

Not Just Survive, but Thrive

Capitalising on the silver linings of the pandemic.

By Gerard George and Koh Foo Hau

You may not realise it, but the boardroom Zoom call you took in your pyjama pants this morning was part of the new industrial revolution.

The Fourth Industrial Revolution (or Industry 4.0) began a decade before the Covid-19 pandemic. Digital transformation then was just a line item on the business agenda. In 2020, when social distancing and shelter in place became a way of life, the adoption of technologies accelerated rapidly, and the dramatic change that occurred in a matter of weeks unceremoniously thrust people the world over into a new way of doing business.

How has the landscape changed? Where are the new opportunities? What is the new playbook? How can organisations not only survive, but also thrive, in this emerging new normal after the Covid-19 pandemic? How is this going to change the way we do business?

What has changed?

The forced move to ‘working from home’ (WFH) that the pandemic has created is perhaps the most significant organisation design shock of our lifetime. While remote work was a feature of multinational firms and open source communities, the pandemic effectively imposed the current practice of ‘all remote all the time’, resulting in a scramble to adapt to remote collaboration and its technological infrastructure.¹ The data to assess its effectiveness is being gathered and analysed, and we can expect to see research into the particular combinations of tasks, people, and infrastructure that enable organisations to work in distributed forms.

The pandemic tested the agility and resilience of organisations, forcing a deeper look at the assumptions of theoretical frameworks that guided managerial decisions and practices. In the process, it exposed weaknesses in companies that lacked a strong digital infrastructure and left them unable to execute continuity plans in an emergency.

A McKinsey survey revealed that Industry 4.0 technologies played a decisive role in the pandemic response for many companies and the crisis is putting the future of digital operations under new pressure. The survey suggested three outcomes: a win for companies that had already scaled digital technologies, a reality check for those that were still scaling, and a wake-up call for those that had not started on their digital transformation journeys.²

From a firm-level perspective, Covid-19 is hastening a fundamental transformation of the digital infrastructure of business, especially in the adoption of cloud applications and other digital technologies to carry out core businesses. For example, contactless technologies, digital money, and cashless payment systems have become more pervasive. Across all sectors, digital transformation is progressing at a pace never seen before.

The 2020 annual Facebook Inc. and Bain & Company report predicted that Southeast Asia would have 310 million digital consumers by the end of the year, reaching a number previously forecast for 2025. Physical distancing measures imposed during the coronavirus pandemic accelerated the shift toward online spending. For example, DBS Bank saw a 30-40 percent lift in consumption of digital banking activity between June and September 2020, including a 400 percent increase in digital take-up by those over 60 years of age.³ With rising consumer expectations for digitalisation, businesses are under pressure to stay competitive and create connected experiences.

Physical distancing measures imposed during the coronavirus pandemic accelerated the shift toward online spending.

SHIFTS IN GEOPOLITICAL ENVIRONMENT

Industry 4.0 is taking place against the backdrop of technological nationalism, which has become more pronounced since the pandemic. According to Alex Capri from Forbes, technological nationalism represents the latest “mercantilist thinking that links technological innovation and capabilities directly to a country’s national security, economic prosperity, and social stability”.⁴ As a result, the state needs to step in and protect its interests from both state and non-state actors. Technological nationalism seeks to attain competitive advantage for its stakeholders locally and globally, and leverage these advantages for geopolitical gain.⁵

In 2006, China pushed for cyber sovereignty when it built the Great Firewall (GFW) and an ecosystem that excluded most IT applications that did not originate from China. The GFW morphed into a startlingly efficient technological surveillance model around the world.⁶ A more recent example of a techno-nationalistic move is India banning 267 Chinese apps in 2020—including PUBG Mobile and TikTok (both of which identified the country as their biggest overseas market)—as the government expressed dissatisfaction with the response of the companies to its various queries related to data privacy and security.⁷ In other countries, such as Australia and the U.S., China’s Huawei Technologies faced several challenges, including bans to its 5G wireless network project, security scrutiny, and business contract restrictions.⁸

The Hinrich Foundation, a proponent for advancing sustainable global trade, reports that the U.S.-China hybrid cold war is affecting issues once believed to be free from geopolitics.⁹ It highlights that there has been a steady increase in export controls on core technology, accompanied by restrictions on data access and usage. These restrictions will accelerate decoupling from Chinese supply chains, digital platforms, and knowledge networks. New controls that will impede the free movement and development of human capital are also emerging. The latest restrictions on human capital—especially those concerning collaborative, knowledge-intensive activities—will also change how universities and centres of innovation operate.¹⁰

SUPPLY CHAIN RESILIENCY

Disruption in supply chains happen all the time, in varying degrees. They are usually singular in nature and contained, lasting from minutes to a couple of weeks, after which recovery typically occurs. Covid-19, however, is different; it

simultaneously disrupts both supply *and* demand, and is larger in magnitude and longer in duration.

