ASIAN MANAGEMENT INSIGHTS

SMU
SINGAPORE MANAGEMENT UNIVERSITY

The Asia Growth Story
An interview with Piyush Gupta, Chief Executive Officer and Director of DBS Group

eMarketplaces
Challenges and considerations

When Crises Happen
Coronavirus and global growth

Closing the Data-Decision Loop
AI for dynamic resource deployment

THE FUTURE OF RETAILING

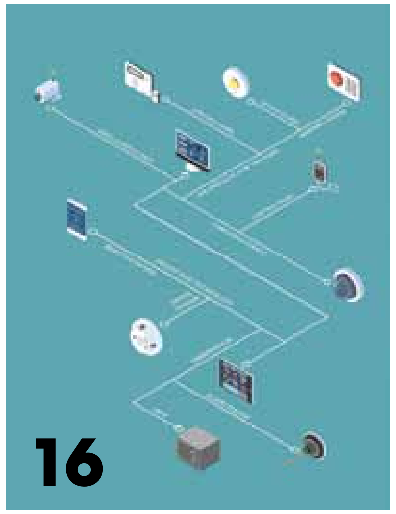
WHEN THE ARTIFICIAL BECOMES REAL

VOL.7 S$16.00
ISSN 2315-4284

CONTENTS

Drivers of Asia's growth are consumption, investment, integration and digitalisation.

- Piyush Gupta, Chief Executive Officer and Director of DBS Group



> The smart use of technology will be integral to determining business success in the future.
>
> *- Havovi Joshi, Editor-in-Chief, Asian Management Insights*

ASIAN MANAGEMENT INSIGHTS

Asian Management Insights (ISSN 2315-4284) is published biannually at a recommended retail price of S$16 by the Centre for Management Practice, Singapore Management University, 81 Victoria Street, Singapore 188065.

We welcome comments and letters to the editor, which should be sent with the writer's name, address, and phone number via email to editorami@smu.edu.sg. Letters may be edited for length and clarity, and may be published in any medium and at the Editor's discretion. All letters become the property of Asian Management Insights and will not be returned.

Submissions: We encourage submissions. Proposals for articles should be addressed to editorami@smu.edu.sg. Unsolicited manuscripts will be returned only if accompanied by a self-addressed stamped envelope.

Subscriptions: Please email enquiry to subscriptionsami@smu.edu.sg

For further information, to advertise or request reprints, please contact: enquiryami@smu.edu.sg

The views expressed in articles are those of the authors and not necessarily those of Asian Management Insights, the Centre for Management Practice, or Singapore Management University. Authors may have consulting or other business relationships with the companies they discuss. All information in this publication is verified to the best of the publisher's ability. Singapore Management University does not accept responsibility for any loss arising from reliance on it.

FROM THE EDITOR

How technology is driving business change

The COVID-19 pandemic has very quickly evolved beyond a health crisis to also become an economic one. The emergence of the epidemic in China and its rapid spread to the rest of the world is expected to shrink the global economy by at least 2.2 percent, which is more severe than the contraction during the 2008 global financial crisis. In this issue, Waqas Adenwala of the Economist Intelligence Unit gives us an unflinching take of the negative effects on growth from both demand and supply channels.

While we wait for the pandemic to run its course—which it will do on its own terms and will not be rushed—we need to carry on with life as much as possible, albeit under the constraints that the virus has placed on us. Innovations must continue and this issue focuses on new technologies that are being employed in various industries. The industries of the future are powered by technology, hence the smart use of technology will be integral to determining business success. The articles in this issue will help us think critically of how technology can improve our existing operations. What can be done better by automated processes, software, or artificial intelligence (AI)? How can we use technology to our advantage?

Piyush Gupta, Chief Executive Officer and Director of the DBS Group, talks about the Asia growth story and the future of banking. He believes that the biggest game changer of all is going to be the deployment of big data and AI. "We could argue that it's not new and people have been working with data for some time. But I think that we weren't as perceptive of what data can do, and the outcomes we can get, by putting machine learning and AI on top of that data. This is going to be completely revolutionary as we go forward."

Asia is predicted to experience a twofold increase of people aged 60 years and over, from 549 million in 2017 to nearly 1.27 billion by 2050. Tan Hwee Pink, Associate Professor of Information Systems and Academic Director of SMU-TCS iCity Lab at Singapore Management University, discusses the scalability and sustainability of 'silver tech' that allows for intelligent detection and notification of anomalous events, as well as collaborative support for seniors living alone.

Jagdish Sheth, Professor of Marketing at the Goizueta Business School of Emory University, takes us through the evolution of retailing and the rise of retail brands. He purports that digital technology, including e-commerce and e-market exchanges, has been the most significant disruptive force for the retail industry in the last two decades.

While the take-off for a digital entrepreneur may be easy, Sam Too, General Manager of online retailer Qoo10 in Singapore, says that the challenge is in surviving the roller-coaster journey and staying the course. And to do that, he believes building scale and volume rapidly is key. Over in China, we see how this plays out as the coffee giant Starbucks faces off against start-up Luckin Coffee with the emergence of 'new retail', a term referring to the seamless integration of offline and online retail.

Still on the topic of retail, what additional benefits would an online grocery delivery model provide in a small island-nation like Singapore, where things were already so convenient? RedMart's co-founder and former CTO Rajesh Lingappa says *more* convenience. Supermarket trips are basically a chore and repetitive in nature. And grocery is something that one needs regularly; it is not a one-off purchase. He shares his entrepreneurship journey of continuous learning and the necessity of staying current.

For a business, scale can be a friend or a foe. Philip Zerrillo, Deputy Dean at the Indian School of Business, says that the Indian Railways is on track to transform its massive track network that runs nearly 70,000 route kilometres, even as it manoeuvres infrastructure and digitisation challenges.

Pradeep Varakantham, Associate Professor at the School of Information Systems at Singapore Management University, believes that in order to harness AI-enabled intelligent systems, we need to close the loop between data and decisions by learning from the data. We can do this by observing what happened, identifying the gap between predictions and observations, and then using that knowledge to tighten the model so as to narrow the gap. This improves predictions and allocations to determine the optimal matching of demand and supply in a dynamic, uncertain future.

While technology is driving change, we cannot afford to overlook the human side that supports this transformation. Technology by its very nature is global, and Francis Lotzer proposes an adaptive mindset as the effective approach to leadership in cross-cultural business contexts. The international training consultant and speaker at IMS Trainings helps us understand cultural signals by exploring the 'hidden part of the iceberg' and providing advice on how to communicate the benefits of change to team members.

We also look at corporate governance today in *A Walk Through Asia*, and the need to shift to a more robust and effective corporate governance framework that includes a focus on environmental sustainability and social impact.

Business may not be 'as usual' right now, but the engines of the front-runners are still humming, prepared to launch into action as soon as the flag goes down.

DR HAVOVI JOSHI
Editor-in-Chief
Asian Management Insights
havovijoshi@smu.edu.sg

CONSUMPTION, INVESTMENT, INTEGRATION AND DIGITALISATION LEAD GROWTH IN ASIA

Piyush Gupta, Chief Executive Officer and Director of DBS Group, talks about the Asia growth story and the future of banking, in this interview with Havovi Joshi.

What are some of the secular drivers of growth in Asia today?

I believe there are four key drivers of Asia's growth, of which the first is consumption. From 1980 to around 2000, export-oriented manufacturing catering to the Western markets was what drove growth among the Asian Tigers. So Asia became the factory of the world. But in the last 20 years, Asia has changed rapidly from being the factory of the world to being the marketplace of the world. And this is on account of the massive consumer drive coming through fundamental demographics. Asia has, and continues to have, the youngest population in the world–and this population has been consuming in ways we haven't seen before. So this demographic shift and the consumption that comes along with it is one big driver of growth. There is also more wealth being created in Asia than in any other part of the world, and that too leads to growth and increased consumption.

The second big driver of growth has been the investments in Asia. If you think about the 1950s, what capitalised Europe after World War II was the Marshall Plan and the

> In the last 20 years, Asia has changed rapidly from being the factory of the world to being the marketplace of the world.

pumping of money by the United States. While Asia has not seen the equivalent of a World War in recent times, the reality is that Asian countries have hit their stride in terms of the investment thrust. China is already ahead of the game. And when you look at other countries like Indonesia, India, the Philippines, and Vietnam, there's a massive investment requirement, which the Asian Development Bank estimates to be US$1.7 trillion per year over the next several years. Some of this has been driven by a shift of the rural populations to urban areas; but investments in other infrastructure such as airports, ports, bridges, and metro lines will continue to drive Asia's growth for a period of time.

The third driver is this idea of integrating Asia. Notwithstanding that Asia does not have the equivalent of a European common market, Asia's people-to-people integration is proceeding at a rapid pace. If you look at intra-Asia trade, it continues to grow. Even in the last year or two, when global trade has stagnated, intra-Asia trade has expanded. In fact, despite the tariffs that the U.S. has imposed on China, Asia's exports to the U.S. continue to rise. That is because intra-Asia trade takes place between China and other countries like Vietnam, Thailand and Malaysia, and then goes into America. And trade alone is not expanding, there is also capital flow. About two decades back, the Asian bond markets were under-developed and most of Asian savings were routed through the U.S.; we did not have a system intermediation capability of our own. But today, a large part of Asian capital circulates in Asia. In fact, even for global capital, much of the decision-making now happens in Singapore and Hong Kong.

And the fourth driver is the digitalisation of Asia. The young populations are digital natives by and large, and the take-up of applications in Asia for digital solutions and digital use cases has been extraordinarily quick, relative to the Western world. We see it with Ant Financial and WeChat, or the payment systems and e-commerce in China, but it has now also spread to India, Indonesia, the Philippines, and other markets. I think that digital transformation will continue to be a big driver. Robots and robotics, for instance, are used more in the factories and supply chains of Asia than any other part of the world.

What would you say are the key challenges that Asia's economy faces today?

The first is geopolitics. Asia's growth took place in an incredible environment of geopolitical stability for well over 50 years. But this is changing. The tensions between the U.S. and China are going to push countries to take sides, but it appears they will be a lot more careful and cautious, and try to play both sides. And that's a challenge which we haven't seen in a long time, so it's something that has to be thought through carefully and cleverly.

A second big challenge, also in the relatively short term, is the challenge of innovation. I said earlier that Asia is digital, and that is true. It does apply technology very well. But Asia's focus on fundamental innovation, or simply creation, has been somewhat weak, and needs to be sharpened to keep that momentum going.

The third challenge is of soft infrastructure, which has to do with governance systems. While a number of Asian countries are improving on their governance practices, be it through legislation or bureaucracy, it seems to be one foot forward, and one foot back. This soft infrastructure needs to be built quite quickly to keep pace with the growth of the economy.

I see a couple of other challenges in the longer term. One is the challenge of inequality of wealth, which has been increasing in Asia. Hong Kong has one of the highest Gini coefficients in the world, but even in a country like India, the Gini coefficient is around 0.35, trending towards the inequality alert line of 0.40. So income inequality and the resulting social tension it creates is a challenge. And this is exacerbated by unemployment, which is one of the caveats to Asian demographics. Digitalisation means jobs are not easily available. The jobs that are there are being held onto by older people who are living longer and need the job for longer, yet again creating a degree of tension. Finally, a big issue for countries in Asia, probably in the longer term, has to do with climate change, particularly in the context of rising seawater levels and increasing pollution. So while China and India are battling pollution, Indonesia is trying to change the location of its capital, and Singapore is planning to build dykes and reclaim more islands.

Each one of the challenges I've talked about can be showstoppers, game changers. So, when I say that Asia has got a lot of positive drivers, by no means am I suggesting that its growth trajectory is guaranteed, or unidirectional. It still requires a number of appropriate policies to be formulated and a lot of shared work between the private and public sectors to realise some of the goals set.

What are some of the key developments in the banking industry that you see taking place in the future?

I would say that about 90 percent of the global banking value output is typically defined by three key activities: a savings proposition, a lending proposition, and moving money around. Are those requirements likely to be there in the medium to long term? The answer is yes. So while innovations like distributed ledgers and cryptocurrencies could change the way it happens, these three functions will still remain. But who are the participants in this ecosystem that will perform these functions? Here, I see a mix of institutions that are traditionally called banks that have the capabilities and the capacity to be able to transform and leverage these new technologies and tools, along with other players like Amazon, Google, or Alibaba, which will also be capable players in this overall ecosystem. So the nature of the players might change, and whether you put the word 'bank' behind everybody's name or not, the substance of what will get done will still be the same.

Looking ahead, in my opinion, the biggest game changer of all is going to be the deployment of big data and artificial intelligence (AI). We could argue that it's not new and people have been working with data for some time. But I think that earlier we weren't as perceptive of what data can do and the outcomes we can get by applying machine learning and AI to that data. This is going to be completely revolutionary as we go forward. The second is distributed ledger technology, which will continue to play a role and have an impact. I think it will not be easy for large-scale public blockchain to gain traction because of the need for ubiquity to achieve exponential growth. But what you're already seeing are private or 'walled garden' blockchains, and these will also result in a material shift in the way things are done. Finally, I think the nature of money and currency will evolve. It's not going to happen in a hurry because of state and national monetary policy requirements, the need for financial system stability, and so on–but it could happen and there could be a lot more digital money like crypto-money.

In the short term, with the rapid growth in 5G and the Internet of Things, banks will have to talk to machines, and accept instructions from machines. That's quite possible. Take the example of a refrigerator that has sensors through which it can figure out if your milk supply is low and it can place an order to deliver a new carton of milk. Now, when the order is placed at the supermarket, an instruction will also be sent to the bank to pay for the milk. This means that the banks have got to be equipped to accept this instruction from the fridge, and such situations are going to change the whole payments paradigm.

You believe in the power of technology to improve banking and society. But what do you think about job displacement? Will the greater adoption of technology accelerate the income divide in Asia and globally?

I think job displacement is the key bit. There are clearly several kinds of jobs which are already being automated. In the blue collar space, robotics is taking away hundreds of thousands of jobs, and in the white collar space, increasingly, computers are taking over a lot of what an employee used to do. With natural language processing, this becomes easier. The way to address this is for governments to be really focused on re-skilling and helping people transition to new types of jobs. It's not entirely clear to me whether enough new jobs will come up, but I'm an optimist. I think the capacity of the human mind to invent new jobs is real. DBS Bank, for instance, has already reduced over 1,000 jobs, but added headcount by creating jobs in new areas. So it can be done, but it is really critical for governments to boost the case for this, otherwise you will have large pockets of job-displaced and disenfranchised people, which becomes a social problem.

As for technology accelerating the income divide problem, it could happen. Today, the top 10 companies in the world have a combined market cap of more than US$6 trillion; while there may be some people who bought the stock, on the whole, fewer employees have really benefited from it, because each of these companies has far fewer employees than traditional companies. So there is a question that technology today creates a winner-takes-all environment, in which case you would wind up with some people getting extraordinarily wealthy, while a lot of people are not. Nation states are going to have to work on a thoughtful redistribution policy. Some of this will happen, and you will see higher taxes being imposed and a greater role of the state in facilitating income distribution, but even civil society and the private sector will have to put in a lot more thought into addressing this challenge.

> When I say that Asia has got a lot of positive drivers, by no means am I suggesting that its growth trajectory is guaranteed, or unidirectional.

As a leader, how do you think managers and the youth entering the workforce today can prepare for and possibly overcome an increasingly volatile, uncertain and complex world?

I believe that the world is changing so rapidly that it is hard to forecast the future. It's very tough to say what is going to happen five years from now and you will probably miss half of it. On the other hand, the first thing you need to do is determine three things–what you think could happen; what to create competency around; and what to prepare for. So I would first advise everybody, including young people, to think, read, and talk enough, to develop some thoughtful viewpoints.

The second piece of advice I have, which is linked to having developed viewpoints, is that you have to build horizontal skills. In the past, you could say with a high degree of certainty, "This is where the world will go and I want to develop these skills." But today, the skill sets will keep changing, so you have to start really focusing on developing horizontal skills. Chief among these to me are adaptability, resilience, and curiosity. They are skill sets that allow you to fall and stand back up nimbly and quickly. They also allow you to connect the dots. And this is what will be needed–to be able to adapt in real time to changes, respond quickly, and pivot to view opportunities that come along.

> Nation states are going to have to work on a thoughtful redistribution policy.

A lot of people think the future is only about science–technology, engineering, mathematics, biotechnology and so on. However, I believe that, now more than ever, a liberal arts education is extremely important, because some of the biggest challenges mankind will face in the next decade or two will have nothing to do with technology. They will have to do with philosophy, psychology, and the social sciences. They'll come from having to answer the following questions: What do we use AI for? What is it that we do not want a computer to do? What data should we share and not share? None of these questions will be answered using only science. So, undoubtedly, that's why you need both tech and social skills, and the ability to bring them all together. Those horizontal skills, and the adaptability and resiliency to respond to an ever-changing volatile, uncertain and complex world, are the most important things to focus on today.

Piyush Gupta
is the Chief Executive Officer and Director of DBS Group

Havovi Joshi
is the Editor-in-Chief of Asian Management Insights and Director of the Centre for Management Practice, Singapore Management University

THE FUTURE OF RETAILING

When the artificial becomes real.

By Jagdish Sheth

Is our virtual world gaining precedence over our real world? I have seen people rush back home to milk their virtual cow before sunset in an agriculture-simulation social network game, even as their children wait to get their parent's attention. Across generations, people are so focused on their smartphones, tapping on 'likes' of photos of friends having lunch or travelling to school that they often forget to notice, much less speak, to their family and the passengers they share rides with. No doubt, the online world is attractive, captive and yes, even addictive. And it is pervading every aspect of our lives, not just the social.

Nowhere is this online explosion more visible than in the retail industry. In the global retail sector that boasts of an estimated US$26.1 trillion in revenue for 2020,[1] representing a third of the world's GDP and employing millions of people, e-commerce has been growing at 23 percent per annum between 2012 and 2019, and will account for 15 percent of the total retail sector by 2020.[2] At this rate, revenue from online retail will surpass US$5 trillion by 2020. Nonetheless, 85 percent of retail revenue today still comes from physical stores. Hypermarkets and supermarkets account for 35 percent of the retail direct sales globally, and these numbers do not account for cash-based informal retailing such as street vendors and small rural shops.

While the growth numbers seem impressive, the retail sector is, in fact, in trouble. In 2018, 5,864 retail stores closed down in the U.S., and another 9,100 were set to close in 2019.[3] Among those affected are many iconic brands like H&M, Ralph Lauren and Michael Kors. The U.S. shopping malls are running empty. Even more worrying is the fact that world-class retailers like Toys"R"Us, RadioShack and Sears have filed for bankruptcy. And despite the continuing attraction of the 'mall culture' in Asia, retailers in this region are also suffering. International retailers such as Carrefour, GAP and Banana Republic have closed their Singapore storefronts. Local and regional brands such as furniture and home retailer iwannagohome and fashion house Raoul have also downed their shutters over the past few years, with cosmetics retailer Sasa and DIY chain Home-Fix as the most recent casualties.

Why do good retailers go bad?

What we are seeing is reduced footfall in physical stores, making the brick-and-mortar format seemingly unsustainable in the face of online retail. The Wheel of Retailing and the Retail Gravitation theories have been proposed as explanations for this trend. The former states that new types of retailers generally enter the market as low-margin, low-status, low-price operators that would gradually move to more elaborate premises and facilities and get replaced by new low cost competitors. Meanwhile, the Retail Gravitation theory proposes that customers are willing to travel longer distances to larger retail centres given their greater attractiveness to customers. However, in my opinion, most good retailers go bad because they are either unable, or more importantly, unwilling, to adapt when their ecosystem changes rapidly. Many of the bigger, successful companies are fast falling behind their smaller but nimbler online competitors because their legacy systems do not allow them to adapt quickly to changing market conditions.

Over the last 150 years, the retail sector has evolved from providing location and convenience to a full customer experience. This is the stage we are at now. Moving forward, the retail industry can and will reposition itself in the face of emerging trends and changing dynamics not only to survive but also thrive in the new environment. It will do so by evolving into a provider of integrated value-added services (refer to Figure 1). Technology will be a key factor driving this future positioning.

Rise of retail brands

One of the most noteworthy trends in retail has been the shift from manufacturing brands to retailing brands. Interestingly, this shift impacts both the online and offline space whereby retailers are creating their own brands using a name that is different from that of the retailer. For instance, each house brand for product categories such as men and women's clothing and home products sold in Walmart is not branded as 'Walmart', but has its own unique brand name and sells exclusively in Walmart stores.

When fast-moving consumer goods manufacturing took off 150 years ago, retailers did not have much market power as merchandise was mostly sold through mom-and-pop shops or small-scale retail chains. Manufacturers wielded market power through product brand loyalty and by controlling the supply chain. Today, the tables have turned as retailers now understand the pulse of their customers, and they use this intimate understanding to offer product solutions or experiences that go beyond the utility, convenience and style of the product. As such, retailers have gained a lot more market power and customer loyalty compared to manufacturing conglomerates like Unilever and Procter & Gamble. Companies like Walmart, Amazon and Alibaba have seen amazing overall growth, and who would have thought that Walmart and Sam's Club would become the biggest retailers for diamonds in America?

