The Impact and Challenges of Post Covid-19 on SMI/SMEs
Digitalization in Malaysia

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The past 22 months have been a challenging period for everyone be it the general society including you and me, the business community, as well as leaders of countries, in battling the unprecedented phenomenon of the Covid-19 pandemic. Never in modern history have countries had to ask citizens around the world to stay home, curb travel, and maintain physical distance to preserve the health of families, colleagues, neighbours, and friends. And never have we seen job loss spike so fast, nor the threat of economic distress loom so large. In this unprecedented reality, we have also witnessed the beginnings of a dramatic restructuring of the social and economic order—the emergence of a new era that we have come accustomed to refer to as the “new normal”. In deed the Covid-19 pandemic has had a profound impact on lives and livelihoods around the world including our business community, especially the small and medium enterprises (SMEs).

In most countries including Malaysia, SMEs account for the vast majority of companies that contribute to value added activities within the economy and employment. In Malaysia, SMEs represent 97.2% of overall business establishments based on the 2020 data (Department of Statistics Malaysia, December 2020) and account for 48% of total employment. Even within FMM’s own membership, SMEs make up close to 74% of our total membership base.

We also know that the Covid-19 pandemic has had a profound impact on the economy and performance of businesses over the last two year period. According to the Department of Statistics Malaysia, SMEs registered a nominal Gross Domestic Product (GDP) of RM512.8 billion in 2020, decreasing its contribution to Malaysia’s GDP from RM533.5 billion in the previous year or from 38.9% to 38.2%. This was also the first time the SMEs’ GDP performance was lower than Malaysia’s GDP since 2003 with a negative growth of 7.3% compared to national negative growth of 5.6%. Moving from SMEs at the national level to the manufacturing sector, Covid-19 has also caused the SMEs in the manufacturing sector to register value added of a negative growth of 2.9 % from a positive growth of 4.5 % in 2019. I believe we all know the reason for the weaker SME performance which is the Covid-19 pandemic and the ensuing lockdowns imposed by our government.

Clearly, statistics show that SMEs have a vital role in economic development; in offering job opportunities; and in contributing towards the national trade balance. However, the Covid-19 pandemic has thrown SMEs into a very challenging operating environment with the imposition of lockdowns has led to reduction of sales, backlog in exports, cash flow problems, increase in operation and logistics costs, employment, etc. The pandemic has impacted SMEs both on the supply and demand side. On the supply side, companies experience a reduction in the supply of labour due to the measures to contain the disease by lockdowns and
quarantines which lead to further and more severe drops in capacity utilisation including the distinctions of essential and non-essential sectors. In addition, workers were also being affected either by contracting the virus or being exposed as a close contact thus having to be quarantined as well as some having to look after children or other dependents while schools were closed and movements of people were restricted. Furthermore, supply chains were interrupted leading to shortages of parts and intermediate goods. On the demand side, a dramatic and sudden loss of demand and revenue for SMEs severely affects their ability to function, and/or causes severe liquidity shortages. Furthermore, consumers also experienced loss of income, fear of contagion and heightened uncertainty, which in turn reduced spending and consumption. These effects are compounded when workers are laid off and firms are not able to pay salaries. Some sectors, such as tourism and transportation were particularly affected, also contributing to reduced business and consumer confidence.

In order to stay afloat there are many quick actions that SMEs could take with adoption of digitalisation and technological solutions being at the forefront of action apart from others such as exploring new ways to do things, diversification of business activities, introducing new products, exploring new markets and increasing productivity in the new normal.

Digitalisation has always been seen as increasingly useful for SMEs to improve efficiency and competitiveness. The case of digitalisation among SMEs prior to the Covid-19 pandemic was however not clear as digitalisation had always been perceived as complex, costly and unnecessary. However, contrary to the notion that it is unnecessary for SMEs to digitalise due to their small scale, SMEs stand to benefit massively from adopting digital technologies as use of digital technologies would significantly improve SME productivity be it in social media, e-commerce or even in management solutions. SMEs have primarily digitalised in fundamental technologies and not in more complex digital solutions which is also one of the reasons for them lagging behind the larger firms. Digital adoption has mostly concentrated in computing devices and connectivity and less prevalent in back-end business processes such as inventory management, order fulfilment, accounting, administration, communication, data processing, document handling and even in using cloud computing and data analytics in their business processes. During the lockdown period, many SMEs experienced difficulties with their online connectivity and communication with customers and suppliers and even could not support work from home as their systems were still very manual in nature and they lacked the resources and expertise to move the processes to a online/virtual platform. As a result, the low pre-Covid SME digitalisation level especially of the back-end processes resulted in significant implications on SME business performance and survival during the Covid period as it impacted their ability to keep business operation going during the lockdown period.

