

NAVIGATING THE 4TH INDUSTRIAL REVOLUTION

FOURTH LEAP

EXCLUSIVE

Interview with Nicholas Davis,
World Economic Forum

Interview with Dato' Ang Poon Khim,
Thong Guan Industries Berhad

Interview with Datuk Isham Ishak,
Secretary General
of the Ministry of International
Trade and Industry (MITI)

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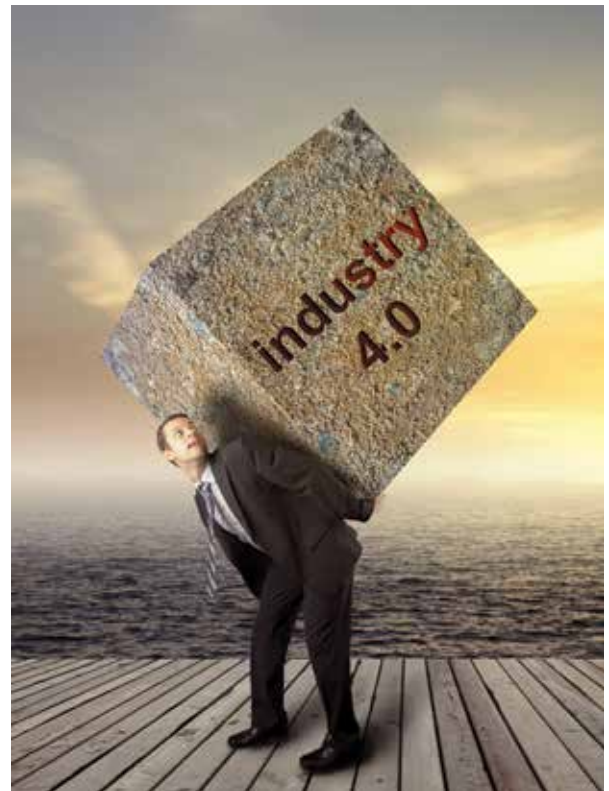
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The logo for One World Hotel, featuring the words "one world hotel" in a sans-serif font. "one" is in white and "world hotel" is in red, all contained within a yellow circle.An aerial photograph of the One World Hotel in Singapore, taken during the golden hour of sunset. The hotel is a tall, modern building with a grid of windows. To the left, a monorail train is visible on an elevated track. The city skyline is visible in the background, and the sky is a warm, hazy orange. The overall mood is serene and sophisticated.

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WE are at the cusp of a turning point in history, where man and machine are making the leap into an era of advanced technologies. It has been evident across the years, with the development of smartphones, rise of e-wallets, expansion of the sharing economy, usage of wearable technologies and other integrated devices.

The 4th Industrial Revolution is here. Awareness of its presence is critical in order to harness its full potential. Every aspect of our lives, from the moment we wake till the moment we sleep, will be affected by these new technologies, changing the way we interact with one another, with our environment and with ourselves.

Everywhere we go, we are carrying a supercomputer in our hands, which has – if not already – become a basic need for survival in this digital age. With the availability of e-hailing apps, we are able to summon our ride with a touch of a finger, and discard our wallet for a more convenient and secure e-wallet app to pay for services.

As governments and organisations look to ascend the value chain, emerging technologies such as Artificial Intelligence (AI), Robotic Process Automation (RPA), Machine Learning, Deep Learning, Internet of Things (IoT), Cloud Computing, Virtual Reality (VR) and Augmented Reality (AR) have become household names, and are now essential.

Our inaugural issue of The Fourth Leap magazine connects the dots between fundamental digital quake of technological change and the opportunities available to businesses, those that can adapt to the disruptive agents of the 4th Industrial Revolution.

This issue's cover story features Mr Nicholas Davis, Head of Society and Innovation, and Member of the Executive Committee of the World Economic Forum. In our exclusive interview, he shared that adoption of relevant technology is key to advancing the business, and also extends his well wishes and positive outlook on the recently launched, Industry4WRD National Policy on Industry 4.0 by Malaysian Prime Minister Tun Dr Mahathir Mohamad.

How will we make sense of this convergence of man and machine? How will complex industrial environments such as those encompassing energy, oil & gas, utilities, chemical and materials, manufacturing – automotive, power grids, solar, medical equipment – and related sectors be transformed? Will this technological shift promise more productivity and efficiency? And how will it create the jobs of the future?

There are more questions than answers, but the Fourth Leap Magazine will assist you, business leaders and decision-makers, manoeuvre this exciting journey! What's more, our Fourth Leap 2018 Conference serve as a platform for decision-makers, thought-leaders as well as the movers and shakers of the industry to discuss and share ideas regarding the Fourth Industrial Revolution. Let's look for new ways to grow and stay relevant in our respective industries!

In the words of Professor Klaus Schwab, Founder and Chairman of the World Economic Forum, he says, "In this new world, it is not the big fish which eats the little fish, it's the fast fish that eats the slow fish."

The question that companies need to be asking themselves, is where they stand in the food chain and how close are their competitors to putting them out of business?

– **Sritharan Vellasamy**
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ABOUT WORDLABS BUSINESS NETWORK (WBN)

Wordlabs Business Network (WBN) was founded in 2015 to assist business organisations to adapt and grow in an increasingly uncertain and volatile world.

With a database of over 20,000 professionals and decision-makers across ASEAN, WBN is a regional business platform built together with industry partners to enable the business community in the region to meet and discuss business challenges, future trends and explore opportunities.

As communications, transport and technology have changed the way individuals live their lives, so too have these advances altered many business operations.

From Global Business Services (GBS) to Fourth Industrial Revolution, to the era of startups bringing traditional giants to their knees – businesses have many challenges to tackle in this globalised world.

The discussions are not so simple anymore – not just revolving around talent, technology, costs or locations. It is much more complex.

Our intent is not to necessarily educate business practitioners and enablers on just the “how” (operational issues) – but also to focus on the “what” (strategic issues) in order to take a more comprehensive view.

This is a void WBN aspires to fill, not just with the conferences – but also by extending the conversations through all our services and media channels.

We're proud to serve as the focal point for decision-makers in the corporate world, policy-makers, academics, trade associations and other stakeholders – enabling them to share experiences and learn from one another.

We leverage our media suites to create a solid backbone for our events and other initiatives to ensure continued and parallel discussions by constantly involving thought leaders.

Some of our industry publications include the Global Business Services magazine (catering to the sourcing world), the Fourth Leap (dedicated towards 4th Industrial Revolution) and many others.

The best way to start the journey with us is to attend one of our events. We look forward to connecting with you.

We do this through a variety of different products and services, including:

- Quarterly conferences
- In-house industry publication magazines (across print and digital)
- Bespoke reports, content generation and tailor-made publications (across print and digital)
- Workshops
- Training
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EXCLUSIVE

CHARTING A COURSE THROUGH THE FOURTH INDUSTRIAL REVOLUTION

THE FOURTH INDUSTRIAL REVOLUTION IS SLOWLY BUT SURELY BEING FELT ACROSS ALL SECTORS OF THE INDUSTRY, AND IS CHANGING THE LANDSCAPE IN WHICH PEOPLE LIVE THEIR LIVES, GOVERNMENTS RUN THEIR NATIONS AND COMPANIES OPERATE THEIR BUSINESSES. MALAYSIA HAS STARTED EMBARKING ON A JOURNEY OF TRANSFORMATION, WITH THE LAUNCH OF NATIONAL POLICY ON INDUSTRY 4.0 MARKING THE COUNTRY'S COMMITMENT TO EMBRACING THE FOURTH INDUSTRIAL REVOLUTION. **NICHOLAS DAVIS**, HEAD OF SOCIETY AND INNOVATION AND A MEMBER OF THE EXECUTIVE COMMITTEE OF THE **WORLD ECONOMIC FORUM**, SHARES VALUABLE INSIGHTS INTO THE IMPACT OF THE FOURTH INDUSTRIAL REVOLUTION, MALAYSIA'S FORAY INTO DIGITAL TRANSFORMATION AND HOW COMPANIES CAN STAY COMPETITIVE IN A NEW EMERGING AGE OF TECHNOLOGY AND INNOVATION.



The Forum was established to engage with leaders and stakeholders from all industries be it in politics, business, or social, to shape agendas which would benefit the future of humankind.

CHANGE is never easy, but it is necessary to survive. As technology advances further, and with the world having evolved across three significant industrial revolutions, the Fourth Industrial Revolution (4th IR) is shaping up to be a whole new ballgame altogether. In the words of Professor Klaus Schwab, Founder and Chairman of the World Economic Forum (WEF) who coined the term, he describes the world as being “at the beginning of a revolution that is fundamentally changing the way we live, work, and relate to one another”. The magnitude and complexity of this industrial revolution is set to be on a level never before seen in history.

BUILDING THE MOMENTUM

At the forefront of this change, the Forum was established to engage with leaders and stakeholders from all industries be it in politics, business, or social, to shape agendas which would benefit the future of humankind.

“Since our inception five decades ago, the Forum has undergone four main stages in its development – the convening of various stakeholders from various


sectors; formation of communities of stakeholders who were bound together by similar needs, desires and incentives; a shift towards insights and strategic foresight; and finally a focus on action and impacts,” explained Nicholas.

He believes that the idea of the Fourth Industrial Revolution comes at a time when it’s not so much about merely generating new ideas about the world, but more on motivating people to change the world directly. However, the question on most people’s mind is how do emerging technologies fit into this idea?

“In 2015, Professor Schwab and I started work together directly on this concept of the Fourth Industrial Revolution. While technology is always important and impactful, and we are always creating new technologies as human beings, there are few instances in history where these technologies fused and interacted to create entirely new ways and systems to create value. This is exactly what is happening now as a result of investments, crossover of ideas and diversity, and we are seeing something special with these emerging technologies – this fusion of digital, physical and biological spheres,” said the Forum’s Head of Society and Innovation.

Recently, Professor Schwab and Nicholas co-authored a book titled “Shaping the Future of the Fourth Industrial Revolution” which serves as a detailed companion and practical field guide to the “The Fourth Industrial Revolution” which was published in 2016. It delves deeply into the technology revolution that is currently in play, focuses on key stakeholders who might be overlooked in the age of scientific breakthroughs, and zones in on a dozen technology areas which would shape the future of humanity.

NOT REACTIVE, BUT PROACTIVE

Digital disruption in the industry puts everybody on edge, and the lessons learnt from disasters the likes of Kodak and Blockbuster Inc serve as a reminder of the pitfalls of not adapting and changing strategies to keep up with emerging technologies and consumer behaviours. 



**Strategise for success...
Being proactive with emerging technologies means understanding strategically why they are important and how they are changing the value chain.**

However, rather than reacting to this changing ecosystem, Nicholas believes that corporations should be proactive in their actions. Firstly, their leaders should cultivate a mindset of being highly sensitive to the impact of technologies on their businesses, angling their business models towards the way their customers behave and finding new ways of creating value.

Being proactive with emerging technologies means understanding strategically why they are important and how they are changing the value chain. This requires an in-depth understanding of how such technologies may solve problems for their customers and stakeholders.

“A company should not invest in blockchain just because of its hype, but only if they know how it can improve efficiency of processes.” The truth of the matter is that many organisations haven’t the infrastructure nor digital capabilities to fully navigate the Third Industrial Revolution, and are still struggling to manage the transition of incorporating digital into the heart of their business models.”

The recently released September 2018 publication by the Forum in collaboration with Bain & Company titled ‘The Digital Enterprise: moving from experimentation to transformation’, estimated that companies worldwide would have spent over \$1.2 trillion on their digital transformation ventures, yet suggested analysis show only 1% of these ventures would bear fruit.

“For me, part of the problem is that companies spend too much time thinking about strategy yet not enough on the shifting leadership roles – which is core to chang-

ing the organisation.” Nicholas goes on to cite a study conducted last year on transformation. In the study, when organisations looked to change core parts of their strategy, their success rate amounted to around 12%, and shockingly fell to 5% when talking about digital transformation.

“Looking at this statistic, this is a very low success rate. Relating back to my earlier point about companies needing to be proactive in their adopting of emerging technologies, it would seem that companies are failing to fully grasp the benefits of transformation. It’s apparent that this is a barrier that organisations need to overcome. They need to start thinking holistically – the infrastructure needs, talent, governance, how to speak to the market, and changing leadership strategies. If you’re a senior executive paying attention to those aspects, it’ll help you understand why, where and how you can successfully transform,” said Nicholas.

THE NETFLIX SUCCESS STORY

In order to grasp the prerequisite to the adoption of the 4th IR, Nicholas cited Netflix as an example.

In the past two decades, Netflix has reinvented itself four times; starting as a CD and DVD rental company, then changing into a monthly subscription model, and later offering unlimited streaming services. In recent years, it has once more transformed its business operations towards becoming a content producer – one that is generating, purchasing, and releasing its own content through the internet.

Netflix's goal was always to allow customers ease of access to their favourite television shows and movies, and that hasn't changed. What changed was how they delivered and met that need throughout their operations as the technological world shifted around them. When the 4th IR came about, they were able to make the shift by leveraging on the power of data.

Just like Netflix, businesses have to focus on being relationship-centric and adopt emerging technologies for a purpose – to create value for the customers.

With their streaming service, Netflix was able to predict what content would appeal to their respective customers thanks to a highly accurate recommendation engine. By focusing on data and making decisions based on it throughout their operations, this meant that they were able to continually shift their business model and services to what their customers needed and wanted.


This even played out in their success rate of second season renewals of their television shows that they currently release. The entertainment industry is fraught with risk and highly dependent on ratings, whereby a dip may get the show axed. Netflix currently has a second season renewal rate that is double that of the industry at large.

“The way I see it, it's all about shifting the focus to being customer-centric or relationship-centric depending on your customer base, be it B2B or B2C. What value are you creating for the people in your business ecosystem by using data, and which technologies would fit into this equation? Data would play a pivotal role in determining if your organisation has the know-how to shift the business model, infrastructure, strategy and leadership to construct new models and innovate,” said Nicholas.

BEYOND THE HORIZON

With 2019 just around the corner, Nicholas also shared his views on the significant disruptions that will impact the industries. In this year alone, trust has become a major disruptor partly due to data breaches. The crisis of trust is expected to continue as the general public are still trying to understand how businesses, governments and social groups are using their personal data.

“Some of these companies have revenues larger than GDPs of countries, which leads to greater scrutiny of their operations and data management. I think that one of the biggest disruptors of 2019 would be managing the trust in emerging technologies and the trust put into companies that are leading the advancements of technology.”

The second disruptor may be cybersecurity. The Forum's Centre for Cybersecurity in Geneva was set up for this very reason, as they believe that there is a lack in cross-industry, cross-government and multi-stakeholder coordination on reducing global cyber attacks, responding quickly and efficiently, and reducing the incentives for such attacks to take place. This is particularly troubling at a time when IT is expanding, 



and there are many potential entry points for hackers and cyber-terrorists to infiltrate digital systems.

Challenges aside, there are some positive outlooks for 2019 as well. Nicholas believes that 2019 will bring about a great number of breakthroughs, especially in artificial intelligence.

TWO SIDES OF THE COIN

Many see the advancements in AI and RPA as being a major threat to the global job market and has sparked debates throughout the year. Nicholas, however, believes that there is definitely a win-win scenario that can be achieved, granted it's not a foregone conclusion and much work is needed for it to happen.

In the book 'Human + Machine' by Paul Daugherty, Chief Technology Officer at Accenture, he wrote that when you create an environment that invests in machines and smart technologies to enhance the productivity of the people by looking at the conditions that can occur, you will get much better gains than if you simply look to replace people.

Taking a look at The Future of Jobs Report 2018, released by the Forum, it also highlights the same philosophy and follows the same underlying principle. One finding

stated 38% of businesses surveyed expect to extend their workforce to new productivity-enhancing roles, and more than a quarter of those businesses expect automation to lead to the creation of new roles in their enterprise .

What's more, the report also puts forth the idea of an 'augmentation strategy', whereby businesses ensure that implementation of automation enhances the strengths of their human workforces. Focusing on a broader spectrum of value-creation as opposed to the sole notion of cost savings via automation-based labour, this approach uses emerging technologies to expand our potential by leaving repetitive tasks to automation.

However, from a global perspective, it's not a massive net of job loss at all. A large number of tasks that humans will be doing in five years' time would differ from those we are currently doing due to automation, but its core aspects would remain the same. Our primary woe would be the fact that entire job categories would disappear just as new ones emerge.

"Helping people understand what skills they need to change to be relevant in the market is one big challenge we need to overcome. Having said that, there's clearly some jobs that would be under severe threat because most of their tasks are fully automatable. This is particularly so for those working in call centres. There are probably

about six million call centre jobs around the world, and it's possible that with AI, a third of those will be automated in the next five years.