Months-long supply chain planning, modelling, and forecasting initiatives became a moot point when Covid-19 spread like wildfire, and there were unprecedented shifts in consumer spending. The demand for essential household items such as flour, soap, and toilet paper went up as people moved indoors, and discretionary purchases such as clothes, shoes, and luxury goods went down.

At the same time, brick-and-mortar stores closed because of stay-at-home orders, so sales moved online. The rapid shift to e-commerce completely disrupted the supply chain. The Covid-19 outbreak has revealed the direct connection between operational efficiency and economic success, and put resiliency on every company’s agenda.

According to McKinsey’s research, companies report that one month or more of disruptions occurs every 3.7 years, resulting in losses worth almost 45 percent of one year’s earnings before interest, taxes, depreciation and amortisation (EBITDA) over the course of a decade. The survey shows that in the wake of Covid-19, leading companies are building new levels of resiliency in three ways: by revisiting their supply base and global asset footprint, moving quickly to digitise their operations end to end, and transforming business models to achieve cross-functional agility in operations.¹¹

The strain brought about by the pandemic has forced companies to rethink their strategies. Businesses are now looking to establish multiple sources across every aspect of their supply chain. Companies are also reviewing their outsourcing strategies. In some cases, they will outsource more to focus on their core competencies, and become nimbler and more competitive. In other cases, they will want to outsource less as they bring production back when third-party companies shutter or raise supply costs due to overtime and expedited freight costs. Social distancing has also provided a reason to shift towards automation to reduce dependency on humans.

The Covid-19 outbreak has revealed the direct connection between operational efficiency and economic success, and put resiliency on every company’s agenda.



2020 was a disruptive year for schools but a lucrative one for education technology (edtech), which just took off as a response to distance learning.

Reframing opportunities: Sectors to watch out for

HEALTHCARE

Covid-19 showed the world that telemedicine works and businesses could be built on the back of it. While the benefits and technology of digital healthcare have been available for some time, the pandemic helped remove the behavioural and economic barriers to widespread adoption of telemedicine.

Bain & Company research highlighted that the user base for Ping An Good Doctor, a Chinese healthcare services platform, grew 900 percent in January 2020, compared to December 2019 before the World Health Organization identified the virus.¹² Another Bain report noted that digital health platforms in Asia Pacific were highly active. At MyDoc, a Singapore-based telemedicine platform, the number of daily active users not only jumped 60 percent in February 2020, it more than doubled the next month.¹³ The company even established a virtual Covid-19 clinic for training its doctors to support the health ministry’s testing and isolation measures.

To contain the pandemic, governments in Asia Pacific also made digital health platforms publicly and promptly available. The Bain report gave several examples: Australia extended Medicare coverage to telemedicine, South Korea relaxed restrictions on telemedicine treatment of Covid-19 patients, and the Indonesian health ministry partnered ride hailing giant Gojek and telemedicine provider Halodoc to deliver

quick Covid-19 diagnostics in remote areas.¹⁴ In fact, many insurers in the region not only introduced telemedicine services to their standard policies, they also collaborated with telemedicine platforms to offer free consultation.¹⁵ Researchers foresee patients using them even after the pandemic.

EDUCATION

It was a disruptive year for schools but a lucrative one for education technology (edtech), which just took off as a response to distance learning. Enrolment at Coursera, an online platform that offers massive open online classes (MOOCs), skyrocketed and was 640 percent higher from mid-March to mid-April 2020 than during the same period the previous year, growing from 1.6 million to 10.3 million.¹⁶

Southeast Asia, home to 700 million people of which 26 percent of the population falls under the school-going age group, adapted and utilised edtech to conduct virtual classes for students. Educational institutions employed tools such as mobile applications, websites, streaming videos, and online tutorials to help students continue studying no matter their circumstance or location.