It must be acknowledged however, that prior to the Covid-19, Industry 4.0 & digitalisation was starting to gain attention and was an area of great interest to many SMEs. It was an exciting topic with huge potential benefits and was widely regarded as a future thinking topic since it was seen to be able to assist companies to transform their operations in many aspects ranging from production efficiency to product customisation, service effectiveness and also online transactions i.e. e-commerce. However, many had yet to take the bold steps to start assessing their gaps and addressing those gaps with the appropriate solutions which could have helped to reduce the severity of the impact of the Covid-19 pandemic and the lockdowns on their business operations and sustainability.
We see now that due to the Covid-19 pandemic crisis, there is a great sense of urgency for companies especially the SMEs to accelerate their digital strategies to adapt to the ‘new normal’ to maintain sustainability, competitiveness and respond quickly to rapid market demands. We see the need to accelerate digitalisation over a very short span of time over a wide area of manufacturing activities and processes.

The centre stage of the digital strategy would be to move to a cloud platform to enable business to be run from anywhere and not having to rely on physical presence in an office or manufacturing plant. Cloud computing will transform virtually every facet of modern manufacturing from how companies operate to how they integrate into supply chains and how they design and fabricate products. The benefits of cloud computing in manufacturing are endless. From lowering the cost of production to encouraging innovation, manufacturers will reap the many benefits and advantages of this growing technology. From the supply chain to the shop floor, from distributors to end customers manufacturing cloud platforms will offer unprecedented benefits and a chance to better connect with players across the value chain. Cloud computing is the best and obvious solution in facilitating agility and digitalisation at factories in this new normal of business operations.

Secondly would to take business online given the many restrictions in movement and business closures making physical or offline sales very challenging. Covid-19 has brought about great disruptions in the form of surges in orders, disruptions in supply chains, changes to customer behavior, store closures, etc. and also affected traditional B2B sales methods significantly: sales and marketing representatives visiting customers face-to-face isn’t an option anymore. Ordering through catalogues is also very out-dated, and the pandemic has accelerated their phase-out. Ultimately, B2B customers want a B2C experience. They would like to see product listings online, access tailored pricing, order online and charge it to their company account. SMEs would need to think about responding to these new and evolving demands and it makes a strong case to shift to online business. E-commerce platforms swiftly. Moving to an online/e-commerce platform would also require a seamless and integrated platform.

Many companies including SMEs were probably already looking into automation including robotic process automation as a means of cost savings and improvements to efficiency as their long-term digital transformation. The Covid-19 pandemic exposed much inefficiency in operations including the reliance on manual processing and high density of workers in a particular location. It has pushed for the need to fast track the adoption of automation including robotics and sensors for the pain points in operations as an immediate digital transformation solution and probably even at a higher intensity than planned earlier in order to adjust to the movement restrictions, remote work and need to ensure adequate social distancing at the workplace thus reducing reliance on the physical presence of employees and/or density of workers in production areas to ensure business continuity and stability in the event of any further lockdowns or infections at the workplace.

At the same time, SMEs must also look at digitalisation in the back-end business processes such as inventory management, accounting, worker management, office administration, communication, data processing, document handling, as well as other key processes including design, marketing, etc. This would allow for a more nimble business operation that would be able to weather any future disruptions of similar impact and at the same time improve productivity and efficiency which all organisations would be pushing for in regaining business sustainability.
However, not all SMEs are able to move into full digitalisation mode immediately given the ever pressing challenges of financing, employee skillset and technology expertise. They continue to need assistance in terms of expertise and financing to close automation gaps and identify the right technologies which would bring them towards the next level of digital transformation and industrialisation. Hence, facilitation to take businesses online, adopt digital tools, position their products online, etc. is something that must continue to focus on for SMEs.