"A majority of these jobs are located in emerging economies in Southeast Asia, the Caribbean and Central America – with a workforce comprising of mainly women. If two million jobs are in jeopardy, retention is a cause of concern.

"Hence, the key question when you do have an entire category of jobs disappearing – be it call centres or traditional manufacturing – is, what are the plans that industries and government have in order to help those people reskill, particularly in vulnerable populations such as young women, who would be beneficial to the economy? The way reskilling of employees takes place is of utmost importance. Bringing young women into the labour market has also shown to have a positive effect on economic growth and competitiveness," revealed Nicholas.

Changes would even be felt by decision makers themselves, and although C-level positions won't disappear entirely, they would need to understand and strategically work with digital technologies to transform their organisations. Due to the rapidly increasing speed of change, it's not just that new techniques need to be integrated, but a follow-up plan needs to be implemented quickly as the industry moves to new avenues

Companies need to be efficient and quick to respond to cyber-attacks as businesses shift toward becoming more data-centric.





Reskilling is crucial to ensure a robust workforce; it improves retention and keeps morale high, as employees know that their career development is not being disregarded.

of creating value. These decision makers would have to continuously adapt and learn new sets of tools to become drivers of change in their respective organisations.

ON THE RIGHT TRACK

Nicholas also expressed his view on the Industry4WRD National Policy on Industry 4.0, launched by Prime Minister Tun Dr Mahathir Mohamad: “I think it’s fantastic that the policy refers upfront to the sustainable development goals. It’s essential that we always link advances in technology, manufacturing, and economics to the notion that we are part of a globally interconnected world.

“The [Sustainable Development] Goals are clearly supported by the advances of the manufacturing industry which are really what Industry 4.0 is all about,” he said, referring to Goal #9: Industry, Innovation and Infrastructure; and Goal #12: Responsible Consumption and Production.

The policy extensively links the technology, science and globalisation aspects in the framework and focuses on enablers as well as SMEs in Malaysia, and not just larger, more established companies. Furthermore, the understanding that innovation has to affect the entire supply chain of 49,101 key manufacturing establishments in the sector is one aspect that Nicholas finds agreeable.

“My third observation is that



“Accessibility, in this case, does not just mean a 4G coverage, but whether the population have the economic ability to access data – whether their salary rates are high enough that they can tap into the digital network wherever they are, in whatever situation they are in, across the country.”

the policy’s objective to attract stakeholders, cultivate the right ecosystem and accelerate transformation, will put the nation on the right track,” he states. “I am very hopeful for the country because it has all the right elements and rightly focuses on upskilling existing future talent.” With a clear goal, Malaysia, with its strategic investments and attractive incentives, will galvanise the industry and take itself to a higher level.

On a side note, Nicholas pointed out that the Industry 4.0 is solely the manufacturing aspect of the broader 4th IR, which encompasses all other industries.

NOTE OF CAUTION

However, Nicholas asserts that in order for the policy to remain in effect for years to come, this initiative must not be clouded by politics. “It should be a massive impetus of development, regardless of who’s in the seat of power.” He reiterates that the Fourth Industrial Revolution is a “technological reality”, one that is more than one single government’s decision. Malaysia’s vision for the future – its prosperity and the cultivation of tech-savvy nationals – should be unblemished by political agendas.

Furthermore, the biggest challenge that a developing nation would face in this 4th IR wave, is the digital divide. “Malaysia would have to ensure that the majority of the population are able to grasp the benefits of this transformation. This means that everyone should have access to the digital network,” he shared.

“Accessibility, in this case, does not just mean a 4G coverage, but whether the population has the economic ability to access data – whether their salary rates are high enough that they can tap into the digital network wherever they are, in whatever situation they are in, across the country.

“Evaluation is needed to determine whether the contact is relevant; whether it is in the language they understand, or do they have the required skills to navigate the network and add value to their lives.” Undoubtedly, bridging that divide in a meaningful sense will proffer huge opportunities for people to launch their own businesses; to be productive employees, or to receive government interaction in a digital format without being discommunicated or left behind.

He reasoned that one must initiate community groups and individual leaders into those areas within communities that are disconnected from the digital system. This Matrix-sounding solution is perhaps the only way to bridge the divide and bring us one step closer to our vision.

“It’s not enough to say ‘everyone can watch TV or use WhatsApp to communicate’ – useful as it may be. Raising the efficiency of consumption is not as powerful for the economy as increasing the efficiency of production and that’s where you want people to feel empowered – that they are able to use these technologies to do better at their jobs.”



INVESTKL:

GLOBAL MULTINATIONALS TAP ON GREATER KUALA LUMPUR'S ECOSYSTEM

GLOBAL value chains and geographies of production continue to shift as Europe and US are relocating their regional production and services to Southeast Asia (SEA). Malaysia, being one of the fastest growing economies in SEA, is open to new opportunities and well-poised with its position in the heart of the region. Establishing a regional hub here allows businesses

to tap easily into the SEA market base.

Malaysia has proven itself relevant to global multinationals due to its excellent ecosystem, business-friendly policies and providing the right infrastructure support. The digital economy is also blossoming to be comprehensive and highly-integrated in embracing business solutions that tap the power of IoT, Big Data, AI, cloud computing, robotics, fintech and other emerging technologies.

Malaysia's decade long, third-place ranking on the A.T. Kearney's Global Services Location is yet another factor to seal the deal. These have been attractive to global multinationals and over the years, many of these global players continue to establish their regional operations in Malaysia to serve their SEA businesses.

"Primarily, companies are looking for accessibility, scalability and ease of doing business. With the potential market growth, high-skilled



Datuk Zainal Amanshah,
CEO of InvestKL.

talent is also an essential element to ensure the success of Malaysia in attracting the right multinationals to invest here," said Datuk Zainal Amanshah, CEO of InvestKL.

Greater Kuala Lumpur has become the Malaysian home for many multinational corporations (MNCs) to set up their regional businesses. Playing the role as the investment promotion agency for Greater Kuala Lumpur, InvestKL Corporation (InvestKL) is tasked to attract large global multinationals to set up their regional headquarters and hubs in Greater Kuala Lumpur to strategically grow in Asia. This directive has translated to a steady flow of investments, as it easily makes up 30% of the nation's GDP contribution.

Just as a host tries his best to facilitate all the guests' needs, InvestKL provides assurance to these MNCs by offering investment location recommendations, government agency liaison and investor advocacy, industry-university collaboration, project implementation and post investment services.

Consequently, the nation's commitment to move up the value chain is being bolstered by the offerings and presence of these global companies.

"InvestKL target multinationals within the Forbes 2000 and Fortune 500 ambit. Companies such as Air Liquide, Oracle, Honeywell, AXA and Linde – to name a few – were on our radar and have now established their headquarters or regional hubs here in Greater Kuala Lumpur. The list is growing every year and these multinationals are proud to call Greater Kuala Lumpur their new home," adds Zainal.

GREATER KUALA LUMPUR AT THE FOREFRONT OF INDUSTRY 4.0

InvestKL has attracted many global

players adopting industry 4.0 in recent years. These multinationals have been aggressively moving towards industrial transformation by creating both soft and hard infrastructures and rapidly evolving to stay ahead of their industry.

InvestKL has also facilitated partnerships between MNCs and local companies to ensure exchange of knowledge and provide guidance through mentorships. This assists local companies to manoeuvre and establish a foothold in the journey towards Industry 4.0.

One such example is Air Liquide's Smart Innovative Operations (SIO) Center for the Southeast Asia Pacific region. The SIO Center enables the remote management of production for 18 Air Liquide Large's production units spanning eight countries across the region, remotely controlling the operations and supervising the production.

Another strategic investor embracing industry 4.0 is Honeywell's ASEAN headquarters in Greater Kuala Lumpur. Its technologies and solutions will help transform operations and realise several benefits of digital transformation leading to increase in production and business performances for the region.

The results of a fruitful partnership are crucial for the success of digital transformation. One such example is the Malaysian partnership with retail giant Alibaba. The idea of having our cities controlled by AI is no longer a far-fetched idea, but an idea that's slowly etching its way into reality. Alibaba has developed and tested its City Brain project, utilising Big Data technologies, cloud-based solutions and Artificial Intelligence (AI).

Endless streams of data are collected and processed by supercomputers. With this technology, the AI is able to optimise traffic flow in real-time and enable a faster emergency response where required. The City Brain project is now being deployed in Kuala Lumpur, marking a major foray into Artificial Intelligence.


The Kuala Lumpur City Brain system provided by Alibaba Cloud is a project managed by Malaysian Digital Economy Corp (MDEC) and leading the data analytics, while Kuala Lumpur City Council (DBKL) provides access to camera live feeds, traffic light and events information.


The initial phase of the programme will observe the execution of the Malaysia City Brain within Kuala Lumpur. This is expected to address issues faced by urbanites and better manage traffic flow in the city.

But with this advancement, questions about cybersecurity tailgates not far behind. International Telecommunication Union (ITU), an extension of the United Nations found Malaysia to be ranked third in the Global Cybersecurity Index 2017, and it shows Malaysia's commitment towards cybersecurity management.

FUTURE-FIT TALENT FOR INDUSTRY 4.0

Readiness to adopt technologies such as AI, Big Data, IoT, RPA, Blockchain and initiatives to bolster cybersecurity is undoubtedly the mark of a nation's maturity to embrace Industry 4.0. For that to happen, the nation must have a talent pool with relevant skill sets.

The top 10 job skills by 2020, as listed by the World Economic Forum, are soft skills. Employers of the future will require talents who are able to do complex problem solving; those who are team players and able to manage people; those who can employ critical thinking and those who are well-versed in the art of negotiation – to name a few. 

 The Department of Statistics Malaysia listed a total of 15.1 million people in the labour force, as of 2017. From the 2015 UNESCO Institute for Statistics, Malaysia has a literacy rate of 94.6%; ranking second as the most English-proficient country in Asia. However, the question InvestKL often face, is whether Malaysia has enough data professionals who are able to assist in the operations of Multinationals setting up their regional hubs in Kuala Lumpur?

InvestKL with a collaboration with Talent Corp, has recently launched the Malaysian Global Talent (MGT Programme). Together with the support and guidance from the Ministry of Education (MOE), the ultimate goal of MGT is to produce future Malaysian global corporate leaders.

The programme strives to create a big pool of highly qualified homegrown talent that is skilled according to industry requirement and scale up the leadership ladder in global multinational companies.

Large MNCs such as Linde and Air Liquide employ a huge percentage of local talents. In order to develop the talent pool and gear it towards their

specific requirements, these MNCs are part of the MGT programme and have partnered with numerous local universities such as University Malaya, University Technology Malaysia and the Malaysian Institute for Supply Chain Innovation. This initiative is a strategic one; it would increase the nation's supply of data professionals, thus increasing access to specific talent pools – a value proposition that would incur smiles and nods from MNCs.

The CEO @ Faculty Programme is yet another applaudable initiative leveraged under MGT. The programme seeks to gather CEOs, local and international, and an eclectic mix of industry players and facilitate the sharing of knowledge and experiences with university communities. Not only will they provide mentorship to students and lecturers, they will also play an advisory role in the formation of curriculum to maintain industry relevance.

While efforts to prepare local talent for Industry 4.0 is underway, uncertainty in the 4th IR, specifically the fear of losing jobs and remaining relevant, is still the talk of the town. Datuk Zainal parried

this by saying, “When we spoke to various local and international CEOs about the future of jobs, their responses are unanimous: we want high-skilled talents coupled with soft skills.”

To intensify this digital revolution and to build future-fit talent, the Industry 4.0 framework was developed to promote innovation and competitiveness, supported by highly skilled and diverse workforce. Technical knowledge will be of priority as the need to shift towards becoming progressively agile to adapt to the increasing pace dictated by Industry 4.0 and through digital evolution.

SHAPING THE ECONOMY

Malaysia has been enjoying a strong and competitive position as an ideal business location and in embracing technology adaptation in ASIA. On technology and innovation, the Global Innovation Index 2017 ranked Malaysia at 37th globally among 127 countries and 8th in Asia. Malaysia also advanced nine places to the 15th spot among 190 economies worldwide in the World Bank's Doing Business 2019 Report, which based its rankings on business regulations and ease of doing business.

On the Industry 4.0 forefront, Industry4WRD policy framework that was recently launched by the Prime Minister Tun Dr. Mahathir Mohamad is marked to strengthen the economic growth and accelerate technology adaptation. This will increase Malaysia's productivity, R&D activities and achieve optimum cost efficiency that will move the economy up the value chain of global production. It covers the entire value chain including suppliers, procurement, design, logistics and even sales, resulting in higher productivity and flexibility.

The Industry4WRD is a pivotal step as Malaysia seeks to strengthen its ongoing structural reforms to become a developed nation that is equitable, sustainable and inclusive by 2025 or even earlier. The Policy would serve as the impetus for our industry to make the leap into Industry 4.0 and shaping the economy forward. 



DTAP

DIGITAL TRANSFORMATION
ACCELERATION PROGRAMME

FUTURE PROOF YOUR BUSINESS: THE TIME IS NOW!

Malaysia's industries are still far from being digitally ready and are facing hurdles including the lack of a structured approach, budget limitations, a shortage of digital professionals, and the perception that digital transformation is too fast-paced and complex.

To help address such challenges, the Digital Transformation Acceleration Programme (DTAP) has been established to future-proof Malaysian companies and to ensure their competitiveness in an era of increasing global digital disruption.

Key Benefits



Outcome Based
Matching Grant



Guided Approach on
Digital Transformation



Increase
Productivity



Reduce Dependency
on Foreign Workers



New
Business Models

For more information, please visit www.mdec.my/dtap

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FORECASTING MALAYSIA'S CLIMATE FOR CHANGE

THE FOURTH LEAP TEAM CATCHES UP WITH **MUHUNDHAN KAMARAPULLAI** – THE DEPUTY DIRECTOR OF DIGITAL ADOPTION ECOSYSTEM, MALAYSIA DIGITAL ECONOMY CORPORATION (MDEC) – TO GET HIS TAKE ON MALAYSIA'S RESPONSE TO THE QUAKE OF THE FOURTH INDUSTRIAL REVOLUTION.



The future is bright and vivid, if only we have the right mindset – a digital-first mindset and embrace relevant emerging technologies.

RADICAL changes are already upon us, and we have little choice on the matter. When it comes to embracing change, history speaks for itself; those who have risen to the occasion survive, and those who don't, fail. Muhundhan has much to ponder on; he plays a part to ensure both local and foreign organisations are incentivised to adopt emerging technology while future-proofing those who look to him.

"The emerging technologies of the Fourth IR are touted to be groundbreaking, but at the same time, disruptive. It will change the

way we live, work and do business. The ultimate challenge, is how one changes his or her mindset in embracing these changes.

"Issues of survivability and relevance are a constant plague on the business community, and only those with foresight are able to not just pull through, but thrive. More than half of Standard & Poor (S&P) companies are no longer around due to digital disruption and the trend is growing. But companies with digital-first mindset and innovation will find ways to embrace and grow," he said.

When it comes to businesses, competitors no longer stem from the same industry, resulting in ex-

ponentially greater competition in the market. These companies have morphed into software companies, contending with those with digital at their core.

While the pressure is felt by companies to reinvent the wheel, there is no one size fits all approach. In order for technology to create value for the business, he stressed that the end goal must first be defined, before the options are laid on the table. He also warned that using new technology for the sake of digitalising the business could be detrimental, if the end goal is not clearly defined.



Muhundhan Kamarapullai, Deputy Director of Digital Adoption Ecosystem, Malaysia Digital Economy Corporation (MDEC).



The INDUSTRY4WRD policy sets the ball rolling to develop our nation's manufacturing industry and lay down the groundwork for more high-value jobs in the future.

He adds: "Digital transformation need not be an expensive affair. By being open to new possibilities and starting small, companies can initiate pilot projects with measurable outcomes, before adopting a more iterative model."

MDEC's initiative, the Digital Transformation Acceleration Programme (DTAP) is a catalyst for transformation – a partnership with global experts who are able to identify business pain points and opportunities in the transformative journey – and offered to local companies to help them pilot an implementation via a structured approach.

Pilot projects are outcome based, therefore creating tangible return of investments. They will further allow employees to be acquainted with new approaches, analyse the outcomes and enhance scalability. The question, as Muhundhan pointed out, is no longer about if we should, but how quickly can we scale.

THREAT OR TREAT?

For decades, low-skilled labour has been the competitive advantage for ASEAN businesses, and Malaysia is no exception. However, the shift towards automation enables significant cost savings by lowering production cost and labour workforce.

"What was once our selling proposition is now redundant, and this calls for digital-first business

models. In order to remain competitive, leveraging on the Fourth IR is the way forward as data collection and smart analytics will mean effective decision-making, smarter machines and continuous optimisation of processes," Muhundhan said.