Today, many edtech start-ups in Southeast Asia, such as Taamkru (Thailand), Ruangguru (Indonesia), and Classrum (Malaysia), are hoping to bridge the educational gap and improve the quality of education. Topica, a Hanoi-based edtech start-up, aims to increase the talent pool by equipping young adults with the skills they need to thrive in a fast-paced working environment in the digital age.¹⁷

FINANCE

Fintech innovations helped lower the cost of service provision, enabling a wider reach and diminishing the need for face-to-face interactions. Not surprising, the fintech market experienced strong growth in all digital financial services, except lending. In fact, access to financial services during the pandemic, especially in emerging markets, was considerably enhanced.

Even as digital lending slumped eight percent by volume of transactions, while also suffering a nine-percent jump in outstanding loan defaults, firms in areas such as digital asset exchanges, payments, savings, and wealth management reported growth in transaction numbers and volumes of 13 percent and 11 percent respectively.¹⁸

Fears of banknotes in circulation potentially spreading the Covid-19 virus encouraged contactless e-payment instead of cash. The pandemic has also spurred e-commerce spending across Asia Pacific, and such changes in consumer habits are expected to persist. Regional tech giants like Grab and Gojek and digital businesses have further contributed to the remarkable growth of e-payment services.

Industry players have prepared themselves to meet increasing consumer and merchant demand for contactless payment solutions such as point-of-sale products. For example, industry-led initiatives to standardise quick response (QR) codes have already happened in Malaysia and Singapore.¹⁹ Such innovations help merchants by simplifying their operations and reducing costs.

GAMING

The video game industry powered through at breakneck speed as people turned to console and mobile titles for stress relief, relaxation, and social connection. The huge propensity for people of all ages and demographics to take up gaming as ‘stay-at-home’ orders went out in 2020 resulted in US\$160 billion in revenue worldwide. Most notably, older players—those aged between 55 and 64—are gaming 48 percent more than they were a year ago.²⁰

This surge in at-home gaming has been noted among both males and females. In April 2020, Niko Partners conducted a survey in China—the biggest gaming market in Asia—to analyse the impact of Covid-19 on gaming behaviour.²¹ In the survey, 95 percent of females said they spent more hours gaming during the pandemic compared to before the outbreak.

As offline sports events were cancelled to protect the health and safety of players and fans, the industry quickly shifted to a 100-percent online format that is safer and cheaper to run.

A new model for entrepreneurs

EMERGENCE OF BIG TECH PLAYERS IN SOUTHEAST ASIA

The decade got off to a bumpy start because of Covid-19. However, Southeast Asia continues to be on track for economic growth and technological innovation. It saw the rise of 11 unicorns in the last decade, and more are expected to emerge in the coming years. Over US\$7.7 billion was invested in Southeast Asian start-ups in 2019 alone, highlighting the fact that investors are taking note of how promising the region is.

As Southeast Asians earn more and gain exponentially higher discretionary income, it creates an opportunity for businesses to scale. The region is also ripe for disruption with emerging markets like Indonesia and Vietnam, where new businesses can develop solutions to existing problems. Consumers in the region are mobile-first, if not mobile-only, opening new avenues for the growth of a digital economy.

Big tech players like Razer, the leading global brand for gamers, beat expectations with record high revenue of US\$447.5 million in the first half of 2020.²² The global ‘stay-at-home’ situation boosted user engagement with gaming and e-sports to record levels. CEO and co-founder Min-Liang Tan attributed the 25.3 percent year-on-year growth to its entrenched brand leadership, compelling offerings across hardware, software, and services, and strong execution. Razer’s strong cash position of over US\$500 million puts the company in good stead to ride out the challenging global economic situation.