The Government has introduced various forms of assistance for SMEs in getting them digitally equipped to face the future of manufacturing and the new norm of business operations brought about by the Covid-19 pandemic. For one SMEs should register with the Ministry of International Trade and Industry (MITI) on their Industry4WRD Readiness Assessment exercise which will subsequently enable them to get some financial assistance for their technology implementation. The Government has also via the various government stimulus and support packages introduced the Smart Automation Grant and SME Digitalisation Grant to help the SMEs plug the gaps in their digital skills and technology infrastructure and reshape their business in their recovery process.

At the same time it is acknowledged that SMEs are also struggling to build the right digital team and have limited resources to invest in new solutions and talent. Large companies with greater resources are attracting most of the tech talents, as they are able to meet salary expectations. SMEs have to rely on developing the right digital skills across their current workforce via the many up skilling and reskilling training programmes including TVET programmes offered by the Government to upgrade their employees’ skillset to adjust to the new business landscape and to support the company’s digital transformation.

It is also understandable for SMEs to find it overwhelming to undertake a massive digital transformation given the challenges that they face particularly in terms of availability of resources. It is important for SMEs to understand that their digital transformation journey can start small and in segments addressing the more crucial areas via a proper assessment of their gaps and with the right digital strategies. For a start, SMEs should structure their digital strategies within their capacities and resources instead of looking at deploying complicated, high-end solutions as the only way to transform.

Last but not least, my call to action to all SMEs is to build resilience while operating in the new normal for business recovery, continuity and sustainability, and execute your plans including your digital transformation within your respective capacities and capabilities while making use of all the assistance that has been introduced by the Government and continue to be mindful of the Covid-19 situation while we move from a pandemic to an endemic phase.

SPEAKER PROFILE – Tan Sri Dato’ Soh TL has more than 34 years of experience in the steel industry and corporate management. He is the Executive Deputy Chairman of YKGI Holdings Bhd, and is currently serving as the President of Federation of Malaysian Manufacturers (FMM); Vice President of National Chamber of Commerce & Industry of Malaysia; Board of Director of Malaysian Investment Development Authority (MIDA), Ministry of International Trade and Industry; Audit Committee Chairman, MIDA and Board Member of Malaysian Qualifications Agency (MQA); Immediate Past President of Malaysian Iron & Steel Industry Federation; Council member of Malaysian Steel Council (MSC); Founding member and Director of Malaysian Steel Institute; Council Member of Malaysian Standard & Accreditation Council, Ministry of Science, Technology & Innovation; Member
Moving Sustainable and Scalable Digital Transformation Forward of SMI/SMEs in Malaysia

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IR4.0 started after concept of cyber physical system was introduced in 2006 but it was not take-off until 2013 when Germany felt that the timing was right, hence they formed the Platform Industrie 4.0 in 2013 and coined the term “Industry 4.0” to distinguish manufacturing sector to others in IR4.0, followed by introducing RAMI 4.0 in 2014. Since then, IR4.0 in manufacturing is going to cross from concept to development stage. IR4.0 in the manufacturing industry is no longer just an idea but the direction to move forward.

Malaysia manufacturing industry particularly those enterprises established 1990s or earlier, are still in the early stage of IR 3.0. Although some of them may use customised or off-the-shelf software to support their operations, the production operations still remain traditional, silo machines and lack of digital connection from shop floor to top floor for the business operations. They are facing the challenges such as data integrity, timeliness data for operations and managing the disparate systems is a nightmare. As a result, more operation expenditure on the redundant works, errors being made frequently, slow responses to customer’s request and services not up to expectation.

Digital transformation from IR3.0 into IR4.0 or beyond is a journey. It has to be executed step by step upon the capacity and capability of an enterprise. Hence, we have to focus on the main concern rather than feeding then too many information particularly the technology enablers. It is too overwhelming until they loss their focus, what are the main concern? What should we do to help them? Based on our experiences to deal with the enterprises in the manufacturing industry, there are two major concerns, the first one is sustainability, and the second one is talent.

