators in tackling global water, land and natural resources' sustainability challenges.

MAHTAS' RMK-12 PLANS TO ENSURE MALAYSIA'S HEALTHCARE AND CLINICAL PRACTICES ARE SAFE AND EFFECTIVE

9th – 11th September 2020, Holiday Inn, Melaka

As Malaysia pushes the possibility to become one of the world's best healthcare providers, all local healthcare stakeholders must work together to outline key scenarios posed by global challenges to boost Malaysia's healthcare delivery. In preparation for Malaysia's RMK-12, MIGHT has recently tied up with the Malaysian Health Technology Assessment Section or MaHTAS. To this end, on the 9th of September, a scenario planning workshop was conducted to facilitate MaHTAS' work on RMK-12 strategic plan development. In part, MaHTAS is a division under Malaysia's Ministry of Health (MOH) that's responsible for Malaysia's health technology assessment. The division advises the government on various applications of health technologies and the establishment of clinical practice guidelines.

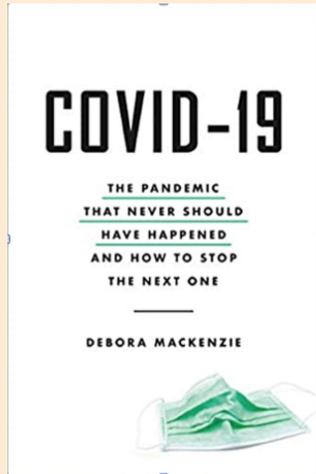
MIGHT, led by its Vice President, Mohd Nurul Azammi Mohd Nudri and Principal Analyst, Dr. Tan Shu Ying will work together to craft future scenarios to power MaHTAS' 2025 action-plan. Further, the workshop aligned MaHTAS' previous groundwork in view of Malaysia's Future of Healthcare 2030 plan carried out in collaboration with the World Health Organisation, United Nations University, International Institute for Global Health and MOH. The strategy, an attempt to build more resilience into Malaysia's healthcare industry will revolve around leading scenario planning methods in a bid to keep Malaysia safe and healthy.



● INTERCONNECT

myForesight®

BOOK CLUB



ISBN-10: 0306924242

ISBN-13: 978-0306924248

Author: Debora MacKenzie

Publisher: : Hachette Books
(July 14, 2020)

COVID19: THE PANDEMIC THAT NEVER SHOULD HAVE HAPPENED AND HOW TO STOP THE NEXT ONE

“MacKenzie’s fascinating book gives us the scope and scale to be able to put this pandemic in perspective and, it begs the question, will we learn from this in time to prevent to next one?”
-Molly Caldwell Crosby, Bestselling author of *The American Plague*

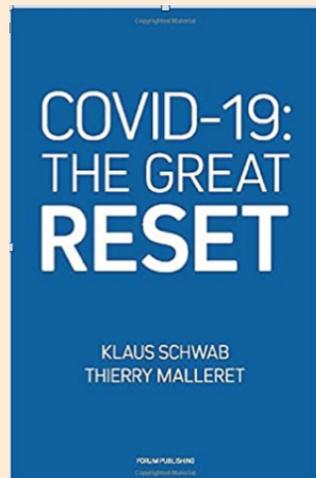
In a gripping, accessible narrative, a veteran science journalist lays out the shocking story of how the COVID19 coronavirus pandemic happened and how to make sure this never happens again.

Over the last 30 years of epidemics and pandemics, we learned nearly every lesson needed to stop this coronavirus outbreak in its tracks. We heeded almost none of them. The result is a pandemic on a scale never before seen in our lifetimes. In this captivating, authoritative, and eye-opening book, science journalist Debora MacKenzie lays out the full story of how and why it happened: the previous viruses that should have prepared us, the shocking public health failures that paved the way, the failure to contain the outbreak, and most importantly, what we must do to prevent future pandemics.

Debora MacKenzie has been reporting on emerging diseases for more than three decades, and she draws on that experience to explain how COVID19 went from a potentially manageable outbreak to a global pandemic. Offering a compelling history of the most significant recent outbreaks, including SARS, MERS, H1N1, Zika, and Ebola, she gives a crash course in Epidemiology 101--how viruses spread and how pandemics end--and outlines the lessons we failed to learn from each past crisis. In vivid detail, she takes us through the arrival and spread of COVID19, making clear the steps that governments knew they could have taken to prevent or at least prepare for this. Looking forward, MacKenzie makes a bold, optimistic argument: this pandemic might finally galvanize the world to take viruses seriously. Fighting this pandemic and preventing the next one will take political action of all kinds, globally, from governments, the scientific community, and individuals--but it is possible.

No one has yet brought together our knowledge of COVID19 in a comprehensive, informative, and accessible way. But that story can already be told, and Debora MacKenzie’s urgent telling is required reading for these times and beyond. It is too early to say where the COVID19 pandemic will go, but it is past time to talk about what went wrong and how we can do better.

COVID19: THE GREAT RESET



ISBN-10: 2940631123

ISBN-13: 978-2940631124

Author: Klaus Schwab,
Thierry Malleret

Publisher: : ISBN Agentur
Schweiz (July 9, 2020)

“COVID19: The Great Reset” is a guide for anyone who wants to understand how COVID19 disrupted our social and economic systems, and what changes will be needed to create a more inclusive, resilient and sustainable world going forward. Klaus Schwab, founder and executive Chairman of the World Economic Forum, and Thierry Malleret, founder of the Monthly Barometer, explore what the root causes of these crisis were, and why they lead to a need for a Great Reset. Theirs is a worrying, yet hopeful analysis. COVID19 has created a great disruptive reset of our global social, economic, and political systems. But the power of human beings lies in being foresighted and having the ingenuity, at least to a certain extent, to take their destiny into their hands and to plan for a better future. This is the purpose of this book: to shake up and to show the deficiencies which were manifest in our global system, even before COVID broke out.”Erudite, thought-provoking and plausible” -- Hans van Leeuwen, Australian Financial Review (Australia)“The book looks ahead to what the post-coronavirus world could look like barely four months after the outbreak was first declared a pandemic” -- Sam Meredith, CNBC (USA) “The message that the pandemic is not only a crisis of enormous proportions, but that it also provides an opportunity for humanity to reflect on how it can do things differently, is important and merits reflection”-- Ricardo Avila, Portafolio (Colombia) “A call for political change in the post-pandemic world”-- Ivonne Martinez, La Razon (Mexico)“History has shown, the book argues, that pandemics are a force for radical and lasting change”-- Mustafa Alrawi, The National (UAE)

MAP THE FUTURE

As a stakeholder and strategic policymaker, you can contribute by voicing out your opinion to help us map out the desired collective future for Malaysia.

This is an invitation by **myForesight®** to every member of the public. If you think we could have done better or perhaps you would like us to cover a specific topic in the study of Foresight or better yet, you would like to contribute an article, we would love to hear from you.

Send your feedback and get in touch with us at foresight@might.org.my

Website: www.myforesight.my

We look forward to hearing from you.

myForesight® team.