Sea Limited, a consumer Internet company with an integrated platform consisting of digital entertainment, e-commerce, and digital financial services, operates three businesses: Garena, Shopee, and SeaMoney. In the first nine months of 2020, Sea’s revenue rose 101 percent year-over-year to US\$2.81 billion. Its digital entertainment revenue grew 81 percent to US\$1.32 billion, while its e-commerce and other services revenue jumped 113 percent to US\$1.12 billion.²³

Another emergent big tech player, Grab, is accelerating its expansion into financial services with a US\$300 million funding for its fintech subsidiary. Founded in 2012, the Southeast Asian US\$15 billion ride hailing and food delivery giant, backed by SoftBank and Uber, is betting on growing demand from the region’s rising class of merchants and consumers. Grab’s net revenue grew 70 percent in 2020 from the previous year.²⁴

LOCALISATION TO SCALE

Each of the 11 countries in Southeast Asia is diverse in politics, language, and culture with different needs and consumer preferences. Succeeding in these markets requires localisation, which is more than just translating content. Firms need to consider the way the target audience thinks and behaves, resulting in product customisation and alternative approaches to pricing, marketing, operations, and customer service. Lazada, Alibaba’s biggest Southeast Asian e-commerce operation, understood this behaviour and allowed customers in different markets to pay for goods in ways that suited them.²⁵

Recruiting local talent for each market ensures knowledge of local rules and regulations, cultures, consumers, and commerce in this highly fragmented region. This includes basic things, such as identifying the popular marketing and social messaging platforms in the country. Line, for example, is popular in Thailand, whereas Malaysians and Singaporeans prefer to use WhatsApp. When expanding in Southeast Asia, Gojek took this approach and hired local ‘founder’ teams who were responsible for local service offerings and related businesses.²⁶

NEW CHALLENGES IN DATA HANDLING

Data today is fluid, mobile, and global. Across the world, millions of people are using smartphones, some of which have been found to have pre-installed malware that robs users through fraudulent transactions.²⁷ There have also been concerns about Huawei’s 5G potential backdoors and TikTok’s user data collection via the entertainment app. At the same time, personal information is scattered around data centres in India or the Philippines via hosted service providers and call centres.

Businesses are turning to Artificial Intelligence (AI) as a cybersecurity weapon and it is becoming increasingly integral to information security. A recent study found that 61 percent of respondents can no longer detect data breach attempts without the help of AI.²⁸ This discovery informed the decision of 48 percent of the organisations surveyed to increase their digital security spending for AI by an average of 29 percent in 2020.

There are also privacy concerns following hacking incidents during the Covid-19 crisis, where cybercriminals profited from stolen identities. The public is legitimately concerned about current data practices. News about data breaches, government surveillance, and corporate misconduct have further diminished their trust on new technologies, including Covid-19 contact-tracing apps.²⁹

Privacy compliance is lagging but customers are more aware now than ever before of their rights regarding data



Businesses are turning to Artificial Intelligence (AI) as a cybersecurity weapon and it is becoming increasingly integral to information security.

privacy regulations. As a result, data discovery, classification, and remediation by protecting sensitive data through automated workflows will become an important initiative for enterprises.³⁰

SUSTAINABILITY AND CLIMATE CHANGE OPPORTUNITIES

The bad news is Southeast Asia has not kept pace with the global green economy. The good news is there is considerable untapped potential in the sustainability and climate change space that did not exist before.

Southeast Asia’s green economy could provide up to US\$1 trillion in annual economic opportunities by 2030.³¹ Building the green economy is a multifaceted prize. Revenue pools from new growth sectors and estimated cost savings from efficiencies offer pathways to competitive advantage while advancing sustainability and societal welfare. Adopting green practices will meet the region’s wider environmental,

social, and governance (ESG) ambitions and, in turn, deliver societal benefits—ends in themselves that also underpin increased growth. With global shifts in reporting requirements on sustainability practices, companies are now looking at ways to measure and mitigate their environmental footprint. Singaporean start-ups, such as Handprint and Seven Clean Seas, have embraced this opportunity, and are working towards more efficient business models by which companies can create a positive sustainable impact, as well as articulate and measure their effects more clearly. In addition, the shift toward a green economy in material industries could offer multiplier effects to the rest of the economy in Southeast Asia.

Conclusion

The pandemic was an inflection point for Industry 4.0. It removed barriers to digital tools and changed consumer behaviour. Online purchasing and delivery trends formed during Covid-19 are now the norm as consumers become familiar with the resulting ease, convenience, and experience. The consumers of tomorrow are here today. Covid-19 played a crucial, if not forced, role and there is no going back. We are now living in a brand-new era.