A successful digital transformed enterprise; it has to sustain it as long as the business is still on going. Hence, selection of digital solution is important. Digital transformation starts from digitization of physical or silo process into a digitally connected process. It needs a reliable and well-established digitization solution. Process data is collected and visualized through dashboards. Further from here, we need to have different functional systems to utilize the substantial amounts of data being collected for production and business operations. We called it the digitalization of processes or services. Hence, market needs to provide the digitalization platform to help enterprises to create functional systems for digitalization. This software
based platform must adapt the change and able to scale vertically and horizontally, perform data management and manufacturing chain management (MCM).

The second major concern is talent shortage especially the talent for digitalization with skill set required by the manufacturing industry. As an academician, we have responsibility to support the industry. Hence, we design a new diploma in digitalization programme. It is a vocational programme. Also, short courses based on Germany reference architecture i.e. RAMI4.0 to up skill and reskill the workers in the manufacturing industry.

SPEAKER PROFILE – Dr. Lee Wah Pheng is the Associate Professor in Tunku Abdul Rahman University College. He worked in the manufacturing industry for 10 years and more than 20 years of business and education industry experiences. Dr Lee is a pioneer and consultant in Industry 4.0. He works with a team of researchers and industry partners to develop a holistic digital solution suitable for the small and medium enterprises to start their digital transformation journey. He also leads a team to design a comprehensive digitalization course for vocational institute to train more skilled workers. The aim is to ease the digital solution and skills shortage faced by the enterprises. Dr. Lee has a passion and is willing to share his knowledge for helping the enterprises to start their digital transformation.
industry 4.0 is not a new topic, and many manufacturing leaders had adopted industry 4.0 in some areas. The decisions for selecting IIOT partners are based on technical expertise and the strength of the platform/technology suite.

The key technology that CIO is now focusing on includes device management, data management application enablement, ease to use, security analytics tools and integration in the platform. We know the importance of industry 4.0 and also understand the difficulty in establishing and deploying and to scale-up. Industry 4.0 is a not just a revolution that suddenly changes the way we work. Selecting the correct solution suite to deal with a specific pain-point and deploy a modularized solution is a good way to start. Many SME especially those in the discrete manufacturing such as manual assemble production facing difficulties to transform into smart manufacturing or adopt IR4.0.

One of the Advantech iFactory Suite, Productivity Optimization suite is a set of management systems and tools for production tracking, scheduling and status reporting. In other words, it is to digitize your manual workflow production to improve the production performance. It also provides data transparency, real time information and workflow management. With data connector module, Production Optimization suite can communicate with ERP/MES system and combining with rich visualization dashboards, all this information can be visualized and any actions or decisions can be made immediately.

Demand for digital transformation is shifting from connectivity and data extraction to integration with IT systems such as ERP and MES to drive and gain business value from data and analytics. These shifts will enhance IOT technologies, and ease of operation in IT, OT, and IOT. Advantech iFactory Solutions can combine technologies and applications to enable users to quickly adopt, integrate, and reduce the overall cost of deployment.

SPEAKER PROFILE – Ryan Lai is Advantech Regional Business Development Manager focusing IR4.0 solutions and Cloud solution in ASEAN region. With his engineering background, he had been involved in many projects for various vertical markets and successful deployed with appropriate eco-system partners, System Integrators & channel partners.
Empower Hybrid Work Model in the Post COVID-19 Era using a Cloud-Based Enterprise Resource Planning (ERP) Solution

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In this era, SMEs are challenged by changes in the business environment. Businesses ought to be equipped with tools to anticipate and respond well to risk and opportunities that arise. In this current time, the most significant impact comes from the COVID pandemic, that is affecting communities and nations. Businesses are also equally impacted by it. It is important to realize then the significance of establishing working environments and platforms that business are providing for its staff and stakeholders to perform their task, and the ability to make accurate decisions based on data and evidences at hand. Here is where, Cloud Based Enterprise Resources Planning comes to fill in the gap in providing the channel and information to meet these challenges in the Post COVID-19 Era.

