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**OUR BIZ SERIES:** 





Sharing is good, and with digital technology, sharing is easy."

- Richard Stallman

**IN** an era defined by rapid technological evolution, our world is undergoing a profound metamorphosis. The digital landscape, where bytes weave the fabric of our daily lives, has become an intricate tapestry of opportunities and challenges.

The media and digital sphere, where innovation converges with information, has never been more dynamic. We find ourselves standing at the intersection of disruption and progression, surrounded by the ceaseless hum of technology forging new pathways.

The clamouring voices for attention in the digital realm can sometimes drown out the essence of meaningful content. Fake news, cybersecurity threats, and information overload are hurdles we must navigate. However, it is precisely in the face of these challenges that the true potential of digital transformation shines through.

As leaders, we grapple with guiding our organisations through this digital transformation. It requires not just an adaptation to new technologies but a fundamental shift in mindset—a commitment to innovation, agility, and the relentless pursuit of excellence. This magazine aims to provide insights and perspectives to empower you in your digital journey.

Amidst the challenges lie unprecedented opportunities. Digital transformation can democratise information, enhance connectivity, and drive industry efficiencies. The fusion of data analytics, artificial intelligence, and emerging technologies opens doors to uncharted territories of innovation, laying the groundwork for a future where businesses thrive in the digital ecosystem.

Hence, in this edition of Fourth Leap, you will find insightful articles and case studies by visionaries shaping the digital land-

scape. Together, we will explore the nuances of digital transformation, dissecting the challenges and celebrating the victories that illuminate our path forward.

We aim to deliver a delightful feast of wisdom and insight from minds worldwide. So, sink your teeth into thought-provoking contributions

by ambitious leaders, bright scholars and innovative independent thinkers! We hope our content will ignite interesting conversations – be sure to let us know what you think!

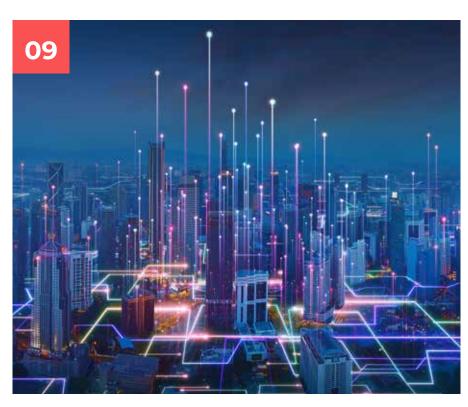


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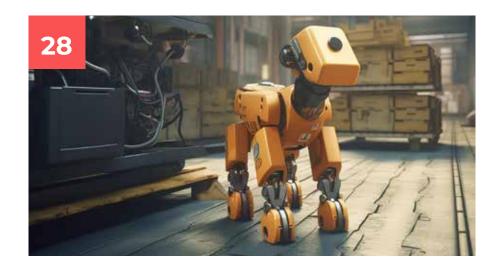












# "Al for Rakyat" a Step Towards Making Malaysia Top Global Al Hub, Says Rafizi

**THE** "AI for Rakyat" is a self-learning portal to introduce artificial intelligence (AI) to the masses and to rid fears that AI will replace humans, says Rafizi Ramli.

The economy minister said that the self-learning portal, designed by the Economy Ministry and Intel, will bring AI to the masses in four languages - English, Malay, Mandarin and Tamil.

The minister further said that the government has a target of one million Malaysians being able to master AI skills in three years.

"The country's aspiration to be a higher income nation can be realised with technology such as AI. This is because a report stated there is a potential to generate US\$113.4 billion in Malaysia if AI technology is used in all sectors.



"Malaysia has set the aspiration of launching the 'KL20' blueprint to place Malaysia among the top 20 countries globally that offer the best ecosystem to incubate start-up businesses," said Rafizi, pointing out the potential to reset Malaysia as the ASEAN gateway for AI technology.

He said that to ensure it becomes a reality, there must be a robust ecosystem and an open policy on data and talent.

# **NVIDIA (NVDA) Taps Southeast Asia Amid China Sales Restriction**

**NVIDIA** Corporation NVDA is focusing on deepening its business relationship with Southeast Asian nations amid growing tensions between the United States and China, as evidenced by some recent events. Over the past week, the co-founder and CEO of the U.S.-based semiconductor company, Jensen Huang, has visited three Southeast Asian countries: Singapore, Malaysia and Vietnam.

During his visit to these nations, Huang stated that Southeast Asia could be a critical technology location. Considering the region's expertise in packaging, assembling and battery manufacturing, he believes it can play a significant role in the semiconductor supply chain.

During his trip to Malaysia, NVIDIA signed an artificial intelligence (AI) infrastructure deal with the Malaysian conglomerate YTL's subsidiary, YTL Power International. Per the agreement, the two companies will work together on building AI capabilities at YTL's data centre complex in Kulai, Johor. The first phase of the project is anticipated to be operational starting mid-2024. The deal is expected to be worth US\$4.3 billion.

# Offside Technology Set for Landmark Debut at Asian Cup in Qatar

**THE** upcoming AFC Asian Cup in Qatar is set to feature the innovative Semi-Automated Offside Technology (SAOT), previously showcased at the FIFA World Cup last year.

This marks the technology's first appearance in a major Asian men's football tournament. The SAOT operates using 12 high-precision cameras installed around the stadium. This strategy is further emphasised by the full-scale implementation of the Video Assistant Referee (VAR) system throughout the Asian Cup.

The VAR system, which made its partial debut during the quarterfinals of the 2019 tournament, will now be a standard feature, ensuring a more fair and consistent application of the rules.



# Philippines to Propose ASEAN Al Regulatory Framework

**THE** Philippines plans to propose creating a Southeast Asian regulatory framework to set rules on artificial intelligence (AI) based on the country's draft legislation, the speaker of its Congress said.

At the World Economic Forum in Davos, Martin Romualdez said on a panel that the Philippines would present a legal framework to the Association of Southeast Asian Nations (ASEAN) when it chairs the bloc in 2026.

"We'd like to give a legal framework to the ASEAN as a gift. Even in our economic policy, digitisation is very much right up there as a priority. Alongside that is cybersecurity and the concomitant concerns and issues as generative artificial intelligence, a field that needs much support and regulation. We feel that we can capitalise and optimise these developments in ASEAN, but within a regulatory support framework for this," he said.



# Smart Glasses Are Fun for Users — But Could They Violate the Privacy of Others?

AUGMENTED reality glasses, often called smart glasses, can certainly make life easier for the wearer, but what about everyone else within view? Researchers from Cornell University warn that smart glasses can potentially create a major "power imbalance" between the haves and have-nots. More specifically, researchers warn someone wearing such glasses could covertly Google your face or record your conversations without your knowledge.

The results showed that while people wearing smart glasses usually report declining anxiety, the opposite held for everyone else. Most current AR glasses superimpose virtual objects and text over the wearer's field of vision to create a "mixed-reality" world, similar to the futuristic display Tony Stark sees in his glasses in the Marvel comic movies.

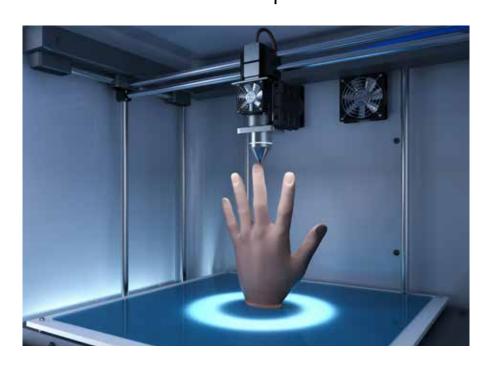


# Researchers Successfully 3D Printed Hand with Bones, Ligaments and Tendons

**RESEARCHERS** have successfully printed a robotic hand complete with bones, ligaments and tendons made of different polymers for the first time. The breakthrough was possible thanks to a new laser technique.

Researchers at ETH Zurich, who conducted the work, believe it opens up new possibilities for producing robotic structures that combine soft, elastic and rigid materials.

"Robots made of soft materials, such as the hand we developed, have advantages over conventional robots made of metal. Because they're soft, there is less risk of injury when they work with humans, and they are better suited to handling fragile goods," ETH Zurich robotics professor Robert Katzschmann explained.



# SingPost Advances Digital Innovation in Integrated Logistics with Generative Alfrom Google Cloud



**GOOGLE** Cloud and Singapore Post Limited (SingPost) announced a strategic collaboration to accelerate SingPost's digital transformation journey and drive its next phase of sustainable

growth. This multi-year collaboration aims to empower SingPost employees with easy-touse AI-powered tools, helping them boost productivity, streamline repetitive tasks, and foster seamless collaboration with external partners and customers.