Gerard George

is Dean of Lee Kong Chian School of Business and Lee Kong Chian Chair Professor of Innovation and Entrepreneurship at Singapore Management University

Koh Foo Hau

is Director of Institute of Innovation and Entrepreneurship at Singapore Management University

References

- ¹ Gerard George, Karim Lakhani and Phanish Puranam, “What has Changed? The Impact of Covid Pandemic on the Technology and Innovation Management Research Agenda”, *Journal of Management Studies*, 2020.
- ² Mayank Agrawal, Sumit Dutta, Richard Kelley and Ingrid Millán, “Covid-19: An Inflection Point for Industry 4.0”, McKinsey & Company, January 15, 2021.
- ³ Piyush Gupta, “Changemakers Conversations: Our New Normal”, Singapore Management University, September 30, 2020.
- ⁴ Alex Capri, “Techno-Nationalism: What is it and how will it Change Global Commerce?” *Forbes*, December 20, 2019.
- ⁵ *Ibid.*
- ⁶ James Mulvenon, “A World Divided: The Conflict with Chinese Techno-nationalism isn’t Coming—It’s already here”, *War on the Rocks*, January 28, 2021.
- ⁷ Pankaj Doval, “TikTok, WeChat, Baidu and UC Browser among 59 Chinese Apps Permanently Banned in India”, *Times of India*, January 26, 2021.
- ⁸ Joe Panettieri, “Huawei: Banned and Permitted in which Countries? List and FAQ”, *ChannelE2E*, February 9, 2021.
- ⁹ Alex Capri, “Techno-nationalism is Driving US-China Decoupling in Innovation”, *Hinrich Foundation*, September 10, 2020.
- ¹⁰ *Ibid.*
- ¹¹ McKinsey, “The Need for Resiliency”, February 9, 2021.
- ¹² Kevin Chang, “As the Coronavirus Spreads, Healthcare goes Digital”, *Bain & Company*, February 26, 2020.
- ¹³ Vikram Kapur and Alex Boulton, “Covid-19 Accelerates the Adoption of Telemedicine in Asia-Pacific Countries”, *Bain & Company*, April 27, 2020.
- ¹⁴ *Ibid.*
- ¹⁵ *Ibid.*
- ¹⁶ Chris Impey, “Massive Online Open Courses see Exponential Growth during Covid-19 Pandemic”, *The Conversation*, July 23, 2020.
- ¹⁷ Mariyah Lia, “How Edtech in Southeast Asia Transforms Learning”, *The Borgen Project*, July 29, 2020.
- ¹⁸ The World Bank, “Fintech Market Reports Rapid Growth during Covid-19 Pandemic”, December 3, 2020.
- ¹⁹ Allen & Overy, “Will Covid-19 Coronavirus Accelerate the ‘Tech’ in FinTech across Asia-Pacific?” May 20, 2020.
- ²⁰ Trilby Beresford, “How the Video Game Industry Quietly Powered through a Pandemic”, *Hollywood Reporter*, December 22, 2020.
- ²¹ Niko Partners, “The Impact of Covid-19 on China’s Video Game Market 2020”, June 10, 2020.
- ²² *Businesswire*, “Razer Beats Expectations with Record High Revenue of US\$447.5M and Positive Adjusted EBITDA of US\$3.2 Million for 1H 2020”, August 26, 2020.
- ²³ Leo Sun, “4 Reasons I Bought Sea Limited Stock”, *Nasdaq*, January 14, 2021.
- ²⁴ Juro Osawa, “Grab’s Fintech Unit Raises \$300 Million as Asia’s Tech Wars Intensify”, *The Information*, January 6, 2021.
- ²⁵ Monk’s Hill Ventures, “5 Steps to Scale Up Successfully in Southeast Asia’s Diverse Ecosystem”, May 9, 2019.
- ²⁶ *Ibid.*
- ²⁷ Craig Silverman, “Chinese-Made Smartphones are Secretly Stealing Money from People around the World”, *Buzzfeed News*, August 24, 2020.
- ²⁸ “Reinventing Cybersecurity with Artificial Intelligence”, *Capgemini*.
- ²⁹ Ashvin Kamaraju, “New Challenges for AI, Data Privacy and the 5G Hackathon”, *Security*, June 22, 2020.
- ³⁰ *Ibid.*
- ³¹ Dale Hardcastle and Gerry Mattios, “Southeast Asia’s Green Economy: Pathway to Full Potential”, *Bain & Company*, November 25, 2020.