Although the concept of private labels is not new to the retail industry, the difference today is that these brands are of a very high quality as the retailer controls the design and chooses a manufacturer that can deliver on quality, not just on price and volume. In fact, retailers are proactively challenging the mindset that private labels are low-quality alternatives. They are getting smarter by marketing the private labels as the premium products in their stores. These companies take pride in their own brands, which account for a big chunk of their revenue.

Retailer brands have also proved to be lucrative for business. Britain's Marks & Spencer and America's A&P (Atlantic & Pacific) were some of the first retailers to manufacture their own products and sell only private labels, and were well known for their quality. The U.S. department store chain Sears was known for its Craftsman tools and lawn mowers and Kraft tools, which competed favourably with leading brands like Black & Decker and Toro. In fact, Sears sold its Craftsman brand to Stanley Black & Decker for roughly $900 million.[4] Sears had 18 such brands, including Kenmore, for home appliances. Kenmore washing machines were manufactured by Whirlpool but the Kenmore brand had a higher valuation than that of the appliance manufacturer because of its larger market share.

Costco Wholesale, the leading membership warehouse club and the second largest retailer in the U.S. with annual net sales of US$138 billion, has its own brand named Kirkland that accounts for about over US$39 billion, or 28 percent of its revenue.[5] Big Bazaar, the Indian retail chain of hypermarkets, discount department stores and grocery stores, has also been successful with its line of retailing brands. Flipkart in India has a whole range of private brands, none of them labelled Flipkart. And in China, Alibaba is doing the same thing.

> The retail sector has evolved from providing location and convenience to a full customer experience. This is the stage we are at now.

EVOLUTION OF RETAILING

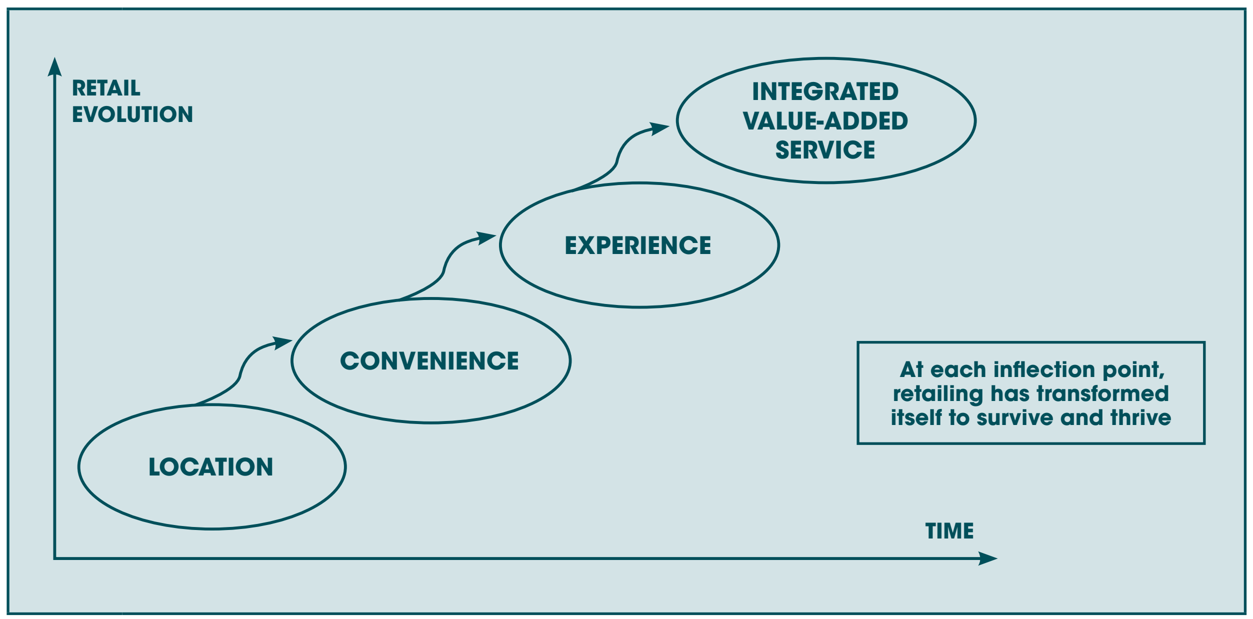


FIGURE 1

Customised pricing in digital retail

Digital retail allows for customised pricing, meaning the price paid by one customer for any particular good or service can be very different from the price paid by another. This is common in the airline industry that operates on a yield management model, where the focus is on optimising the revenue per seat per mile for all flights. For example, say out of a total of 100 seats, the airline manages to sell 80 seats at the regular price. As it does not want the remaining 20 seats to go empty, it offers a price incentive to fill the remaining seats. Hence, it is quite possible that the person sitting in the seat next to me could have paid just 20 percent of the price I paid for the same seat. This could be because they booked well in advance or because they bought the ticket at the last minute, or went through an aggregator that gave a heavy discount. Similarly, the hospitality industry also offers customised pricing through the aggregators.

Unless there is government regulation, price discrimination can be exercised customer by customer. If one shops for clothes online and visits the same websites regularly, the online retailers can know individual customer preferences and offer customised promotions and incentives. This level of customised pricing is much harder to implement in the brick-and-mortar format.

Repositioning of retail

In the digital age, brick-and-mortar retailers need to move away from selling merchandise to offering integrated value-added services. The prominent trend to watch out for is the transition of traditional retailers into the area of service delivery with the help of e-commerce platforms. We are seeing this first and foremost in the online food delivery business. A food business no longer needs to invest in and develop its own delivery services—companies like Amazon in the U.S. are delivering food within two hours, while general retailer Kroger is competing fiercely to cut down its delivery time to one hour. In today's fast-paced world, customers are more than willing to forego the experience of dining in a restaurant and pay for this service, just to enjoy the convenience of home delivery—this has developed into a market that has been well captured by companies like Uber Eats, Grub Hub, and Dash.

We are even seeing companies using merchandise as a loss leader and make money on financing or other services like maintenance contracts and extended warranties. For Sears, its largest profit was not from the sale of home appliances, but from issuing credit cards and extended warranties against home appliances. In the early 2000s, these revenue streams were largely responsible for keeping the company buoyed in the face of declining store sales.

> The evolution of retailing from being location-centric to convenience-centric, and then to experience-centric, will transform it into a provider of value-added services, enabled by digital technology.

INTEGRATED VALUE-ADDED SERVICES

The old practice of razor and blade in a contemporary technology-enabled way

Best Buy, the multinational consumer electronics retailer, surprised the market by announcing its intention to move into services. In 2002, it bought a company called Geek Squad, whose technicians help to deliver and install the purchased product in the customer's home, and also service the maintenance contract. The service contracts provide a steady revenue stream for Best Buy. Apple Inc is doing the same with its content streaming services, just as the subscription service Amazon Prime has created a healthy cash flow for the retailer.

Even as shopping malls become more of service malls (making money only from movie theatres and F&B outlets), brick-and-mortar retailers in these properties will metamorphose into omni-channel retailers. They are already positioning themselves to offer a host of options for the customer, from online ordering with store pickup to in-store shopping with home delivery. E-commerce alone cannot provide this kind of convenience.

Equally, online players like Amazon and Alibaba have started investing in physical stores, but they will offer a very different experience to their customers. This is already happening to some extent, and the Apple stores are a very successful example of this. The success of Amazon Go in Seattle is also evidence of the innovativeness and creativity with which online players will enter the physical space. Additionally, as mass merchandise goes online, brick-and-mortar retail stores will become specialty stores.

GOING BEYOND CUSTOMER EXPERIENCES

When the artificial becomes real

The latest trend in the U.S. is what I call the 'uberisation' of merchandise, where we are finding that 35 percent of all merchandise—from furniture to clothing—is rented. Very similar to leasing in the car industry, these retailers have now become service providers because ownership does not change hands.

When the artificial becomes real

The rise of non-traditional competition and changing consumer lifestyles has certainly played a major role in changing industry dynamics for retailing. However, digital technology, including e-commerce and electronic market exchanges, has been the most significant disruptive force for all industries in the last two decades. The evolution of retailing from being location-centric to convenience-centric, and then to experience-centric, will transform it into a provider of value-added services, enabled by digital technology. Over the coming years, retailing will become more of services retailing, and this will distinguish the winners from the losers.

It doesn't stop here. In the future, industry change will be further accelerated with the advent of new technologies like artificial intelligence, virtual reality, and blockchain. As the artificial becomes real, retailers will have to adapt and rejuvenate their business models and core practices for survival and growth in the future. We are already seeing glimpses of this change in smart checkouts, robot assistants, and virtual shopping networks, which will become more pervasive over time.

Brick-and-mortar retailing is here to stay, but it will be revitalised and repositioned for the future as it has always done ever since the industrial revolution.

Jagdish Sheth
is the Charles H. Kellstadt Professor of Marketing at the Goizueta Business School of Emory University

References

[1] Liam O'Connell, "Global Retail Sales 2017-2023", Statista.com, November 28, 2019.
[2] J. Clement, "Global Retail E-commerce Sales 2014-2023", Statista.com, August 30, 2019.
[3] Hayley Peterson, "More than 9,100 Stores are Closing in 2019 as the Retail Apocalypse Drags on", Business Insider, November 12, 2019.
[4] Paul la Monica, "Sears Sells Craftsman to Stanley Black & Decker", CNN Business, January 5, 2017.
[5] Costco Wholesale, Annual Report 2018.

Sustainable technology solutions to support the elderly.

By Tan Hwee Pink

From 1980 to 2017, the global population aged 60 years and above has more than doubled from 382 million to 962 million people, and is expected to double again by 2050 to reach nearly 2.1 billion people.[1] Interestingly, two-thirds of the elderly live in the developing world, where their numbers are growing faster than in the developed world. Asia is predicted to experience more than a twofold increase of persons in this age group, with the population aged 60 years and over projected to increase from 549 million in 2017 to nearly 1.27 billion by 2050—a quarter of the total population in the region.

While a higher life expectancy is testimony to our achievements in modern medicine, this demographic trend has significant implications for labour supply, family and household structure, pension systems, demand for healthcare and welfare services, as well as housing and transportation services. Greater longevity is turning out to be a double-edged sword, especially in Asia, as governments grapple to cover the costs of institutionalised resources and facilities for healthcare and eldercare, as is the case in the West. Private healthcare costs are also rising steeply. Therefore, it is becoming necessary to create living arrangements where seniors can age in place, that is, live in their own home and community independently, comfortably, and safely. While this will greatly reduce the strain on budgetary resources and ease the pressure on healthcare costs, ageing in place creates its own set of challenges for seniors and their caregivers.

Home alone

The household living arrangements of seniors differ markedly across countries and regions, reflecting differences in economic conditions, availability of support systems and infrastructure, family size, as well as the social and cultural norms that surround inter-generational co-residence. In Asia, 73 percent of those aged above 60 years lived with their children in 1990, this has since declined to 64 percent in 2010. The corresponding numbers in 2010 for North America and Europe were 19 percent and 20 percent respectively.[2]

The old-age support ratio, defined as the number of residents aged 20 to 64 years to those above 65 years old, has been on a steady decline in Asia. In Singapore, the support ratio has more than halved from 9.0 in 2000 to 4.5 in 2019.[3] The proportion of older persons living alone is increasing globally, and with this comes a multitude of risks ranging from their safety and physical health to their psychological well-being. Seniors living alone tend to suffer from frailty, fatigue, and diminished strength, often attributable to malnutrition, lack of exercise, and the presence of chronic diseases. Their limited mobility, combined with a limited network of family and friends, often leads to social isolation, loneliness, and depression.

Between 2007 and 2011, at least 50 seniors who lived alone in Singapore passed away in their own homes, only to be discovered after a prolonged period. In Japan, the number of *Kodokushi* (the Japanese term for people dying alone and remaining undiscovered for a long period) is expected to rise from 30,000 a year in 2016 to 200,000 a year by 2040.[4]

> Two-thirds of the elderly live in the developing world, where their numbers are growing faster than in the developed world.

Cultural differences notwithstanding, these statistics beckon Asian countries to take notice and prepare proactively.

Technology for seniors to age in place

Technology has pervaded all aspects of our lives, and healthcare is no exception. Technology solutions and apps, once seen as primarily targeted at millennials, have expanded their reach and now offer promising options for eldercare. Indeed, 'silver tech' is the new buzzword in tech circles as it defines the wave of innovation across apps and tech-based services for the ageing demographic.

Technologies for seniors living alone have a strong focus on passive in-home monitoring, without the need for active participation by the seniors. Data from unobtrusive devices such as motion sensors and door contact sensors can be analysed to measure levels of activity or identify changes in daily functioning at home. Wearable devices can track health data that can be fed to healthcare professionals, enabling responses to be delivered to the doorstep. Sensors in the home and on mobile devices can track activity levels, and report anomalous events to caregivers, triggering the need for targeted care. Most importantly, the data that is collected can help develop pre-emptive solutions tailored to the senior's health and social needs.

"I can filter to see a person's activity per weekday or per weekend. I think that helps because I have seniors reporting to me certain activities [and] I do track back on the sensors if they are providing consistent information. It can be due to dementia that they are not providing consistent information."

- Caregiver

The SHINESeniors project

In Singapore, the seeds for technology-enabled ageing in place solutions were sown through the SHINESeniors project, which was developed jointly by Singapore Management University (SMU); Tata Consultancy Services (TCS); the Agency for Science, Technology and Research; the former Eastern Health Alliance; and various community care partners. The project aimed to address the challenges posed by a rapidly ageing population in Singapore while catering to the diverse needs of stakeholders. It was developed as a collaborative framework involving vulnerable seniors, caregiving organisations, public entities, and technology partners to address the immediate and personal safety needs of the elderly (reactive care), the long-term health and social needs of the elderly (preventive care), and the technology-centric and care-centric challenges for sustainable technology-enabled community eldercare.

The SMU-TCS iCity Lab contributed to the development of the Assisted Living Platform (ALP), a technology platform consisting of sensors, a Smart Data Hub to store the data, custom-built Internet of Things (IoT) middleware, and an algorithm layer to dynamically analyse the data collected with a variety of Machine Learning approaches. Using a community-based caregiver network that includes volunteers from GoodLife!, Thye Hua Kwan Moral Charities, the former Eastern Health Alliance and NTUC Health, the ALP combines sensor-enabled homes, personalised home care, and a medicine-adherence care model to keep costs under control, while still enabling the last-mile human touch.

The implementation of a discreet mode of tracking is a key priority in such projects, to enable the elderly to live comfortably and independently while retaining a safety net, and without them feeling they are being monitored. The ALP features unobtrusive sensors that closely map daily activities, and generates system events based on periods of movement, rest, and ingestion of medication. The medicine adherence study uses sensor-based medicine boxes to monitor regularity of medication consumption. In cases of divergent data patterns, timely alerts tip off community caregivers, who can step in to provide support. Monitoring is managed through dashboards, a portal for administrators, and a mobile app or over-the-top messaging platform that alerts caregivers when a situation requires intervention.

> The ALP features unobtrusive sensors that closely map daily activities, and generate system events based on periods of movement, rest, and ingestion of medication.

Based on the data captured by the sensors, a distinctive pattern emerges for each person. A narrative of their daily lives is created, which helps the team understand what is normal and typical, so that it can deliver the right care at the right time. The research team uses Machine Learning algorithms to predict cases of frailty deterioration, nocturia,[5] and social isolation in the elderly, which can indicate the need for early assistance or intervention.

"I am scared of the gadget with all the plugs and lighting."

- Senior

Social impact

Over a three-year period, the ALP was installed in the homes of 90 ageing Singaporeans living alone. By and large, the initiative was well-received by beneficiaries and caregivers alike. Despite starting on a small scale, the project has shown distinct benefits–the collaborative platform has since become instrumental in saving the elderly from social alienation and emotional and physical decline.

For instance, 89-year-old Madam Lee preferred to stay home and spend her afternoons sleeping. Occasionally, she took bus rides alone to while away her time. The Social Isolation survey flagged Madam Lee as socially isolated with a small social network. Sensor data also showed that she left home less often than her peers in the community, and her outings had shown a downward trend in recent months. These results were shared with the volunteer group, which took steps to encourage Madam Lee to visit the centre located below her home for meals and games. Her neighbour, who visits the centre regularly, also made phone calls to encourage her to join them. Through this intervention, her attendance at the centre jumped from 30 to 80 percent and she started spending more time outdoors. Subsequently, her Social Isolation indicators also showed an improvement.

In another instance, a 79-year-old senior had two falls in his home, leaving him very weak. He was unable to travel in his motorised wheelchair, as it was dangerous for him to get on and off the wheelchair on his own. To get out of the house, he needed someone to wheel him, so he was no longer independent. He had to depend on caregivers to visit him; otherwise, he was quite cut off from the community. One day, the No Activity alert was triggered at 5 am. A volunteer visited him and found the elderly gentleman sitting in the living room, where he had spent the whole night as he was too weak to move. He was hospitalised for three days. Post-hospitalisation, the volunteer group engaged with him, took him out for meals and got him to socialise with other seniors at the centre. He also participated in their weekly exercise programme. As a result, his physical health improved and he was even able to walk around his home without any walking aids.

The success of the SHINESeniors project paved the way for several other partnerships in Singapore and beyond, which have leveraged on the ALP framework. As of early 2019, the framework has been successful in collectively benefitting 200 vulnerable seniors and five caregiving organisations through collaborations with three public entities and two technology partners. After participating in one such collaboration, one senior commented, "I feel very safe and can relax with the sensors installed in my home. I also feel it is safe for me to go out when wearing the watch. The sensor gadget does not interfere with my daily activities and it is good for the elderly living alone."

Ensuring scalability and sustainability

'Silver tech' undoubtedly allows for intelligent detection and notification of anomalous events, as well as collaborative decision support for seniors living alone. However, its widespread adoption and deployment remains elusive due to seniors' unfamiliarity with technology and perceptions of privacy invasion. The key obstacle to progress has been securing buy-in for the technology from key stakeholders–the elderly themselves–who are often resistant to embracing it because of privacy concerns, among other issues.

TECHNOLOGICAL LIMITATIONS

Despite the potential value of sensor-enabled homes, there are challenges to scaling up from the current 200 homes (across all projects) to a nationwide level of at least 40,000 homes (the estimated number of seniors living alone in Singapore). These challenges include:

Set-up and operating costs

The programme adopted a Capital Expense (CAPEX) model for the deployment of sensor-enabled homes, where sensor and gateway devices, as well as cloud services and mobile data subscriptions, are procured separately. As the seniors participating in the projects do not have home broadband subscriptions, a monthly recurring cost of about S$10 (US$7.20) per home is incurred. Also, the components of z-wave, a proprietary wireless communications protocol, are costly, as it is specifically designed for home automation.

Reliability

The deployment is dependent on the gateway to receive data from each sensor device. The data also needs to be aggregated and transmitted via 3G to the project cloud server. However, as the seniors are mostly in the low/no-income group, they sometimes turn off the gateway to save on electricity (and thus lower their utility bills), resulting in loss of data.

Maintenance needs

The sensor devices are battery-powered as they need to be deployed according to where the senior is likely to be, or at areas that may not have electrical power points. Based on the actual maintenance data from the project, the average lifespan of each motion sensor is about 300 days (10 months), and most of them have a lifespan exceeding 240 days (eight months). When the battery level falls below a certain threshold, the devices need to be replaced—this is costly and may also inconvenience the elderly as access to their homes is needed.

With the maturing and availability of Low Power Wide Area Network (LPWAN) technologies such as Sigfox, Long Range Wide Area Network (LoRaWAN), and NarrowBand-Internet of Things (NB-IoT), it is now possible to address some of the gaps listed above. In particular, with the operator model for Sigfox and NB-IoT, one can potentially achieve savings in cost, as well as for maintenance needs while improving reliability, as there is no longer a need to deploy a mains-powered gateway in each home. Preliminary experimental evaluations suggest that while maintaining a similar battery lifespan, a Sigfox-based system can match the accuracy in detecting at-risk seniors at a fraction of the cost of the incumbent sensor system.

A bigger challenge is that technological innovations can become obsolete when incumbent technologies are replaced by newer and better ones. In the case of emergent technologies such as IoT, Artificial Intelligence and crowdsourcing, it is essential to design such technology-based systems with modularity, extensibility and interoperability in mind. In fact, technological innovations thrive on open standards, protocols, and architectures to ensure interoperability.

Another key aspect of collaborative/cooperative technologies is that they should incorporate features that are friendly to the beneficiaries, users and/or operators, to ensure acceptance and sustained usage. For instance, senior-friendly interfaces typically exhibit large fonts and contrasting colours for better visibility. This calls for an iterative approach to interaction design and prototyping, whereby user feedback is continuously sought and incorporated into the final product.