SPEAKER PROFILE – Ian John is a Sales practitioner with over 12 years of experience. He is currently pursuing a Doctoral degree in Technology, with a Masters in Data Science. He worked for SAP and SAGE in the past as a Channel Sales Manager covering Malaysia with over 100 partners in his portfolio. He is currently the Country Head for Simplify Consulting Sdn Bhd. He is passionate in the area of helping SMEs transform to becoming a Digital Enterprise.

AI Learning & Development, All in Huawei CLOUD ModelArts

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AI is one of the 26 most important GPTs in human history and has a great impact on socio-economic development. Various industries want to use AI in new products and services. However, AI is not easy to adopt. There are high requirements to computing power and developer's ability. Therefore, as an enterprise that helps industries implement ICT transformation, Huawei has launched ModelArts, a one-stop AI development platform. I will introduce how ModelArts helps developers lower the barriers to learning and develop with AI, and use scenarios to illustrate various aspects of AI adoption in the industry.

SPEAKER PROFILE – Richard Lin, a HUAWEI CLOUD AI developer ecosystem expert, co-founder and board member of the KAIYUANSHE (an open source alliance in China), and expert of the Open Source Cloud Alliance for Industry (OSCAR), has been engaged in the open source industry for more than ten years. Focus on open source/developer ecosystems, open source governance, community operations, and business models.
Transforming Unstructured Data into Actionable Insights through Artificial Intelligence

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Nowadays, it’s no secret that business decisions are data-driven. Data analytics has become one of the biggest drivers for getting important business values and better business performance management. While companies are collecting more data than ever before, many struggle to figure out what to do with it. We have to transform the data into actionable insights to make appropriate decisions.

In addition to structured data, unstructured data, such as image, video, audio and texts are getting more and more common. The entire data analytics processes, for both structured and unstructured data, can be automated by applying appropriate artificial intelligence solutions. In this talk, I will introduce how to turn both structured and unstructured data into actionable insights automatically. Different use cases (using real data sets) will be introduced and demonstrated in the talk too.

SPEAKER PROFILE – Dr. Yu Yong Poh received B.Eng. and PhD degrees from University of Malaya in 2008 and 2016. He is now serving at AirAsia Academy, AirAsia as a lead technical trainer. Dr. Yu’s main research areas are signal and image processing, data science and analytics. He has completed and delivered a number of consultancy (industrial) projects. He has been actively involved in multiple industry-academic collaborative projects. His industry projects include digital marketing, healthcare, sentiment analytics, Industry 4.0 and internet-of-things (IoT) applications etc.

OCTANE - Creating Digital Twins to Help Opening Business Opportunities through Asset Data Integration and Sharing between Enterprises

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Creating digital twins help opening business opportunities through manufacturing vertical integration and value-chain integration. Digital twins, aka digital assets, are things that are to be digitally connected for value creation. The data obtained from the integrated systems allow businesses to create insights on how to increase profits, perform more accurate customer-centric marketing, reduce cost by maximizing productivity and quality at shopfloor, and improve product lifecycle management. A use case, namely One-Piece Manufacturing through Individualization Solution (OMIS), is jointly developed by Tunku Abdul Rahman
University College and more than 10 technology industry players, to showcase a mini Industry 4.0 factory. OMIS is designed based on the Reference Architectural Model Industrie 4.0 (RAMI 4.0), which is published by Plattform Industrie 4.0 and ZVEI from Germany. The use case demonstrates a proof of concept on the emerging manufacturing paradigm, where the manufacturing is focusing on C2M model, driven by the customers' personalized orders. Octane, as one of the technologies used in the showcase, is a software platform that enables both vertical and horizontal systems integration for data exchange in real time. Octane ensures data timeliness, data integrity and data sovereignty during the communication between different systems.

SPEAKER PROFILE – Dr. Lim Yee Mei received her PhD in Artificial Intelligence from De Montfort University, United Kingdom. She is currently the CEO of GMCM Sdn. Bhd., a technology company that offers Industry 4.0 services and solutions for SMEs. Together with her team, they aim to reduce SMEs challenges in their digital transformation journeys. They have developed a methodology and a digital framework to ease the SMEs business digitalisation processes. The core product of GMCM, namely Octane, is designed to ensure customers' digital data timeliness, data integrity and data sovereignty.