Disruptive technologies like artificial intelligence (AI) are transforming global production systems. Factory processes and the management of global supply chains will see a 180° turn, and this is creating a new wave of competition among countries. According to the World Economic Forum, if technology is adopted correctly, this can unlock a 30-40% increase in productivity.

However, while it is clearly advantageous for businesses, the societal implications of the Fourth IR is a catch-22 situation. The World Health Organisation (WHO) estimates that two-thirds of the world population will be living in urban areas – an additional 2.5 billion people! A more densely populated area, would also mean higher competition.

"For the first time, countries and companies have to worry about how their manpower will keep up with the pace of change. Previous revolutions were seen as job and growth creators, but the Fourth IR is a 'concern' as it may eradicate jobs and lead to unemployment," he warned.

Cities that will flourish are those that rely on cutting-edge technologies, and have citizens who are proactive in their approach to upskill. On the whole, ASEAN nations are prime for the next wave of acceleration with the

DIGITAL TRANSFORMATION ACCELERATION PROGRAMME (DTAP):

DTAP helps future-proof local companies to become more competitive via a structured approach.

fastest growing internet market in the world. It is projected to enjoy a 1,600% increase in the e-commerce market in 2025 with 3.8mil users coming online every month.

NATIONAL INDUSTRY 4.0 POLICY, INDUSTRY4WRD

In order to establish the readiness of its citizens, the Malaysian government, with the launch of the Industry 4.0 National Policy, INDUSTRY4WRD, will spur the cultivation of a vibrant, open and knowledge-based economy.

"It's a much-awaited policy guideline to build a sustainable digital transformation ecosystem. The policy focuses on supporting the manufacturing industry and related services, while charting course to make Malaysia a destination for high-tech industry. This will draw more investments into the country, thus building a robust manufacturing industry that provides high-value jobs as well.

"INDUSTRY4WRD helps to align all necessary elements together such as digital talent upskilling, business readiness, emerging technology adoption, financial support and more, to reduce the barriers of entry for local companies. This in turn will transform our manufacturing industry to be smart, systemic, and resilient. In a way, this policy can be applicable to other industries as well with different strategies and priorities put in place," he said.

This heralds the onset of more digital-related policies to support and install great governance. Industries such as healthcare, oil and gas, logistics and agriculture, are being disrupted and the policies of the future need to be agile enough to face rapid changes in the technology space.

The extent to which the benefits are maximised and the risks mitigated, depends on the quality of governance protocols such as policies, norms, standards and incentives that shape the development and deployment of technologies. **6**

PACKING A DIGITAL PUNCH

NOTHING SHORT OF AN IMPRESSIVE FEAT, THONG GUAN INDUSTRIES BERHAD HAS COME A LONG WAY FROM BEING A SMALL FAMILY BUSINESS TO BECOMING ONE OF THE LEADERS OF DIGITAL TRANSFORMATION IN MALAYSIA. THE FOURTH LEAP TEAM HAS A CHAT WITH **DATO' ANG POON KHIM**, THE GROUP'S EXECUTIVE DIRECTOR WHO SHARES THONG GUAN'S REMARKABLE DIGITAL JOURNEY.

THE company started out as a humble family-owned trading business in 1942. Their initial products included tea and coffee to the local market under the 888™ brand.

Over the years, the business began to boom and the company expanded their operations as well as diversifying their offerings. As such, they shifted from manufacturing and trading beverages towards entering the plastic industry.

Initially, they started out with manufacturing simpler plastic products such as raffia strings and drinking straws, but soon expanded their product lines to more complex plastic items, thus setting up TG Flexible division.

TG Flexible ventured into the field of flexible plastic packaging and services. The growth of this division would play a pivotal role in the birth of TG Stretch in 1997, which strategically moved into stretch film production for industrial pallet packaging.

In 2010, all TG Flexible and TG Stretch operations were consolidated under a single unit with the goal of reducing cost and wastage.

"My grandfather, who founded the company used to sell tea using a bicycle back in the small town of Sungai Lalang. I don't think he could have imagined that his company is now one of the largest manufacturers of plastic packaging products in Malaysia. It's really humbling to look back at the company's roots to appreciate how far it has come," said Dato' Ang.

The company has over 70 years of experience and unparalleled track record in manufacturing, trading and innovation.

BIRTH OF NEWTON

According to the KU Leuven University in Belgium, 4% of palletised goods are reportedly damaged upon arrival in Europe. What's even more jarring is that there are approximately 1.25 million fatalities globally as a result of road accidents each year - many of which can be attributed to lorries carrying goods or cargos.

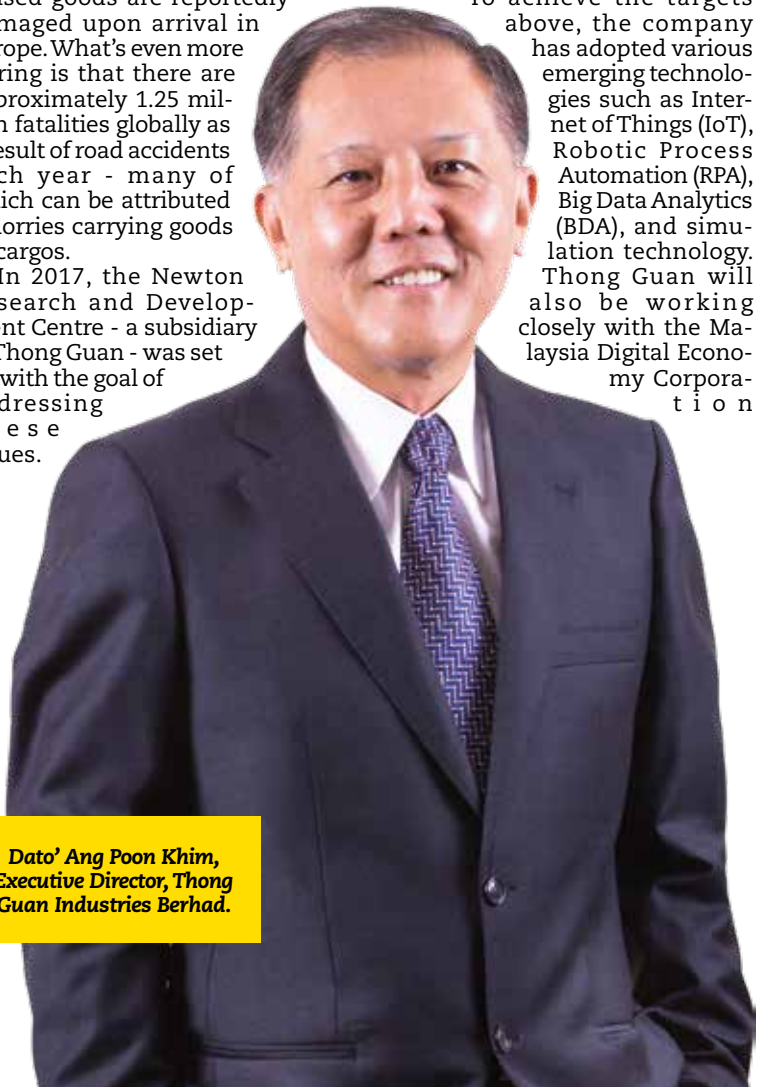
In 2017, the Newton Research and Development Centre - a subsidiary of Thong Guan - was set up with the goal of addressing these issues.

Newton serves as an innovation centre for load securing and safety, offering services such as consultancy on pallet load securing; training and education; validation and certification; and technical testing and analysis.

"The great thing about Newton is that it was the first dynamic simulation lab in Asia Pacific. The unique dynamic lab offers land, sea, air and rail simulations in order to deliver "Real Life" packaging solutions in addition to value-added consultancy and training services. I firmly believe that through Newton, we are able to help customers to reduce injuries in warehouses and across the logistic chain, lower the packaging costs, minimise damages to products as well as decrease the carbon footprint," he said.

DIGITAL JOURNEY

To achieve the targets above, the company has adopted various emerging technologies such as Internet of Things (IoT), Robotic Process Automation (RPA), Big Data Analytics (BDA), and simulation technology. Thong Guan will also be working closely with the Malaysia Digital Corporation



Dato' Ang Poon Khim,
Executive Director, Thong Guan Industries Berhad.



One step further... Each wrapping machine is fitted with a “black box” that records the stretch ratio, amount of film used to wrap a pallet, and number of pallets wrapped under an hour, day or month.

(MDEC) through their Digital Transformation Acceleration Programme (DTAP), which helps companies kickstart their road to digitalisation. The awareness spread by MDEC regarding the benefits of digitalisation through their various mediums have inspired Thong Guan to embark on this digital journey.

“In the conventional method of manufacturing plastic, all processes are not integrated, which leaves many loopholes for problems to arise. By using IoT and BDA, we are able to collect data from the entire plastic-making process online. Every roll of plastic produced is then tested using a film performance tester. Data from both stages are then compiled under a QR code and attached onto the plastic roll.

“Each roll has its own unique QR code which contains all the operating parameters of the corresponding extruder and also show the properties of the film which was tested. Through this, clients are able to know every stage of the process and ensure quality is top notch, without any problems,” said Dato’ Ang

However, Thong Guan goes one step further by retrofitting a “black

box” to each wrapping machine. Similar to a black box on a plane that records every move made in the cockpit, the black box on the plastic wrappers record the stretch ratio, amount of film used to wrap a pallet, and number of pallets wrapped under an hour, day or month. Data collected would then be uploaded to the cloud for decision makers to analyse.

To address the problems of damaged goods during transportation, the company also uses a data logger - a sensor that is able to track all the vibrations of the pallet on the truck. The sensor collects data on a particular route and is then uploaded into a pitch and roll machine, which would then accurately simulate the entire journey of the pallet. By doing so they are able to determine if the problem lies in the road condition or drivers themselves.

A HELPING HAND

“I’m really excited to announce that we are also at the tail end of implementing RPA within the plastic stretch wrap line, ensuring business operations and processes comply with regulations and standards. Though currently semi-automated, the handling of plastic rolls will soon be carried out via robotic arms. The vision is to be fully automated across our entire chain within the next three years in order to reduce labour costs and increasing productivity,” he said.

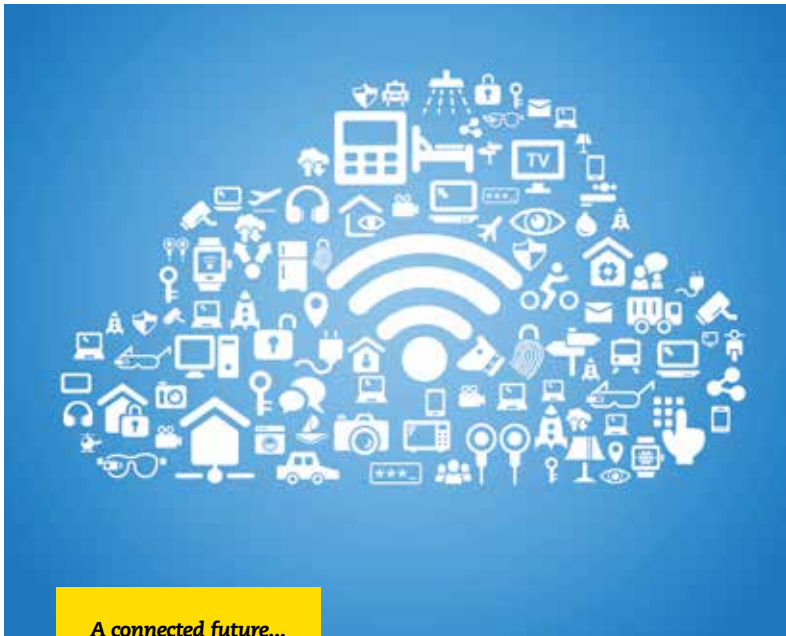
From the implementation of RPA, Dato’ Ang has seen a significant increase in productivity. Less products are damaged, and he would no longer need to worry about downtime as the machines are able to operate 24 hours a day. This further ensures consistent results and boosts clients and stakeholder confidence.

Concluding the interview, Dato’ Ang had this to say: ‘We are at the cusp of the fourth industrial revolution and like it or not, that wave is coming. By spearheading digital innovation, I believe that this goes beyond securing my company’s future but brings us to the forefront of our industry. I’m also looking forward to working together with MDEC on pushing the envelope when it comes to digital transformation and ensuring that the legacy of Thong Guan lives on.’

The implementation of technology has enhanced performance, ensured consistency in product quality and traceability.



IT TAKES TWO TO TANGO: INDUSTRY 4.0



**A connected future...
With the recent
announcement
regarding access to
5G in Malaysia, this
paves the way for IoT.**

MINISTRY of International Trade and Industry (MITI) is highly focused on international trade and industry, with the vision to make Malaysia the preferred investment destination and among the most globally competitive trading nations by 2020.

Currently, there are three major roles that the ministry is playing. Firstly, it promotes Malaysian products and services overseas that require trade investment or export promotion. Secondly, the agency is making efforts to bring in Foreign Direct Investments (FDIs) into Malaysia. Thirdly, MITI is also involved in industrial development, under the guidance of the Third Industrial Masterplan.

“This new masterplan fits perfectly into the direction that MITI is heading towards. The difference between this and the earlier masterplan is that ... new technological advancements will be integrated into the existing framework. We are also very fortunate to have three new technology agencies under MITI, namely SIRIM, Standards Malaysia and MIMOS. These agencies will support our industrial development framework to include technological aspects,” said Datuk Isham Ishak, MITI’s Secretary General.

To ensure that the industry can overcome the challenges posed by the Fourth Industrial Revolution, MITI has undertaken various initiatives to encourage the adoption of Industry 4.0 for the manufacturing sector, including developing the National Policy on Industry 4.0 that is set to be launched on Oct 31, 2018 by Malaysia’s Prime Minister, YAB Tun Dr. Mahathir Mohamad.

REGIONAL IMPACT OF THE REVOLUTION

Collaboration is an important element in embracing the Fourth Industry Revolution as it extends

beyond the borders, says Isham.

Malaysia envisions to be the strategic partner for smart manufacturing and related services in South East Asia, and the primary destination for a hi-tech industry. To achieve that, collaboration between countries is necessary in terms of technology sharing, capacity building, knowledge transfer and collaborative programmes.

“The economic impact might be felt only in the long run, but it can be long lasting. Countries such as Singapore, Vietnam and Thailand have announced their respective Industry 4.0 blueprints for their manufacturing sectors, and consequently have started having structured intervention to push forward the agenda within their respective economies.

“I view this positively. Economics is never about a zero sum game,” said Datuk Isham.

The Readiness for the Future of Production Report 2018 by the World Economic Forum (WEF) and A.T. Kearney, positions Malaysia in the “Leader” quadrant, with a strong current production base and well-positioned for the future.

The introduction of the National Policy on Industry 4.0 will improve the competitiveness of the Malaysian industry in the long run. Isham believes that with the right implementation, Malaysia will become one of the leaders in Industry 4.0 in this region.

He said: “The potential is huge on many fronts. Firstly, we have one of the most sophisticated Electrical and Electronics (E&E) sectors in the region. As such, there is a natural progression for us to easily adopt manufacturing of products and parts related to Industry 4.0. But that is just a start, as our consulting houses including those related to the E&E and ICT sectors are very competent and most likely our export capabilities in this area will be the game changer in the long run.”

ASEAN: GROWING TOGETHER
ASEAN member countries’ growth

domestic products combined to US\$2.73 trillion in 2017, putting the group ahead of the UK that has reached US\$2.63 trillion and India, US\$2.61 trillion. In 2017, Focus Economics estimated that ASEAN's growth had reached a five-year high of 5.2%. More than half of ASEAN population is below 30 years old, giving advantage on the demographic.

The ASEAN member countries are aggressive in responding to the 4th Industrial Revolution. ASEAN countries' adoption of Industry 4.0 will attract more foreign investments, hence benefit the region economically.

There was a benchmarking study conducted regarding the readiness of ASEAN countries towards adopting Industry 4.0, and Malaysia was one of the countries interviewed. This study was conducted to help other ASEAN countries embrace and develop legislations or policies that will complement these technological advancements.

"As a production hub in ASEAN, a lot of our companies are in the supply chain and depend on each other, hence if there was an imbalance in technological advancements, some countries would not be able to cope. That is why it's important that once the results of this benchmarking study is announced, we will all know where we stand and what we need to do to improve and grow as one," Isham said.

KEY TECHNOLOGIES TO THE FORE

Malaysia itself is very receptive towards adopting several key technologies, namely robotics and the Internet of Things (IoT), Big Data Analytics amongst others. Though many of these technologies are still in development stages, Datuk Isham affirms that it is moving at a rapid pace.