FINANCIAL CONSTRAINTS

To ensure a wider adoption of sensor-enabled homes, we need to address the three-pronged question of "Who will use it?", "Whose support is needed?" and "Who will pay for it?". This is pertinent for Singapore as the proportion of one-person households is set to rise. As evidenced by testimonials provided by seniors, as well as those of their caregiving partners, the use of sensor-enabled homes for reactive care is key for the adoption and use of the technology in our projects. While this addresses the first two questions, the answer for "Who will pay for it?" remains unclear. While government schemes for medical care such as MediSave can be used to defray healthcare costs such as medical treatments, and the government's Home Access Programme provides eligible households with two years of subsidised fibre broadband connectivity and an option to own a tablet, there are no existing schemes to subsidise sensor-enabled homes in Singapore.

PROPOSED EXPANSION INTO SOUTHEAST ASIA

Beyond technological advances, there is a need to expand into Southeast Asia to support other rapidly ageing nations such as Thailand to achieve cost reduction through economies of scale. However, those who wish to export the technology-based SHINESeniors framework to other regional countries to tackle ageing in place need to consider the local context and adapt to it accordingly. Through initial conversations with researchers from Chulalongkorn University, it was discovered that, while cities such as Bangkok face a similar ageing issue, most seniors do not live alone, so they need not rely on a systematic infrastructure of community care to help them age in place. On the flip side though, compared to Singapore, Thai society is more homogeneous in terms of language and culture, which could facilitate widespread smartphone usage even among the elderly.

Leveraging on recent research, which shows that app usage can predict cognitive ability in older adults, we are embarking on a collaborative research study in which we will collect data on how seniors who regularly participate in activities at a Cognition Fitness Centre in Bangkok are using social media, lifestyle and communication apps in a privacy-preserving way. These seniors comprise those who are cognitively healthy, those with mild cognitive impairment, and those with mild dementia. In addition to app usage, it would also be interesting to collect objective data on the out-of-home patterns, as well as activity participation patterns of these seniors. Such research could potentially result in a more cost-sustainable approach towards implementing technology-enabled ageing in place.

It is apparent that the coming of age of sensor technologies and data science allows for continuous and passive monitoring of day-to-day activities of the elderly, both in and out of the home. While the potential for 'silver tech' appears vast, it will likely become more palatable for the baby boomer generation who are keen to retain independence in their senior years and have the opportunity to age in place at home or in familiar surroundings.

> *"This sensor monitoring system is good because it is able to detect the lifestyle of the elderly staying in this block. The system will be able to trigger warning signs, and those of us on the ground who are monitoring them will be able to give immediate assistance."*
>
> *- Caregiver*

Tan Hwee Pink
is Associate Professor of Information Systems and Academic Director of SMU-TCS iCity Lab at Singapore Management University

References

1 United Nations, Department of Economic and Social Affairs, Population Division , "World Population Ageing 2017", 2017.
2 Ibid.
3 Singapore Department of Statistics, 2019.
4 Kawai, "Kodokushi–Dying Alone in Japan", Hubpages, November 19, 2016.
5 Nocturia is the medical term for excessive urination at night.

The Indian Railways

On track for transformation.

By Philip Zerrillo

The transformation that has taken place in India's South Central Railways has been an amazing journey—something that the country has rarely witnessed. It started with policy changes effected by the Transformation Cell of the Ministry of the Railways that resulted in process, structure and culture reforms. These transformative changes have led to a change in organisational behaviour, helping to galvanise over a million employees nationwide to perform better. Productivity has improved, as has the image perception of the railways. Ultimately, all this has translated into improved service delivery for customers and has prepared Indian Railways to be the engine of economic growth and development of the country.

The Indian Railways is the world's fourth largest transport system that carries more than 8.3 billion passengers and transports over 1,160 million tonnes of freight every year along a massive track network that runs nearly 70,000 route kilometres. The 166-year-old government-run corporation is also one of the biggest employers in the world with about 1.3 million employees spread across the country, under a single management.

As the Indian economy focuses on future growth models, its railway system has been an integral part of this, undergoing a phased transformation since January 2017. The railways are set to progress towards a modern, efficient, and digitised network with a focus on improving insights, efficiencies, and capabilities. By 2030, the Indian government plans to spend US$70 billion to upgrade its railway network into an electric and digitised platform. It is also opening up the state-owned conglomerate to private companies for operating passenger trains, manufacturing coaches and locomotives, and redeveloping railway stations.

While funds have been allocated to revamp various railways projects, the Indian Railways continues to face three big challenges—underinvestment for the creation of infrastructure, people management, and the need for technology upgrade.

Manoeuvring infrastructure challenges

The biggest challenge facing the Indian Railways is infrastructure development across a huge network that covers North, South, East, and West of India. A high volume of freight and passenger traffic makes it a busy and congested transport system. The Golden Quadrilateral and its Diagonals of about 10,000 kilometres route connecting the four major metros of India (Delhi, Kolkata, Chennai and Mumbai), and other Highly Utilised Networks of about 23,000 kilometres, together carry nearly 96 percent of the nation's freight and passenger traffic. The congestion has resulted in extremely low average speeds of about 23 kilometres per hour (kmph) for freight trains and about 55 kmph for mail express trains.

Over the past 70 years, traffic carried on the Indian Railways has gone up 17 times, but the network expanded only by about 26 percent. The inadequate expansion of the network has led to a reduction in the railways' market share of freight business from about 80 percent in the 1950s to about 25 percent in 2017. Similarly, the share of passenger business has come down to about 10 percent in 2017, even as the unmet demand for passenger business in 2017-18 was around 100 million passengers. For travel from New Delhi to Mumbai, one needs to book tickets two to three months in advance because of high demand and limited availability. At the same time, if a coach is designed for 80 passengers, it is very often occupied by 200-250 people who are travelling unreserved but with a ticket. Fares have not increased in 15 years. For mainline passengers, fares are as low as 51 paise (about half a Rupee or around one U.S. cent) per passenger kilometre (pkm); for the suburban passenger, the fare is 21 paise per pkm.

Currently, the railways have mixed traffic–passenger and goods–on the same track. Passenger trains run on timetables while goods trains do not. Priority is often given to passenger trains while the goods trains languish in the yard until they get clearance to journey on the track, often leading to long delays. Sometimes goods trains get delayed by two to three days, which not only holds up the delivery of goods, but also impacts the turnaround of the trains and sends mixed messages to would-be shippers. At the core of the problem is underinvestment in infrastructure development. But plans to bring about focused, economically viable expansion are afoot, as dedicated freight lines on the Eastern and Western routes of the Indian Railways network are also being built. Private modern passenger train operations are being planned. While freight corridors are expected to be commissioned over the next two years, the private passenger train operation may become a reality by the end of 2022.

A human resource focus

The confidence in future expansion plans and the optimism that has begun to permeate all levels of the organisation has its roots in many of the experimental activities that began in 2017, under the leadership of V. K. Yadav, the then-General Manager

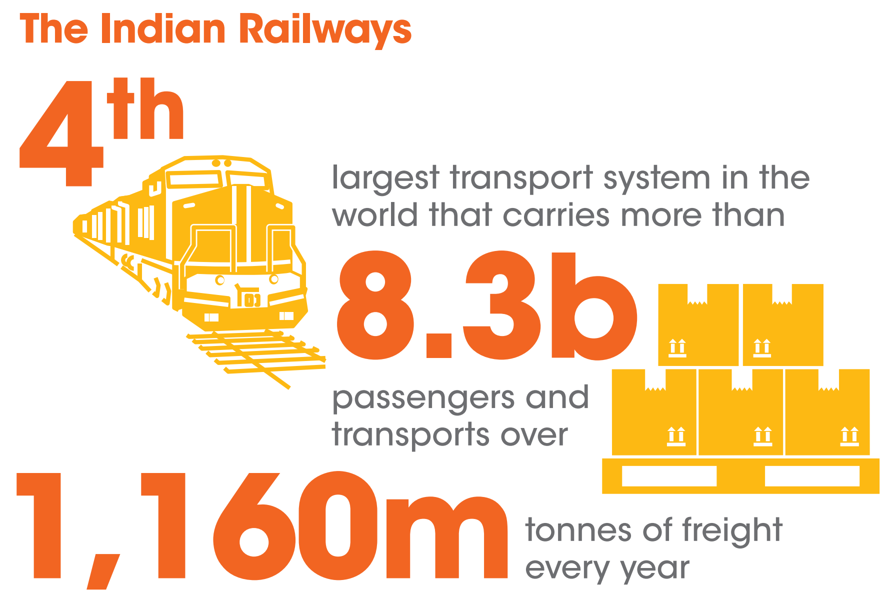
Over the past 70 years, traffic carried on the Indian Railways has gone up 17 times, but the network expanded only by about 26 percent.

of the South Central Railways, headquartered in Hyderabad. Many of the initiatives undertaken were in recognition of the fact that transforming a 166 year-old organisation would not be easy, and it would certainly not be possible without the support of the employees.

Upgrading the old railway system to modern standards with limited resources was a challenging task, and it was decided that it would be best to start at the core–by developing its employees. Undoubtedly, managing and motivating people to adapt to new processes and futuristic tools is a mammoth task. Furthermore, the railway network is operational 24/7, which makes it a formidable task to upgrade processes without shutting down the system. The entire network is maintained and manually patrolled round the clock by trackmen, and providing facilities to even these lowest-ranking employees is a huge part of the transformation process. Human resources are being given utmost attention by the railway department. People who work for the railways need to be motivated, trained and aligned to the purported objective of a modern system, and that in itself is a tough task, but one that is already underway.

The first step in the journey of transformation was to energise the people, teach them to question the *status quo* and explain to them why change was needed. This was achieved through a programme of intensive training. Training a workforce of 1.3 million requires planning and strategy. So the railways took a bottom-up approach, beginning with the South Central Railways which has about 100,000 employees. They began by assessing the needs of these employees and organising training sessions for them in a time-bound manner. The South Central Railways also took the lead to develop software to monitor the training of the entire Indian railways. Training began at every level, from enhancing technical competencies and nurturing emotional intelligence to implementing early career leadership programmes for young leaders.

The railways strived to provide an empowering and employee-centric atmosphere for its staff so they could utilise the benefits of their training. Workplace facilities were carefully thought out to focus on those which were impactful



yet did not cost much. This required a change in mindset. However, giving priority to employee facilities has clearly proved to be a very efficient and effective means to gain the support of the staff in creating a 'can-do' culture.

Improvements were also undertaken at workspaces in a very detailed manner. For trackmen in charge of network maintenance, improvements were made to their clothing, footwear, and tools, as some items were heavy and weighed the staff down, especially during winter. It was also mandated for them to have a proper resting place after every five to six kilometres of track maintenance. For the first time ever, they were provided with bottled water. They were also provided with clean restrooms, as well as facilities to warm their food, all of which went a long way to motivate and encourage them. These inexpensive facilities and basic human welfare improvements have resulted in improved asset reliability and safety. For women employees, the railways have ensured that they are provided with separate changing rooms and restrooms at their workplace.

Thus human resource management lies at the core of the transformation plan to ensure its employees are well taken care of. To these ends, the organisation introduced several interesting incentives and proposals for its workforce. One such programme was an event called 'Passport Mela' in collaboration with the Indian passport office. The passport officers came to railway premises and issued passports to railway employees in Hyderabad, as many wanted to visit their relatives in the Gulf countries. Another initiative was holding a job fair for the adult children of employees, where hundreds of companies in and around Hyderabad were invited to participate for two days. There were nearly 10,000 jobs offered to the wards of railway employees at this fair.

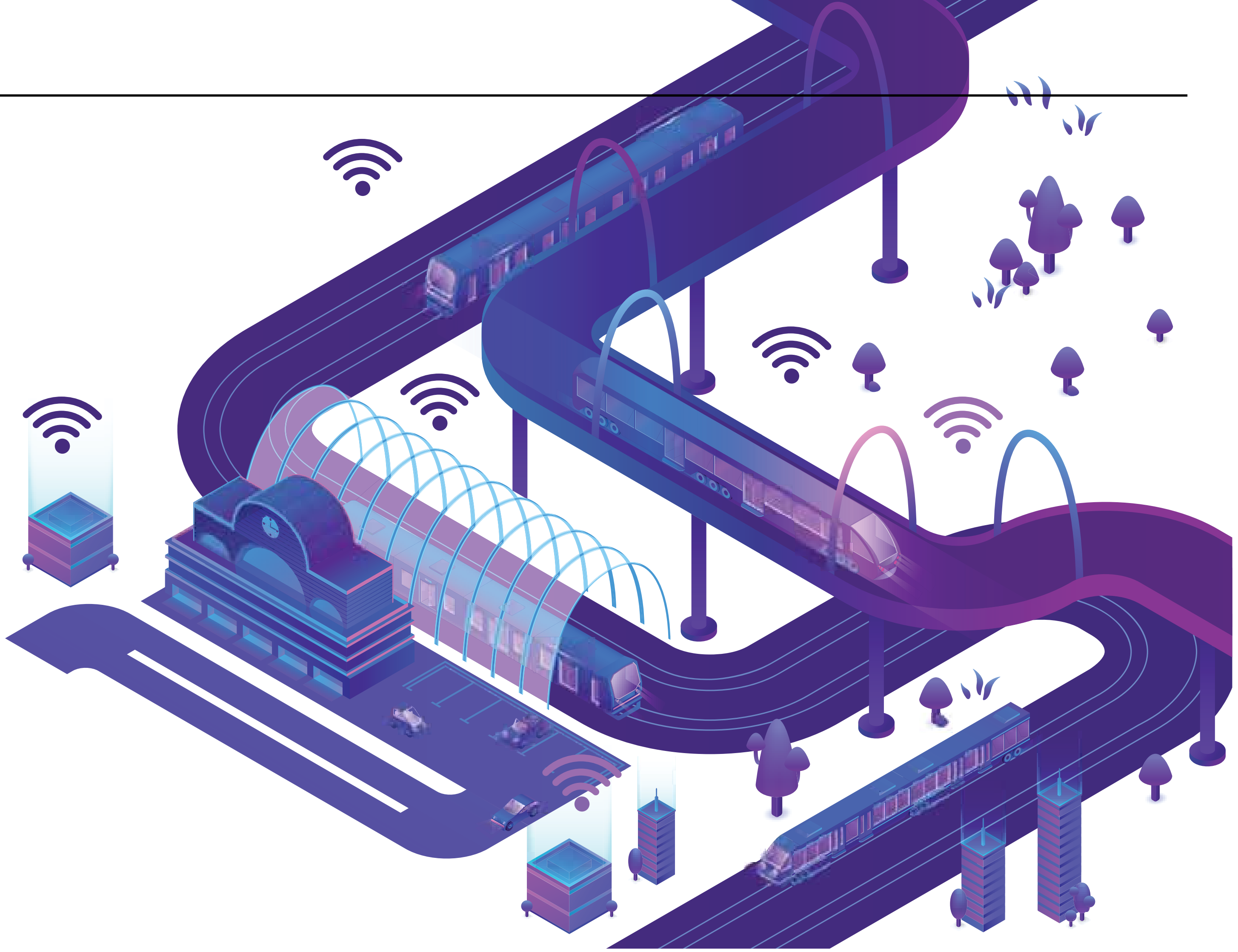
Monitoring employee performance in a systematic manner has also been an important part of the transformation,

The first step in the journey of transformation was to energise the people, teach them to question the *status quo* and explain to them why change was needed.

in which key performance indicators were devised across 68 divisions. This helped in improving the performance and efficiency of the workforce.

A change in work culture and ethics is slowly seeping into the system, which is also due, in large part, to the training provided on the importance of customer service. Independent surveys have shown an outstanding improvement in cleanliness at railway stations over the last two to three years. Suggestions were taken from employees on improving processes and empowering the 68 divisions and 17 Zonal Railways, and most of it began with the South Central Railways.

The policy directives were issued by the Transformation Division of the Ministry of Railways, where the Transformation Cell headed by Sudheer Kumar empowered the field units in an unprecedented manner. This reduced



the bureaucracy of the organisation and therefore, lessened interdependencies and fast-tracked decision making, thereby improving service delivery. Divisional Railway Managers, who had a minimum of 25 years of experience, were empowered to make almost all decisions relating to operation, maintenance, safety, and revenue, as well as ensuring that the employees are provided with a pleasant work environment. The Transformation Cell of the Railway Board has brought out more than 200 policy directives in various fields of railway operations, which are showing perceptible improvements in safety and other operational areas. All these were initiated with the intention of improving insights, efficiencies, and capabilities with the locus of control moving from the Railway Board to Divisions and Zonal Railways. Remote monitoring, coordination, and policy intervention have all come about by embracing new technology and building trust in Divisional Railway Managers.

Digitisation

The other big challenge facing the Indian Railways is technology upgrade, especially in signalling and rolling stock, to make its operations independent of human alertness for safety on one hand, and digitisation of the network for better asset management on the other.

The transformation of freight networks is taking place as the railways build independent freight corridors to carry goods, and unfold a 3,500 route km rail network in places where freight density is high. It is expected that over the next two years, the corridors of Delhi-Mumbai and Delhi-Kolkata will be able to run freight trains at 100 kmph.

Today, the procurement of goods and works worth US$25 billion has almost completely moved to an e-platform. This has led to greater transparency, as well as helped to shorten the procurement cycle and bring down procurement costs.

> By March 2024, the Indian Railways expects all of its railway tracks to run on electricity, and that would make it the first railway network in the world to have 100 percent electrification.

The railways have also introduced a human resource management system whereby almost 80 percent of the data on its 1.3 million employees has been digitised. It is expected that in 2020, all human resource functions will be managed through the digital platform. Another development, which was also initiated by South Central Railways, is that 60 percent of railway offices are now on an e-office platform, simultaneously improving transparency and sustainability through reduction in paper use.

In order to tide over the late and, hence, unplanned arrival of passenger trains, the Indian Railways partnered with the Indian Space Research Organisation (ISRO) to develop a Real Time Train Information System (RTIS). Nearly 50 percent of locomotives have been fitted with a global positioning system (GPS) which is connected via satellite. With the help of two satellites, the location, status, and speed of trains are updated every 30 seconds. This real-time information is integrated and helps in controlling train movement and allows for better utilisation of network capacity and the railway stations. The RTIS also helps in monitoring the performance of drivers, and system alerts are generated if the driver is not following the speed limit. By the middle of 2020, all the locomotives will be fitted with a GPS device which will be mapped onto RTIS and monitored through satellite, optimising network capacity.

Plans are also in place to run electric trains and increase the average speed of current trains. By March 2024, the Indian Railways expects all of its railway tracks to be electrified, and that would make it the first railway network in the world to achieve 100 percent electrification. The pace of electrification is about 6,000 route kms per year, with 60 percent of the network electrified so far.

Technologies are also being upgraded for high-powered electric locomotives, and all the electric locomotives are adopting regenerative braking (i.e., when brakes are applied to stop the train, regenerated electricity will be fed back to the system). The railway expects to run only energy-efficient electric trains in five years' time, all of which will have regenerative braking.

Looking ahead

For the first time in the history of state-owned Indian Railways, the colossal task of modernisation involves infusion of private capital. The bidding process for the operation of private passenger trains has been initiated. This is expected to bring in investment of about US$3 billion for running 150 train sets. The social benefit of the Indian Railways is evident in the government's reluctance to raise passenger fares in the past 15 years. The Indian Railways is encouraging private firms to offer modern rolling stock for customers seeking a different experience. Delhi-Mumbai and Delhi-Kolkata sectors are also being upgraded to operate passenger trains running at 160 kmph, which will allow private operators to run modern trains and reduce journey time by 20-30 percent. For this process, the organisation hopes to get state-of-the-art technologies from private operators. Funding of freight corridor projects is being provided by the World Bank and Japan International Cooperation Agency.

Starting with South Central Railways, the Indian Railways has proactively undertaken numerous transformative initiatives to upgrade its railway infrastructure and enhance its quality of service. Through its metamorphosis, South Central Railways has improved service delivery to customers while taking care of its employees. The focus on employee training and motivation, along with process improvements through privatisation and digitisation, and the development of requirement-driven infrastructure serve as an example of transforming the old railway systems into a modern, service-oriented organisation.

As the Indian economic engine revs up, the railways is playing its part in nation building. The path is right; and the Indian Railways is well on track to get modernised and become the true engine of economic growth for the nation.

Dr Philip Zerrillo
is the Practice Professor of Marketing Strategy, Deputy Dean - Corporate and International Relations, and Deputy Dean - Mohali Campus at the Indian School of Business, Hyderabad

Deploying artificial intelligence for dynamic resource management.