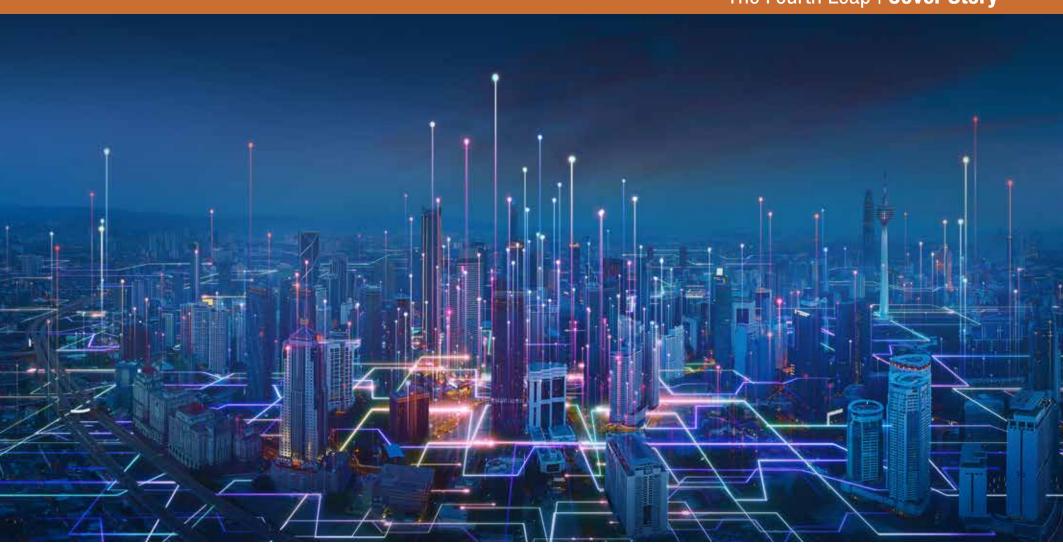
The company will run its business on Google Cloud, empowering employees with enterprise-grade AI tools to reshape eCommerce logistics and achieve productivity gains.

# MIDA Emphasises Technology Adoption, ESG Practices for Sustainable Investment Ecosystem

THE Malaysian Investment Development Authority (MIDA) is committed to unearthing cost-effective mechanisms aimed at accelerating investments in sustainable projects in sectors such as renewable energy, hydrogen and green growth, in line with the government's aspiration for net-zero emissions by 2050.

According to MIDA chairman Tan Sri Dr Sulaiman Mahbob, emphasis has been placed on promoting research and development (R&D) activities and identifying the latest technology trends and emerging technologies. "Collaborative efforts with industries, both local and foreign R&D institutions, as well as technology providers are also pursued," he said.





# FUTURE OF WORK: NEW-AGE RISKS AND IMPLICATIONS IN A DIGITALLY ENABLED WORLD

THE DIGITAL ECONOMY CLOSELY RELATES TO HOW DIGITAL TECHNOLOGIES ARE INTEGRATED WITH THE ECONOMY.



# FOURTH LEAP

By Bobby Varanasi

# **Digital and General Economics**

Digital Economics is the economic activity resulting from billions of online connections among people, businesses, devices, data, and processes, where humans and technology collaborate online.



These digitalised sectors phenomenally give rise to the Fourth Industrial Revolution. However, the term is evolving on how digital technologies, services, products, techniques, and skills are integrated across economies in digitalisation.



Meanwhile, the general economy comprises all economic activities across the production-consumption continuum, with exchange and distribution as critical elements. Would this, therefore, mean that the digital economy is a subset of the general economy, or is there more to it?"

The digital economy also relates to how digital technologies are integrated with the economy in general. Various definitions can make the digital economy's financial impact challenging to measure. For example, a small store might use an e-commerce platform to expand its sales to include an entire nation or region, or a farm might use consumer trend forecasting to pivot to more plant-based products.

Significant value is derived from leveraging digital solutions across all sectors, with marketing, scalability, access, customisation, and real-time (and predictive) provisioning. The debate that digital should exist alongside the general economy is being morphed into a conclusion that all economics would be digital (and not just enabled). What would the future of work (jobs, roles, accountabilities, skills, resources, etc.) look like in the near future?

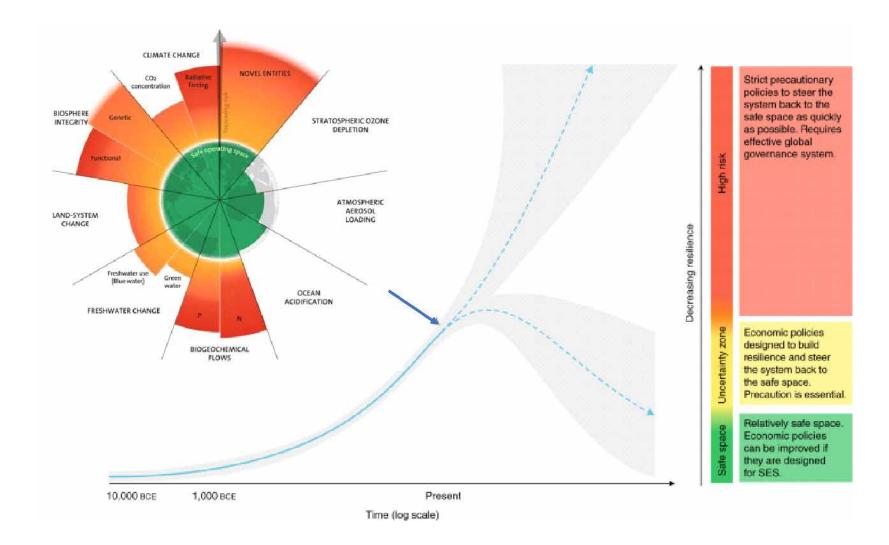


For platform-centred businesses, such as on-demand ridesharing apps or accommodation bookings like Airbnb, digital-focused models illustrate how connected technology changes the way consumers shop and what they demand for services. The world of convergence – digital into general economics – has resulted in new avenues, as evidenced by platform-centric solutions and business models that go beyond products/ services to encompass new types – namely data-centric keys.

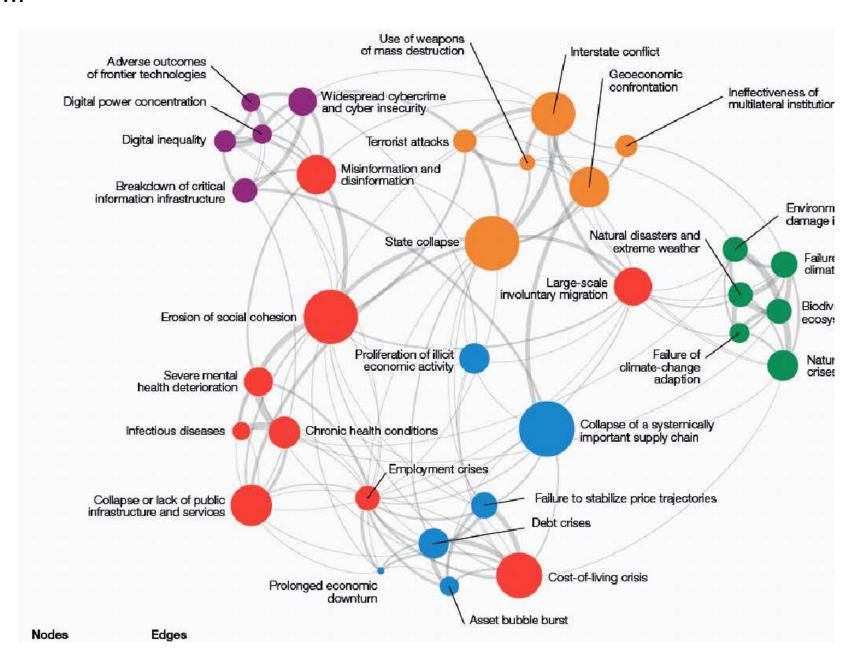
## **Risks and Implications**

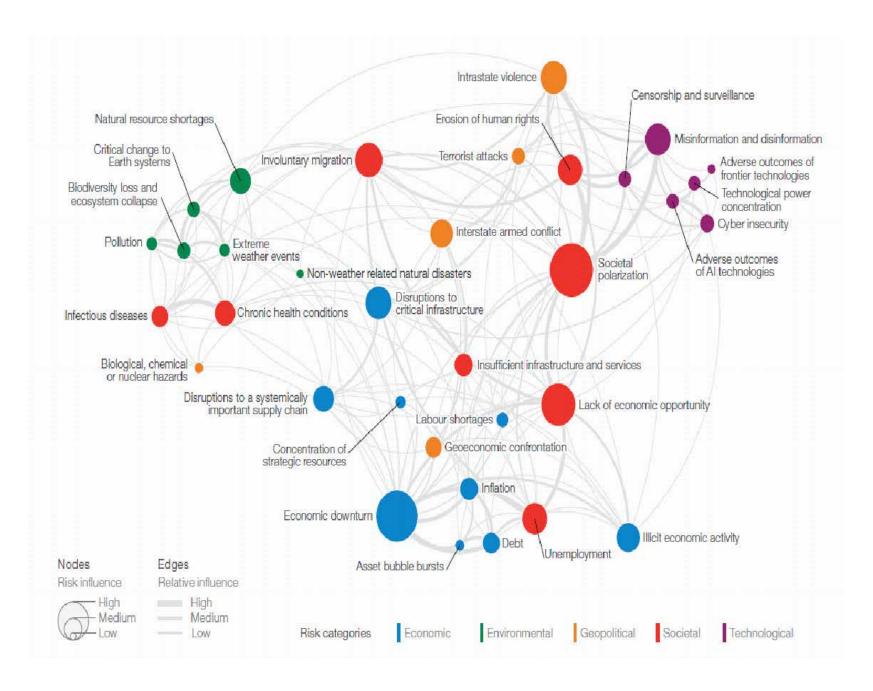
The world has become highly interconnected thanks to technology, eliminating almost all barriers. Alongside the veritably exciting opportunities that have come to be, new risks that we did not contend with until now have begun to manifest.