"Currently, we are the seventh largest drone producer in the world, and this technology is very important to us as we use it in areas such as plantation, mapping, monitoring and so on. Robotics is another area we are keen on developing as the robotics we have on hand are standalone in its function. The goal is to integrate elements of new technologies to enable them to communicate with one another and be multi-dimensional.


"With the recent announcement regarding access to 5G in Malaysia, this really paves the way for adoption of IoT. There are a lot of new applications that need to be

rejuvenated and renewed, and a lot of new infrastructure that will have to be accommodated to support this new 5G network."

Industry 4.0 also heralds a new age of connected, smart manufacturing and dynamic supply networks. This however brings about new cyber risks. Cybersecurity should become a fundamental part of the strategy, design, and operations. It should be considered from the beginning of any new connected, Industry 4.0-driven initiative.

"Our government, through CyberSecurity Malaysia, has instituted a broad range of innovation-led cyber security programmes and initiatives. Malaysia is currently ranked third globally among 193 International Telecom Union members, in terms of the level of

national commitment to addressing cyber-security risks. Malaysia is also among the top scorers in the Technical Performance Index of the Global Cybersecurity Index 2017.

"This really shows an accurate picture to the world, that we really understand the challenges that come with the digital age, and are working with all stakeholders – both public and private – towards building a safe and secure digital nation. I truly believe that we now know the lay of the land, and are ready to harness the opportunities that the fourth industrial revolution brings," Isham concludes. 

Datuk Isham Ishak,
Secretary General
of the Ministry of
International Trade
and Industry (MITI).



INDUSTRY 4.0 IN MALAYSIA, THE UNTOLD STORY?

MARKETING AND MATRADE, KEY PILLARS OF MALAYSIAN INDUSTRY 4.0 INITIATIVE

Embracing the future...the growth of Industry 4.0 will provide greater avenue for Malaysian companies to ignite the growth cycle.

THE emergence of the Fourth Industrial Revolution, which gave birth to Industry 4.0 has created significant ripples among the public and private sectors. For the Malaysian private sector, especially exporters across various sectors, the excitement is palpable as it promises to be a potential game changer in what seems to be a staid global macroeconomic landscape.

For a start, the growth of Industry 4.0 will provide greater avenue for Malaysian companies to short circuit the growth cycle as it enables the companies to grow quickly and access new markets by innovating new business models.

For example, a mass exporter of furniture with dwindling raw resources can reinvent itself into a furniture design company by harnessing on their existing experience and talent. Alternatively, they can move up the value chain by providing more customized products by incorporating feedback loop from customers in real time basis.

Also, critically, the global adoption of Industry 4.0 products and services will result in positive impact on Malaysian exporters who are in the ecosystem. The professional services sector along with the ICT sector could also hugely benefit from the uptake of Industry 4.0 products and systems.

As such, the economic impact of Industry 4.0 could be significant on Malaysia's manufacturing industry, especially sectors that are involved in development and marketing of products and parts related sensors,



semiconductors, modules, routers, machineries and equipment. Sectors such as chemical, medical devices, aerospace, automotive, transport, textiles, pharmaceuticals and food processing and services will also likely to benefit.

The potential for Industry 4.0 initiatives to transform the Malaysian manufacturing industry is real. The contribution of the sector to the national economy can increase substantially from the current RM254 billion. It is estimated that currently, Industry 4.0 related products account for approximately 40 percent of Malaysia's total exports.

In terms of productivity, the number of skilled workers employed in the manufacturing sector is targeted to increase from the current 18% if the sector adopts Industry 4.0 tools and systems.

There will also likely be major impact on the services sector where enabling sectors such as logistics (including warehousing), transportations, as well e-commerce and ICT related services will be among the many type of services that will benefit from the potential boom for products and services related to the Industry 4.0 adoption.

THE DATA GAME

Industry 4.0, among others emphasises on the centrality of data in governing companies' decision-making process, especially the manufacturers.

The added emphasis of data has also impacted trade promotion organisations tasked at promoting growth of trade such as the Malaysia External Trade Development Corporation (MATRADE) as it too needed to develop structure and process to embed data in its operational structure. This would strengthen MATRADE's decision making process and ability to convert market intelligence into market insights for the benefit of the Malaysian exporters.

More critically, it also provides the catalyst for MATRADE to re-focus and in some cases re-make its trade promotion approach so that it is able to address the potential opportunities and challenges posed by megatrends such as Industry 4.0 on Malaysian industry.

However, MATRADE's focus on matters related to Industry 4.0 takes a different tangent compared to the norm. Consultants, policy makers and machine makers/service providers are at pains to point out that Industry 4.0 will lead to greater insights on back-end op-



Improving efficiency... through big data, businesses are able to eliminate inefficiencies and provide relevant information needed for key decisions to be made.

erations in areas such as efficiency, cost savings and the likes. This is entirely true, but covers only half the narrative.

There seem to be lack of appreciation on the potential impact of Industry 4.0 applications and systems on companies' front end operations. This is a curious vacuum considering it is likely that the impact of Industry 4.0 will be the most significant on a company's bottom line from the aspect of revenue creation rather than cost savings and efficiency.

It is at the front-end where MATRADE comes into the fore in an age where organisations struggle to reinvent their businesses to better leverage on the ever-changing dynamics of global trade.

MATRADE's support for exporters to innovate using Industry 4.0 tools and technologies to ensure greater competitiveness and sustainable operations can be crucial in Malaysia's Industry 4.0 journey. There is ample scope for Malaysian companies to evolve and adapt using Industry 4.0 technologies.

For example, Malaysian footwear companies can embrace supply chain digitisation by piloting the usage of additive manufacturing, often known as 3D printing, with the goal of reducing the manufacturing cycle, and ultimately reduce the time to market its footwear

products and provide customised footwear to their clients.

Through big data, businesses will be able to cross-reference pricing histories or customer traffic patterns with multiple outside sources. By doing so, this will help in better understanding customers' behaviour, reduce costs by eliminating inefficiencies, enriching existing service offerings with new knowledge and eventually help companies to increase revenue and be more competitive.

CLOUD ON THE HORIZON

The challenges of ensuring that Malaysian exporters benefit from the full potential of Industry 4.0 trends either as a user/innovator or selling of products/services or related parts/components will depend heavily on the ability of the Malaysian public, government sector and the private sector to move quickly and leverage on the opportunities and navigate around the potential issues.

As it stands, 98% of Malaysian companies are SMEs and many of them might struggle to quickly scale-up to embrace the potential business arising from Industry 4.0. This could result in loss of competitiveness and a drop in profit margins en masse for Malaysian companies, which are especially operating in industries that potentially would be the early adopters of Industry 4.0 such as automotive, consumer electronics and aerospace.

Feedback from the industry indicates that currently, there is lack of awareness among many Malaysian exporters especially SMEs on the importance of big data. Consequently, MATRADE





**Big Data and
Cloud solutions
are buzzwords in
IR 4.0.**

plans to create adequate awareness and access to training to ensure that small firms have the awareness on the potential of big data to transform and sustain their operations and enhance their profits.

On the other hand, there are also many smaller firms that do have the awareness and interest to develop big data, but suffer from lack of access to data needed to conceptualise and activate ideas. Most times, they do not have access to relevant data due to a lack of funding or outreach to owners of data. As such, MATRADE is also exploring collaborations with the private sector to develop database platforms populated with datasets required by the small firms to undertake the right operational and marketing decisions.

MATRADE'S ROLE

MATRADE's game plan is two pronged. Firstly, they intend to enable Malaysian exporters to leverage on the export opportunities arising from the implementation of Industry 4.0 products and services globally. This is done by linking Malaysian exporters to relevant global supply chains through various trade promotion activities.

Secondly, they plan to train exporters to leverage on Industry 4.0 related technologies (e.g. Big Data Analytics, Internet of Things) to develop new business models, customised solutions and strengthen the supply chain. They will also push for usage of e-Commerce by Malaysian SMEs.

MATRADE is aware that it too needs to re-invent itself to better respond to these changes and have the adequate understanding and resources to provide the kind of support that the Malaysian exporters especially SMEs require.

That can be done through internal process as well as collaboration with third parties. In the case of MATRADE, it has already started collaborating with universities, research institutions as well as big data analytics companies that are able to provide additional resources, insights and infrastructure needed by MATRADE to provide the SMEs with the kind of support required for them to succeed in the era of Industry 4.0.

There has to be a greater level of syndication of responsibilities with other government bodies that have the right resources to expedite the adoption of technologies among Malaysian SMEs. This includes

agencies involved in training such as the Human Resources Development Fund as well as SIRIM, which facilitates the adoption of certification and testing practices among Malaysian companies.

The final component will also need to be the financial ecosystem. The speed in which technologies change necessitates a great level of agility among funders, be it from the government sector or private to absorb certain amount of risk in funding the adoption of new technologies. A risk averse financial ecosystem could be detrimental to SMEs seeking fast technological response to market changes.

MATRADE is working hard to continuously align its process and incentives to supporting exporters embarking in Industry 4.0 processes. It has also proactively undertaken various initiatives to push this agenda forward.

This year alone, MATRADE has undertaken efforts to collaborate with third parties such as Intel to co-organise workshops and seminars involving more than

100 Malaysian companies from the E&E, ICT and M&E sectors on Industry 4.0 topics such as smart manufacturing. MATRADE has also organised seminars on logistics and financial services to promote the array of support services available to Malaysian exporters of Industry 4.0 products and services.

Additionally, MATRADE also organised the participation to three overseas trade fairs related to Industry 4.0, availing 45 Malaysian companies to technology, business leads and market opportunities.

The Malaysian Government has currently put in place incentives to support the use of automation, robotics and ICT among SMEs. These include:

- Capital allowance to increase automation in labour-intensive industries (eg. rubber products, plastics, wood, furniture, and textiles industries) - Capital Allowance of 200% on first RM4 million;
- Reinvestment Allowance of 60% on Qualifying Capital Expenditure incurred within 15 years;
- Production of Selected Machinery and Equipment - 100% tax exemption for 10 years; and
- High Technology Companies - 100% tax exemption for 5 years

This can be a good start to support the Malaysian exporters' aspirations to move to Industry 4.0. However, greater thought will be given to reevaluate and/or improve the current set of support system to further promote the adoption of significant components of Industry 4.0 such as automation, robotics and ICT.

MOVING FORWARD


The failure to respond to the impetus and opportunities from Industry 4.0 could erode Malaysia's exports and exporters capabilities to compete in the long run. This could create a significant divide between Malaysia and countries who have proactively transformed its industries and government machinery to respond to these opportunities.

The first mover advantage will be crucial to ensure the Malaysian SMEs are able to quickly escalate their resources - technology and manpower - to ensure they are able to harness the potential of Industry 4.0 to provide value to their customers and stakeholders and consequently generate greater income and profit margins for them.

However, a delay in this adoption can be detrimental to the overall economic growth and export sector

of the country. For example, in sectors that are highly dependent on supply chain such as E&E and aeronautics, failure to adopt SOPs determined by the principals will result in companies losing their access to vendor programmes.

Malaysia is clearly ready to respond as there are already preparations to launch a National Policy on Industry 4.0. Ultimately it may just come down to how well Government organisations such as MATRADE can provide the private sector with the right policy mix, concerted capacity development programmes and trade promotion activities to make the difference.

By all indications, it looks like MATRADE and other government agencies are ready for the challenge. 

This is a contribution by the Malaysia External Trade Development Corporation (MATRADE).

MATRADE has also organised seminars on logistics and financial services to promote the array of support services available to Malaysian exporters of Industry 4.0 products and services.



NAVIGATING A SMART ECOSYSTEM IN AN AGE OF DIGITAL DISRUPTION



The race is on...IR 4.0 will bring about a technological revolution of great magnitude and one that is happening at a much faster pace.

THE Fourth Industrial Revolution is fundamentally different from the previous three, which were characterised mainly by advances in technology. The key outputs of IR 4.0 is the ability of technology to think and make smart decisions in real-time. All this is facilitated by the invisible advances in communication and connectivity. IR 4.0 will connect people and objects to each other, drastically improving the efficiency of businesses and individuals, resulting in a smart ecosystem.

IR 4.0 will change how we live, work, and communicate; it will

also change the things we value and the way we value them in the future. This is certainly a REVOLUTION as it will be extremely disruptive and will impact us in various ways. Already we see changing business models and employment trends. According to The World Economic Forum, an estimated 65% of primary education students will end up working in jobs that haven't even been created yet.

COMPONENTS OF A SMART ECOSYSTEM

Autonomous Automation, Machine Learning, and Artificial Intelligence are the key enablers of IR 4.0. It leverages both the physical and digital world to increase capability and efficiency. Furthermore, it leverages the internet as a key medium for sharing and collecting information, as well as driving distributed, intelligent decisions back to physical processes.

IR 3.0 focused on automation and simplification of processes thanks to digital technology. However, the overall control of the process was still heavily centralised and human-driven.

IR 4.0 instead, focuses on equipment/technologies that can interact together and make real-time, expert and aware, decisions. Those equipment/technologies integrated and working together have given life to a distributed and technology-driven SMART ECOSYSTEM. All components of this ecosystem will be able to communicate and exchange relevant information with each other and with humans, without the need for a centralised or human intervention.

Since all components of the ecosystem are designed to be integrated, this will force a shift from the 'one size fits all' mentality to extremely personalised scenarios, in which customers will have greater control over the final

product. Undoubtedly, our devices and sensors have become an extension of ourselves. Social media such as Facebook, our smartphones and even smartwatches are extensions of who we are as an individual and what we do. Everything gets integrated, customised and smart-automated.

An ecosystem of computing will surround us, becoming so natural it will disappear into the background. Less intrusive, it will fit into more parts of our world and solve more problems. User interfaces will become integrated and we will control them with voice, gaze, and gesture. We will see the results, not the effort.

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.” Klaus Schwab, President of the World Economic Forum, The Fourth Industrial Revolution.

A NEW PLAYING FIELD

Our current model and the new model are not fluently integrating with each other, and yes, there will be casualties along the way – those

***In this together...
Components of a smart
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who are being disrupted by the dynamics of the new world and those who lack the ability to adapt and adjust. IR 4.0 is disrupting nations and the notion of being national is getting a different meaning. Of course, ethical questions, similar to the debates around the use of atomic energy and genetic research, will need to be answered as this connected super-intelligent world evolves, and new playing rules will need to reflect those questions.

“The best technologies are the ones that you stop noticing” – Chris Thorn, British Heart Foundation. Everything will become integrated into the environment; there will be natural ways of controlling things

through voice, gesture, emotion, touches, and they will anticipate our needs and enhance our lives.

The tipping point...IR 4.0 will bring about a technology revolution of great magnitude and one that is happening at a much faster pace. It is incumbent on us to understand and leverage it's monumental impact and widespread benefits, while confronting it's serious challenges. **Q**

Phil Captain is an Executive Business Coach to C-level executives, Business Owners, Start-ups & Professional Service Providers in USA, South America and Asia Pacific.





BEYOND THE FUTURE OF WORK – JOBS OF TOMORROW

Jobs of the future will have a huge focus on finding the essential people and outsourcing the rest.

OUTSOURCING

The jobs of the future will have very little to do with processing words or numbers (the Internet can do that now). Nor will we need many people to act as placeholders, errand runners or receptionists. Instead, there's going to be a huge focus on finding the right people and outsourcing the rest.

So, are you essential? Most of the best jobs will be for people who manage customers, organise fans, and do digital community management. We'll continue to need brilliant designers, energetic

brain stormers and rigorous lab technicians. Increasingly though, the need to actually show up at an office that consists of an anonymous hallway and a farm of cubicles or closed doors is ebbing away. It's too expensive, and it's too slow and cumbersome.

Fifteen years ago, Facebook didn't exist. Ten years before that, we didn't have the Web. So who knows what jobs will be born a decade from now? One thing for sure is that it will not look the same as now. No one is going to pay you just to show up. We will

see a more flexible; more freelance, outsourced, flat structured, collaborative, and far less secure work world. It will be run by a generation with new values — and women will increasingly be at the controls.

PeoplePerHour, the online freelance market, reckons self-employment in the UK and the US is currently growing at an average rate of more than three percent. Based on official labour market statistics, PeoplePerHour predicts self-employment will grow at an annual rate of 3.5 percent over the next five years in the UK, and at 3.2 percent in the US.

That would mean one in two people in both countries would be working as freelancers by 2020, the company said. In Australia, that number is predicted to be 5,000,000 by 2020.

In the US, meanwhile, a study published last year by the Freelancers Union suggested as many as a third of working Americans were already self-employed — around 56 million in all — though some also hold down jobs. It said

that the rise of online marketplaces for freelance work such as Uber, Elance and freelancer.com was partly to explain for the increase in self-employment in western countries. This is more than people having a side hustle, it's a complete paradigm shift from the way we think about work today.