By Pradeep Reddy Varakantham

For businesses everywhere, this is the epoch of artificial intelligence (AI). Major advances in deep learning and machine learning mean that machines can now dissect, evaluate, and interpret data in ways that were inconceivable just a decade ago. As a result, companies across all industries are harnessing AI to become more productive, to predict better and to market better. While we have been using computers for over six decades to help with business decision-making, today we find that AI systems are demonstrably delivering state-of-the-art performance for enabling business decisions, notably in resource planning, deployment and management.

The challenge of resource management

Every business is faced with the most basic, and also the most complex, decision of optimally allocating its limited resources, both human and non-human, to meet multiple demands in a way that brings maximum benefit to stakeholders. On the factory floor, this takes the form of scheduling labour and allocating raw materials to achieve the target output in the most efficient manner. In the warehouse, this calls for arrangements that optimise space and time while reducing errors and improving flexibility. Similarly, the transportation and logistics sphere requires optimal allocation of vehicles to ensure the fastest and cheapest ways to get products to market. At the last mile, sales and service delivery personnel also need to be deployed in a similar way, regardless of whether they are working for a brick-and-mortar store or an online business.

In the real world, this optimisation of resource allocation takes place in a dynamic setting, where the volume of resources (i.e. supply of labour, machines, raw materials, warehouse space, trucks, and service delivery personnel) and the demand for the goods and services they produce is constantly changing. Such dynamic deployment requires a configuration that can anticipate these changes and continuously adapt to them. Even this optimisation sequence that takes into account uncertainty in supply and demand is based on *ceteris paribus*, and can be disrupted by the emergence of new products, markets, competitors, business models, as well as new environment, health and governance mandates. Such adversarial influences can throw off even the best-laid plan, hence they require an immediate response to that particular incident. Such disruptions range from the uberisation of the taxi industry to the recent outbreak of the coronavirus.

While the challenge of resource management is not new to business, its scale and response time have significantly altered in recent times with the advent of e-commerce players, e-marketplaces, and social media. The scale at which companies like Amazon and Alibaba operate at entails planning, scheduling, and deployment of tens of thousands of people, along with their supporting physical assets. The number of cars managed by Uber in the U.S. today far exceeds that of any taxi company. The move towards omni-channel retailing further adds to the complexities of seamless delivery in the online and offline space, and this is even more so for services that combine both, where the online order is collected in store or store shopping is delivered.

Furthermore, time horizons are getting shorter as businesses compete to delight customers who are demanding ever higher levels of service. Amazon Prime is now delivering groceries within two hours, with many other companies scurrying to compete. One can only imagine the level of planning that goes into deploying transport and manpower (for shopping, packing, and delivery) to get a full range of fresh and frozen items delivered to one's doorstep in such a short period of time. Meanwhile, any news, especially bad news, goes viral within minutes on social media, even as stakeholders demand that the company acknowledge and produce a response plan in real time. Hence, businesses find themselves planning not only for the reporting month/quarter—but also for the next hour.

While we have considered the example of a merchandise supply chain, the same principles of constrained optimisation amid uncertainty apply when taxis are allocated to passengers; hospital staff and rooms to patients; ground staff and facilities to airport immigration, baggage and other passenger services; and in the deployment of emergency vehicles, security patrols and law enforcement personnel. Hence, the need for efficient resource deployment in business in the face of resource constraints, uncertainty and imperfect information, and unforeseen incidences, is pervasive. Businesses that are built to last are quick enough to respond and flexible enough to adapt to such ambiguous situations.

Where AI fits in

What do AI systems do better? While computers that run optimisation programmes have been around for a while, and are being used by businesses across the board, AI-enabled systems are able to: (1) deal with scale, process millions of data points within seconds, and provide answers in real time; and (2) learn from past data to continuously improve decision-making. Enhanced intelligence enables simultaneous processing and deployment of tens of thousands of resource segments under hundreds of scenarios—all in real time. They not only help to dynamically optimise the allocation of resources, but allow for short-term and medium-term planning to be done simultaneously.

CLOSING THE LOOP BETWEEN DATA AND DECISIONS

In a dynamic environment, demand, supply, and adversary patterns are constantly changing. One moment, you think you understand the universe and plan for it, and the next moment, the market environment can change dramatically. Business today is all about incident response and incident prevention.

While the use of enterprise software to collect operational data and build robust databases is commonplace today, very few businesses are able to use or leverage that data for better operational performance. AI-enabled tools help to close the loop between data and decisions, that is, they help to make meaningful extrapolations and predictions based on the data, which in turn help in decision-making. Once a problem is identified, a model constructed with algorithms that best represents the available data is used to obtain optimal strategies for matching supply with demand. These strategies are then tested out on a fresh set of real-world data (or on simulated data if real-world data is not available). Over time, as the experience set gets larger, the machine learns to further refine decision-making by taking into account a wider set of data. Decisions are made through an iterative adaptive process based on the observed data.

> AI-enabled tools help make meaningful extrapolations and predictions based on data.

BIKE-SHARING IN SINGAPORE

Early bike-sharing systems suffered from two major challenges: first, when the fixed docking stations for bikes were full, riders were forced to drop off bikes at stations far from their destinations; and second, in certain locations, demand often exceeded supply due to the movement of bikes by riders. The critical issue, then, was how to make bikes available to customers at the 'right' locations and at the 'right' times.

Singapore sought to address these issues when it introduced bike-sharing in 2017. The three bike-sharing companies in Singapore—Ofo, oBike, and Mobike—did not use docking stations and allowed for bikes to be dropped off or picked up anywhere using GPS tracking. This addressed the fixed-capacity issue that traditional docking stations could not address. Unfortunately, it gave rise to an even more complex issue—of bikes being left at locations where they posed a hazard, impeded pedestrian traffic, or were not easily accessible. Given the thin profit margins, tackling this inefficiency was key to the sustainability of a privately-owned bike-sharing system.

The first way to address such inefficiencies was to employ trucks that take the bikes to places where customers need them the most, at different times of the day. All the bike-sharing systems typically store data on bike usage by customers, and algorithms help to identify customer bike-usage patterns. Truck routes were thus identified based on these usage patterns, so that bikes could be collected from areas where there was a surplus, and deposited in areas where there was a shortage. Locations with a similar level of demand were grouped together into regions, and the relocation of bikes was carried out at the level of these regions. While the trucks were useful in relocating bikes, they increased the company's carbon footprint, potentially offsetting the environmental gains that were supposed to come with bike-sharing systems.

Therefore, the second way was conceived, where the onus was placed on users, instead of intermediaries, to position bikes in the right locations. An incentive-based system in which customers were offered a reward to leave the bikes at the desired locations—meaning locations where there was likely to be greater demand for bikes—could work. The key challenge in providing such monetary incentives was balancing the trade-off between being attractive to customers (leaving the bike at a location desired by the bike-sharing company) and being financially feasible for the bike-sharing company.

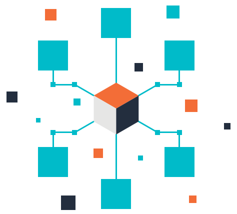
While data-based prediction methods helped predict consumer demand, they were not sufficient to compel customers to move bikes to desired locations. The AI system—a data-driven decision-making system—could figure out the right financial incentives to use, given the multiple scenarios based on the future demand of rational consumers operating with a fixed budget. By combining data and decisions within one closed loop for bike sharing-systems, performance was significantly improved by up to 40 percent, compared to methods using multiple real data sets.

Source: Pradeep Varakantham, "Using Big Data to make bike sharing more efficient", Today, June 2017.

AI-enabled technologies can support complex decision-making processes for allocating/deploying resources to meet service delivery requirements through the following tools and processes:

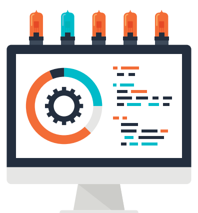
Data-driven decision optimisation

By considering multiple scenarios of potential future demand (sampled from past data) and exploiting key structural properties, large-scale resource management problems (with tens of thousands of resources) can be optimised in near real time.



Reinforcement learning

This is a technique typically employed to learn from reinforcements (or reward signals) obtained from the environment. A key advantage of this method is that the technology can be trained offline for different potential scenarios that it has never encountered, and the strategy obtained can be executed in real time. By adapting reinforced learning to deal with large combinatorial action spaces, we can obtain better quality solutions than data-driven decision optimisation within near real-time. The only assumption that typically limits applicability for these methods is the requirement for an underlying simulator for the environment.



Adversarial AI

These methods, at the intersection of machine learning and computational game theory, are crucial for addressing large-scale resource management problems in adversarial (e.g., physical or cybersecurity problems) or competitive (e.g., multiple companies vying for the same customer demand) domains.

The potential of these technologies is immense, and we are already seeing their widespread application in many areas of business. In finance, AI software is helping to predict stock values, identify important events, and calibrate investment strategies. Acting like a crystal ball, AI software is able, for example, to forecast what events are going to cause a major slump in which stocks. In the transportation and logistics sector, AI systems are helping to predict demand and optimise supply to match demand.

Most importantly, by enabling resource management decision-making based on data or data-based insights, these methods help close the loop between data and decisions. In other words, this helps people to make decisions that are not only based on past data but also potential future data that will be generated due to the decisions taken.

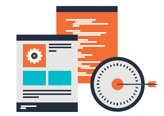
In finance, AI software is helping to predict stock values, identify important events, and calibrate investment strategies.

Beyond resource allocation

As the rules of the game change, AI-enabled technologies are indeed a game changer for businesses looking to succeed. Beyond common applications like face recognition and language translation, AI applications can be used in key business processes to conduct the following:

Forecasting

AI systems are proving to be excellent at predicting demand, determining the success of a new product, and identifying the best way to source materials. This helps businesses make informed, astute decisions.



Optimising

With AI systems, fully-automated smart warehouses are now a possibility, where they can ensure smooth, optimal operations. AI systems are also helping in preventive maintenance, so that machineries and equipment are maintained in top-notch condition.

Customer assistance

AI systems are being used increasingly as virtual customer service agents. They allow stores to automate checkout and companies to handle round-the-clock customer enquiries. On the home front, digital voice assistants like Siri and Alexa are helping homeowners to do everything from ordering food, turning on lights, and adjusting the air conditioner thermostat to checking the weather.

Marketing

AI systems are able to simulate and model consumer behaviour. With their ability to gather customer data in real time and analyse trends in customer behaviour, AI systems can help companies roll out effective marketing campaigns. AI systems also allow for the creation of personalised promotions and individualised website displays for highly targeted marketing.

Indeed, AI-enabled technologies have a wide range of applications. In agriculture, AI systems are allowing farmers to identify issues in crop growth, harvest period and so on. And in law, AI systems are enabling lawyers to uncover gaps in legal documents. A case in point is an AI system that lawyers in Singapore have built to check if non-disclosure agreements are foolproof. While a lawyer would typically take a day to go through 20 agreements, this system sorts through the lot in just a few minutes.

In the medical industry, AI systems are enhancing operations at hospitals, diagnosing conditions and recommending treatments, among other revolutionary developments. Tan Tock Seng Hospital in Singapore, for instance, now draws up operating theatre schedules based on predicted demand. AI systems are also being used to process X-rays and MRI scans to determine whether a patient has cancer or is at risk. They are also being used for treatment. Based on how a patient is reacting to certain kinds of medicine, AI systems can recommend the next step in the treatment of that individual. A team from the Weizmann Institute of Science, Israel, developed an algorithm that can reliably pick out (in the early stages of pregnancy, or even before pregnancy) women at high risk of developing gestational diabetes. Also, a research team from the National University of Singapore used big data and predictive analysis of over 30,000 patient-derived biopsies to develop a new personalised tool to detect cancer, predict patient survivability, and forecast how well a cancer patient would respond to immunotherapy.

An intriguing future filled with possibilities

It is exciting to see how AI for business use is unfolding. With the technologies still in their infancy, businesses will continue to explore the way forward. What is clear, though, is that we are at the threshold of a new era of AI-enabled intelligent systems that can contribute towards better business performance in many ways. The key lies in closing the loop–learning from the data by observing what happened, identifying the gap between predictions and observations, and then using that knowledge to improve the model so as to narrow the gap, thereby improving predictions and allocations to determine the optimal matching of demand and supply in a dynamic, uncertain future.

Pradeep Varakantham
is Associate Professor at the School of Information Systems, Singapore Management University

Reference

[1] David Roe, "Is Augmented Artificial Intelligence Already Disrupting Artificial Intelligence?", CMSWire.com, August 27, 2019.

Starbucks in China

An undisputed leader?

By Nirmalya Kumar, Sheetal Mittal & Stephen Eryung Chu

In 2018, Starbucks was the undisputed leader among China's coffeehouse chains, with more than 70 percent in market share and 3,600 cafés. The brand's success was rooted in its core proposition of providing consumers a 'third place' (also called *di san kong jian* in Mandarin)—an escape from both home and the workplace—to relax and indulge themselves. Starbucks had entered China in 1999, and the country (and Asia Pacific overall) was the company's fastest growing market. It was hence quite surprising when the company faced a setback in the region in 2018, witnessing a decline in its third quarter sales, total number of transactions for the year, and annual operating income.

Starbucks' sudden downturn in the region was attributed to the threat posed by Luckin Coffee to its 'third place' positioning. Launched in China in November 2017, Luckin grew to more than 2,300 stores in just 17 months. Unlike Starbucks, it offered lower prices and the convenience of having coffee anywhere—at home, the workplace or a café. According to the company, its mobile app-linked order and cashless payment platform, along with a store pick-up and delivery model, appealed to the country's digitally savvy millennials. Over 2018-2019, the company successfully raised US$550 million, and in May 2019, launched its initial public offering. By the end of 2019, Luckin aimed to open a total of 4,850 stores in China to surpass Starbucks' planned network of 4,200 stores.

The sudden rise of Luckin raises important questions for Starbucks. What does it need to do in order to maintain its dominance in China? Should it emulate Luckin and work towards building a stronger and wider delivery channel, or should it continue to pursue its premium priced experiential retail strategy?

'Third place' positioning: Home, work and Starbucks

By the end of 2018, Starbucks, which was founded in 1971 in the U.S., was by far the largest coffeehouse chain in the world with total revenue of US$24.7 billion, 29,324 stores across 78 countries, and a global headcount of over 291,000 employees worldwide.[1] In fact, Starbucks had more than 11 times the revenue and seven times the number of outlets of its closest competitor, Costa Coffee.

> Starbucks' sudden downturn in China was attributed to the threat posed by a local start-up to its 'third place' positioning.

From the outset, Starbucks provided consumers a differentiated and unique experience of coffee consumption, which it called the 'Starbucks Experience'. Its outlets were developed around the concept of a 'third place', where people could pamper themselves, socialise and enjoy spending time there. This not only clicked well with customers who did not mind paying more for their coffee to enjoy the experience, but also earned Starbucks a distinct identity in the increasingly competitive café industry. Another factor that contributed to Starbucks' impressive growth trajectory was its adherence to rigorous standards of quality and a suitably adapted food menu that catered to local tastes.

Over 2000-2008, Starbucks' outlets across the globe grew more than threefold, from 5,000 to 16,680. However, in this quest for expansion, inadvertently, there was a greater thrust on 'takeaway' than the company's original value proposition of consumers sitting in the café and enjoying their coffee.[2] Consequently, Starbucks' sales growth over this period declined, and there was a drop of 42 percent in its stock value.[3]

REBUILDING THE STARBUCKS EXPERIENCE

Rebuilding the 'third place' equity helped turn around the company. In 2008, besides closing down 600 stores (many of which had been opened in the previous three years), Starbucks trained its baristas to improve their art of brewing coffee, bought more advanced coffee equipment, and reorganised its supply chain for better inventory management at the cafés. Starbucks also integrated technology to provide consumers a seamless digital experience, improved its social media presence, and introduced customer rewards cards. In order to 'recapture the coffeehouse feel', it redesigned its stores in terms of colour scheme, architecture, lighting, and furniture.[4]

In 2014, Starbucks changed its no-advertising policy and launched its first ever global brand campaign, 'Meet me at Starbucks'. The campaign, shot in 59 stores located across 28 countries, strongly emphasised the relationships customers cultivated when meeting at Starbucks. In 2016, 2017 and 2018, the coffeehouse chain spent US$248.6 million, US$282.6 million and US$260.3 million respectively, on advertising.

UPSCALING THE EXPERIENCE: PREMIUM STORES

In 2018, Starbucks launched its ultra-premium roastery and reserve project.[5] Reserve roasteries were essentially coffee emporiums (part café and part production facilities), and the reserve stores were a café-only version. While a traditional Starbucks store averaged 1,800 square feet in floor space, the reserve roasteries were 10 to 15 times larger. It provided an immersive retail experience including Italian artisanal high-end food by Princi bakery, lounge areas with fireplaces, and a full liquor bar, in addition to a traditional coffee bar showcasing its innovative specialty–its premium brand, small-lot Starbucks reserve coffee.

By the end of the year, Starbucks had opened four reserve roasteries in Seattle, Milan, Shanghai and New York,[6] and it planned to open another 30 reserve roastery emporiums and 1,000 reserve stores over the next few years, with the primary objective of amplifying the brand-customer experience.

Starbucks: Caffeinating China

In 2018, China's annual coffee consumption per capita was only 6.2 cups against 209 in Taiwan, 250 in the U.K. and Hong Kong, 279 in Japan, 388 in the U.S., and 867 in Germany. However, the annual average coffee consumption in the country, a largely tea-drinking nation, had grown at 15-20 percent over the last decade compared to the global average of only 2 percent.

China's increasingly affluent consumer class had greater awareness of Western trends, and associated coffee with a modern lifestyle and status. Of the three consumer coffee categories–instant coffee (72 percent in market share), ready-to-drink coffee (10 percent) and fresh ground coffee (18 percent), the demand for fresh ground coffee, despite being the most expensive, was increasing with the rising trend of on-premises consumption in the country.

The coffee culture in China had, to a large extent, been ushered in by the entry of Starbucks in 1999. By 2018, the coffeehouse chain had expanded rapidly across more than 150 cities, opening on average, one new store every 15 hours between 2013 and 2018. By 2016, Starbucks was the undisputed leader with a market share of 74.6 percent, far ahead of its closest competitors McCafé at 9.1 percent, Costa Coffee at 8.4 percent and Pacific Coffee at 3.9 percent.[7] In Shanghai alone, Starbucks had about 600 stores, the largest number of outlets in any single city in the world.

A PREMIER *DI SAN KONG JIAN*

Starbucks' 'third place' positioning struck a chord with the consumers struggling to cope with increasingly crowded living and work spaces, and congested traffic conditions in Chinese cities. The coffeehouse chain was an attractive alternative for people to get together conveniently and comfortably. Its Western upscale sensibility presented an aspirational but affordable luxury to a growing middle class looking to indulge itself.

In 2011, the company's loyalty programme, 'My Starbucks Rewards', was introduced in China, and more than seven million members had signed up by 2018.[8] To make the brand a little more exclusive, consumers in China were required to pay to join the programme, unlike in the U.S. where it was free. In 2014, the coffeehouse chain also introduced a stored value card to provide customers with a potential gift item besides a convenient payment method.

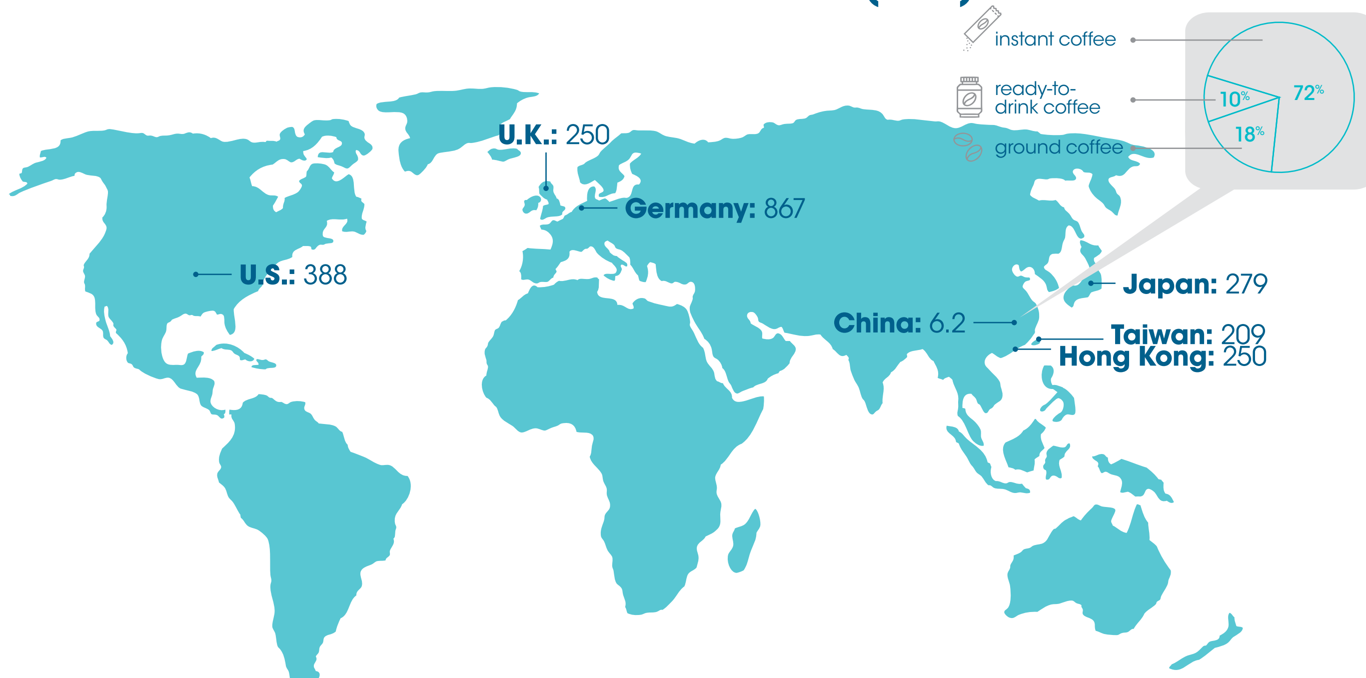
To position itself as a premium coffee brand, Starbucks priced its coffee higher than that of the local players in China, and selected high-end locations for its stores such as luxury malls and iconic office buildings. Additionally, since Chinese society associated foreign brands with a higher status, the coffeehouse chain often labelled its imported products with the country from which they had been sourced.[9] It introduced most of its global brands in China, and offered menu choices similar to what it served in the U.S., while introducing differences such as red bean flavoured scones to appeal to the local palate.