A review of how these risks have played out is interesting to observe. Between 2023 and 2024, these risks remain entrenched across the spectrum – social, economic, environmental, geopolitical, and technological. However, their manifestations have evolved distinctly in just the past year, thanks in no part to the advent of artificial intelligence (and more so with generative AI). A deteriorating global outlook for geopolitics, given multiple wars raging, to biodiversity losses and ecosystem collapses, particularly with environmental risks that have hit a potential point of no return, we are confronted with the profound reality that in just the past six years, human activity has primarily contributed to breaches with six of the nine planetary boundaries. Are we genuinely heading toward a point of no return? The infographic below is quite telling<sup>1</sup>.



An analysis of global risks reveals some key trends<sup>2</sup>, as depicted in the two infographics below.





Across both years, just as natural ecosystems can be pushed to the limit and become something fundamentally new, systemic shifts are also taking place across other spheres: geostrategic, demographic and technological. The rise of global risks against the backdrop of these "structural forces" and the tectonic clashes between them are crucial to appreciate.

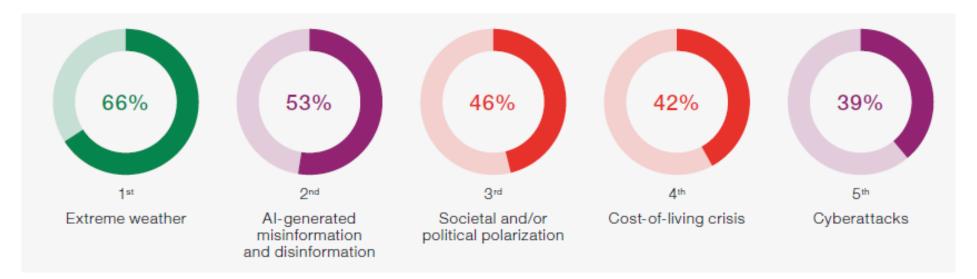
One cannot and must not presume that digital economies are spared the agony of these complexities. On the contrary, digital revolutions worldwide shall continue to be shaped more perversely than needed, potentially resulting in a lack of cohesion with transnational/transboundary endeavours<sup>3</sup>.



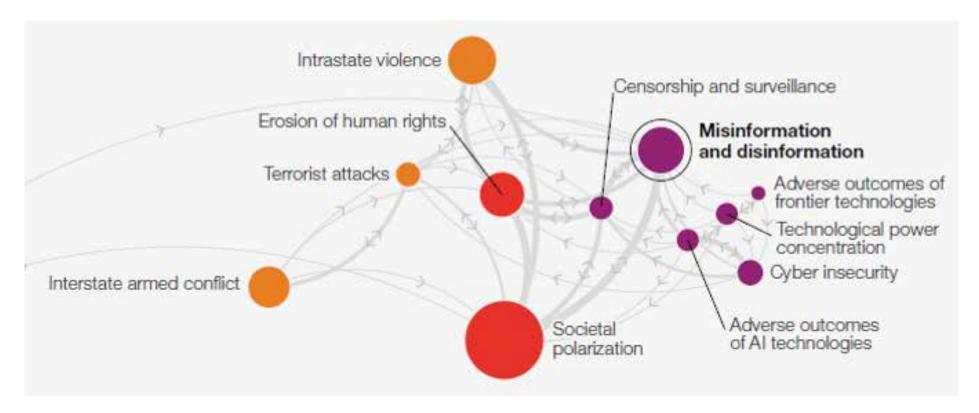
Artificial Intelligence (particularly generative artificial intelligence - GAI) is becoming mainstream in its usage and deployment across nearly all sectors.

### **Technological Advances and Future of Work**

Global risks reflect systemic governance and management loopholes across policy and industry. As in the graphic below, two of the top five risks emanate from technologies.



It is concerning that foreign and domestic actors will leverage "Misinformation and Disinformation" to widen societal and political divides further. As close to three billion people are expected to head to the electoral polls across several economies – including Bangladesh, India, Indonesia, EU, Mexico, Pakistan, the United Kingdom and the United States – over the next two years, the widespread use of misinformation and disinformation, and tools to disseminate it, may undermine the legitimacy of newly elected governments. The resulting unrest could range from violent protests and hate crimes to civil confrontation and terrorism.



Meanwhile, Artificial Intelligence (particularly generative artificial intelligence - GAI) is becoming mainstream in its usage and deployment across almost all sectors. Misinformation and disinformation are the new weapons of choice for political and economic endeavours. What boundary conditions are necessary to maintain sanity and control? Or would self-governance be the way to go?

A comprehensive analysis undertaken by the International Monetary Fund is poignant for its positive and otherwise projections. The impact on jobs, industrial sectors, digital economies, and cross-border collaboration is of significance, straddling issues like job losses, worsening of the digital divide, increase in income inequality, and policy incoherence alongside opportunities around increased wealth creation opportunities, productivity gains, worker reallocations and transformed corporations.

In Conclusion

Deployment of new-age technological solutions can no longer remain pigeonholed in capitalist endeavours that have exacerbated risks alongside new risks. Investments in new measures to combat resulting misuse only add to the policy's incoherence.

Meanwhile, in its quest for efficiencies and productivity, the industrial world is heading toward an unmanageable future, where globalisation becomes obsolete, and transnational endeavours at managing outcomes are falling short, given extremely localised complexities. I see domestic resilience eroding at a pace far more significant than we can build containment structures. Our earnest endeavours at monetisation and profit maximisation need to be tempered with considerations for utility and resilience. This balancing act will remain the most pressing challenge for this and the next generation.

Bobby Varanasi is the Founder of Regenerative Futures (formerly Matryzel Consulting), an independent advisory firm focused on global sourcing, M&A, carbon management & circular economy practices. It is acknowledged as one of the World's "Best of the Best Outsourcing Advisory Firms" and one of the top 20 best outsourcing advisory firms for four years (2013-2015, 2019). He brings over two decades of experience in consulting and management across Technology, Business Services and building global businesses. He advises federal governments across North & South America, Middle East/ North Africa, Asia-Pacific and Australia, Fortune 500 customer organisations and emerging market entrepreneurs on strategy, growth, sourcing, expansions, mergers and acquisitions, and inter-party trust ecosystems.



Our earnest endeavours at monetisation and profit maximisation must be tempered with considerations for utility and resilience, which will remain the most pressing challenge for this and the next generation.

<sup>&</sup>lt;sup>1</sup> SOURCE: "Gen AI – Artificial Intelligence and the Future of Work", released on 14 January 2024; https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379

<sup>&</sup>lt;sup>2</sup> SOURCE: Global Risks Report 2023; Global Risks Report 2024; www.wef.org

<sup>&</sup>lt;sup>3</sup> Many instances of dichotomy result from a clash between "the need to globalise" and "the penchant to localise" – most tellingly seen in endeavours where disagreements with various global issues continue to inform policy and corporate action. Key among these are lack of agreement with single taxonomies for de-carbonisation, policy confusion with transnational cyber security and data protection, and ocean resource depletion vs. extraction.

# ARE WE STILL FACING THE SAME DIGITAL TRANSFORMATION CHALLENGES IN 2024?

THE LACK OF EXPERTISE TO LEAD DIGITAL IS NO LONGER AN ISSUE TODAY, BUT WE MUST UNDERSTAND THAT THIS IS A GLOBAL REPORT, AND IT MAY APPLY TO OUR LOCAL CONTEXT.







**ABOUT** two years ago, I came across a survey report conducted by Altimeter Group and sponsored by Jabil, a manufacturing solutions provider. The report includes a table of barriers to digital transformation, which are segregated into four groups based on the company size. I briefly summarised it here in order of priority that was anticipated then.