Work-life balance. In most corporate circles, it's the sort of phrase that gives hard-charging managers the hives, bringing to mind yoga-infused, candlelit meditation sessions and — more frustratingly — rows of empty office cubicles.

GREEN JOBS

Climate change is a real threat; shifting jobs from industries that harm the earth to ones that sus-

tain it will become an economic imperative.

At the same time, the world faces a long-term climate crisis. But what if there was a way to solve both problems with one policy? A number of environmentalists and economists believe that by implementing a comprehensive energy programme, we can not only avert the worst consequences of climate change but also create millions of new jobs — green jobs — in the west.

What's a green job? It depends on whom you ask. Some categories are obvious: if you're churning out solar panels, you're getting a green paycheck. But by some counts, so are steelworkers whose product goes into wind turbines or contractors who make homes more energy efficient.

According to the U.S. Department of Energy (DOE), 3.4 million Americans were directly employed by the clean energy industry (which includes the energy efficiency, smart grid, and energy storage industries; electric power generation from renewables; renewable fuels production; and the electric, hybrid, and hydrogen-based vehicle industries).

Environmental advocates asserted that with the right policies, those job figures could swell. It is

predicted that for the next three decades, green employment could provide up to 10% of all job growth.

WATER

When you talk to experts about developing new technology to provide clean drinking water for the developing world, they'll tell you that with four billion people making less than \$2 a day, there is no viable business model, no economic model and no way to finance development costs. But the 25 poorest countries already spend 20% of their GDP on water.


This 20%, about 30 cents, is not much, but do the math again: 4 billion people spending 30 cents a day is a \$1.2 billion market every day. It's a \$400 billion a year opportunity. Filling that need will not easy, however profitable it is.

Thus, addressing this will require every tool in the toolbox. Our agricultural practices must be totally revamped, our industrial practices as well. We will need water wise appliances, novel infrastructure solutions, and a lot of honesty about planetary population pushing nine billion.

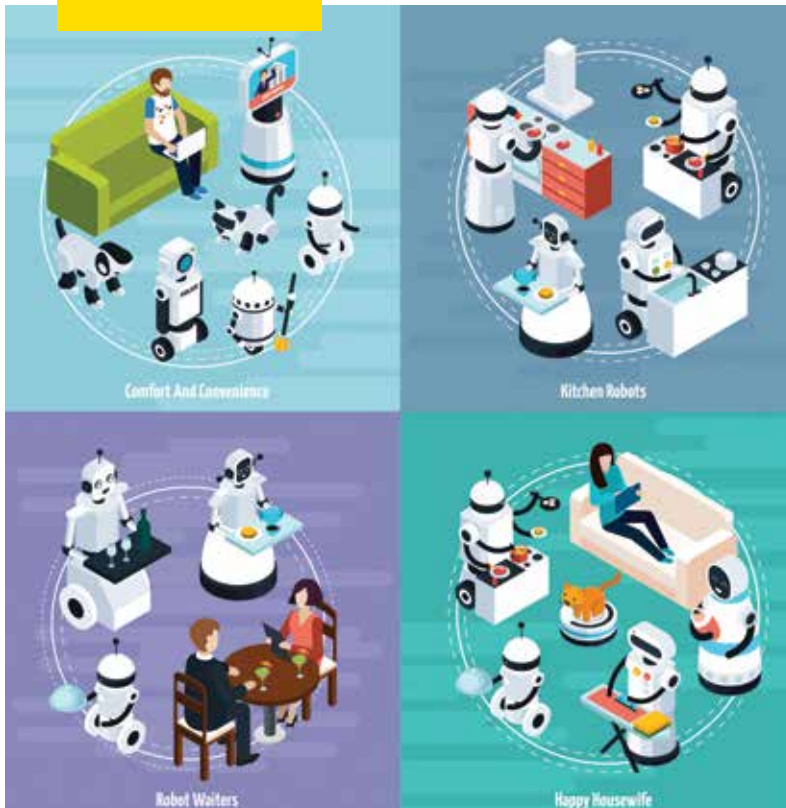
What is the carrying capacity of the earth? At this point in time, nobody knows. But one thing is for sure; we are going to have to deploy a lot more intellectual horsepower to solve that conundrum and maintain the solution.

LEISURE JOBS

In the future, we will have more and more leisure time as machines replace many of the tasks we do at home and at work. Japan has introduced a housewife robot that does all house chores, from cleaning to cooking.

The implications for older people is clear, allowing them more independent living. However using machines will have side effects. People may tend to become lazy and face health problems like obesity, diabetes and heart problems. Nonetheless all this additional spare time will need to be filled. We will see massive growth in out-of-home entertainment, leisure and tourism sectors. 

In the future, we will have more and more leisure time as machines replace many of the tasks we do at home and at work.



Martin Conboy is well recognised as one of the leading voices of the global outsourcing industry and his role in facilitating outsourcing success throughout the Asia-Pacific. He has also worked in a number of senior leadership roles including in the recruitment sector.

THE FUTURE OF SECURITY: A GLANCE AT BIOMETRICS

WITH THE EASE THAT TECHNOLOGY BRINGS, MANY OF US ARE ALSO AT THE RISK OF LOSING OUR DATA PRIVACY. HENCE, MANY PUBLIC AGENCIES AND INSTITUTIONS ARE DEPLOYING ADDED SECURITY MEASURES IN THE FORM OF BIOMETRICS. IN THIS ARTICLE, **ASSOCIATE PROF WONG KOK SHEIK** FROM THE SCHOOL OF INFORMATION TECHNOLOGY AT MONASH UNIVERSITY, DELVES INTO THE ASPECTS OF BIOMETRICS TECHNOLOGY TODAY.

AS technology continues to be a constant, ever-growing presence that impacts our day-to-day lives, almost every sector in Malaysia including the government, education and financial institutions have transitioned towards digitalisation.

This transition affects us as many registration and application procedures today require us to either complete or upload our personal details online, making things seamless and efficient.

With the ease that technology brings us, we also stand the risk of losing our data privacy due to the growing number of hackers and cybersecurity threats. Banks, financial institutions, and government agencies are at the forefront as they hold some of our most private and important assets – our personal background and financial information.

As we move towards digitisation, we are able to pay for bills and do online transfers from the comfort of our own home with a simple click. Hence, institutions and agencies are continuously studying and practicing ways of enhancing their security features.

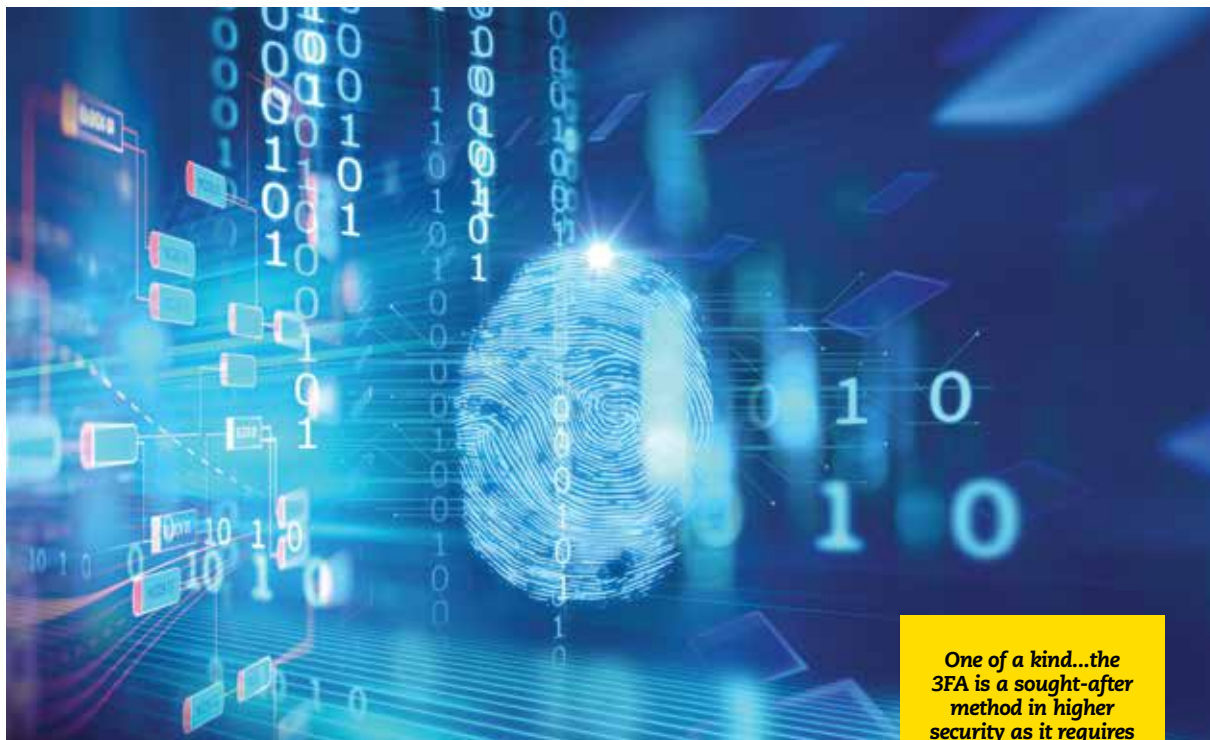
IRON-GLAD SECURITY

In ensuring the safety of our personal assets online, many banks and financial institutions are currently employing layered security features such as the two-factor authentication solution (2FA). This is compliant with the Malaysian regulatory requirements for online banking. The 2FA is a two-step security process that requires users to provide identification from two different channels; “**what you have**” – login credentials and “**what you know**” – security code, i.e. TAC.

Furthermore, multi-layered security has become a popular system among financial institutions and government agencies today. A further step to 2FA would be the 3FA – three-factor authentication. 3FA is simply an additional security factor

Digital security is a top priority in the Fourth Industrial Revolution, where data is closely safeguarded.





One of a kind...the 3FA is a sought-after method in higher security as it requires a distinct genetic trait from the individual that cannot be replicated.

to the 2FA. To better understand, here's a simplified breakdown of the definition:

- *One-factor authentication:* **“what you know”** – password
- *Two-factor authentication:* This is in addition to the first factor, **“what you have”** – code generator (TAC), signed digital certificate or an RSA SecurID fob. Specifically, RSA SecurID fob is a device which produces numbers at a regular interval by using some sophisticated number generation algorithm. The number generator takes some input, including user information, to uniquely generate numbers. When the a computer / system user assigned with the RSA SecurID device wishes to access the said computer / system, the computer / system will be tuned in sync with the current state of the RSA SecurID device to produce the same number. The user needs to submit the number she sees on the device for verification purpose.
- *Three-factor authentication:* In addition to the two factors, the third factor is **“what you are”** – biometrics. Biometric can be further divided into two types, physiological (a fingerprint, palm print, iris scan or retina scan) as well as behavioural

(voice, keystrokes, signature pressure, gait) biometrics.

ADDED LAYER OF SECURITY

Note that the order of what you know, have and are does not matter. The 3FA is a revolutionised extension to the existing security methods today. It requires the physical biometrics information of the individual.

The fingerprint and retinal scan are two of the most common authentication methods practiced. For example, we may have encountered this when doing in-person counter transactions in banks, walking through the automated clearance system at our local airports during immigration or just simply by unlocking our phones. The 3FA is a sought-after method in higher security as it requires a distinct genetic trait from the individual that cannot be replicated.

However, what happens if the individual suffers from a cataract condition, a cold or has a cut on their finger? How will these affect the scans and accesses to their personal information? For starters, mathematical algorithms and patterns are key to identifying genetic human traits in scans. Hence, physical deformities (hand, fingers, and iris) do not actually limit the accessibility as it can be easily healed. The only limit is if one suffers from a severe and irreversible physical condition, requiring the individual

to re-enroll using a new dataset in the system.

Behavioural changes in vocal chords also do not necessarily affect the biometric scanning procedure. The technology works in a way that it captures many unique identifiers that include features such as such as speed, cadence, and pronunciation as well as physical aspects that include the shape of larynx, vocal tract and nasal passages. Banks like HSBC and Barclays are known for implementing this security feature.

As technology progresses, we must continue enhancing our methods of protecting our personal information from falling into the wrong hands. Although the two-factor authentication may be a feasible choice in our current operations, public agencies and financial institutions in Malaysia can explore the implementation of voice recognition or other 3FA methods in general as practiced by HSBC and Barclays in recognising their customers. Of course, this must be dealt with further research to see whether the Malaysian market requires this security feature in protecting our overall personal data. **o**



Ace up their sleeves... Each of the digital success stories that we hear about from Amazon, UBER, Grab, Airbnb and others have all been backed by a financial strategy to make this new future happen.

been backed by a financial strategy to make this new future happen. They were backed by strong private equity money who believe in this new future and were willing to invest billions of dollars in changing consumer habits to grow these blue ocean spaces.

UBER and Grab would not have achieved so much success had they not offered incredible price bargains for customers to realise the benefit of their new business models. While all these companies lose money in the early years, they also stand to make extraordinary profits once their scale increases tenfold. The platform play, global scale and leverage of disruptive technologies enables them to see a non-linear return on investments as the business grows in size. Having a solid financial strategy is thus an important prerequisite for success in this new era.

ASKING THE RIGHT QUESTIONS

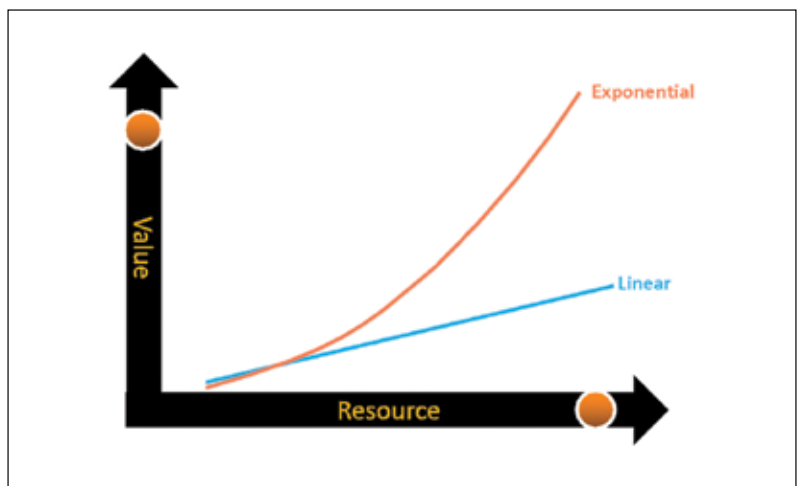
As you look at embracing the 4th Industrial Revolution, we should all be asking four questions:

- What is our digital strategy? How can we leverage the power of the disruptive technologies to develop a new future, to address some of the biggest challenges that our customers are facing?




“So while the terminologies have changed, it can be argued that nothing much really has changed. It’s just about how companies stay on top of these disruptive technologies and use them in new ways to deliver value to customers.”

- How are we innovating our business model? How are we developing new value propositions such as Pay-As-You-Go, developing a platform strategy and a personalisation strategy for customers?
- Is the new strategy yielding a non-linear impact on the business? Are we likely to see an exponential return for the investment in resources over a period of time? If the answer to this question is NO, it means the strategy is still one of the previous era.



- What is the financial strategy and are we ready to back up a digital strategy with a financial one? Are we creating the right incentives for our clients, our teams and our partners to change their habits to partner with us in making this new future happen?

The fourth question is the one that most existing companies have failed to address in their digital transformation play. They expect the same good returns on the new digital business that they see in their current business in the near term. You have to necessarily emulate the financial strategy of the 4th Revolution companies, else we all will face what is called “Death by a thousand cuts”. More companies are dying from a slow and painful death than by the Kodak Moment. 

Manoj Menon was until recently MD and Senior Partner at Frost & Sullivan and a Board member of the Malaysian Industrial Development Authority.

CYBERSECURITY: KEY TO TRANSFORMING INTO A CONNECTED AND INTELLIGENT BUSINESS



Danger looms around every digital corner... Many are unprepared for the growing threats from increasingly sophisticated attackers who are always probing for weakness especially with new digital systems.

NOBODY would like to hear the news that their company has suffered a brand-a-m-a-g-i-n-g, expensive cyber-attack. Within the last one to two years, Malaysia has seen news of massive data leaks or attacks involving personal data of millions of Malaysians. It would be a mistake to think that security should only focus on protecting against these sort of incidents.

While the Fourth Industrial Revolution accelerates the move

to automation and other digital capabilities, it also increases organisations' vulnerabilities on this front. Many are unprepared for the growing threats from increasingly sophisticated attackers who are always probing for weakness especially with new digital systems. Accenture's Security Index cites that researchers believe the costs of cyberattacks could reach US\$90 trillion by 2030.