The introduction of 30 Starbucks reserve stores in the country and the world's largest Starbucks reserve roastery in Shanghai in 2017 further aimed to build on its upscale image and encourage consumers to linger over their expensive brews.

ACCESSIBLE AND LOCALISED

Targeting white-collar office workers, Starbucks located the majority of its retail stores in the central business district of Chinese cities. To encourage the congregation of formal and informal groups of co-workers, friends or family, it designed its stores in China to be up to 40 percent bigger than those in the U.S., with an open-style sitting area that had no interior walls and spilled out onto walkways and lobbies.[10] Many of its stores were adorned with locally-crafted wine urns and wooden carvings to reflect Chinese heritage. In 2018, Starbucks established its first Asian R&D centre in China to develop a more locally-inspired coffee menu.[11]

ANNUAL COFFEE CONSUMPTION PER CAPITA (2018)



Source: Global Times, 9 April 2019 & Washington Post, 6 May 2019

GOING DIGITAL

Starbucks also undertook a number of steps to cater to China's highly digitised customers and an increasingly cashless society. Through its mobile app, the company allowed 'My Starbucks Rewards' members to manage their card balance, and also made it easier for them to earn and redeem rewards, and find a nearby Starbucks store with the store locator feature. In early 2016, it launched a mobile payment feature on its app, enabling its members to e-pay for their purchases at stores nationwide.[12] The coffeehouse chain also partnered with WeChat Pay in December 2016, and followed up with a tie-up with Alipay in 2017–the two portals together held a 90 percent share of China's mobile payments market.[13] By 2018, almost 80 percent of Starbucks transactions in China were cash-free.[14]

Given the high penetration level of digital communication in China, the coffee chain promoted itself using local social media platforms. In 2017, it launched its campaign, 'Say it with Starbucks', which enabled about 826 million WeChat users to buy a beverage or a gift card through the app.[15]

Luckin Coffee: The home-grown caffeinated foe

While the coffeehouse culture in China had come a long way since the entry of Starbucks, it was in the throes of yet another transformation with the emergence of 'new retail', a term referring to the seamless integration of offline and online retail. In China's coffee industry, new retail was primarily led by three key factors–a rapidly growing coffee-drinking population, a high level of mobile and digital penetration, and most importantly, an increasing demand for delivery by convenience-oriented urban customers living in congested cities. With a rise in the number of customers demanding their coffee to be delivered within minutes of ordering (either online or offline), coffeehouse chains, both domestic and international, were scrambling to meet this demand by providing a blend of e-commerce, mobile shopping and brick-and-mortar storefronts.

> Starbucks' Western upscale sensibility presented an aspirational but affordable luxury to a growing middle class looking to indulge itself.

In response to the success of coffeehouse chains in China, particularly Starbucks, Jenny Qian Zhiya founded Luckin in November 2017. Qian had recognised that the demand for fresh ground coffee in China was growing exponentially, and that coffee had transitioned from being a social lubricator to a lifestyle habit. However, the market was underpenetrated due to high prices and inconvenience in accessing the product. She thus targeted the untapped demand by offering coffee at prices that were about 30 percent lower than the high-end brands like Starbucks and Costa, but higher than McDonald's and Family Mart, the low-end players associated with lower quality. In addition, Luckin offered a technology-driven retail model comprising online and offline integration that enabled customers to order and pick up from their nearest store, get it delivered, or enjoy it at a café.[16] The twin elements of the start-up's new retail model–low prices and super-speedy delivery–were enabled through its mobile app and wide store network.

The mobile app covered the entire customer purchase process including menu, order, payment and delivery options. Irrespective of the type of order (pick-up, delivery or on-premises), all orders and payments could only be made through the app, resulting in fully cashless transactions. This mobile app-based model appealed to the digitally savvy Chinese consumers, especially the millennials, who preferred using online menus and paying through their smartphones. Other than Luckin's own 'coffee wallet', payment could also be made through third-party payment service providers such as Weixin Pay, Union Pay and the ubiquitous WeChat platform.

Luckin focused on building an expansive store network comprising three formats: pick-up stores (87 percent) consisting of small shopfronts with no or limited seating that largely catered to mobile order pick-ups and delivery, delivery kitchens (8 percent) comprising dedicated kitchens that focused solely on processing and dispatching orders, and relax stores (5 percent) which were café-style stores where customers could sit and enjoy their coffee.[17]

Most of Luckin's stores were located in office buildings, commercial areas and university campuses, and were designed for fast pick-up and delivery.[18] The company claimed to have achieved 100 percent coverage within a 500 metre radius of central districts in big cities such as Beijing and Shanghai, with access to at least one store within a five-minute walk in these areas.[19]

Besides using many of its outlets as kitchens to quickly fulfil the orders placed, Luckin relied heavily on technology for smart ordering and dispatch of deliveries, in collaboration with SF Express, a Chinese courier company.[20] Consequently, it claimed that its average delivery time was only about 18 minutes and the coffee was given free if it did not reach its destination within 30 minutes. The tech-based start-up used big data analytics and artificial intelligence to study customer behaviour and transactions in real time to better craft its products and services strategy, implement dynamic pricing, and improve customer retention.[21] In addition, Luckin reported that its centralised system helped improve the company's operational efficiency through standardisation, enabling it to rapidly scale up its presence.

By March 2019, Luckin declared that it had sold more than 90 million cups of coffee across 28 cities and employed a 16,645-strong workforce in the country.[22] According to the analysts at *Inside Retail Asia*, it had taken Starbucks nearly 13 years to achieve the size that Luckin claimed to have reached in just one year.[23]

> By 2018, almost 80 percent of Starbucks transactions in China were cash-free.

PRICING, DISCOUNTS AND ADVERTISING STRATEGY

Luckin's dynamic pricing was based on a low fixed price and flexible discounting strategy. While its latte was priced at about US$3.54 (including a US$0.87 delivery charge) compared to US$4.28 from Starbucks, its aggressive and regular discounts such as free first drink, free drink for recommending the app, free drink for following it on social media, two-for-three, five-for-ten and free delivery above a certain order size, brought its effective selling price down to be the lowest in the market (refer to Figure 1).

In 2018, Luckin reported that it had spent US$111 million or 87 percent of its annual net revenue on advertising and marketing. It signed top-tier celebrities in China, Zhang Zhen and Tang Wei, as its brand ambassadors, and also partnered with foreign baristas such as Andrea Lattuada, former judge of the World Barista Championships, to help build brand credibility.[24] According to the company, its app-only model enabled it to have a digital profile of and a digital connection with each of its customers, hence it could implement highly-focused online marketing initiatives.

David versus Goliath

In view of the rise of Luckin, Starbucks partnered with China's largest e-commerce conglomerate, Alibaba, in August 2018, to provide 'Starbucks Delivers', a service to deliver its beverages within 30 minutes. It linked its 2,000 outlets across 30 Chinese cities with the Alibaba-owned Ele.me, a leading online food delivery site, and aimed to offer the service in about 90 percent of its stores in China within a year.[26] Additionally, Starbucks opened its first two delivery kitchens, known as 'Star Kitchens', inside Hema supermarkets in Hangzhou and Shanghai, leveraging the supermarket's logistical capabilities for delivery.

However, there were high costs associated with the delivery channel. Besides the expense of about US$1.04 per order (charged to Starbucks by delivery companies), each Starbucks delivery order required a special double-layered lid to keep the drink hot or cold, spill-proof packaging, and a tamper-proof packaging seal. It also required unique containers that ensured optimal temperature and standards for beverage and food quality, and safety during delivery.[27]

Meanwhile, Luckin was shoring up its capital. In 2018, the company raised a total of US$400 million over two rounds of financing. Centurium Capital, a private equity fund, and GIC, Singapore's sovereign wealth fund, invested the first round of US$200 million. This catapulted Luckin to a US$1 billion valuation in July 2018, within eight months of its operations. Six months later, in December 2018, the second round of US$200 million funding by GIC, China International Capital Corporation (an investment banking firm) and Joy Capital took Luckin's

PRICE COMPARISON ACROSS COFFEE BRANDS IN CHINA (MARCH 2019)

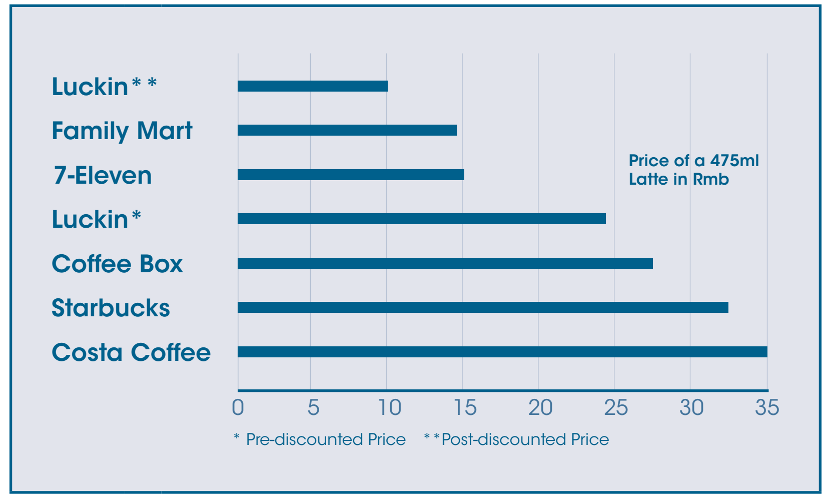
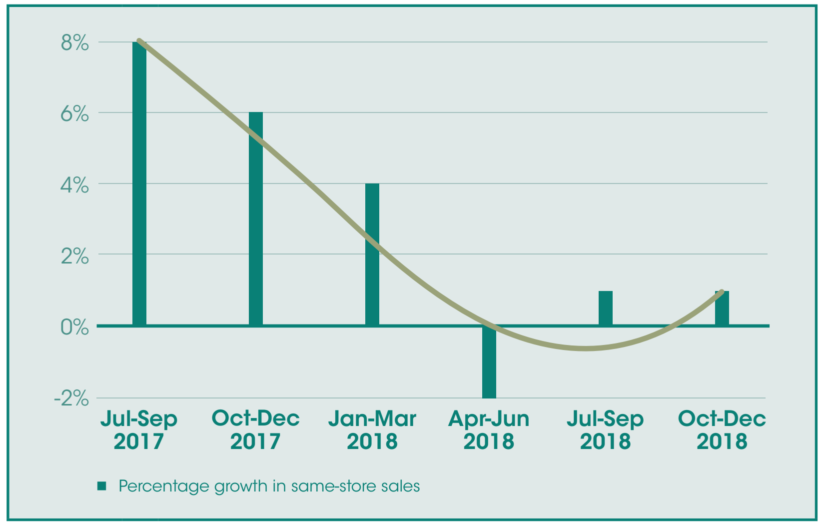


FIGURE 1 Source: Financial Times, 19 June 2019

valuation to US$2.2 billion.[28] Buoyed by its market standing, the company raised another US$150 million in April 2019, before its initial public offering in May 2019.[29]

It was clear that the value propositions the two companies offered were quite distinctive from each other. While Starbucks strived to satisfy the consumers' needs of self-indulgence and social gratification, Luckin catered to the functional needs of the mass market through easy, quick and affordable access. Going forward, Starbucks would have to decide on the relative emphasis it should place on emulating Luckin, and work towards building a stronger and wider delivery channel versus continuing to pursue its premium priced experiential retail strategy. Moreover, although Luckin's success had negatively impacted Starbucks' growth in the short term, it seemed implausible that its cash-burn business model that includes heavy discounting, aggressive advertising and rapid store expansion could continue without raising an alarm eventually.

STARBUCKS COMPARABLE STORE SALES GROWTH IN CHINA (2017-2019)



Source: Bloomberg, 25 January 2019

Going forward, Starbucks would have to decide on the relative emphasis it should place on emulating the local competition, and work towards building a stronger and wider delivery channel versus continuing to pursue its premium priced experiential retail strategy.

This case was developed with the support of Singapore Management University's Retail Centre of Excellence (RCoE). The complete case, published in October 2019, can be accessed at https://cmp.smu.edu.sg/case/4166

Nirmalya Kumar
is Lee Kong Chian Professor of Marketing at Singapore Management University and a Distinguished Fellow at INSEAD Emerging Markets Institute

Dr Sheetal Mittal
is a Senior Case Writer at Singapore Management University

Stephen Eryung Chu
is a DBA student at Singapore Management University

References

1 Desmond Ng, "How Starbucks' Growth Nearly Destroyed the Business, until One Man Saved Its Skin", CNA, 26 November 2018.
2 Ibid.
3 Starbucks Corporation Annual Report 2008.
4 Aimee Groth, "19 Amazing Ways CEO Howard Schultz Saved Starbucks", Business Insider, 20 June 2011.
5 Marianne Wilson, "First Look: Starbucks Debuts Premium Store Format", CSA, 27 February 2018.
6 Jessica Tyler, "Starbucks Just Opened a Reserve Roastery in New York that has a Full Cocktail Bar and is Almost 13 Times the Size of the Average Starbucks. Here's How it Compares to a Typical Starbucks", Business Insider US, 17 December 2018.
7 Wang Zhuoqiong, "Starbucks Laser-focused on China Market", China Daily, 2 March 2018.
8 Lisa Fu, "The Starbucks Experience in China is Way Different than in the US (SBUX)", Markets Insider, 18 May 2018.
9 Michael Zakkour, "Why Starbucks Succeeded in China: a Lesson for all Retailers", Forbes, 24 August 2017.
10 Ibid.
11 Ding Yining, "China Brews Bubbly Future for Starbucks", Shine, 2 January 2018.
12 Starbucks Stories, "Starbucks Debuts Mobile Payment Experience in China", 12 July 2016.
13 Jaime Toplin, "Starbucks Adds Alipay in China", Business Insider, 27 September 2017.
14 Lisa Fu, "The Starbucks Experience in China is Way Different than in the US (SBUX)", Markets Insider, 18 May 2018.
15 Russell Flannery, "Meet the Woman behind Starbucks in China", Forbes, 1 March 2017.
16 Savannah Dowling, "Luckin Coffee Raises $200M More, Doubles Valuation", Crunchbase News, 12 December 2018.
17 Luckin Coffee, IPO Prospectus Report, 23 April 2019.
18 Tianyu Fang, "How Luckin Coffee is Reforming China's Coffee Culture", technode, 30 July 2018.
19 China.org.cn, "Luckin Coffee Appoints Reinout Schakel as CFO, CSO", 7 January 2019.
20 Nisha Gopalan, "Starbucks, There's a Unicorn in Your China Shop", The Washington Post, 3 December 2018.
21 Luckin Coffee, IPO Prospectus Report, 23 April 2019.
22 China.org.cn, "Luckin Coffee Appoints Reinout Schakel as CFO, CSO", 7 January 2019.
23 Hunter White, "Luckin vs Starbucks: Technology Storm in a Coffee Cup", Inside Retail Asia, 18 January 2019.
24 Paula Thomas, "Coffee Goes Cashless in China", Liquid Barcodes, 20 July 2018.
25 Amelia Lucas, "Starbucks CEO Calls Chinese Rivals' Use of Discounts Unsustainable as Luckin Coffee Prepares for IPO", CNBC, 26 April 2019.
26 Julie Wernau and Julie Jargon, "Starbucks Fights Hot Startup in China", The Wall Street Journal, 13 March 2019.
27 Starbucks Newsroom, "Starbucks Accelerates Delivery Service Coverage to Bring Best-in-Class Coffee Delivery Experience to More Customers in China", 18 October 2018.
28 Rebecca Fanning, "Starbucks Rival Luckin Coffee in China Aiming High with IPO Plans in the Offing", Forbes, 4 March 2019.
29 Julie Zhu and Pei Li, "Starbucks' China Challenger Luckin to Raise up to $800 Million in U.S. IPO: Sources", Reuters, 23 April 2019.

eMARKETPLACES

Strategic challenges and considerations.

By Sam Too

Industry pundits have long prophesised that the days of brick-and-mortar retail will soon be over, and e-commerce will triumph. However, the truth is that physical retail sales continue to outstrip online sales by a huge margin–global retail e-commerce sales accounted for 14 percent of total retail sales as at May 2019 (refer to Figure 1).

Why is this so? We come across some blind spots when we look at the potential of the e-commerce market. Let's take the example of Singapore. No doubt, the country has one of the highest digital penetration rates globally. Singaporeans are very comfortable with online shopping, and e-commerce sites like Taobao, Amazon and Qoo10 have

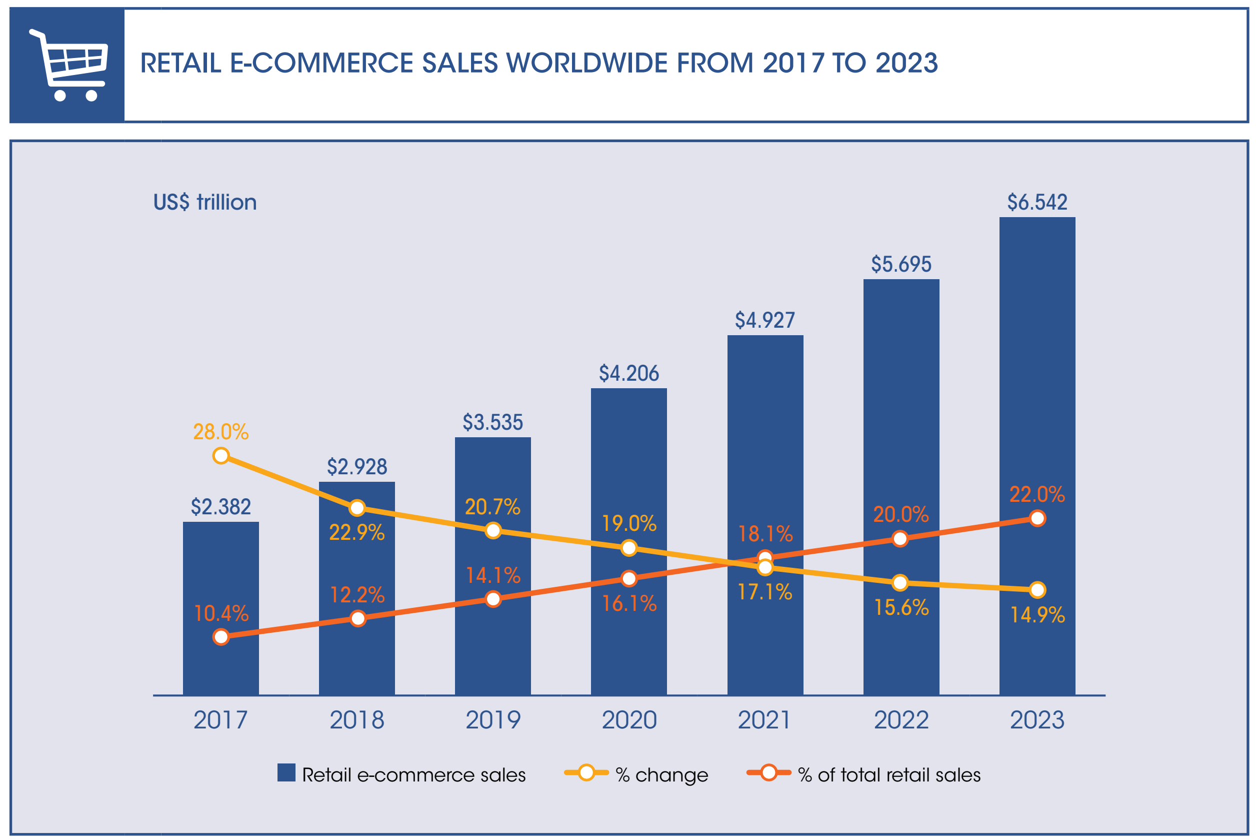


FIGURE 1

Source: eMarketer (May 2019)

become household names locally. In terms of maturity, however, Singapore is still a growing market with e-commerce accounting for only about six percent of its total retail sector (refer to Figure 2).