Top Barriers	<100 employees	100 – 1000 employees	1000 – 5000 employees	>5000 employees
Lack of Expertise to lead Digital Transformation initiatives	1	5	2	1
Employee Pushback	2	1	4	5
Lack of Overarching Strategy	3	3	1	3
Business Partners unable to support	4	-	-	-
Limited Budget	5	4	5	-
Organisation Structure Gets in the Way	-	2	-	2
Limited Access to Technical Expertise	-	-	3	4

Source: https://www.jabil.com/blog/overcoming-the-top-digital-transformation-challenges.html

From that report, the top three barriers to digital transformation are lack of expertise to lead digital transformation initiatives, employee pushback, and lack of an overarching strategy.

I revisited that report to know if these barriers remain the same for 2024. While looking into it, I came across some interesting predictions made by other researchers for 2024. I, therefore, created a table to consolidate the information for better visualisation. Do note that I have adapted the table based on my understanding and not in order of priority.

	Pixelplex – Top 7 DX challenges	Hidden Brains – 21 Critical Challenges	CIO – TechTarget – Three significant DX Challenges and CIO solutions	Economist Intelligence – 3 challenges of Dx	Jabil's Report – Key Barrier to DX
Limited Access to Technical Skills	$\overline{\checkmark}$	$\overline{\checkmark}$	<b>✓</b>	$\checkmark$	<b></b> ✓
Resistance to Change / Employee Pushback		$\overline{\checkmark}$	<b></b> ✓		<b></b> ✓
Security Concern	$\overline{\checkmark}$	$\overline{\checkmark}$		$\overline{\checkmark}$	
Legacy Systems and Integration	$\overline{\checkmark}$	$\checkmark$			
Limited Budget	$\overline{\checkmark}$	$\checkmark$			$\overline{\checkmark}$
Lack of Overarching Digital Transformation Strategy		$\overline{\checkmark}$			<b></b> ✓
Customer Experiences (Change demands / poor execution)		$\overline{\checkmark}$			
Lack of Clear Vision		$\checkmark$			
Decision-Making Process		$\checkmark$	$\overline{\checkmark}$		
Business Model Understanding					
Lack of Expertise to Lead Digital					$\overline{\checkmark}$
Business Partner Unable to Support					$\overline{\checkmark}$
Organisation Structure Gets in the Way					$\overline{\checkmark}$

Source: https://www.jabil.com/blog/overcoming-the-top-digital-transformation-challenges.html

Ironically, the lack of expertise to lead digital is no longer an issue today. This is probably true, but we must understand that this is a global report and whether it applies to our local context.

Coincidently, I came across a prediction by Cisco's Managing Director, Hana Raja, stating that more companies in Malaysia are considering the adoption of Al. However, the progress of infrastructure, data, governance, talent, and culture could potentially hinder the transformation of these companies. It is worth noting that talent and culture are not just local issues in Malaysia but are also prevalent in other regions.

Why am I not surprised? I have often heard that the scarcity of skilled talents is rising, and workers' resistance to adapting to new changes is still an ongoing challenge.

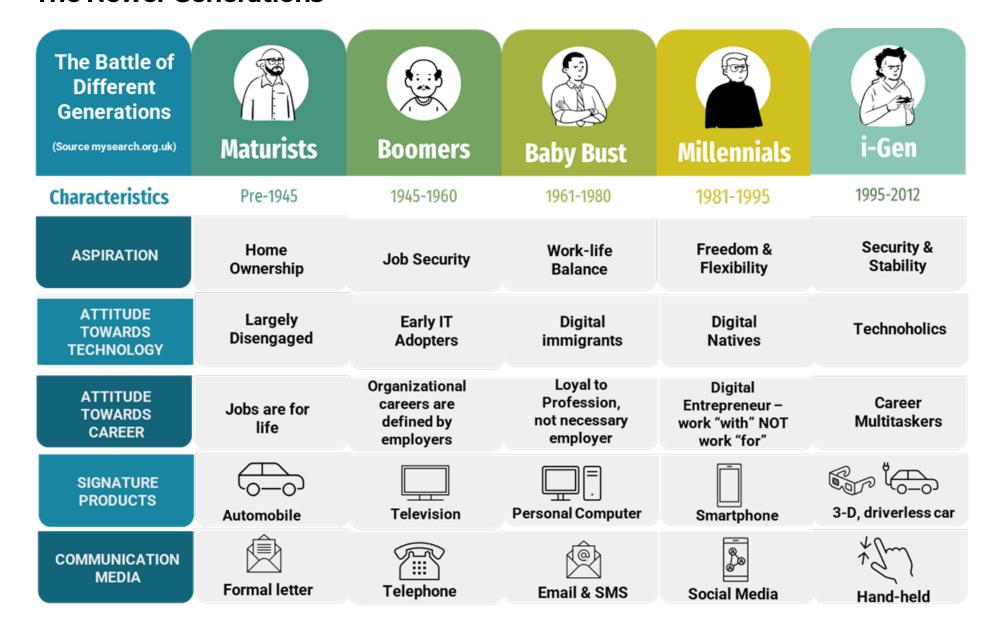
# **Empowering Women on the Digital Front**

First, let me touch on the women's context. I have seen many ongoing efforts to make women more inclusive and sustainable in the recent social and economic development. However, in my point of view, there is a need for more initiatives to support women on the digital front.

According to the Asia-Pacific Economic Cooperation dialogue in 2021, they recognised that the era of digital disruption and IR4.0 has further widened the gender gap, potentially leading to higher job losses, particularly in the context of women's leadership. But what about the cohort of professionally skilled women who have caregiving and working responsibilities but do not mainly focus on leadership roles?



### The Newer Generations



# **Scarcity of Skilled Talents**

The revolution from the industrial age to digitalisation has made life much easier as we no longer face as many hardships as earlier generations. With the inception and adoption of more technologies, newer generations have become more digitally savvy. This mindset is reflected in millennials and the i-gen bucket. Millennials are the first generation to grow up with technology and are considered digital natives. They were educated using technology from a very young age and were the first to experience the widespread adoption of the internet.

Now, we see more of Generation Z, a technically savvy cohort, entering the workforce. Their exposure to technology has made these two latter generations more proficient with various tools and platforms. Hence, these have influenced them to be more entrepreneurial in their work.

The Gen Zs prefer to work with employers rather than for them. As a result, we see more of this cohort choosing entrepreneurship, leading to a scarcity of skilled talent in today's job market.



## **Adapting to Change**

Today, we have a diverse mix of four generations in the workforce, and millennials make up a significant portion. I am not here to undermine the former generations. However, we must recognise that most of these individuals from earlier generations inherited a mindset that focuses on job security, loyalty, and career development.

While most of them were born and grew up before the advent of advanced technologies, do you know they are the cohort that experiences the development and advancement of technologies from different professional landscapes? Because of their experiences in diverse landscapes over the years, they have acquired a digital thinking mindset that can contribute to and embed technologies to improve a more comprehensive workplace.

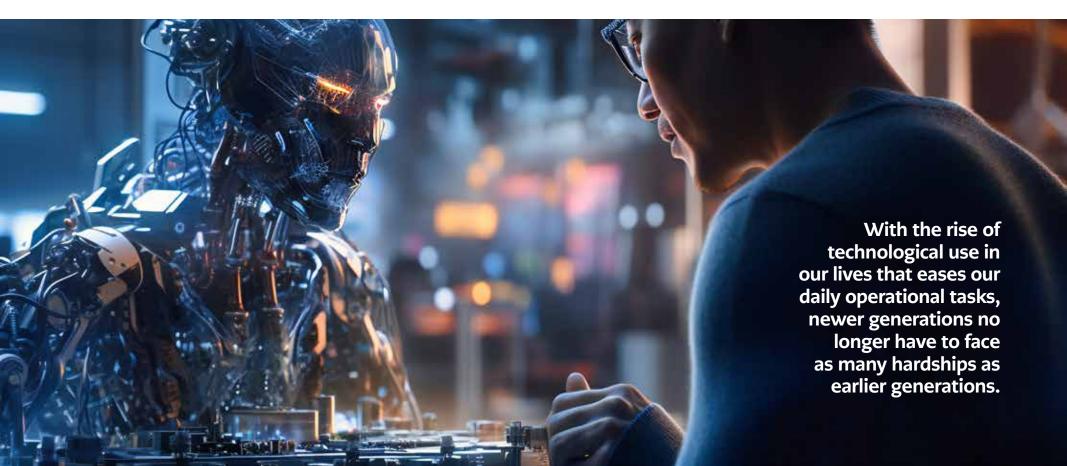
We must note that the coexistence of digital thinkers with digital natives, technoholics, and those less comfortable with technology advancement can lead to a digital divide within the organisations. This digital divide will pose challenges, particularly in the context of organisational adaptability towards change.



We must recognise that most of these individuals from earlier generations inherited a mindset that focuses on job security, loyalty, and career development."