What does this mean for Malaysia? Are we ready to embrace this rapid shift to the Fourth Industrial Revolution safely? The government has already taken steps to provide for a robust and healthy environment in line with the Malaysia Digital Economic Corporation's (MDEC) projection to have the digital economy contribute 20% of the country's GDP by 2020.

In 2016, it established the world's

first cyber court, and the following year, the Digital Free Trade Zone - another world's first. Most recently, the National Industry 4.0 Policy Framework cited one of the key issues and challenges as being "Digital Readiness & Connectivity - Exposure to cyber threats with increased connectivity and new technologies, especially IoT".

On their part, if Malaysian companies are to succeed in developing superior customer insights, proprietary intellectual property and compete efficiently via digital technologies, they will need a robust cybersecurity strategy to underpin everything.

How does one develop a holistic cybersecurity strategy that is aligned to how the business wants to transform?

LEADERSHIP AND GOVERNANCE: CISO

Who is advising the CEOs or management board on Cybersecurity?

CEOs and boards are increasing their commitment towards cybersecurity to a point where they are taking the responsibility for the company's cyber risks. However, the role of Chief Information Security Officer (CISO) or equivalent is important to identify and address security concerns while companies adopt new technologies and help to answer strategic questions such as:

- How are our security investments helping protect our most-valued assets?
- How does our cybersecurity strategy align with our business objectives?
- Is the business ready for what comes next?



CISOs need to prepare CEOs and board members to think about security differently, because they set the tone for the entire company.

- And can we build on our security to grow the business with confidence?

CISOs need to prepare CEOs and board members to think about security differently, because they set the tone for the entire company. The senior leadership team can ask the tough questions, understand that end-customer expectations are well ahead of security standards and argue that 'compliance box tick' practice is not good enough.

CYBERSECURITY-FIRST CULTURE

Is Cybersecurity listed at the top of your company's agenda?

A large part of a security-first culture has to do with the knowledge, awareness, belief, perception, attitude, assumptions, norms and values of employees regarding cybersecurity and how they manifest themselves in employees' behaviour with information technologies.

To be able to defend and protect against the ever-increasing cyber threats, we must start by developing a culture of cyber resilience within companies. This begins from the top, with leadership setting the tone and managers driving cultural changes throughout the organisation. For example, running a customised campaign for different groups of employees, themed around cybersecurity and the varying forms of threats that may manifest. The aim is not to give "silver bullets", but to create a new culture that everyone understands and accepts.

TRUST: CUSTOMERS AND PARTNERS

Secure by Design and Privacy by Design

Companies are leveraging on the opportunities afforded by digital technologies and new forms of customer engagement. A lack of digital trust can rapidly undermine these goals. Digital security and privacy concerns of customers can affect companies in expected and unexpected ways. The slightest distrust amongst customers and partners may lead to a large business reputational impact. This is amplified in the digital era through the use of social media.

Companies need to persevere to build and sustain the customer's trust along the digitalisation journey by ensuring their data is handled with a "Secure by Design" and "Privacy by Design" mindset.

CYBERSECURITY INVESTMENT

How much \$\$\$ is enough to be secured?

There isn't a straightforward answer to the question of "how much is enough to be secure?". First, we need to answer the question of "did we get the basics correct?". Have we made the correct investment in ensuring we are able to defend ourselves from intruders who maliciously target a customer, use our infrastructure to attack our competitors and/or attack our own business-critical assets or 'Crown Jewels'?

Getting the basics correct is not an easy task, else we would not see or hear successful ransomware attacks, the majority of which could have been avoided with "getting the basics correct".

The next question that needs to be answered is "how much innovation is available to improve your cybersecurity and data protection?". Cyber attackers find it far too easy with all the new technologies and new ways of getting into your company. The use of innovative technology - such as but not limited to AI, machine learning, advanced cyber analytics and blockchain - would help companies to learn, identify unusual activities and neutralise a cyber threat. In summary, we need to have the right level of funding for cybersecurity to understand the critical importance of the basics and the need for cutting-edge innovation. Both sides of the equation are "must haves".


CYBERSECURITY STRATEGIC PARTNER

Who can help you?

There is no "finish line" in securing your company, the silos between business units and teams needs to be broken. Strong security partnerships with organisations that have the expertise, global resources and advanced technologies to create integrated, practical services that are specifically tailored to your industry and business goals will be crucial to defend and fight against cyber threats.

CONCLUSION

For companies on the journey towards becoming an intelligent business, digital innovation opens up a whole plethora of new business value. However, the risks of not protecting critical business assets go beyond corrective measures from cyberattacks.

Customer trust for one, is hard to quantify but could impact performance for years. It is time cybersecurity becomes a board-level agenda, right alongside business strategy as it is key to enabling the safe expansion and transformation of every company. As businesses make it a priority, alongside the government's efforts, all stakeholders can then see a secure and safe Malaysia Reimagined. 

This is a contribution by Mark du Plessis, Security Senior Principal and Saidoo Arivindran, Security Consultant Senior Manager, of Accenture.

A PERFECT FIT FOR ANY OCCASION

STRATEGICALLY LOCATED IN THE HEART OF PETALING JAYA AND ADJOINED TO ONE OF THE MOST SUCCESSFUL AND POPULAR SHOPPING CENTRES IN ALL OF MALAYSIA, THE **ONE WORLD HOTEL** HAS A PROVEN TRACK RECORD IN SUCCESSFULLY HOSTING BUSINESS GATHERINGS, CONFERENCES, MEETINGS AND CONVENTIONS. BE IT FOR BUSINESS OR LEISURE, THE HOTEL READILY ADAPTS TO FIT THE MOULD FOR ANY OCCASION.



CONVENIENCE is a deciding factor when it comes to choosing an event venue, but with its proximity to the recently developed Bandar Utama MRT station just a mere three-minute walk away, or the taxi and bus services found at the adjoining 1 Utama Shopping Centre, One World Hotel sets itself apart from the rest in terms of accessibility.

THE RIGHT MIX

The hotel also boasts a spacious Imperial Ballroom which can be partitioned into three separate ballrooms, alongside a sizable foyer where registration and other booths can be set up. This presents the perfect opportunity to host multiple events, talks, or conferences at the same time. With its majestic chandeliers adding a touch of class, comfortable seatings, and high definition projectors, it ticks off all the boxes in providing the most conducive environment possible for attendees.

For events that require the use of smaller spaces, the hotel also features fifteen function rooms

perfectly equipped with state-of-the-art audio and visual systems to cater to breakout sessions or discussions. Understanding that the running of large scale events are no easy task, the hotel also provides services in the form of a well-trained team of dedicated Convention Services professionals on hand to ensure your event is smooth sailing.

As an added bonus, the hotel comes with its own comprehensive on-site Business Centre which offers services such as copying, printing, faxing, high-speed internet, office equipment, office supplies, shipping and receiving.

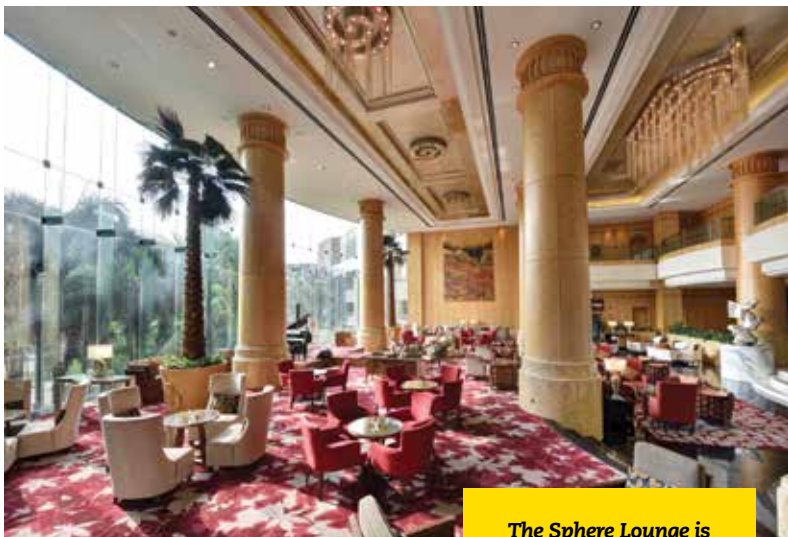
The centre also comes equipped with broadband internet connectivity, private workstations and two well-appointed meeting rooms. This is a haven for attendees who have urgent teleconferences or important correspondence to attend to, without interrupting the main event space.

PALATE PLEASERS

It goes without question that food can make or break the mood, and this is even more evident when it comes to breakfast meetings, business luncheons or corporate



The majestic Imperial Ballroom.



The Sphere Lounge is perfect for a networking cocktail session.

dinners, where discussions take place.

One World Hotel answers the call by providing two ideal locations to host such events. First up, their award-winning Cinnamon Coffee House is famed for their extensive buffet spreads and live cooking kitchen concept to spice up your dining experience. There is also a cosy garden terrace perfect for smaller group events. Serving up the best of both Western and Asian comforts that caters to a range of taste buds, satisfaction is guaranteed from one end of the table to the other.

Another venue would be the Zuan Yuan Chinese Restaurant which would take guests on an oriental journey set amidst the backdrop of antique earthenware and framed cutlery on display. Exuding a warm and inviting ambience, the restaurant specialises in

authentic Cantonese and Teochew dishes. The restaurant can also accommodate approximately 380 guests in its main dining area, and is complemented by six private dining rooms seating up to 100 people.

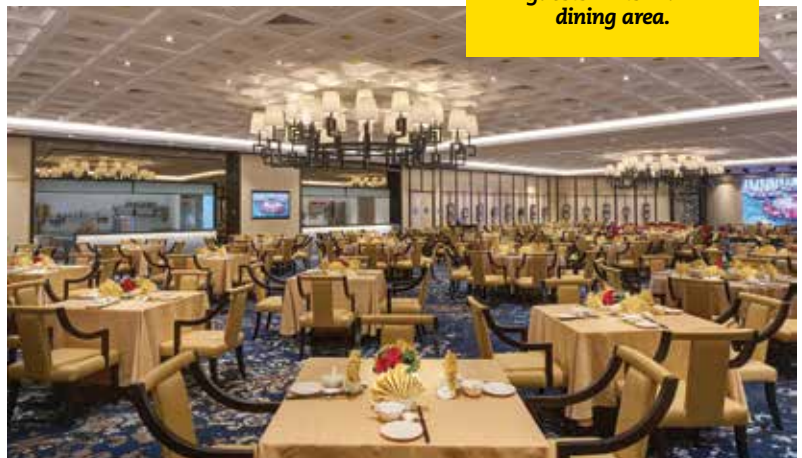
EXPANDING THE NETWORK

Perfect for business gatherings or networking cocktail sessions, The Sphere Lounge features a sleek and sophisticated design with its plush carpets flooring and modern furnishings. Large floor-to-ceiling glass windows give the venue an added dimension, with views of the picturesque greenery enough to put attendees at ease.

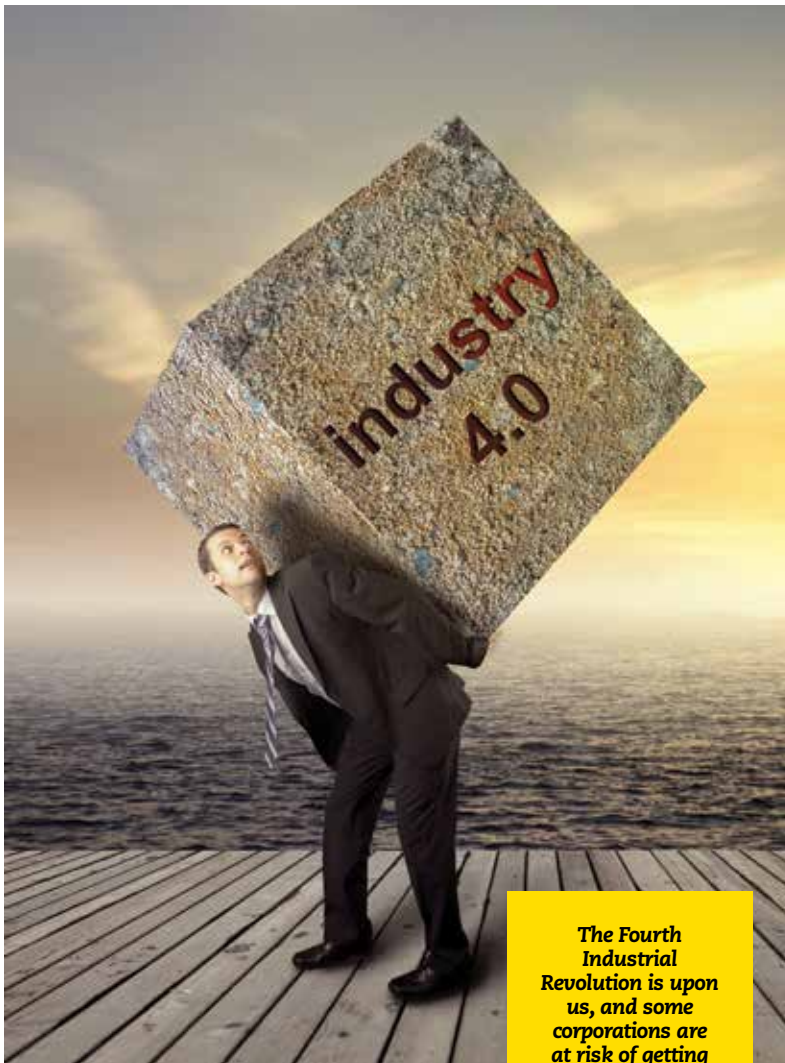
Attendees are able to mingle with one another and exchange thoughts within a calming environment, enhanced further with soothing tunes from the lounge's resident pianist. An array of delightful traditional afternoon tea, snacks and desserts offer some tasty bites to give you that boost of energy to walk up to the next booth and expand your network.

Consistently rising to any occasion, One World Hotel truly sets the bar when it comes to catering to the needs of its guests in the highest of standards. **0**

Zuan Yuan Chinese Restaurant can accommodate 380 guests in its main dining area.



THE FOURTH INDUSTRIAL REVOLUTION IS HERE ... NO, HAS BEEN HERE ...



The Fourth Industrial Revolution is upon us, and some corporations are at risk of getting squashed.

THE Fourth Industrial Revolution has been with us for a while but it is dispersed initiatives, in little dots across the landscape and in innovative pushes by niche players. Now, it has become mainstream. If you are not ready yet, prepare yourselves to get steamrolled! Yes, get ready to be flattened out by a self-controlled, AI-driven algorithm that has just discovered another luddite caught in a time-warp!

Truly, the 4th IR is all around us, if not all over us. But let's focus on something interesting – the sector that has often been dumped with the service sector, but has many industrial features: the Retail Sector!

A FEW VIGNETTES TO TAKE NOTE OF

- Amazon Go - where you can purchase products without being checked out by a cashier or a self-checkout station - may look like a distant speck in silicon valley, but not anymore! A clone has already been launched in nearby India. Watasale, is a fully-automated shop, that has sprung up in Kochi, Kerala, where you can just pick up an item and walk out. The price is automatically charged to your e-wallet.
- Zume Pizza in California (not again!), is letting robots make their pizzas. Custom-built robots not only spread sauce more evenly and use blazing-hot ovens, they also cook over 50 pizzas during delivery to the customer.
- As early as 2016, a start-up called Flirtey partnered with Domino's in New Zealand to launch their first commercial drone delivery service.
- Closer to home, Malaysia has its fair share of successes in the area wherein Ideotics, a Cyberjaya-based business, uses CCTV video, already installed in retail stores, to help them manage staff and stocks, besides giving deep insights into shopper profiles and behaviours. Other than that, Moving Walls, based in Technology Park Malaysia watches you, as you watch billboards! It captures digital footprints from multiple sources, measures people and personifies any physical location.



One pizza please, Monsieur Robot...Zume Pizza in California is letting robots make their pizzas.

HARNESSING THE POWER OF INTELLIGENT DEVICES

At the heart of all these are some basic technologies that are, oddly enough, available to all of us. Artificial Intelligence and Machine/Deep Learning technologies are increasingly sitting in tiny chips that are connected to the internet and/or cloud infrastructure to make the Internet of Things (IoT) a reality.



Get ready to be flattened out by a self-controlled, AI-driven algorithm that has just discovered another luddite caught in a time-warp!”

Here’s a quick overview on how these intelligent devices work:

1. Data capture devices ranging from wifi trackers, tiny cameras, RFID and Bluetooth devices or QR Code scanners collect data such as smartphone owners, people movement, stocks placement, location markers, etc and pass the data to custom-developed applications.

2. The application software processes these inputs and collects additional needed information by connecting to social media and other rich sources of information on the internet.
3. This larger data pool is then analysed using tools like artificial intelligence and deep learning to arrive at insights or actionable options, which are delivered back to Users, be it shoppers or retail store managers.
4. Finally, Business Intelligence tools like Altair SmartSight present this information in easily readable formats like graphs, infographics and dashboards direct to the smartphones of the users. Shoppers may get information on the latest promotions and sales on items they are interested in; store managers may receive data on shoppers interested in their products, or even how they should pitch their product to the right shopper at the right time.