However, when we look at the digital footfall in Singapore over the last three years, we do not see many new users. Even the popular websites don't register a growth in user visits (refer to Figure 3). The rate might actually be declining. Despite varied efforts by industry players, the e-commerce sector has not been able to acquire genuine new users; any reported increases might be due to fraudulent accounts (or from users who create multiple accounts in an effort to milk benefits from various platforms). Thus, an e-commerce player in an already highly competitive environment would have to worry not just about top-line figures, but also its viability and sustainability moving forward.

The challenge for the digital industry is that no competitive edge lasts long as the information or knowledge one owns becomes outdated very quickly. Two key factors contribute to this. One, the competition is quick to match or improve upon any innovation in the industry. Time-to-market is short, the target market is often within reach and the market reaction is swift. Two, the digital economy has low entry barriers that offers almost no protection to existing players. Emulation is easy, almost anyone can do it, and mistakes are easy to fix.

For a digital entrepreneur, while the take-off may be easy, the challenge is in surviving the roller-coaster journey and staying the course. And to do that, I believe, building scale and volume rapidly is key.

> An e-commerce player in an already highly competitive environment would have to worry not just about top-line figures, but also its viability and sustainability moving forward.

EVOLUTION OF E-COMMERCE

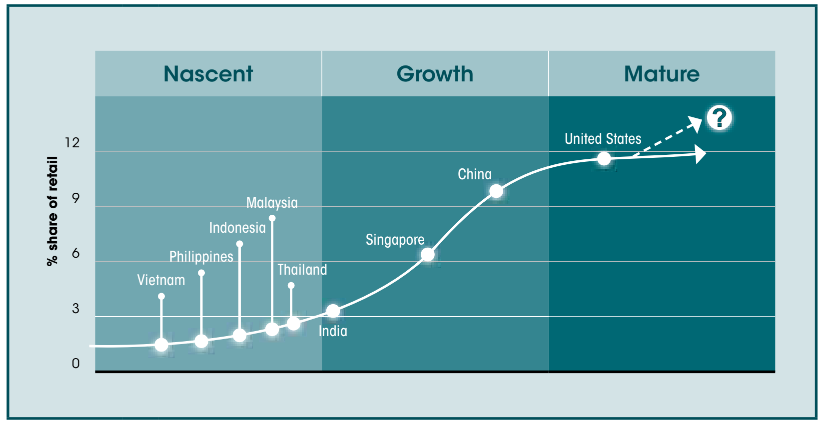


FIGURE 2 Source: Euromonitor (2019)

AVERAGE MONTHLY WEBSITE VISITS TO TOP 10 SINGAPORE MERCHANT WEBSITES FOR A SINGLE QUARTER (Y-O-Y)

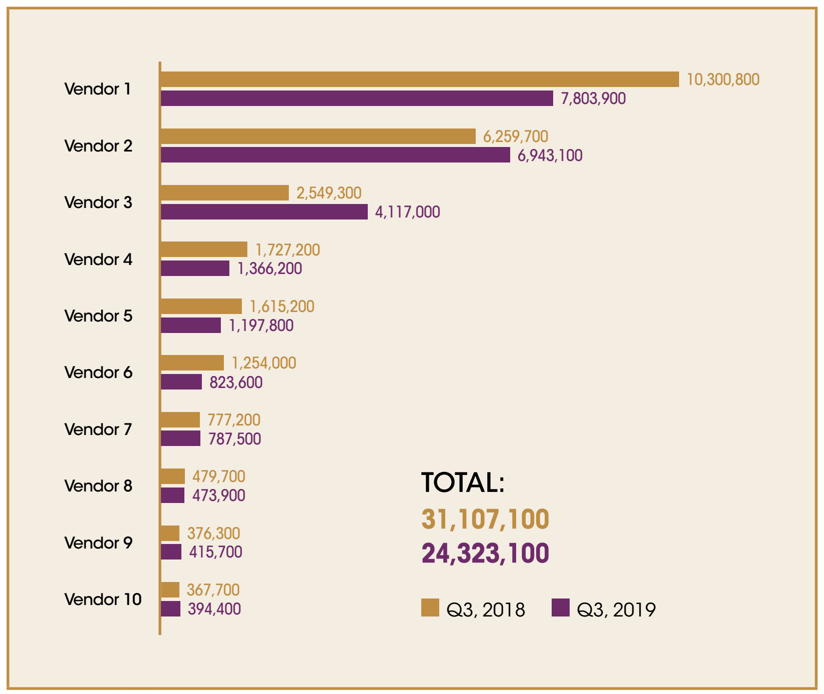


FIGURE 3 Source: iprice insights

Scale and volume

Digital start-ups need to keep in mind two important considerations. First, while the conventional wisdom regarding scaling up and building volume is to 'take your time and not be in a hurry', in the digital world, time is an ill-affordable luxury. The longer a business takes to create scale and volume, the more intense the competition becomes. Take the case of Grab, the Southeast Asian ride-hailing company. It managed to dominate the Singapore market in just three to four years, before any new player could enter the space. Now, with adequate scale and volume under its belt, even with Gojek (the Indonesian company that uses a similar app-driven model) expanding its operations to Singapore, Grab need not worry. In the digital world, the number one player in a market tends to be far ahead of the number two or number three player, unlike traditional businesses where market leaders such as Unilever and Procter & Gamble, or Coca Cola and Pepsi, are often found in neck-and-neck competition with each other. In the online domain, the gap between the leader and the followers is huge. For example, while Google is the number one search engine, nobody even knows who the number two player is. Similarly, Amazon's online sales in the U.S. are not only the highest in the country, but are also more than the online sales of the next 49 retailers put together.[1]

Second, a successful business model needs both scale and volume for transactions to take place among its stakeholders. In Grab's case, the start-up first identified its drivers and riders, akin to sellers and buyers in e-retail, who were its most important stakeholders. Next, it realised that having one without the other—only scale (many drivers but not enough riders) or only volume (many riders but not enough drivers)—would simply cause the business to collapse in no time. In order to create sustainable value, a business needs both.

Given the critical role of scale and volume, the concern for a digital business is how to build them quickly. How can it develop the strategic thinking and the unique mindset required to generate competitive solutions along with maintaining a dynamic pace? I advise companies to adopt the following techniques—the A-B model and multi-point forward engineering—in order to develop built-in competition systems, generate new ideas, reinforce success and evaluate failures in the shortest time possible.

THE A-B MODEL

The A-B model creates a test bed for new ideas. It prescribes having two teams, Team A and Team B, that work on the same project, but independently and without any knowledge of what the other team is doing. They should also not report to the same person. The advantage this method offers is that the two teams are able to break away from the rigidities of structure, and come up with original, out-of-the-box solutions.

At Qoo10, we often have two marketing teams working on developing a promotional campaign for upcoming site-level events or planning Facebook marketing campaigns. The teams are given separate budgets and complete autonomy to decide how they want to promote the event. While both can be telling the same story to engage customers, somehow one team will end up being more effective than the other. Eventually, as the teams are judged purely on their performance, it helps to breed healthy competition at the workplace and create an innovation-led environment.

The A-B approach not only helps to generate excellent ideas, but also perpetuates self-learning and relearning among employees and the organisation as a whole. Most importantly, it keeps the pace of learning and evolving fast. Say, we decide to put a Nintendo switch in Facebook and get a lot of clicks. However, along with the whole world, our competition has also seen it within a short time. And as they quickly emulate or even better our campaign, we need to be ready to move on to another idea. With the swift pace of change, the A-B model serves a critical purpose in the organisation.

MULTI-POINT FORWARD ENGINEERING

The multi-point forward engineering approach prescribes coming up with 10 different solutions that can be simultaneously launched at a given time. To illustrate, imagine 10 people stranded in the middle of an uncharted desert without a map or any directional tools. With no water, no food, and a temperature of 50 degrees Celsius, they are not expected to survive more than three days. What should they do? Should they all go together in a linear path when the probability of finding help is negligible, or should they go in 10 different directions, hoping that at least one will meet with success? Clearly, the latter will be the right choice.

In the business context, when planning to market on Facebook, would a company be able to connect with all its

> A successful business model needs both scale and volume for transactions to take place among its stakeholders.

potential users on the social media platform? No, because this depends on how often users check their Facebook accounts, and they don't do it every minute or even every day. Hence, while Facebook would spend the campaign dollars as requested, there are many gaps in the demographic that would never be captured. Thus, a multi-point strategy is recommended, which advocates opening up multiple future solutions or businesses that a company can offer or enter into at the same time. For instance, at Qoo10, we often push different things simultaneously, such as launching a blockchain platform called QuuBe, a live-streaming function in our Live10 APP, etc. With each new product or service, we seek to reinforce and enhance Qoo10's overall shopping experience and business model.

However, out of 10 ideas, nine are expected to fail as the competition emulates fast, and consumers are quick to move on. But in the digital journey, failure is something that one can manage and control as online users tend to have short-term memory. Thus, the focus of an e-commerce firm should not be on having a perfect product for the launch. Nobody can do that; even Microsoft Windows and Apple iPhones have flaws. Instead, the company should go ahead and launch the product, listen to market feedback, and patch or improve it accordingly. The response and feedback after the launch is very useful to evaluate the product and determine its relevance and potential. If you launch a lousy product, and receive a lot of complaints, the product has still served its purpose as you get to learn directly from consumers what should be improved.

Focus on business fundamentals

For a digital start-up with limited resources, laser-sharp focus is needed on business fundamentals. The company needs to question whether its efforts will lead to an increase in buyers or sellers, or whether it should skip the 'wish list' until it is successful. An example of such a choice could be selecting the background colour of a company's home page. The answer to this is simple. Why not just change it? Instead of commissioning consultancies to conduct market research and use up resources to find out user preferences, it may be more prudent to go ahead and just make the change. If it looks unsuitable, there is always the undo button to revert to the previous background colour. Does that impact our business? Maybe in the short-term, but remember, online consumers tend to have short memory.

This lack of fear of rejection or failure in the e-commerce domain is what makes the multi-point strategy effective. It is best that a start-up does something rather than nothing at all, even though in all likelihood, 90 percent of the new products/features/ideas will fail, and the 10 percent that succeed will have a limited 'successful' shelf life. The ideas that fail or become outdated can be reworked and relaunched again as the next version, and they may work this time, or they still may not–but there is only one way to find out, and that is by trying.

However, none of the approaches would work if the market is not ready to adopt the products offered. And no matter how good its idea may be, a start-up can't wait for the market to mature on its own, because its competitors or technology will soon seal its fate by imitating or doing it better. Hence, the company has to push and/or cajole the consumers into buying, through adoption of some of the following strategies.

> If you launch a lousy product, and receive a lot of complaints, the product has still served its purpose as you get to learn directly from consumers what should be improved.

> A lack of fear of rejection or failure in the e-commerce domain is what makes the multi-point strategy effective.

PRICE DISCOVERY (VERSUS CONTENT DISCOVERY)

Price discovery or deep discounts through promo codes is one of the most popular tactics used to enforce market readiness. For instance, ride-hailing apps like Grab and Uber offer scores of promo codes for riders and a host of incentives to drivers to drive product adoption and gather speed in building scale and volume in a new market.

In an immature market, price discovery aids by pushing consumers to do what they otherwise would not. Discounts help to overcome their unwillingness, lack of trust, or other habitual barriers, such that shoppers buy online even when they would have preferred to buy from physical stores, or travellers use a ride-hailing app even when they would have rather flagged down a taxi.

Price discovery is especially effective in Asia as shoppers here have a thrift mentality, and are actively on the lookout for the best deals. In addition, Singapore shoppers have a fear of losing out, a phenomenon termed *kiasu*. A promotion or a best-seller list, or even simply a 'deals' or 'weekly specials' tab on the website home page, can generate a high level of excitement, prompting shoppers to buy what everyone else has been buying. In this respect, their behaviour pattern in the offline and online space mirrors each other. The difference between the two is in their reach and speed of consumer response. A promotional banner outside a physical retail shop will at best be seen by shoppers who pass the shopfront, and possibly reach out to a few more through word of mouth. However, in online retail, such news goes viral in real time. With mobile push notification, the whole target market can be accessed in a jiffy, and soon the product could become a best-selling item.

Since online retail is fast-paced from the very beginning–with super-quick consumer reaction times–businesses need to deploy price discovery in the early stages of their operations. Securing the scale and volume in the shortest timeframe will be akin to a proof of concept, and this would indicate the business' readiness to go to the next level: Investors, here we come! Speed in achieving scale and volume is also important, hence businesses must seek to not just be the first mover, but also the biggest and fastest mover. With a massive user base or a large ecosystem, size will help to insulate the business against external shocks, and thereafter efforts can be channelled towards sustainability and profitability.

DIGITAL RING-FENCING

As a digital player, it is important to be ready for and welcoming of all digital marketplaces, whether local or international. The branding or the user interface, while important, is secondary to footfall allocation. When Amazon with all its might could not enter China directly, it decided to do so through Pinduoduo, the country's new but increasingly popular e-commerce platform.

Moreover, digital marketplaces not only attract the most visits of all the e-platforms, they also tend to have very low barriers to entry. An online company can enter, register and upload its products at almost zero cost. Digital ring-fencing is thus an easy, low cost and quick method for an online brand to be present on multiple platforms that consumers visit. This increases manifold the opportunities for brand-customer interactions, resulting in high consumer awareness and recall, which are stepping stones for building brand equity.

On the other hand, it is also important to be cautious as marketplace brands tend to become self-fulfilling traps. For example, while Alibaba's T-mall and Taobao marketplaces generate considerable sales, especially during mega promotional events like Singles' Day, they can lead to an adverse spillover effect. With a single day accounting for more than six months of a company's annual revenue, there is tremendous pressure on it to do well in such events. Since consumers specifically look for special deals during these events, the company is compelled to continue offering similar or higher discounts in order to increase its sales. And when its sales volume increases, it has to sell even more goods at discounted prices, thus digging its own grave.

GETTING THE E-MIX RIGHT

It is important for an online business to select the most suitable and relevant keywords, so that the advertisements of its products or its website pop up when shoppers search for the particular category on Google or any other search engine. The right keywords enable the company to be seen by the 'real' shoppers—those who are looking to buy that product, and are not just general browsers.

In addition, online companies need to enhance customer value by using impactful and creative product images. Each stock-keeping unit should have multiple images (seven to eight) capable of conveying meaningful information quickly, such as country of origin, branding, benefits, differences from other brands, pricing and product size.

> When pessimism overcomes rationality, the resultant sudden demand spikes can overwhelm and short-circuit the supply and logistics.

Testing resilience

Time and tide wait for no one. While preparedness is key, the true test of resilience takes place when markets are in disarray and demand a real-time response. The Asian e-commerce retail market has recently gone through a stress test with the outbreak of the Covid-19 virus. Using data on site traffic for Qoo10's online retail platform, we can map consumer behaviour patterns and see how shopping behaviour changed in response to the news about the spread of the virus, and its impact on e-commerce supply chains (refer to Figure 4).

During the week when the first few cases of the virus were discovered in Singapore, Qoo10 witnessed a sudden, sharp spike in site traffic. We can refer to this phase as the 'fear zone', which was driven by shoppers' fear of the unknown. The week started with a surge in demand for surgical masks, and from there, it expanded to searches for disinfectants, hand sanitisers, and other preventive products. In the following week, site traffic experienced ebbs and flows based on the number of confirmed new cases reported in the island-state, interspersed with the 'calm zone' on days when there were no new cases, or when the number of new cases was lower than previous days. Anomalies were spotted in week three. Although the number of reported new cases was on the downtrend, traffic to the Qoo10 website witnessed another sharp spike and an increase in sales for non-Covid-19 items like diapers, infant formula, rice, toilet paper, and other household essentials, signalling panic buying. We refer to this as the 'Preppers Mentality'. The real trigger came a few days later when the Singapore government notched up the Disease Outbreak Response System Condition level from yellow to orange, signalling the heightened severity of the situation. The 'Preppers' Mentality', together with the '*Kiasu* Mentality', propelled the site traffic to an all-time high.

FACE OFF: CAN MARKETS COPE?

E-marketplaces like Qoo10 are open market platforms for buyers and sellers. The escrow function held by the platform

IMPACT OF COVID-19 ON QOO10 SITE TRAFFIC

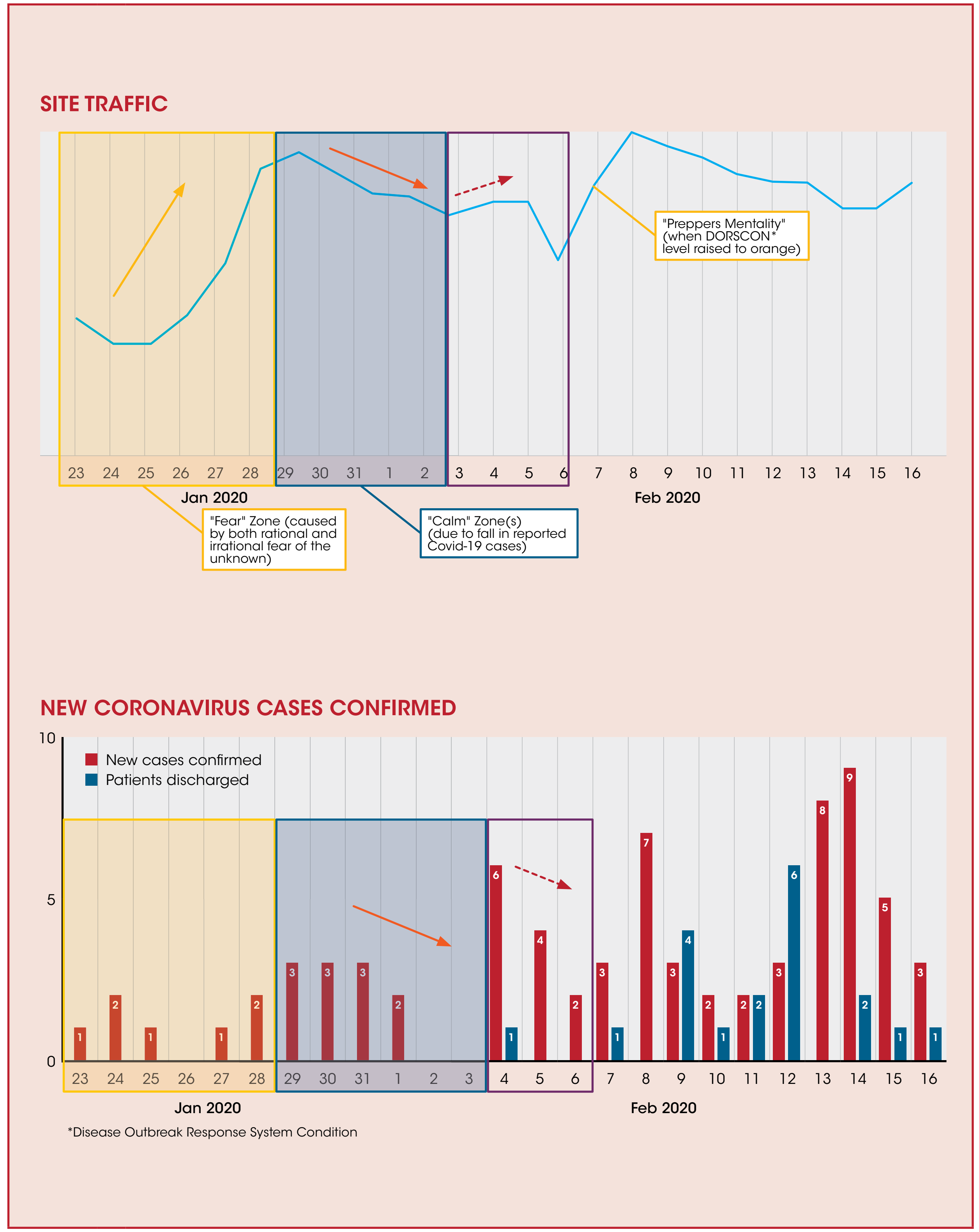


FIGURE 4

Source: Qoo10

owner is one of the key tenets that builds trust and enables transactions to take place. It operates akin to the economic concept of perfect competition, or an open market model where trade can exist without any barriers of entry, with perfect information, and is driven predominantly by the principles of supply and demand. Prices are determined through fair and open competition. However, in reality, a global-level event like Covid-19 exposes the limitations of e-marketplaces, like that of any open market model.

When pessimism overcomes rationality, the resultant sudden demand spikes can overwhelm and short-circuit the supply and logistics. Markets, both online and offline, cannot keep up with demand. In the online world, such market distortions are exacerbated and amplified by time (or rather the lack of it). Such market distortions can often lead to short-term profiteering and increased levels of potential fraud/scams.