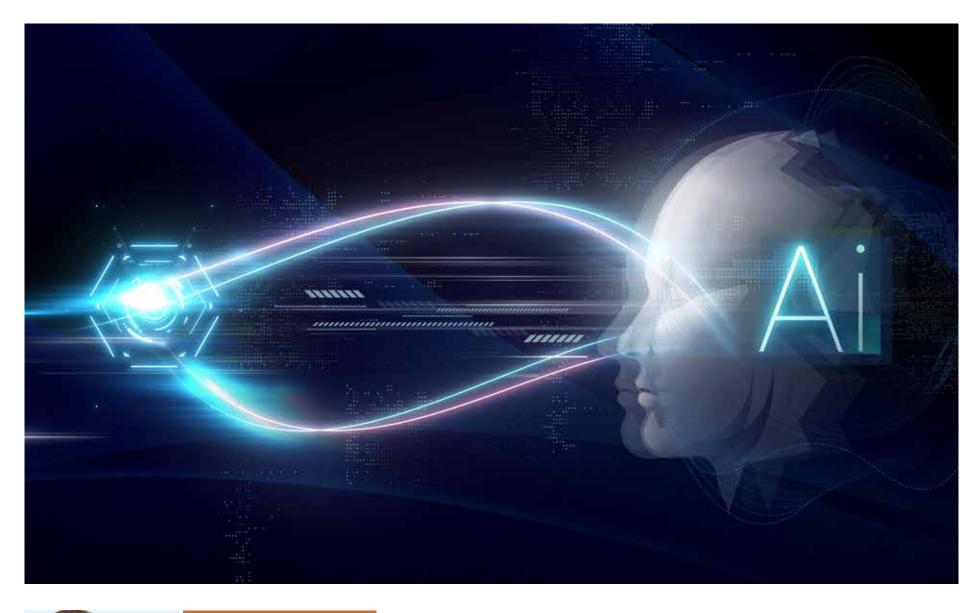
In conclusion, I am interested in knowing if women will remain an untapped market in the digital landscape. Should organisations consider alternative approaches and strategies to address the challenges of scarce skilled talent and digital barriers to achieve a successful digital transformation journey by 2024?

Elsie Low is the Consulting Director and Agile Coach for DXGIG@Valuelab, a Digital Transformation and Gig Economy Consulting and Coaching hub to help businesses and organisations bridge the gap and the digital divide. Elsie believes that digital transformation will impact the traditional way of work. Hence, she encourages organisations to set the pace for tomorrow by leading, thinking, and governing the digital transformation journey.



# THE DIGITAL TRANSFORMATION JOURNEY: HARNESSING THE POWER OF ARTIFICIAL INTELLIGENCE

THIS ARTICLE EXPLORES THE MULTIFACETED DIMENSIONS OF DIGITAL TRANSFORMATION TO AI, DELVING INTO ITS IMPLICATIONS AND ITS PROFOUND IMPACT AND CHALLENGES ON VARIOUS SECTORS.





# FOURTH LEAP

By Martin Conboy



## FOURTH I FAD

By Shimoli Shah THE 21st century has already witnessed an unprecedented surge in technological advancements, catalysing a digital transformation that has permeated every aspect of our lives. At the forefront of this revolution is the integration of Artificial Intelligence (AI), a transformative force reshaping industries, economies, and societies. This article explores the multifaceted dimensions of the digital transformation to AI, delving into its implications and its profound impact and challenges on various sectors.



# **Implications for Businesses**

Predictive analytics powered by AI algorithms has enhanced forecasting accuracy, aiding businesses in making data-driven decisions.



Customer service has undergone a paradigm shift by implementing AI-driven chatbots and virtual assistants, providing round-the-clock support and personalised experiences.



In the finance industry, where AI is revolutionising the sector, it not only automates the workflow but also detects fraud by identifying patterns and anomalies that indicate fraudulent activities. AI plays a significant role in risk assessment and management by analysing historical data and market trends to predict risks associated with investments, loans, insurance, etc.



Al-powered chatbots or virtual assistants provide personalised instant customer support by answering queries, assisting with transactions, offering general financial advice, etc. The recent AI models can also access creditworthiness to speed up approvals and improve the accuracy of credit decisions.



Regulatory with AI means it can automate complex regulatory and compliance processes to streamline regulatory operations.

In the business landscape, the integration of Al has revolutionised workflow and operations, decision-making, and customer interactions. Automation of mundane tasks has increased efficiency, enabling executives to focus on more strategic and creative endeavours.

These are just a few examples of Al transforming operations, efficiency, accuracy, and customer experience for the financial industry. Similarly, Al has transformed several industries like health care with predictive and early diagnostics, e-commerce with personalised recommendation engines based on the preferences and history of purchases made, travel bots that assist with services required during travel, smart cities for better security, traffic flow, etc.

## **Impact**

The digital transformation to Al has far-reaching economic implications. New business models have emerged, and traditional industries have undergone disruptive changes. The demand for Al-related skills has surged, creating job opportunities while reshaping the labour market. Additionally, AI has the potential to stimulate economic growth through increased productivity, innovation, and the creation of novel products and services yet to be invented.



As a result, job roles such as machine learning engineers, data scientists, Al researchers, and Al ethicists are in high demand. Additionally, traditional positions in various industries now require Al literacy, making Al-related skills increasingly valuable in the contemporary job market. Educational institutions, online courses, and training programs are adapting to these rapid changes.

# Challenges in the Digital Transformation to Al

The rapid pace of the digital transformation to AI presents several challenges. Ethical considerations, bias in algorithms (Think video hiring platforms), and privacy concerns have become critical issues demanding scrutiny.

Ensuring transparency, fairness, and accountability in Al systems is imperative to build trust among users and mitigate potential risks. The ever-widening skill gap poses a challenge as organisations struggle to find and retain talent proficient in Al technologies. Additionally, navigating regulatory frameworks and establishing international standards remains an ongoing challenge.

Artificial intelligence (AI) has emerged as a versatile technology capable of providing advantages across various applications, intensifying companies' endeavours in digital transformation.



Achieving the desired accuracy standards from the outputs of any AI model is still a challenge but should be achieved soon with the increased learning by the models and data given to them. Moreover, from a business perspective, a suitable trade-off needs to be established for the outputs expected from the AI model versus the investment required to design, build, and integrate it.



# Technological Advancements Driving Al

Advancements in AI technologies continue to shape the digital transformation landscape. Quantum computing promises to solve complex problems exponentially faster than classical computers, unlocking new possibilities for AI applications.

Inspired by the human brain, neural networks evolve into more sophisticated architectures, enabling more profound and nuanced learning. Cloud and Edge computing facilitates real-time data processing, reducing latency and enhancing the responsiveness of AI applications.

### **Future Trends**

The digital transformation to Al is poised to witness further evolution. Augmented Intelligence will become more prevalent, emphasising collaboration between humans and Al. Explainable Al will address concerns regarding the opacity of decision-making

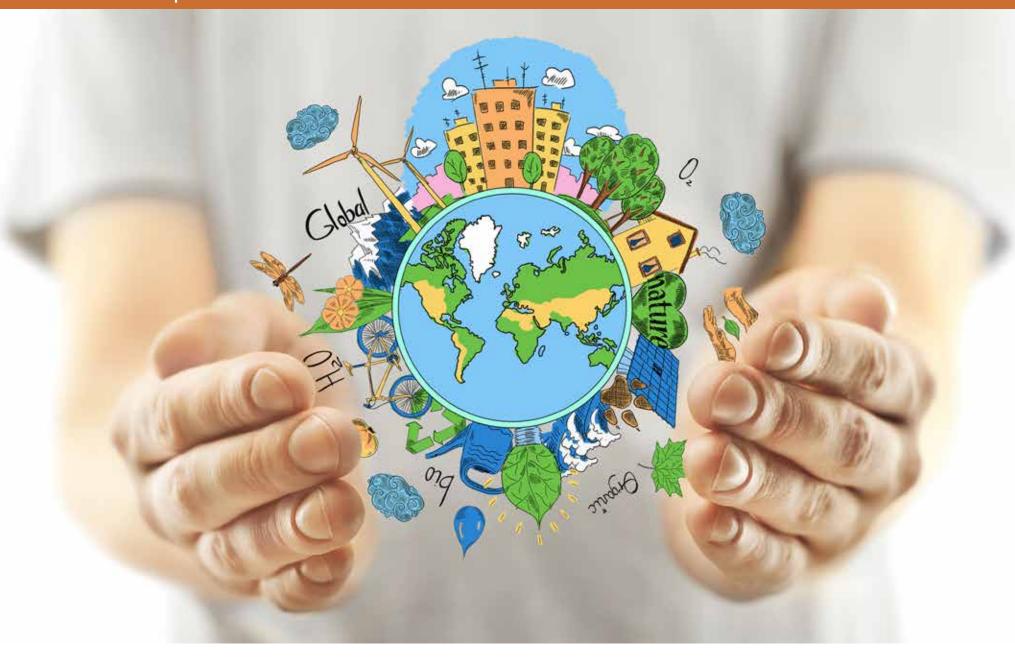
processes in complex algorithms. Federated learning will empower decentralised Al systems, ensuring privacy and security. Interdisciplinary approaches, combining Al with fields like neuroscience and psychology, will contribute to more human-centric Al solutions.