Obviously, this opens up huge opportunities of all kinds, namely these three:

- Young tech-savvy entrepreneurs get easy access to the latest technologies that can be designed, tested and installed at very low costs.
- Corporations get the opportunity to change the way they do business to keep

up with the ever-increasing demands of their customers.

- Managers can now monitor their staff, stocks as well as assets, without expensive and difficult-to-manage supervisors, spread all over the countryside.

But, here’s the catch...remember the old adage “every problem is an opportunity in disguise”? Well, the reverse of this is equally powerful - “every opportunity soon becomes a problem in disguise”. We ignore these opportunities at our own cost. Sooner than later, not very far away, a twenty-something year old is coding away a solution that will make life much easier for your customer – and makes your product or service unnecessary. That is why it is important to remember that every new opportunity has the potential to make your product redundant! Every change has the inherent threat of turning your product obsolete.

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History is replete with huge companies that waited for this to happen - Kodak, Nokia, Xerox, Yahoo, Blackberry, to name a few. The list is long and studded with names that were very respectable - once upon a time! Surely, you don’t want to join this “elite” list! **O**

Sri Vadrevu is Founder-CEO of SigMax-e Services and Ideotics. Most recently, he co-authored “9 Entrepreneurisms”, now in its 3rd Edition.



Digital natives and tech-savvy consumers are on the rise, and traditional methods of capturing their attention are insufficient.

BRACING FOR CHANGE

THE Fourth Industrial Revolution is here to stay and its impact has been felt by all industries. Technology has not only changed the way businesses operate, but has altered the behavioural patterns of consumers. Change is not necessarily a bad thing, and the success of an organisation lies in how quick they embrace the change, and how they incorporate it across their value chain.

Prof Datuk Dr Marimuthu Nadason, President of the Federation of Malaysian Consumers Associations (FOMCA), shares his thoughts on the benefits of the Fourth Industrial Revolution, how technology is changing consumer behaviours as well as the importance of data and its corresponding regulations in today's world.



Virtual shopping is the future...Online shopping is picking up, with many brick and mortar superstores closing down and going digital.



Connection is key...Big data allows companies to look into new areas of growth, make informed decisions on their marketing strategies as well as international branding.

AGE OF BREAKTHROUGHS

Under the banner of emerging technologies – Analytics, Artificial Intelligence and Internet Of Things have been successfully incorporated into various sectors, to improve efficiency and productivity across the board.

“What were once futuristic ideas have already materialised into the present reality. Take for example artificial intelligence in the medical field, where a medical diagnosis can be produced faster than a radiologist and with pinpoint accuracy,” said Prof Marimuthu.

He went on to highlight that autonomous vehicles are currently being developed with the hopes of a safe and reliable driverless car not far in the horizon. Not only would this reduce road accidents and incidents of drunk driving, it would improve road safety and security. Many concerns have been raised concerning the safety aspect of autonomous vehicles with recent incidents skewing public opinion on the matter, but nevertheless, there’s still vast potential in this sector.

When we talk about the construction industry, we aren’t just talking about smart homes with sensors. According to Prof Marimuthu, houses can now be build entirely using a 3D printer, with speed and accuracy that

far surpasses the human capacity. This would also reduce excess waste – heading towards a more sustainable form of construction. Whilst this works in the favour of the industry and Mother Earth, people also need to think about how this will affect labour, and what technical skills are required to meet demands.

Blockchain, on the other hand, could potentially revolutionise the banking and finance industry, offering the utmost transparency to all parties. Virtual transactions and business deals do away with tedious paper procedures and smoothen the entire process.

“I could easily draft out a virtual agreement with a third party, insert the conditions and allow my partners and stakeholders access to the agreement. Once the conditions of the agreement have been met, I would then make the payment, verifiable by the third party. The entire trail is documented virtually and in real time so that all parties are aware of any new change at any given time,” explained Prof Marimuthu.

“Companies need to realise that if they fail to deliver seamless customer experience, there are multiple other platforms that the customer can readily jump ship to.”



Prof Datuk Dr Marimuthu Nadason, President of the Federation of Malaysian Consumer Associations (FOMCA).



Keeping customers protected...several laws and regulations have been put in place to shield customers from being taken advantage of by companies.

A NEW MARKET

It's no secret that digital natives and tech-savvy consumers are on the rise, and traditional methods of capturing their attention are insufficient. According to the FOMCA President, customers are now more educated and make informed decisions when it comes to choosing products or services.

“Think of it this way – if you walk into a shop, nearly every product on the shelves would have been, in some way or other, reviewed online. Depending on your biases towards a brand or certain review sites, you would then make your choice. There are even sites which compare products of similar category, allowing you to get your money’s worth.

“Online shopping is also picking up, with many brick and mortar superstores closing down and going digital. However, based on our NCCC Annual Report, the most number of complaints received were concerning online shopping. Companies need to realise that if they fail to deliver seamless customer experience, there are multiple other platforms that the customer can readily jump ship to,” said Prof Marimuthu.

Here is where data analytics steps in, as they are able to leverage on data collected from customers into predicting their behaviour. With this information, brands would be able to devise key strategies in attracting and

retaining customers. Simply by analysing their purchasing history and preferences, brands would be able to ensure a solid engagement with the customer, increasing their loyalty for the brand.

Consumers may also rejoice with the breakthroughs in the product packaging and process systems which ultimately have increased transparency and efficiency. Companies are now coming up with new innovations to ensure reduced product damage rates. Logistics would also see a reduction in costs as robotics and AI are able to customise packaging sizes and weight. Less materials are wasted which also improves packaging sustainability as well.

SHIELDING CONSUMERS

As President of FOMCA, Professor Marimuthu is well-versed in the laws and regulations that consumers can turn to to protect their rights. One such law is the Consumer Protection Act 1999 which provides protection for consumers through the establishment of the National Consumer Advisory Council and the Tribunal for Consumer Claims.

“Through this act, consumers are essentially safeguarded from any product, service or process that endangers their life in any way. The supplier would also be required to provide adequate information on products or services so as to not mislead the public and affect their

purchasing decision. Consumers are also granted the freedom to purchase any products and the right to know if they are priced appropriately and distributed through reliable channels.”

According to the professor, in the case that a product or service in which you have purchased is unsatisfactory or incurs damages, you have the right to claim compensation from the company.

The rise of online platforms have also led to the establishment of the Consumer Protection (Electronic Trade Transactions) Regulations 2012. The electronic trade transaction regulations 2012 applies to any person who operates a business through website/ the online market place for the purpose of supplying goods or services, whereby the online marketplace operators have a duty to make known their details, any and all terms and conditions applied to the sales, full prices of said goods and services, payment methods, product description, and estimated delivery time.

RISE OF BIG DATA

It's no secret that with the dawn of technological advancements, data has rose to become a precious commodity. Big data is now analysed and utilised by many companies globally, allowing them to look into new areas of growth, make informed decisions on their marketing strategies as well as international branding.

According to Prof Marimuthu, data collected from customers is currently stored in cloud and source code hosting providers, which would then be used to track their contact details, addresses and purchasing preferences. Consumers are the primary target group as many online shopping sites requires one to ‘sign up’ whereas physical stores offer loyalty cards which typically entails you signing up a physical document.

However, people should also be cautious when giving out personal data as cyber breaches are a very real threat in this day and age.

“Take for example the recent case in Malaysia where 46.2 million mobile numbers were leaked online in October 2017, which breached the Personal Data Protection Act 2010.

“Now this is by far nothing new as it has occurred in the US and many other countries where technology is utilised to process data. The key takeaway is that data should not be taken lightly. There are numerous ways in which people with ill intent can make use of this data, especially when it comes to scams.”

Because of technology and digitalisation, companies need to work towards preventing data breaches by strengthening their authorisation procedures. There needs to be an increase in transparency across all value chains – if a company is transparent in anything they do, that’s value added. Transparency is the keyword worldwide; it’s important for the financial market, the government, and investment purposes.

THE ROLE OF GOVERNMENTS

The topic of automation potentially leading to increase joblessness is an ongoing debate with no clear victor. On one hand, if repetitive jobs can be

automated, staff members can take on higher value work. On the other hand, can organisations successfully incorporate these technologies, and restructure their organisation so that employees can be moved into new areas?

Prof Marimuthu also strongly believes that marketing and sales will not be automated as the human element is predominantly there. However, he also understands that AI is constantly improving and there’s no telling what new attributes it would have.

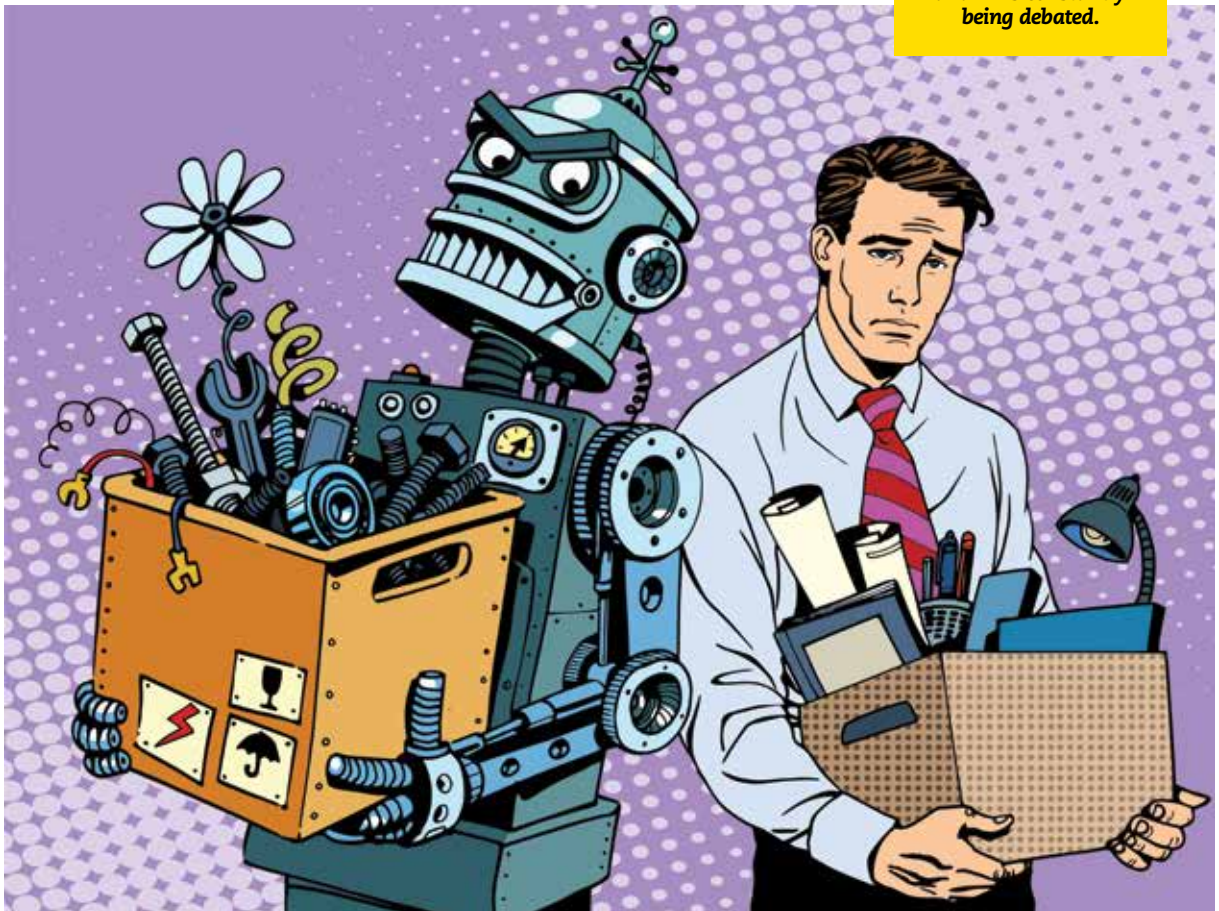
“Automation is everywhere. Sure, there will be new jobs arising from it, but this is mostly in the IT and digital sectors. You must also consider those at the lower end of the value chain. If these jobs are automated, what are these people going to do?” he remarked.

This brings us to another major roleplayer in the Fourth Industrial Revolution – governments. Protecting the job market, regulation companies, harnessing emerging technologies to increase productivity and efficiency, and mitigating effects of these new technologies all fall under the government’s jurisdiction.

“I’ll be very honest with you. The government needs to put a restriction. They have a responsibility to limit the number of graduates in the field to decrease joblessness due to oversupply. At the end of the day, it’s up to the government and how they approach these challenges. With all the technological changes, there’s bound to be an impact – each, with their respective pros and cons. For businesses, it could mean huge savings, but for people in general, they will risk unemployment.”

“These are just some of the many benefits and challenges I feel that have arose as a result of the Industrial Revolution 4.0 but I honestly believe that we have only just scratched the tip of the iceberg. There’s just so much potential in this sector if done right. We must be able to establish the groundwork for this Industrial Revolution, else we can’t hope to be prepared for the next one.”

The threat of rising unemployment by RPA and AI is constantly being debated.



EVOLVING ROLE OF CFOs IN THE AGE OF DIGITAL DISRUPTION

TVT CHARI, FORMER GROUP CHIEF FINANCIAL OFFICER (CFO) OF AXIATA SHARES HIS INSIGHTS ON THE EVER-CHANGING ROLES OF CFOs, THE IMPACT OF DIGITAL DISRUPTION ACROSS VARIOUS INDUSTRIES, AS WELL AS THE KEY PARAMETERS TO DRIVE DIGITAL TRANSFORMATION WITHIN COMPANIES.



TVT Chari, former Group Chief Financial Officer of Axiata.

As the world around us continues to evolve, mankind in turn needs to keep up. Adapting is one thing, understanding is another; indubitably, changes wrought by the Fourth Industrial Revolution will dictate the ebb and flow of businesses. These changes will determine – depending on the speed of adoption and understanding of these alteration – which will rise, and which will fall.

Every decision-maker in the top management has a role to play in steering the business forward. If the CEO is likened to the ship's captain, then the Chief Financial Officer is Chief Mate. After spending 36 years in the finance sector – eight years of which he spent as Group CFO of Axiata – he believes that the role

of a CFO is no longer just about cheque books and balance sheets.

THEN VS NOW

Back in the '80s – the age of irksome phone cords and elaborate note-foldings – the role of a CFO revolved primarily around financial efficiency, transactional processing with the latest technologies a company can get their hands on.

That role then evolved in the 2000's, where it prioritises partnering with the business through business process reengineering and leveraging on technology. However, in 2010, the goal shifted to being

more on value creation and preservation. This involved balancing performance and risk, having a holistic approach, and focusing on integrated finance and business transformation.

"The question CFOs should be asking themselves is, where do we go from here? In my experience, the role of CFOs of the future can be



**CFOs are
integral to a
company's rise
or fall.**

seen through four faces: a catalyst, strategist, operator and steward.”

According to Chari, as a catalyst, CFOs would need to stimulate behaviours across the organisation to achieve strategic and financial objectives, whilst at the same time being a strategist that is able to provide financial leadership when it comes to determining strategic business direction and aligning the right financial strategies.

CFOs also have the unique responsibility of acting as a steward for their organisation in terms of protecting and preserving their assets. Finally, they must also take on the reigns of an operator with regards to balancing capabilities, cost and service levels to fulfill the organisation's financial responsibilities.

“This does not mean that CFOs are strategists, or tech gurus – more importantly, they need to be asking themselves whether they are aware of what's happening around them. Are they able to drive changes in the organisation?”

Aspects such as keeping the books clean, maintaining healthy business control, installing structured processes in the organisation are all hygiene factors that need to be taken care of, regardless of disruptions, as it is part and parcel of the role. However, a CFO

must also understand the impacts these disruptions may bring to the organisation and oversee the sustainability of the business in this environment.

“A CFO who has mastered the art of juggling all four faces, is on the right track. To put it simply, CFOs need to start to think like a CEO, but act as a CFO.”

GAME-CHANGING DISRUPTORS

One of the most popular buzzwords resulting from the Fourth Industrial Revolution is “Digital disruption”. Approximately 72% of businesses will be disrupted within the next three to six years, which leaves CFOs with a short time frame to enact change. Digitalisation is causing ripples of concern throughout varying sectors as early adopters are disrupting the market.

Essentially, traditional brick and mortar companies are being replaced by click and mortar companies. It comes at no surprise that 60-70% of the expanded business is going to be taken over by the likes of Amazon or Lazada. Scalability is fast, and companies are able to expand globally as well. One great example is Uber; not only have they disrupted the face of public transport, but have also successfully scaled their operations globally in a seamless and efficient manner.