Subsequently, the question arises: Could e-commerce markets have predicted the demand spikes and panic buying experienced during these few weeks? For many, they may think that this would be possible with artificial intelligence (AI), but to put things into perspective, the last major global event of such a scale—SARS in 2003—pre-dates e-commerce and AI. Without pre-existing datasets, AI would be limited in its usefulness.

E-marketplace 2.0: Upsizing supply robustness

With cross-border e-commerce taking shape globally, there is a greater call for a mega e-marketplace, one that is even bigger than China-centric Alibaba's platforms. Amazon, despite its size, technological prowess and logistical efficiency, also faced an uphill task in handling a global event like Covid-19. When demand spikes 10 times over, the choke points will not be its logistics efficiency in terms of delivery, but actual physical stocks and replenishment of supplies.

Now imagine a powerhouse mother-of-all e-marketplace platform that houses every eminent player from global giants like Alibaba, Amazon, Rakuten and Gmarket to domestic behemoths like Qoo10, Tokopedia and others. In short, global demand meets global supply in a single online marketplace. While the concept of borderless e-commerce trade is attractive, today it is still bound by exchange rates and currencies. To tackle this, we might see the emergence of a unified global digital currency—much like Facebook's Libra. There are already workable technologies like blockchain that can be used to build it. Just as technology can enable a single global online trade platform, solutions are being refined even as we speak to offer a seamless global payments system eventually. The future is here, and it is time to act.

Sam Too
is the Division Leader (General Manager) of Qoo10 Pte. Ltd., Singapore

Reference

1 Arthur Zaczkiewicz, "Amazon, Wal-Mart and Apple Top List of Biggest E-commerce Retailers", WWD, April 7, 2017.

ADAPTIVE MINDSET

An effective approach to leadership in cross-cultural contexts.

By Francis Lotzer

A large international company is working on a contract to build the world's largest cruise ship. Suddenly the client decides he wants the ship delivered in 10 months, instead of the initially agreed two-year time frame. The project manager consults his three experts who are of different nationalities, and asks them whether they think this is possible. The American says, "Yes," straightaway, thinking "We can do it!" The Chinese expert responds, "Yes," thinking "I can't say no to my boss." And the French expert replies, "No," and thinks "We'll manage somehow." In some cultures 'yes' means 'no' and in others 'no' means 'yes'—which is why leaders need to have an adaptive mindset when working with cross-cultural teams.

Culture is a sensitive topic. Anthropologists, sociologists and psychologists have shared their understanding of different cultures. These theories are insightful, but bear caution that they must not be used as generalisations.

The Project Management Institute (PMI), a global organisation that defines and sets standards of excellence for project management, reports that poor communication is the number one reason why projects fail.[1] According to PMI, poor communication is a contributing factor in 56 percent of unsuccessful projects, which makes communicating across cultures a key challenge for every project manager. Let's take an example of a project manager in charge of an international project involving stakeholders from multiple countries, who has recently found out that his project is going to be disrupted by many changes. What should his priorities be? How should he communicate on change? How does he interpret cultural 'signals'? How can he manage confrontation?

Based on over 30 years of experience as an international project manager, I propose a universal standard for facilitating communication—one that holds for all cultures—and believe it should include the following three key tenets:

- Communicate the benefits of the change
- Understand the 'hidden' cultural signals
- Take a future-oriented approach when handling confrontation

Communicate the benefits of the change to team members

In order to generate motivation, change must be linked to the benefit it provides for team members of the project. Robert Aldrich's movie, *Dirty Dozen*, illustrates this. Set in 1944, the film tells the story of intelligence officer Major Reisman and his top-secret mission to turn some of the U.S. Army's worst prisoners into commandos for a suicide mission just before D-Day. Reisman knows that the convicts will be motivated to take on this change in their lives only if they can see how it will benefit them. He argues, "If there is no chance of remission of their sentence, they have no reason to cooperate." No benefit, no motivation.

Suppose you are running a project in a large international training firm, delivering programmes all over the world and using trainers located in different countries. A key motivating factor for your trainers is the human element, or face-to-face contact with their participants. Your client asks you to make a disruptive change to the project—he wants to introduce a digital learning approach by incorporating e-learning into the training programmes. You know that your trainers will be reticent about adopting this new approach because they are used to training people face to face. In this situation, I would

In some cultures 'yes' means 'no' and in others 'no' means 'yes'—which is why leaders need to have an adaptive mindset when working with cross-cultural teams.

recommend using the Change-Advantages-Benefits technique, which states that a change that can lead to advantage(s) for the project and provide benefit(s) for project team members is far easier to implement.

The change here is digital learning. What advantages can this change bring to the project? It could potentially be an opportunity for acquiring more business at little additional cost, since the digital tools that need to be created will be paid for by the client. The number of training programmes delivered could also expand, given the wider reach of e-learning. How would these advantages translate into benefits for the trainers? The benefit could be better work-life balance in that the trainers will be able to work remotely from home.

REFINING COMMUNICATION SKILLS

Project managers need to communicate with their teams, but it is also important for them to hone their skills in communicating with other stakeholders (project management office, sponsor, board of directors, etc.). A key area to look at in greater detail is that of engagement with management. Geert Hofstede, a Dutch social psychologist, introduced the concept of the Power Distance Index (PDI), which expresses the differing degrees of acceptance of the hierarchical order in different cultures.[2] Based on this research, a project manager will find it easier to question or challenge a top manager from a culture with a lower PDI (Sweden, Germany, the U.K. and the U.S., for example) than one from a more hierarchical culture with a higher PDI (such as France, Singapore, India and China).

My personal experience is that top managers in even the most hierarchical cultures expect to be challenged by their project managers. This implies that, irrespective of the culture, it is in the project manager's interest to be proactive in using engagement strategies. Proposing solutions and action plans is typically well-received across cultures. On the contrary, a project manager that does nothing but complain has no credibility with top management.

Understand cultural signals by exploring the 'hidden part of the iceberg'

Richard Lewis, in his book, *When Cultures Collide: Leading Across Cultures*, divides cultures into roughly three categories.[3] Individuals from linear-active cultures, say Germany or the U.S., are polite but direct, would talk half of the time, and plan ahead step by step. People from multi-active cultures such as Southern Europe and Brazil, have a tendency to talk most of the time, do several things at once, and be more emotional. In contrast, those from reactive cultures such as Japan, China and Singapore, are polite and indirect, would listen most of the time, and react to their partners' actions. An Asian project manager once told me that he always tried to respond rapidly in his dealings with his partners. He was hence surprised when his partners in Germany took a week to respond. In reality, the Germans' reaction was not tardy—for them it was simply a matter of planning; the task would be done in due course.

Irrespective of culture, change elicits four possible reactions. People can be described as 'allied' if they are positively in favour of the change or 'divided' if they find reasons to be both for and against it. Then we have those who are 'indifferent' and do not care one way or the other, and lastly, the 'opponents' who are clearly against the change. It is important for project managers to identify these four reactions

My personal experience is that top managers in even the most hierarchical cultures expect to be challenged by their project managers.

and take them into consideration when implementing change. In multi-active cultures they will be openly expressed, in linear-active cultures they are likely to be expressed in part, while in reactive cultures, they will probably be expressed to a much lesser extent.

The project manager will need to show empathy with his team members in order to encourage them to express their reactions. An iceberg is often used as an illustration of Freud's theory of the mind, with the visible part representing the 'conscious' and the hidden part the 'unconscious' (refer to Figure 1).[4] We can use this analogy when considering the following message: It's Friday afternoon, and your boss writes, "Can you come to my office on Monday? I have something to tell you." It is very likely that you will spend your weekend trying to interpret this message, asking yourself, "Did I make a mistake?" or "Does he want to offer me a promotion?" In this instance, your boss expressed only the visible part of his message, the 'said'. The hidden part of the message is called the 'unsaid'.

THE HIDDEN PART OF THE ICEBERG

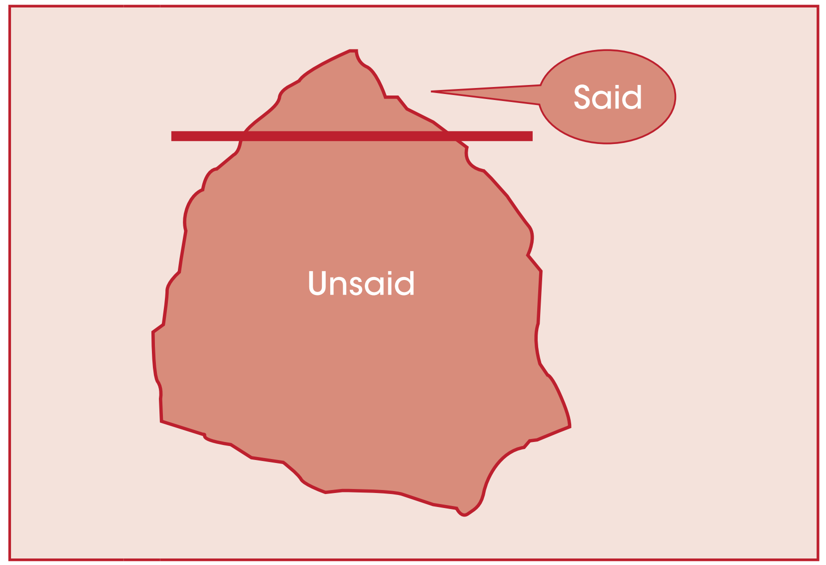


FIGURE 1

The project manager will need to show empathy with his team members in order to encourage them to express their reactions to change.

Project managers who are on the receiving end of multiple verbal and non-verbal signals emanating from different cultures need to invite colleagues to share the hidden part of their messages. They can do this by using probes such as, "What is the reason for your message?" and "Can you please elaborate?" A Singaporean project manager once told me that during a key conference call with some of his stakeholders based in Northern Europe on staffing requirements, the participants remained silent. She asked me to explain the meaning of this silence. My reply was that she simply could have asked the participants, "Can you please tell me how I should interpret your silence?"

Take a future-oriented approach to handling confrontation

When people are faced with leaving a known situation for an unknown one, it is only natural that some would be reluctant to embrace the change. Confrontation is normal and must be accepted. In Lewis' model, linear-active cultures do not fear confrontation and they approach it with logic, whereas multi-active cultures are more emotional. Reactive cultures are non-confrontational.

Say you invite an important client to lunch and have booked a table in a restaurant you visit frequently. When you arrive, the restaurant is full and you discover that your table is in a dark and noisy section of the restaurant, close to the restroom. The situation is tense. You can respond in one of the following ways. The first is passive, where you apologise to your client, play down the problem, and say that, as the restaurant is full, you both will just have to adapt to the situation. Second, you could be aggressive, and tell the restaurant manager that you will leave unless he finds you a table at a better location. Finally, you could respond in a manipulative manner, telling the manager that you are planning to book a dinner for 10 people in his restaurant, but at the same time say that your table for today is not the best one and you will try to adapt to the situation.

These three behaviours are not negative in themselves; in fact they can be appropriate in some situations. The danger lies in over-using any one of them. An excess of passiveness, for example, can prevent us from expressing ourselves, while over-aggressiveness can lead to conflict. If we use manipulative behaviour too often, we will eventually lose the trust of others.

The fourth and final possible behaviour is assertiveness. This focuses on a constructive, mutually respectful approach. It is the quality of being self-assured and confident without being aggressive.[5] In this example, an assertive request to the manager could be, "I'm sorry but this table is not the one that I was expecting, what solution can we find together?"

When dealing with conflict, I recommend a universal approach based on 'saving face'. This approach is valid for both confrontational and non-confrontational cultures. When a project manager has to deal with a conflict between two of his team members, the logical response would be to bring the two together and try to understand what has happened: "We have a problem here; let's find the root cause." However, it is easy to imagine that if we go down this path, we will end up with two people blaming and accusing each other. To quote from *Getting to Yes: Negotiating Agreement Without Giving in* by Fisher and Ury, "If you ask two people why they are arguing, the answer will typically identify a cause, not a purpose."[6]

In the above example, the project manager needs to take the heat out of the situation and get those involved to talk about solutions rather than causes. This counter-intuitive approach is disruptive because it challenges our accepted way of dealing with conflict–to look for the cause before finding the solution. We need to realise that our accepted method is almost always doomed to fail. So instead of asking the two team members, "What happened yesterday?" the project manager should try asking, "How can you work together better tomorrow?"

Adaptive project management

There is a saying in Thai culture that translates to, "Don't let the past destroy the future". When managing change, project managers need to take cues from the present and always look ahead. When getting the buy-in of their team, they need to show the team what lies ahead by effectively communicating the benefits of the change. Throughout the process, they need to be able to acutely understand the 'hidden' cultural signals and keep their finger on the pulse of their team. These signals, once understood, can be used to develop a future-oriented approach to handling confrontations as they arise. I am convinced that if communication from leaders is of a high standard, change will succeed even in diverse cross-cultural contexts.

Francis Lotzer
is an International Training Consultant and speaker at IMS Trainings

References

1. Project Management Institute, "The High Cost of Low Performance: The Essential Role of Communications", Pulse of the Profession In-depth Report, May 2013.
2. Geert H. Hofstede, "Cultures and Organizations: Software of the Mind", New York: McGraw-Hill, 1997.
3. Richard Lewis, "When Cultures Collide: Leading Across Cultures", Nicholas Brealey International, 2005.
4. Sigmund Freud, "Five Lectures Psychoanalysis", 1978.
5. Sharon A. Bower & Gordon H. Bower, "Asserting Yourself: A Practical Guide for Positive Change", Hachette Books, 1991.
6. Roger Fisher & William Ury, "Getting to Yes: Negotiating Agreement Without Giving in", Penguin Group, 1981.

LEARN, ADAPT, AND MOVE ON

An interview with Rajesh Lingappa.

Rajesh Lingappa, co-founder and former chief technology officer of RedMart, talks about his entrepreneurial journey in the world of technology.

How did you start your entrepreneurial journey?

I moved to Singapore in 1997 to join a technology start-up that built document imaging products. That very year, we were hit by the Asian financial crisis and to survive, the company had to pivot rapidly into new areas like industrial automation, among others. So I learnt to adapt early on. Later in the year, we were acquired (read 'acqui-hired') by iSoftel, a telecommunications company. I spent a total of seven years in those two companies, where I learnt a lot, not just about tech and teams, but also how companies are run and the challenges they face—even though I was not an entrepreneur then. I learnt that it's not all cool and fun. You can have cutting-edge technology and the best customers, but you are helpless against external shocks.

In 2007, I had the opportunity to be a founding member of Random Connexion, a company that set out to find better ways of discovering just about anything on the Internet—products, people, news, etc. We had a great team and were doing good work, but we could not survive the funding crunch during the 2008 global financial crisis. Again, I learnt a lot from this experience. It was then that I joined Bubble Motion, a Singapore-based company backed by Sequoia Capital, as the Director of Engineering, and led the successful development and launch of their new iPhone and Android app, Bubbly. After a few years, as the app market became saturated, I felt I was ready for something new that would stretch my know-how and skills. That was when I came across an advertisement from RedMart.

It all happened quite quickly. I met the CEO of RedMart for 45 minutes over coffee to learn more about the business. He was very passionate about the idea. Initially, I was a bit sceptical: *How would an online grocery delivery model work in a small island-state like Singapore where things were already so convenient?* But by the time I got home from the meeting, I was convinced it could work. Supermarket trips are basically a chore and repetitive in nature. A bag of diapers or a carton of water is the same, whether it is delivered at home or bought in-store. The hours you save from doing grocery shopping can be put to good use elsewhere. And grocery is something that one needs regularly; it is not a one-off or once-in-a-while purchase. So I could see the customer value proposition in RedMart's business model. Second, though e-commerce was not new and technology *per se* existed in the market, e-commerce for a hard vertical like grocery required much more innovation. We had to get our head around sourcing, packing, and shipping orders of heavy, bulky, fragile, and perishable items, and even temperature requirements for products with very short shelf-life. And then there were inventory and back-end logistics. There was so much we could do in the space from a technology point of view and I was excited to build something from scratch. I was in.

What made RedMart stand out from its competitors?

When we started in 2011, e-commerce was not new and the basic technology already existed, so we had to clearly define our unique selling point (USP) in the vertical. The one word I would use for RedMart's USP is 'convenience'. If supermarket shopping is considered a chore by most people, then what can we do to make the online shopping experience easy and efficient? Normally, when you go to the supermarket, you would carry a shopping list with you and check things off it. So one of the first things we did was to come up with the 'My List' feature, which kept track of everything the customer had bought in the past, making repeat purchases easier. We built several features around this, including reminding customers that they may be running low on certain items. From a customer

You can have cutting-edge technology and the best customers, but you are helpless against external shocks.

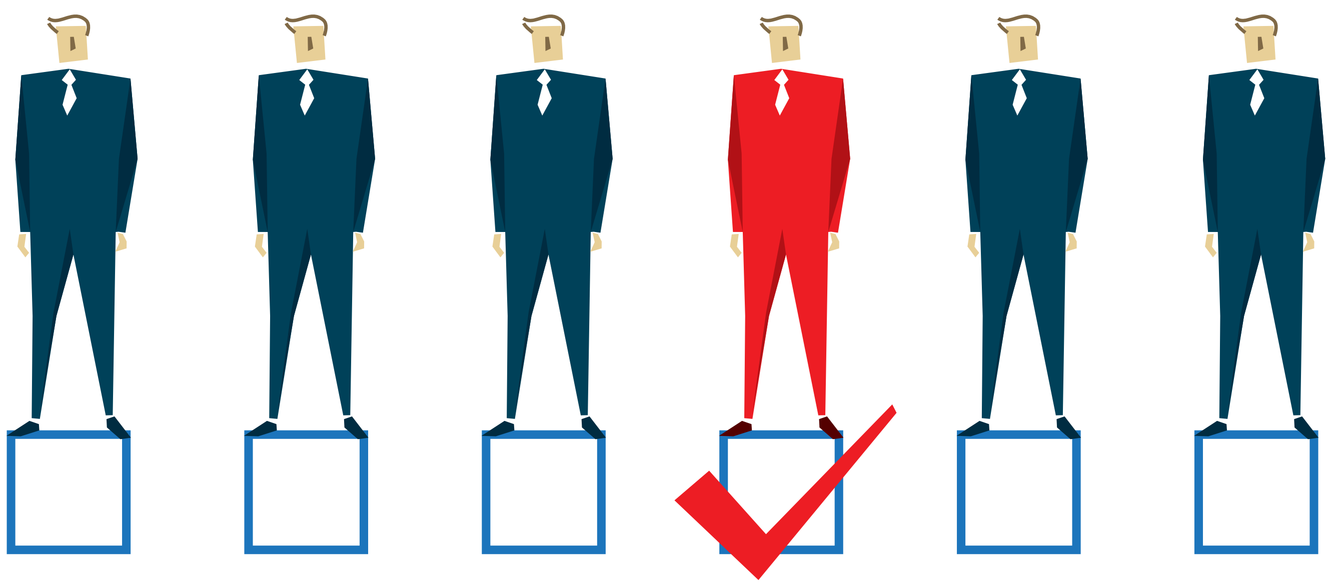
experience perspective, the aim was to make it easy and snappy so that they could finish their shopping quickly. This focus on simplicity or convenience existed from the get-go. Beyond convenience, the two other focus areas were price and selection. We had several initiatives to maintain price competitiveness. As for selection, besides listing tens of thousands of direct-retail products, the introduction of RedMart Speciality Stores (formerly Marketplace) was one of the cornerstones of service innovation that clearly distinguished us from other retailers.

Second, there was a wholehearted focus on service quality. One can have a great app and a robust catalogue, but if service is lacking, customers will not return to the site. We focused on offering superior service. On social media, our customers praised our service standards—they spoke about the politeness of RedMart delivery representatives and how our staff would help to place the goods inside their homes.

Third, our business is about trust. We recognised that it takes a while to develop this, especially for a new service. Will a mother trust RedMart when she buys baby food from it for her child? Typically, a new customer would start off with simple non-food items, and then move on to purchasing dry food items. Over time, once trust is established, they would start buying fresh vegetables and meat, etc. This is the normal life cycle of this vertical. In the process, we were constantly taking cues and receiving feedback from our customers. Over the years, we managed to establish strong trust with our customers, both in terms of product quality and service. In sum, with convenience, price, selection, service and trust, we created a unique position for ourselves in the market.

What role does technology play in the grocery vertical?

Technology plays a huge role in this vertical. It may sound clichéd these days, but RedMart is truly a tech company. Over a dozen of the tech domains we have are almost like start-ups in themselves. The company's reliance on technology is so much more than what one can see in the consumer-facing app. We use technology solutions for demand forecasting, purchasing systems, inventory management, transportation, warehouse automation, and logistics. We even have a purpose-built customer relationship management system, amongst other things. We had a strong focus on superior user experience with grocery-vertical-specific features in our consumer apps, which simplified the ordering process for our customers. And there is a lot more that happens in the back-end to service the demand and fulfil the service quality requirements. Although there were some off-the-shelf solutions available, none of them worked in our context, so for the most part, we had to build our own technology solutions from the ground up.