#### Conclusion

The digital transformation to Al represents a monumental shift in how we perceive, interact, and leverage existing technology. As businesses, economies, and societies navigate this transformative journey, addressing challenges and embracing ethical practices will be paramount. The potential benefits of Al are vast, from enhancing efficiency and innovation to solving complex global challenges. Striking a balance between technological progress and responsible implementation will define the success of the digital transformation to Al in shaping an intelligent and sustainable future.

Martin Conboy is well recognised as one of the leading voices of the outsourcing / shared services industry and plays a role in facilitating outsourcing success throughout the Asia Pacific. Martin was voted among the top five most influential and respected people in the global call centre outsourcing industry in 2014. Martin, a blockchain enthusiast, is an accomplished writer and public speaker who delivered global keynote addresses at BPO-ICT and Shared Services conferences.

Shimoli Shah is the AVP of leading software company Technomark, part of the Pacific Group based in India. Shimoli has an advanced engineering degree and over 19+ years of experience specialising in web, mobile, cloud, blockchain, AI and IoT solutions. She has a track record of successfully launching hundreds of enterprise applications and leads a development team of 200+ skilled Engineering and IT professionals.



# STRUMMING THE CHORDS OF SUSTAINABILITY

'A BETTER WAY' TO DRIVE SUSTAINABLE BUSINESS GROWTH IN MALAYSIA.

**LEGENDARY** songwriter Paul McCartney once pondered, "There must be a better way to make the things we want, a way that doesn't spoil the sky, or the rain, or the land." His words resonate even more profoundly today as we confront the pressing challenges of climate change and ESG (Environmental, Social, and Governance) responsibility.

In this article, we'll delve into the quest for that "better way", exploring how businesses, governments, and individuals are reimagining the path forward to ensure a sustainable and harmonious coexistence with our planet.



By Dr Sritharan Vellasamy

In the heart of Southeast Asia, Malaysia is experiencing a dynamic shift in its corporate landscape. The global call for ESG practices has become more than a mere trend; it has evolved into a fundamental driver of business success. With the United Nations' 17 Sustainable Development Goals (SDGs) at the forefront of this transformative journey, Malaysian companies are now embracing a new era of sustainability and corporate social responsibility.

The integration of UN SDG programmes into ESG initiatives represents an unparalleled opportunity for companies in Malaysia to champion sustainability while enhancing their corporate social responsibility.

In this digital transformation era, where innovative climate technologies, sustainable tech practices, digital financial inclusion, and social media for social impact have taken centre stage, businesses can find innovative ways to tailor their ESG strategies to align seamlessly with the 17 SDGs. However, achieving these goals requires collective action, uniting citizens and public and private stakeholders in a concerted effort.

### **NGOs and Communities in the Mix**

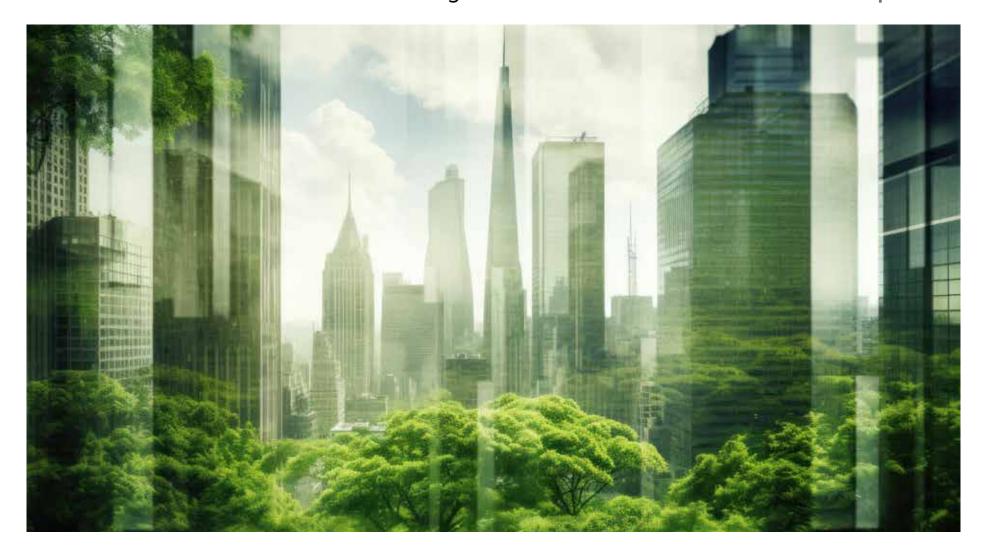
To make significant strides towards the UN SDGs, partnerships with non-governmental organisations (NGOs), grassroots communities, and government agencies must be forged to drive meaningful change across multiple areas, including waste reduction, ethical and green sourcing, and fair labour practices. The collective power of such collaborations can drive real change

on the ground and contribute to a more sustainable and equitable Malaysia.

Small and medium enterprises (SMEs), the backbone of Malaysia's economy, cannot afford to be left behind in this era of sustainability. Embracing carbon transition targets and transforming employment models to eliminate modern-day slavery is not just an option; it is an imperative for these businesses.

Failing to do so could result in their exclusion from the global supply chain in the near future. The sustainable supply chain and adopting a circular economy mindset, focusing on resource efficiency and reutilisation, are pivotal to ensuring business resilience in Malaysia's evolving business landscape.

Businesses have many innovative ways to tailor their ESG strategies to align seamlessly with the 17 SDGs through eco-friendly technology, social media and other sustainable practices.



Access to finance and green incentives will play a vital role in facilitating the inclusion of SMEs in the sustainable global supply chain. It is essential that both private and public financial institutions recognise the importance of extending support to SMEs on their sustainability journey.

Malaysia has a significant role to play in making this transition accessible and advantageous for its small and mediumsized enterprises. Let's delve deeper into these essential elements of Malaysia's ESG landscape.

# **Essential Elements of ESG in Malaysia**

Embracing the United Nations SDGs: Malaysia's business leaders are increasingly recognising the value of aligning their ESG initiatives with the United Nations' 17 SDGs. These global goals serve as a comprehensive roadmap for addressing the world's most pressing challenges, from poverty and inequality to climate change and environmental degradation. Malaysian companies can leverage these SDGs to develop focused, strategic ESG initiatives that resonate with their core values and business objectives.

Digital Transformation for Social Impact: Malaysia's businesses have harnessed the power of digital transformation to drive sustainability. Innovative climate technologies, sustainable tech practices, and digital financial inclusion are at the forefront of this transformation. Leveraging digital platforms and technologies to create social impact can result in more efficient and effective ESG initiatives.

The Power of Partnerships: Achieving the UN SDGs requires collective action. Malaysian companies can strengthen their ESG initiatives by forming partnerships with NGOs, grassroots communities, and government agencies. Collaborations in areas such as waste reduction, ethical sourcing, and fair labour practices can yield meaningful and lasting change. Bobby Varanasi, chairman and CEO of Matryzel Consulting Inc., says one significant opportunity exists to build socio-economic models through B-corps (social enterprises) where purpose is inextricably embedded into for-profit models.

"Such social enterprises can significantly utilise capital through reinvestment in ESG initiatives without viewing current adoption as a cost burden." Varanasi is recognised by US-based Thinkers360 – the world's largest marketplace for B2B thought leaders and influencers –among the top 20 global thought leaders in Future of Work and Business Strategy."

SMEs and the Carbon Transition: Small and medium enterprises form the backbone of Malaysia's economy, and their active participation in the carbon transition is essential. Failing to embrace sustainability practices could result in their exclusion from the global supply chain. SMEs must recognise the importance of setting and achieving carbon transition targets to ensure long-term competitiveness. "An effective approach is first to calibrate current emission status through assessments and then develop carbon-oriented projects that either bring additionality to carbon sequestration or generally reduce emissions (re-enabled operating efficiencies)," Varanasi says.

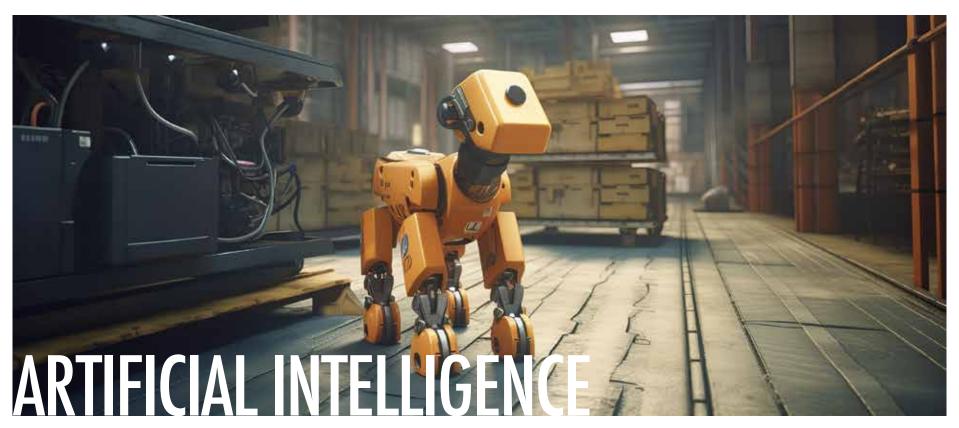
Sustainable Supply Chain and Circular Economy: Building a sustainable supply chain and embracing a circular economy mindset is key to business resilience in Malaysia. Enhancing resource efficiency, reducing waste, and reusing materials are all part of this transformative approach. Varanasi stresses that circularity goes beyond recycling or reusing, and educating oneself on the approaches to building long-tail value is a significant opportunity to create new jobs while adding to Malaysia's economic growth and domestic resilience.