Digital disruption is not only affecting businesses, but consumers as well. Five years prior, the average consumer would think twice about purchasing a product on Amazon or Lazada. Today, there's almost no hesitation, and consumers trust these online shopping platforms as much as they do with local retailer. Therefore, the focus is now on quality of service and customer engagement.

“From my own experiences as Group CFO, I received anywhere between 1000 SMS's to 1500 SMS a day during festival days. Today, that number has dropped to zero. We used to have RM1.5 billion on SMS revenue alone, and now, it has reduced significantly to almost zero. Roaming revenue both inbound and outbound have come down dramatically. The other traditional brick and mortar telcos in the same sphere are no longer competitors. With the ease of access to the internet, our competitors are now WhatsApp, WeChat, Line, Skype, Facetime and so on. WhatsApp alone is eating up 50-90% of voice and SMS revenue. The game has changed.”

SHIFTING MINDSETS

The psychology of consumers are also rapidly changing, as seen in the hospitality industry. Traditionally, guests would go to a hotel, check in for their stay and leave, without much engagement. With Airbnb now being a major disruptor to hotels, both guests and hosts are able to provide feedback or ratings on each other using technology.

“The way I see it, there’s an interesting concept at play here. We believe that a higher power is constantly watching and we strive to always do the right thing. When you are in an Airbnb home, the end results of how well you host your guests or how well the guests treat the home is monitored and judged via technology such as online feedback and comments. We always do the right thing when we know someone is watching”, Chari said with a smile

Harnessing the right technologies to help grow the business is another important aspect of be-

Big Data Analytics should be leveraged in order to give companies the competitive edge.



The question CFOs should be asking themselves is, where do we go from here? In my experience, the role of CFOs of the future can be seen through four faces: a catalyst, strategist, operator and steward.”

ing a CFO. “Am I radically going to simplify the business? Though I would still have check and balances, it should be carried out with a system. Technologies such as Artificial Intelligence needs to drive the process rather than putting a bunch of people to check and recheck.”

Even the healthcare industry is evolving wherein people are investing more on prevention as

opposed to cures. Now, there are gadgets that will allow for the early detection of diseases such as DNA sequencing chips. It works by analysing your blood and telling you in advance, which diseases you are prone to.

“Another interesting area to look at is national defence. The wars of tomorrow will not be fought by humans brandishing guns, but by technology. Drones capable of using facial scanning, will lock on selected targets and zoom in for the kill. These drones are fitted with AI, capable of telling people apart and avoiding collateral damage. However, cybersecurity needs to be beefed up in order to prevent hacking of such technology.”

EMBARKING ON THE DIGITAL TRANSFORMATION JOURNEY

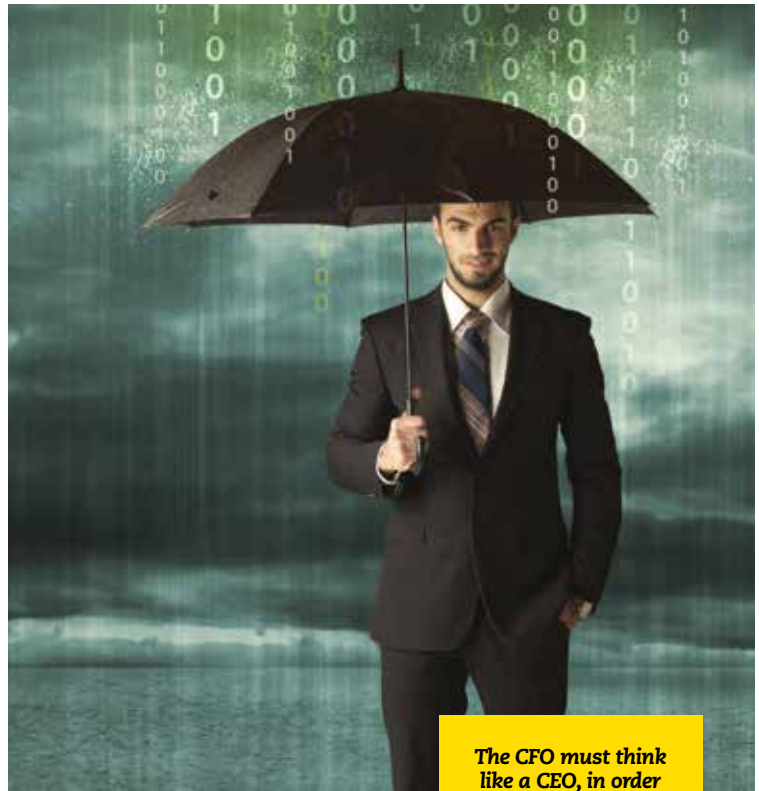
Change is something that cannot happen overnight, and the same can be said about businesses of today. Every business is on the same journey towards digital transformation, albeit at different stages.

“There are three essential things a company needs to achieve. They must be able to innovate their business models to better suit their customer needs; radically simplify the business in which they operate,





Am I radically going to simplify the business? Though I would still have cheques and balances, it should be carried out with a system. Technologies such as Artificial Intelligence needs to drive the process rather than putting a bunch of people to check and recheck.”



The CFO must think like a CEO, in order to brace the company for the oncoming disruptive storms.

and finally - digitalise by using emerging technologies. The last of these three entails an extensive use of data to drive business decisions.”

CFOs are tasked with spearheading the generation of hypotheses, and technology is integrated in order to test them.

“Let us assume we have 4000 employees and 1700 supplies in an organisation. We then came up with a hypothesis to see if the address, phone number, name will match for these two diverse set of data points, We then used Data Analytics to gather information to test it out the hypothesis. As a result, we managed to cross-reference every name, contact number and addresses between suppliers and employees, searching for a match. And indeed, matches were found and we caught seven employees acting as suppliers.”

Similarly, CFOs should actively generate these hypotheses, as the thinking process is what refines the organisation. Mundane work can be given to chatbots and AI, whilst higher value works are undertaken by employees. Technology will then analyse all the variables and either support or disprove the hypothesis.

When it comes to the business model, those that are successful are the outliers, stepping away from the norm. Hewlett-Packard

does not make money by selling printers, as the cost of a printer is affordable. Their larger revenue stream comes from selling ink cartridges. Rolls-Royce is one of the main manufacturers of aircraft engines, and they make their revenue not from selling the engines themselves, but through lengthy maintenance contracts.

“Conventional business methods have no place in this era. If a CFO is unable to be strategic in their thinking, opportunities in the market will be overlooked. We must leverage on data to drive our business decisions. Do not fear disruption, and once you have an innovative solution, be rigorous in its execution.”


BIG DATA, THE ‘BIG SHOT’

Big Data allows organisations to analyse massive volumes of data (in both unstructured and structured forms) to improve decision-making and strategic business ventures. From a financial standpoint, there are four things which big data can help with; it could drive increment in revenue, drive down costs, reduce capital expenditure, as well as detect frauds.

During Chari’s stint as a CFO, they conducted a study to determine the number of people who were awake and actively download-

ing information using the internet between the hours of midnight till 4 AM. Once the results of the study came in, the company was able to create a more behaviour-based psychographic segmentation. Analytics and hypotheses were then used to determine a suitable value proposition that can be offered to customers.

Addressing these challenges and major sustainability questions are a part of risk mitigation exercise for any Board and Board audit committees. They need to drive transformation within the organization so that the risks are addressed in a timely manner. The Chart below defines the areas to address to mitigate the risks. This can’t be delegated to a smaller department but should be driven by the CEO under the Board’s guidance

“At the end of the day, I believe that the role of a CFO is to step away from the traditional model and be open-minded. This means being closer to the business and understanding technologies and how it may impact the organisation. They need to be able to compete with the click and mortar companies. If not, then the company will soon become the next Kodak.” 

AN AMALGAMATION OF COLLIDING OPPORTUNITIES



Opening new doors... the 4th IR offers a wealth of opportunities that will challenge our present abilities that range from security, to processing applications.

HOW DID 'WHAT' HAPPEN?

It comes as no surprise that we discover the animal-machine industrial revolution 3.0 is making a silent exit. This forward advancement is enticed by new value and economic horizons. What might be a bit shocking is the realisation that the advent of personal computing was not the catalyst but merely a participant.

As we race about preoccupied by social distractions, the lure of intriguing technologies, a wide assortment of entertaining outlets and the need for essential daily self-promotion, we failed to see it coming. We felt a certain level of uneasiness as a result of disruptions and an even more unsettled confusion about where to vest our energies, but we most likely passed it off as normality. What really was happening behind the scenes was a rather significant shift in paradigms. A shift that embraced cohesion between us and the changing role of machines from purposeful to dutiful.

Klaus Schwab – Founder and

Executive Chairman of the World Economic Forum, is credited for shedding light on this emergence in his book *The Fourth Industrial Revolution*. Some would contend that his views reflect an economist's view. While this conjecture has some truth, one cannot help but wonder if there were deeply seated opportunities that finally emerged from the depths of the collision of technologies that has been emerging for at least the last two decades.

WHAT DOES IT ALL MEAN?

It's time to reassess ourselves. Most likely, our earlier confused ambitions will be further challenged with the possibilities that exist. At the centre of this assessment is the question of our 'cohesive formula', the combination of the participa-

tive give and take. We will find a wealth of opportunities that will challenge our present abilities that range from security, to processing applications.

Our journey into reexamination will challenge initiatives on the drawing boards, those underway and routine maintenance being exercised. Fortunately, the transition into the 4th IR is not definitive but fluidic, it will take years to achieve even with the present technologies and know-how, despite the rapid rates that we operate at.

One must understand that the 4th IR is not in full form. Contributing technologies remain as works in progress, some serving as wonderful examples illustrating possibilities and will remain in their infancy possibility to disappear and then reappear at a much later time during the course of the revolution.

An example that some of you may be familiar with was the learning machine demo carried out by Google. Undoubtedly, though this introduction was captivating and appealing, it also showed that there remained improvements to be made. However, this wasn't about immediate proficiency but rather to draw attention to the possibilities that exists. It also signified the importance of cohesion and how separation can become a major destructive event.

THE 4TH IR INFLUENCE ON YOU

From a high vantage point, I personally am not too worried about the 4th IR. What is troubling is the issue of cohesive relationships and by the means it can be achieved. Cohesion is in some ways interfacing relations, but the key difference being an intelligent virtual passive gateway. An interface is a solid relationship between one or more entities, the intelligent virtually passive gateway is one in which state/conditional events trigger the interfacation. In short, process-driven interfaces vs. event-driven cohesive gateways.

In non-technical jargon, it could equate to your interactions with

a range of suppliers based on a particular event taking place. This would be unlike routine day-to-day interactions such as showing your ID to a security guard. A similar situation in the context of the 4th IR would be self-driving cars that use a myriad of components to allow for intervention based on conditions, even reverting to manual human override.

To achieve cohesion, we shift from the concept of negotiation to one of controlled permissiveness. We control what we provide and permit other elements to enjoy. At the same time, we acquire cohesion from other participants and it is quite likely that there will be a slow rate of growth in this regard.

Don't expect full access from the onset, but as we grow and learn as to the extent of the possibilities, there will be a need for change. We will also see a broadening of the number of cohesive relations being formed that far exceed the number of interface relationships that exist.

Peer negotiations and agreements will be formed to usher in the formation of cohesive gateways. Credibility will be a key factor that will determine the speed and the permissiveness given in this newfound relationship. The effects to which will radically change the organisational and operational dynamics of business.

The Software Engineering Institute (SEI) measures and awards engineering maturity based on the Capability Maturity Model

Integration (CMMI) framework, yet only 5,000 companies have been assessed. This leaves us with the question as to how much credibility and trust can be assured?

First of all, an assessment is a measure of conditions, and these set the climate for credible capability. However, it is not a guarantee but an indication that the positive potential exists. It will ultimately be the deployment of these pragmatic virtues that will determine control, trust, credibility and ultimately durability in cohesion that is a backbone mandate of the 4th IR.

NATIONAL CHALLENGES ON LAGGING NATIONS


Everyone will be touched by the 4th IR in some shape or form. It is likely that most will face ambitious challenges. New enablers and the dynamics of human thinking will place the degree of flexibility at its limits. One concern with the 4th IR centres on governments who have made gradual, but slow, adopting of technology in the 3rd IR paradigm.

Initiatives involving the digitisation of records, eCommerce and the shift into a participative role in the Internet of Things (IoT) for service delivery, continues to lag behind commercial enterprises. This gap in maturity burden the evolving process of the 4th IR by creating delay. Inevitably, there will be a need for revisions of legislation, the removal of intra-agency separation, and the introduction of laws relative to privacy, security and use of data.

This creates not just disadvantages, but reshapes the way we would go about adopting and adapting. We must not ignore the importance of giving attention to human capital in both the science of the 4th IR and also the social adaptations that must be undertaken. Do not take this imbalance lightly, as a nation can no longer be considered an island in the global context.

At the most fundamental levels, disaster preparedness and relief are critical elements that will benefit from the 4th IR. Through early detection and damage assessment, automatic robotic deployment of resources or artificial intelligence applied to reconstructive efforts can be deployed. But without information from the affected nation, these elements of the 4th IR are inefficiently and expeditiously hobbled.

Given these conditions, all governments must act and assess now. This will not be an easy feat and will be one that will require an internal spirit of reshaping the government and discontinue the age-old practice of pillar protection. It will tear down barriers between nations if there is a hope that the 4th IR will be a positive shift.

In many of the market collaboratives (ASEAN, NAFTA, and EU), these discussions have hardly started and their tone has remained diplomatic. Sharing and collaboration may be the main objective but operationally, they remain 



One concern with the 4th IR centres on governments who have made gradual, but slow adoption of technology in the 3rd IR paradigm.

staunch self-promoters using the collective as a simplistic show of strength. Therefore it will be the individual governments themselves that will have to undertake this exercise.

In some recent broad-based discussions, I asked the question about feasibility. To my surprise, most organisations felt they were ready to accept the challenges of 4th IR. But when questioned further, these opinions were based on specific technologies like analytics, robotic process automation (RPA), industrial robotics and dabbling in artificial intelligence (AI). It was not based upon cohesion and the interaction between man, industry and physical conditions.

This was universally the case for all industries represented in these informal discussions, leaving us to believe that there remains a lot of work to be done and mindsets to change. A resounding need for guidance, unbiased coaching and active facilitation was shared by all that were making decisions or contending with the 4th IR engagement efforts.

Attention must be given to the 4th IR recipients, specifically the global societies made up of individuals. Will the 4th IR deprive select groups, whether it be based on economic status, age or even social responsibilities that may raise concerns about the 4th IR misuse? Keeping in the mind that cohesive interaction between the 4th IR elements will create global visibility – unless contained, the inner soul of governments, busi-



In the course of our lifetime, you will experience revelation and revolution. Your forward and compelling path will be driven not by appeal but by opportunistic value that can be created.”

nesses and individuals will create potential opportunities for misuse.

One cannot rely simply on negotiated cohesion but must also take action within our own enterprises to manage exposures accordingly. Also, present day attention to data privacy remains an ongoing concern and attention continues to be given (initial attention afforded back in 1974 Data Privacy Laws and subsequently adapted to address Transborder Data Sharing and commercial management of customer data), which will greatly help the cohesive relationships formed under the 4th IR.

THERE IS NO CONCLUSION

The 4th IR is here and now. It is no more avoidable than a screaming child in a crowded plane. The

question isn't whether we respond but rather how we will do so. Most certainly we may be not entirely ready but have we ever been? It's for this reason that we must rely upon the skills, training and experience developed over the course of the 3rd IR.

We know that we need to:

- Have a vision that is cohesively thinking beyond the present to a landscape of opportunities.
- Bolster pragmatic engineering and decision making paradigms to advance credibility.
- Center our focus on the landscape and not the elements that comprise the present list of the 4th IR attributes.
- Encourage others to advance their efforts in order to affect a positive and expedient growth in the 4th IR.
- Cast aside silos/pillars that inhabit a productive role in the 4th IR and accelerate the potential in others who are bonded with us.
- Seek help to engage the necessary contemplation, free thinking, and create abject independence that is free from defensive bias.

The 4th IR is powerful, and as with most change, quite risky if engaged in a haphazard way. This is not simply about technological utilisation but empowerment. A competency that remains a vested responsibility of humans to inapt technological servitude.

Humans will always play a stewardship responsibility in the delivery of deployed unified cohesive solutions. Our transition will not be without challenges, but it will also carry with it advances that can achieve greater fundamental social value. **o**

Jerry E. Durant is the Founder & Chairman of 3rdLAW.



Ensuring all issues are fixed...we must rely upon the skills, training and experience developed over the course of the 3rd IR.

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