With convenience, price, selection, service and trust, we created a unique position for ourselves in the market.

How do you keep upgrading your skills?

I don't think there is any other field that is changing as rapidly as technology. I've been in the industry for two dozen years, and the pace at which things have evolved in the last five to six years is exponential. Back in the day, we would write a robust software, deploy it, and it would run well for a few years with some occasional updates and upgrades. But now, there is so much out there that one has to prudently choose what to pick and what to leave. To be able to make the right business decisions, you have to take time out regularly—be it during your commute, weeknights, weekends—to read and keep up-to-date with new technologies and solutions. It is a process of continuous learning and upgrading.

Knowledge is one thing and implementation is another. While it is important to know what is out there, we also need to have good judgement as to whether, and when, to apply it to our business. Just because something worked well elsewhere doesn't mean that it will work for us. It is important to strike a balance between being up-to-date and deriving business value.

After RedMart, what is next?

In the last quarter of 2016, RedMart was bought by Lazada, the flagship platform of the Alibaba Group in Southeast Asia. In early 2019, RedMart consumer apps were sunset and the RedMart experience was built into the Lazada app. I headed the technology side of this transition. In the 12 months that followed, we continued to migrate other parts of the technology onto the Lazada stack. As the company was in a good place from a tech perspective, I thought it was a good time to take a break.

Just because something worked well elsewhere doesn't mean that it will work for us. It is important to strike a balance between being up-to-date and deriving business value.

Right now, I am paying up the 'reading debt'. I buy a lot of books, many of which I hardly get the time to read, so I am catching up on my reading and picking up new tech. I am also looking at something that is close to my heart—mentoring entrepreneurs, helping start-ups get off the ground, and advising companies from different industries.

What is your advice to the new generation of entrepreneurs?

To begin with, I believe one must have razor-sharp focus and exercise ruthless prioritisation especially in the early days of entrepreneurship.

Test your hypothesis and don't expect it to always work. From the very beginning, you should have a set of metrics to guide you toward your goals. Measure what matters and ask an expert when in doubt.

Remember that as an entrepreneur, you are in it for the long haul. In the start-up world, days are long and years are short. Have the patience and commitment to work through the challenges.

I learnt early on that it's very important to keep a tab on spending. Be frugal.

Be ready to roll up your sleeves and do just about everything. Everyone at RedMart, including the tech team, used to do any and all the tasks that came our way on a need basis, including packing and delivering the products.

Don't let perfect be the enemy of good—there is no limit to perfection. Maturity is when one is able to say that "it's good enough" and move on.

Focus on the culture you wish to establish at the start-up. At RedMart, we are very proud of our culture and believe it is the one sustainable advantage the company has. The right culture helps attract and retain the best talent.

Finally, never stop learning.

CORPORATE GOVERNANCE

Of misses, awareness and improvements.

By Havovi Joshi

Nissan in Japan, Samsung in Korea, Pioneer Industries in Hong Kong, Kingfisher Airlines in India–what do these firms have in common? Each is a poster child firm from Asia known for its corporate governance failures. That is not to say that the Western world has not had its fair share of such companies; think Enron, WorldCom, Lehman Brothers, and Royal Bank of Scotland. The picture, however, is grimmer in the East because most Asian countries are not reputed for good corporate governance, commonly described as "the structures and processes by which companies are directed and controlled".[1] While key markets like Singapore, Hong Kong and Japan have already adopted corporate governance as well as stewardship codes, most other Asian economies, especially the frontier ones like Myanmar and Laos, are still struggling to ensure governance at the most basic levels.

Why is this so? History provides a perspective. Even as the developed world started pursuing the establishment of 'modern corporations' with dispersed shareholding, businesses in most parts of Asia continued to have a concentrated ownership structure. This was either due to the dominance of family firms, as seen in India, or substantial state ownership, such as in China and Vietnam. Colonialism did not help the matter, as the ruling powers were typically more interested in pursuing their own economic interests than establishing codes of governance and institutional safeguards. Hence, corporate governance in Asian countries, with the notable exception of Japan, really started only after the colonial period and the two World Wars.

Growing awareness

Asian countries began focusing on strengthening corporate governance after the 1997 Asian financial crisis. The crisis led to a surge of interest by governments in implementing robust frameworks in line with the OECD-listed corporate governance norms that ensured adequate protection of the interests of all stakeholders. However, with a weak institutional system set-up in most countries, and oftentimes a strong nexus between the political and business leaders of the country, the onus for ensuring corporate governance fell largely on the firm's board of directors. As Ma Cherry Trivedi, CEO, Myanmar Institute of Directors, argues, "Most businesses in Myanmar are family-run, with both the board and management run by the same set of people. So while we have a rulebook on corporate governance and the role of a director, who will investigate all the violations and ensure that penalties are enforced?"

This period also coincided with strong Asian economic growth when firms began to aggressively expand overseas. Consequently, they had to dilute their family/minority shareholding and go public, convincing the market that they had strong corporate governance frameworks in place. In Korea, businesses were dominated by the massive, family-run, global conglomerates, the *chaebols*, which were forced to move away from their largely paternalistic, Confucian style of working to adopt governance structures that were in line with the requirements of the international financial community. They had to adopt more of the Anglo-American style of corporate governance–increasing corporate transparency and accountability, recruiting independent directors and improving their financial reporting.[2] Also, in Japan, firms followed the traditional *keiretsu* structure of deep and strong invisible crossholding networks among companies, and their suppliers and customers. These firms needed to access capital from international finance markets

> While key markets like Singapore, Hong Kong and Japan have already adopted corporate governance as well as stewardship codes, most other Asian economies, especially the frontier ones like Myanmar and Laos, are still struggling to ensure governance at the most basic levels.

to fund overseas growth, and along with that came the condition to adhere to best practices of corporate governance. In China, there was a surge in corporate governance improvements that happened on account of a need to strengthen the governance of state-owned enterprises that were being listed abroad.[3]

The situation today

Today, while most countries in Asia have implemented a Corporate Governance Code or similar principles, there is still a considerable degree of variation across the continent–these could be 'binding' as in the case of Bangladesh, India and Vietnam; 'voluntary' as in China and Korea; or 'comply or explain' as seen in Hong Kong, Singapore and Thailand.[4]

The widely-awaited biennial survey by the Asian Corporate Governance Association and the Asia-focused brokerage CLSA on the ranking of corporate governance in Asia, released in December 2018, put Australia in the top spot, followed by Hong Kong and Singapore, and then Japan, which tied with India.[5] Both Hong Kong and Singapore were criticised because their stock exchanges had changed the rules in 2018 to allow companies to list with dual-class shares. These shares offered extra voting power to top executives but could also be potentially misused by company insiders. As for Japan, it had taken initiatives to improve corporate governance standards, with Prime Minister Shinzo Abe instituting Japan's Stewardship Code that applied to company boards in 2014, followed by the Corporate Governance Code for institutional investors in 2015. However, the country has since suffered the repercussions of the Carlos Ghosn/Nissan scandal. In India, there have

> Investors today will pay a premium for a well-governed company, particularly in emerging markets.

been several high-profile cases like Satyam Computer Services, where the founders/promoters were perceived as adopting autocratic management styles that brushed aside good governance norms. In addition, a number of sectors like banking and telecoms have been plagued by corporate governance challenges; the near collapse of Yes Bank in the earlier part of 2020 is yet another striking example of corporate governance failure. Overall, the report ranked China, the Philippines and Indonesia at the bottom as these countries were perceived as still having a way to go in terms of improving corporate governance.

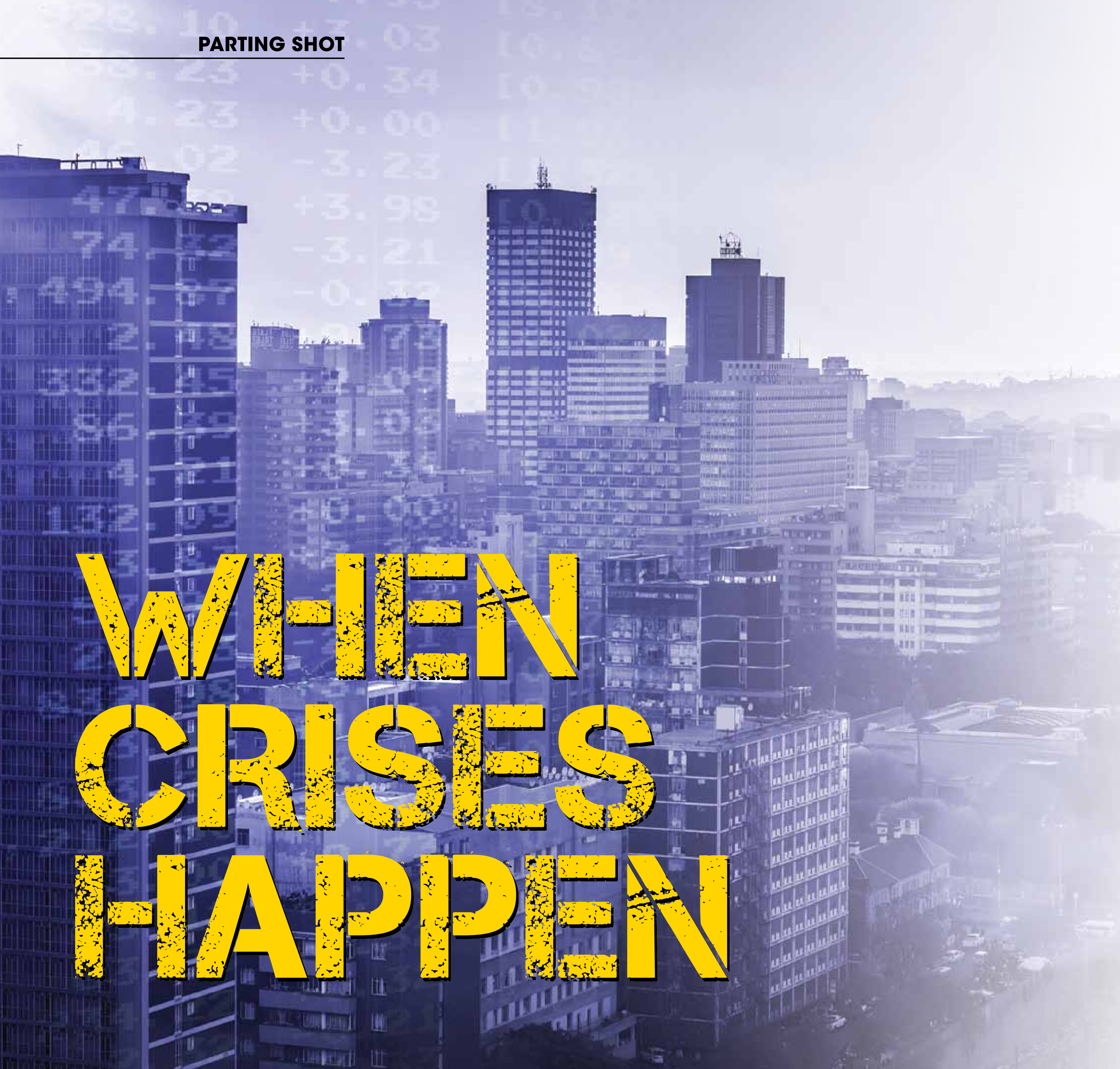
But why is corporate governance getting so much more attention today? The 2018 Global Competitiveness Report published by the World Economic Forum affirmed that poor performance on the 'institutions' pillar of its global competitiveness index, which includes corporate governance, continues to pull down the competitiveness of many Asian countries. It is quite clear that investors today will pay a premium for a well-governed company, particularly in emerging markets, and for the Asian growth story to continue uninterrupted over the next few decades, there needs to be a shift to a more robust and effective corporate governance framework. This framework will also have to be forward-looking, and include a focus on environmental and social factors, which we now term as 'ESG' (environmental, social and governance). Accordingly, organisations will need to adapt to this new focus and change how they behave, work and create value to stay relevant in the future.

Havovi Joshi

is the Editor-in-Chief of Asian Management Insights and the Director of the Centre for Management Practice, Singapore Management University

References

1. International Finance Corporation, "A Corporate Governance Approach Statement by Development Finance Institutions", October 2007.
2. G. Kirkpatrick, "The Corporate Governance Lessons from the Financial Crisis", OECD, February 2009.
3. Jamie Allen and Li Rui (Nana Li), "Awakening Governance: ACGA China Corporate Governance Report 2018", Asian Corporate Governance Association, August 2018.
4. OECD, "OECD Survey of Corporate Governance Frameworks in Asia", 2018.
5. Alun John, "Japan Slides in Key Asia Corporate Governance Ranking, Ties with India", Reuters.com, December 2018.



WHEN CRISES HAPPEN

Coronavirus and what we expect for global growth.

By Waqas Adenwala

The coronavirus pandemic presents a severe threat to global growth. Prior to the outbreak, global real GDP growth for 2020 was already expected to be lacklustre at 2.3 percent (at market exchange rates). However, the emergence of the epidemic in China and its rapid spread to the rest of the world is a game changer. It is expected to shrink the global economy by 2.2 percent, which is steeper than the contraction during the 2008 global financial crisis. The negative effect on growth will come via both demand and supply channels. Quarantine measures, illness, and negative consumer and business sentiment will suppress demand. At the same time, the closure of some factories and disruption to supply chains will create supply bottlenecks.

The hit for firms

The outbreak has created a direct spike in mortality rate and has prevented both patients and their carers from working. However, a bigger impact on labour output will probably come from the reluctance of employees to enter the workplace for fear of infection. This would have an obvious impact on labour-intensive manufacturing, but services companies could also be affected. Businesses will be forced to implement business continuity plans that may undermine efficiency. The use of public services globally will drop as people start to avoid crowded places.

The main concern will be how the viral outbreak affects consumer spending. Although the authorities aim to maintain public calm, there are already signs that panic has spread among the general public. This will weigh on consumer confidence and deter spending. Consequently, the fall in demand will cause firms to scale back their activities, which would result in higher unemployment as well. Downward shifts in local stock prices, resulting from the outbreak, would also have negative wealth effects. However, the presence of e-commerce means that consumers have platforms on which they can maintain their spending without having to visit brick-and-mortar establishments.

The government's top priority is to curb the spread of the virus. Aside from isolating those affected, it would probably continue to restrict people from travelling and/or curb goods being shipped from affected areas. This could lead to shortages of food, energy, and essential resources, and hinder critical business functions, although such forceful measures may have a better chance of bringing the economy back to normal more quickly.

There is a real risk of the global healthcare system not having sufficient resources to control the outbreak. This would mean that economic disruption could spiral down further and lead to higher healthcare costs. Consumers are already forced to cut their spending, especially on non-essential items, in order to afford treatment or to save money for contingency planning. For governments, rising expenditure on healthcare will also limit spending in other areas such as infrastructure.

The business sectors that will be hit the hardest are logistics, travel and tourism, as well as labour-intensive industries. Health- and life-insurance companies could see their costs go up, although in the long term they might benefit from increased awareness among the public about the benefits of purchasing insurance. More positively, pharmaceutical companies will see strengthened demand for vaccines and antibiotics. Potentially, there may be increased consumer spending on the Internet and communication services (including online entertainment and e-commerce platforms) and the electronic devices used to access them. The pandemic has also led to a surge in demand for services from firms like Netflix and Disney that are engaged in online streaming of content. While firms like Amazon are benefitting from higher demand for deliveries, the disruptions to supply chains have affected their delivery schedules.

Coping with the virus

Travel restrictions and other operational challenges will continue until the global emergency is brought under control. The most pressing concern for businesses is to assess the health of their employees. Businesses are likely to remain understaffed throughout the public health emergency; some employees may be stranded in severely affected areas owing to quarantine restrictions, and staff could also be stuck overseas owing to flight cancellations and disruptions to cross-border transportation.

Businesses need to revise budgets for 2020 as their previous assumptions about the economy are no longer valid. These adjustments should be communicated in a timely manner to investors and other stakeholders. Firms should stay alert to announcements of government stimulus and be ready to take advantage of the commercial opportunities they may create, such as subsidies for consumer goods purchases. In addition, firms will have to take into account their revised budgets for continued wage payments. To protect their business revenues during this difficult period, firms will have to take new initiatives. For instance, retailers that have been forced to close physical stores should more strongly embrace e-commerce, or firms should move into alternative business and product lines.

Companies may wish to put on hold their investment plans to ensure ample liquidity during this public health emergency. Domestic private firms, especially smaller companies, could be at risk of going out of business due to liquidity issues. Businesses may therefore aim to clear receivables as soon as possible and also be prepared for requests from business partners for extended credit. Companies may also consider sourcing alternative contractors, given the potential disruptions to domestic and international supply chains. This has especially been the case for manufacturers of medical devices as countries have imposed restrictions on their exports to prioritise domestic consumption. This has led to countries diverting existing resources to ramp up production of items such as hospital beds and hand sanitisers domestically.

To protect their business revenues during this difficult period, firms will have to create new initiatives. For instance, retailers that have been forced to close physical stores should more strongly embrace e-commerce.

Policymakers face difficult choices

Policymakers throughout the world are now left with some difficult choices. In early March, the Federal Reserve (or Fed, the U.S. central bank) announced an emergency interest-rate cut in response to the economic threat posed by the coronavirus. This is the first emergency cut and the largest single rate cut that the Fed has made since the global financial crisis. Several other central banks across the world also followed suit. However, some major central banks such as the European Central Bank and the Bank of Japan are greatly constrained in their response to the coronavirus outbreak, as their headline interest rates are already below zero. The only realistic course of action for major central banks would be to offer a programme for small and medium-sized enterprises that are hit hard by the coronavirus crisis.

Monetary policy constraints and the difficulties of shaping a co-ordinated monetary response at the global level mean that fiscal stimulus might be the only option for many developed countries to support growth. However, this is not a given as a coordinated fiscal stimulus appears unlikely even in regions like Europe. The issue remains extremely contentious between countries advocating for stronger fiscal integration and those that are fiscally hawkish. In addition, the introduction of fiscal stimulus measures in Italy, which is hard hit by the coronavirus, would further worsen the country's public finances and increase the medium-term risk of a financial crisis. Meanwhile, Japan's public debt already stands at almost 230 percent of GDP, the highest ratio in the world. It is hard to imagine that it could go much higher without becoming a systemic threat to the global economy, all the more so if global growth slows sharply. Finally, in many other highly indebted developing countries, fiscal stimulus would only raise the risk of a debt crisis down the road.

Is Asia fit to cope?

The coronavirus outbreak is affecting every economy in Asia right now. In China, the real GDP growth is expected to stand at only 1 percent in 2020, down from an estimated 6.1 percent in 2019. The shock in the first quarter will lead to much slower growth in private consumption, as millions of Chinese limit their movement (and thus their spending), and there is a softening of investment spending amid forced factory closures. China's export growth will also slow down, owing to the impact of factory closures, and—most importantly for the rest of Asia—import demand will also be diminished.

The issue remains extremely contentious between countries advocating for stronger fiscal integration and those that are fiscally hawkish.

Economies like South Korea and Japan that have registered a large number of cases will feel the impact of containment measures—which will hold back growth, especially as Chinese import demand falls. There are two main channels through which Asian economies are likely to be affected by the outbreak. The first is weaker tourism inflows, primarily from China. Economies with large tourism sectors that attract a high proportion of Chinese tourists are Hong Kong, Taiwan, Thailand, South Korea, Singapore, Malaysia, and Sri Lanka. The second transmission mechanism is through disruption to industrial supply chains. The economies with the greatest exposure are Hong Kong, Taiwan, South Korea, the Philippines, and Thailand.

Looking ahead

As the coronavirus spreads to other parts of the world, and the number of reported cases rises globally, economic uncertainty will persist at least till the end of the second quarter of 2020, dampening business sentiment, household consumption of non-essential goods, and travel and tourism. The containment measures (quarantine, social distancing and border restrictions) taken to curb the spread of the virus will constrain growth. All this will weigh on corporate earnings and negatively impact job creation and unemployment. Countries with underdeveloped healthcare systems and fragile fiscal positions will suffer the most. Meanwhile, financial markets have already been spooked even as the risk of a crash looms over the world.

Once the outbreak is contained, factories and offices can reopen, and pent-up consumer and investment demand will provide some stability for growth. This should also result in stronger import demand, providing some relief for beleaguered businesses.

The reliance of the global economy has been put to the test, but we will see a bounce-back in activity, employment, and growth eventually. The million-dollar question is: When?

Waqas Adenwala
is Asia Analyst for the Economist Intelligence Unit

Reference
Economist Intelligence Unit, "Coronavirus: What we Expect for Global Growth?", March 17, 2020


24
SALE
%