Access to Finance and Green Incentives: To facilitate the inclusion of SMEs in the sustainable global supply chain, financial institutions must play their part. Access to finance and green incentives can empower SMEs to make sustainable investments and adapt to evolving market dynamics.



Like the echo of a well-composed tune, McCartney's words remind us that the "better way" he spoke of is within our reach. By embracing the principles of ESG and recognising the urgency of addressing climate change, we can harmonise our aspirations with the well-being of our planet. So, let us strive for that "better way", ensuring our actions today don't spoil the sky, the rain, or the land but instead compose a symphony of sustainability and hope for future generations.

Dr Sritharan Vellasamy is the founder of Wordlabs Business Network (WBN) – an integrated business network that delves into trade, globalisation, and digital transformation. WBN combines content, events, and training to delve into these subjects, promoting informed discussions and fostering innovation.



# AND THE BUILT INFRASTRUCTURE

IN A WORLD DIVIDED INTO HAVES AND HAVE-NOTS, DIGITAL LITERACY SHOULD BE A GIVEN AND NOT JUST ACCORDED TO COUNTRIES THAT CAN AFFORD DIGITAL SOLUTIONS AT THE EXPENSE OF THOSE THAT CANNOT.



FOURTH LEAP

By Dr Thomas
Tang

**WITH** growing urbanisation in the world, the demand for built infrastructure such as roads and bridges is increasing. On top of this buoyant demand, the need to maintain ageing infrastructure is also paramount. How can Al serve the needs of the public to ensure that infrastructure systems as essential as water services are safe and reliable?

Maintaining infrastructure involves handling large amounts of data. The starting point for this lies in gathering on-site data. This often requires arduous and repetitive inspections, sometimes in dangerous and confined spaces. The use of automated sensors allows the gathering of data. For instance, using

The application of artificial intelligence (AI) and machine learning in civil engineering is not new. Engineers and designers use computational models daily to design sturdy structures for the public that meet high safety and operational standards. However, the use of AI for maintenance purposes is mainly new and unexplored, and the fit between AI and the tasks required to maintain roads and bridges is inherent.

images creates simplicity, and these images can be taken regularly from different points close to a structure from different angles, removing the need for constant human vigilance. There is also the possibility that these images can be gathered from moving vehicles or drones to replace human effort further. Robot dogs, like one developed by Boston Dynamics, create the potential to remove the need for inspectors to enter confined spaces for inspections.

The combination of images and intelligent algorithms allows for fast bridge damage identification for bridge structures. However, how the image data is collected means that such methods can only identify bridge surface damage. Detecting internal damage to bridge elements remains a challenge. Still, using thermal imaging technology, the heat distribution data of a target object can be converted into an image by measuring the infrared radiation of the object, allowing humans to see beyond the visual barrier to the temperature distribution on the surface of an object. When damage occurs inside a bridge member, the internal voids are often filled with air or water; hence, infrared thermography is an alternative imaging method for detecting them and presents a significantly different thermal image than when there is damage or no damage.



# it is collected?

By building a historical database, software tools can use advanced analytics and Machine Learning algorithms to identify potential issues and areas of concern. This approach moves beyond mere detection, helping to understand current and potentially future operating conditions to support decisions for the most optimal maintenance activities.

# How machine learning works in water treatment:

Analytics are used to predict flows and loads, chemical dosing needs and other requirements.

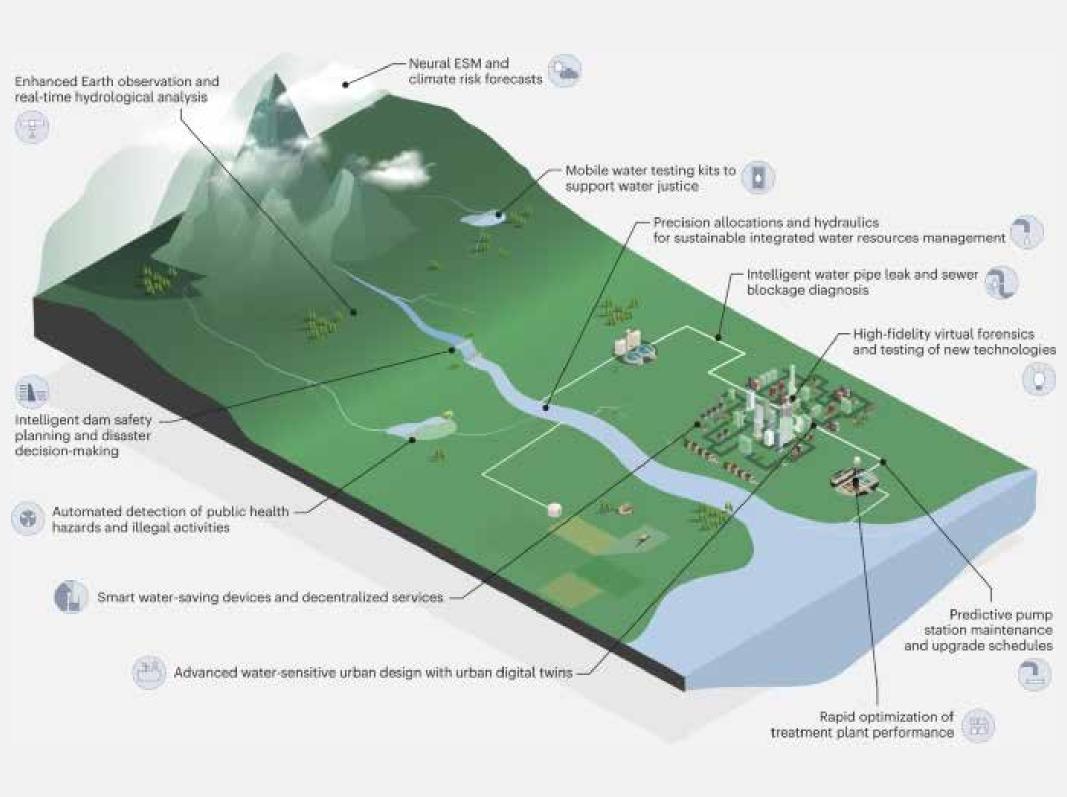
The system controls key treatment processes, automatically optimising them in real-time based on its predictions and the plant's historical performance.

With the data collected in near realtime in the cloud, the software tracks the actual performance of the onsite solution through a digital twin, a digital replica of a physical system.

> Results show that AI can function as an autopilot, able to perform unattended operations.

## **Al's Application Across Water Systems**

The application of AI in road maintenance centres is based on deep learning and image recognition techniques whereby a detailed assessment of a road's current condition can be made through various data sources, including past road surveys. Computational tools process this large volume of data, highlighting areas where defects have occurred and where maintenance is required, providing information on the severity and type of road defects. This assists in improved decision-making and the prioritisation of repairs, ensuring maintenance programs are focused on areas of the road network that would benefit most and return the best value for life cycle performance.



Machine learning algorithms are crucial to this evaluation process because they automate the detection and recording of road defects and provide results clearly and intuitively to all stakeholders.

At the network level, Al paired with sensors can speed up the development of new infrastructure and efficiently manage ageing critical assets. For instance, water network leakage, which currently is at 45 billion litres of potable water per day in developing countries, would benefit from a combination of IoT devices—intelligent toilets, taps, and smart meters—and Al could create a similar impact at a community level. Unnecessary consumption in the agriculture sector and households could be cut.

A machine learning model based on a Bayesian network has been developed to predict which pipes are most vulnerable to failure, including a metric for failure probability. Bayesian networks are probabilistic graphical models that use Bayesian inference for probability computations. This approach models conditional dependence and, therefore, causation. Through these relationships, one can efficiently infer the variables in a graph exemplifying the pipe failure mechanism. Pilot projects using the approach have been conducted in Stockholm, Singapore, the UK and Denmark.

#### Al Research and Studies

Research on AI is currently being undertaken at the University of Nottingham, funded by National Highways in the UK, to manage bridge structures without human intervention. The challenge is to detect structural deterioration before it is too late. The key to this is to understand not just the state of a structure at a point in time but how that condition changes over time. National Highways aims to reach a point where no unplanned bridge closures exist. The research already has 25,000 images for use as data training sets for the AI tool and is based on neural networks to classify defects. A neural network is an interconnected group of nodes similar to neurons in a brain. For this project, the network was trained on datasets of images depicting various surface blemishes with corresponding ground truth labels, such as "crack", "spalling", and "exposed reinforcement".

Benefits of Al

Cost efficiency
Decision prioritisation
Human safety

Artificial Intelligence

The benefits of AI are apparent as above, but we must be mindful of the ethics of AI. In a world divided into haves and have-nots, digital literacy should be a given and not just accorded to countries that can afford digital solutions at the expense of those that cannot.

Al has been proposed as the latest technological innovation to help address water system deficiencies. However, access to technology is critical to solving water supply and wastewater disposal problems -and this is not always available to developing countries. Over 1.6 million people are dying annually from unsafe and inaccessible drinking water, stormwater and sewerage services.

Lastly, the security of AI must be considered. Breaches in IT systems, such as ransomware attacks, present a significant challenge to cybersecurity. In 2021, a water treatment plant management system in Florida was remotely accessed by an unknown entity that released a large amount of sodium hydroxide into the public water supply, intending to harm people.

In conclusion, Al yields many benefits to humanity and builds infrastructure, and these benefits can only increase as computing power grows exponentially over time. The modernisation of our societies relies on robust and reliable infrastructure. As the ravages of time take their toll on structures, we must be vigilant to avoid future breakdowns. Al, if used wisely, can help us.

Dr Thomas Tang has over 25 years of experience advising public and private sector organisations in sustainable change and innovation. He has been a consultant, corporate director and volunteer in different fields of sustainability, including climate change, green technology, urban design, stakeholder engagement, low-carbon living and social impact. He has written books and numerous articles, as well as spoken on his views at international forums on topics related to sustainability.

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# THE RETAIL AND E-COMMERCE DICHOTOMY

THE RISE OF E-COMMERCE HAS UNDOUBTEDLY RESHAPED THE ECONOMY, BUT MANY RETAIL BRANDS ARE FACING UNPRECEDENTED CHALLENGES.



IN today's fast-paced digital age, a battle is unfolding between retail and e-commerce. As consumers become tech-savvy and increasingly connected, the economics of retail have undergone a seismic shift.

This article will explore the advantages and challenges it presents in modern business.



In October 2023, TikTok Shop was banned in Indonesia, leaving its sellers looming over the fate of their e-commerce shop in TikTok. E-commerce has influenced the retail landscape over the years.

# Retail vs E-commerce: Understanding the Differences

Retail refers to selling goods or services directly to the end consumer. It is made of brick-and-mortar stores, where customers can physically browse and make purchases. E-commerce is the digitised retail version, enabling consumers to shop and transact online, with goods delivered straight to their doorsteps. The critical difference lies in the operating mode and consumer experience.

#### **Retail: The Personal Touch**

For a long time, retail has offered a shopping experience that revolves around personal interactions, the tactile sensations of store browsing, and immediate product availability. These elements have played a crucial role in nurturing customer loyalty and fostering trust over the years.

Retail lies in its capacity to curate unique in-store experiences for customers. The opportunity for personal interaction with store assistants elevates the shopping journey, enabling customers to get their concerns or questions addressed conveniently. This human touch, absent in the online realm, adds a valuable dimension to the overall shopping experience.

**Did You Know?** 

Adding in the multisensory experience of browsing a physical retail store empowers customers to make well-informed decisions.



Customers can validate the information and features by:

- Seeing,
- ◆ Touching,
- Feeling the products firsthand

This tactile experience allows shoppers to assess the product quality, texture, and functionality, providing them with an ample understanding and confidence in their potential purchase. Such sensory engagement is often lacking in e-commerce, reinforcing the unique appeal of retail.

Customers can walk into a store and leave with their desired items in hand, bypassing the waiting period typically associated with e-commerce. This instant gratification serves as a cornerstone of retail, catering to the needs of individuals prioritising speed and convenience. This ability to immediately acquire a product satisfies consumer desires and eliminates any uncertainties or delays that might arise from shipping or delivery processes. Despite these advantages, retail faces several challenges in the digital era.

# Retail Challenges in the Digital Era

- 1. Limitation of customer reach:

  Physical stores are bound by geographical constraints, limiting their ability to tap into global markets. In contrast, e-commerce platforms have no limitations, enabling businesses to extend their reach and target customers worldwide where technology allows them.
- 2. High operating costs: It can cost significantly higher for retail due to expenses related to rent, utilities, staffing, and relevant capital expenditures. Maintaining a physical storefront necessitates substantial investments in real estate, ecstatic design, and ongoing maintenance. These can impact profitability and pricing strategies, influencing retailers' competitiveness in the face of e-commerce alternatives.



E-commerce is the digitised retail version, enabling consumers to shop and transact online.

E-commerce can be set up relatively quickly, eliminating the need for massive upfront investments and offering greater flexibility in adapting to market demands.

The main key advantage of e-commerce is the convenience it brings. Other benefits of e-commerce include:

1. Customers can avoid the hassle of commuting, parking, and navigating crowded stores. It empowers customers to effortlessly search, browse, and compare products from the comfort of their chosen location. With just a few clicks, they can access a vast array of products worldwide, saving valuable time and effort. Moreover, e-commerce platforms often employ sophisticated algorithms that provide personalised recommendations based on customers' browsing and purchase history, creating a more tailored and engaging shopping experience.

- 2. E-commerce transcends geographical boundaries; it allows brands and businesses to tap into broader consumer bases, reaching customers in distant corners of the world. This expanded reach opens new business opportunities to grow and thrive digitally.
- 3. Operating costs in e-commerce can be significantly lower than in traditional retail. E-commerce eliminates the need for physical storefronts, reducing expenses attached to retail. While establishing a robust online presence and maintaining efficient logistics requires investment, the scalability of e-commerce allows businesses to optimise their operations and achieve cost efficiencies as they grow. This cost advantage has empowered small businesses and entrepreneurs to enter the market and compete with established retail giants.

is essential to recognise that retail and e-commerce need not be mortal enemies. Instead, they can coexist symbiotically, complementing each other's strengths. The winning formula is striking a delicate balance between retail and e-commerce, delivering a seamless and personalised shopping experience tailored to the modern consumer.

As we move forward into the future, it

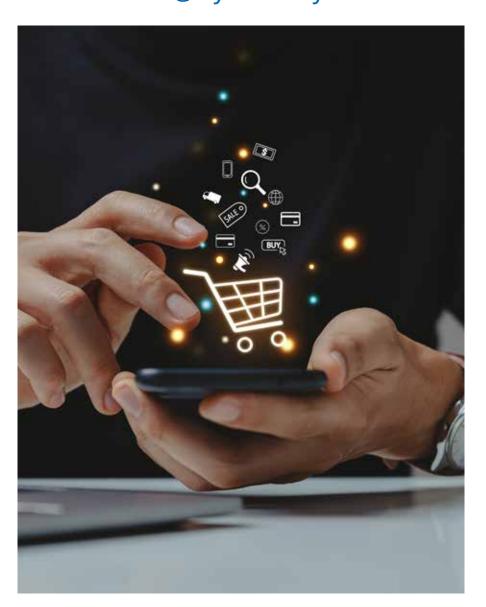
However, despite all its advantages, e-commerce has its challenges. Logistical complexities, including efficient inventory management, order fulfilment, and last-mile delivery, can pose significant hurdles for e-commerce businesses. Ensuring timely and accurate deliveries across various locations requires robust supply chain infrastructure and effective coordination. Also, the reliance on technology and data exposes e-commerce platforms to potential cybersecurity risks, such as data breaches and fraud, which demand constant vigilance and investment in security measures.

Another critical challenge for e-commerce lies in establishing trust in a virtual marketplace. Customers rely on product descriptions, images, reviews, and seller ratings without face-to-face interactions to make informed purchasing decisions. Building trust with customers requires more transparency, reliable customer service and secured payment options. E-commerce platforms that prioritise customer satisfaction and provide a seamless shopping experience are more likely to develop trust and loyalty with their customers.

**Symbiosis: The Future of Customer Experience** 

The rise of e-commerce has undoubtedly reshaped the economics of retail. While BIC has met many retail brands who faced unprecedented challenges, we also had the opportunity to work with them in reinventing how they present themselves through retail and e-commerce. Through this, they embraced innovation and adapted to changing consumer demands. By doing so, these retail brands continued to captivate shoppers, thriving alongside their ever-expanding e-commerce domain.

Sam Kon is an e-commerce consultant from Beyond Infinity Consultancy (BIC) with 12 years of e-commerce experience. He is a Shopee Certified Enabler and a certified trainer by Alibaba Business School & Taobao University, Enabling and empowering businesses to boost their revenues by going from offline to online (O2O). To learn more, do email samkon@beyondinfinity.asia.



Ensuring timely and accurate deliveries across various locations alongside building trust in the virtual marketplace requires robust supply chain infrastructure and effective communication.







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