ASIAN Management Insights

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Nurture & Grow Entrepreneurship

Southeast Asian universities can pave the way

10TH ANNIVERSARY
SINCE 2014

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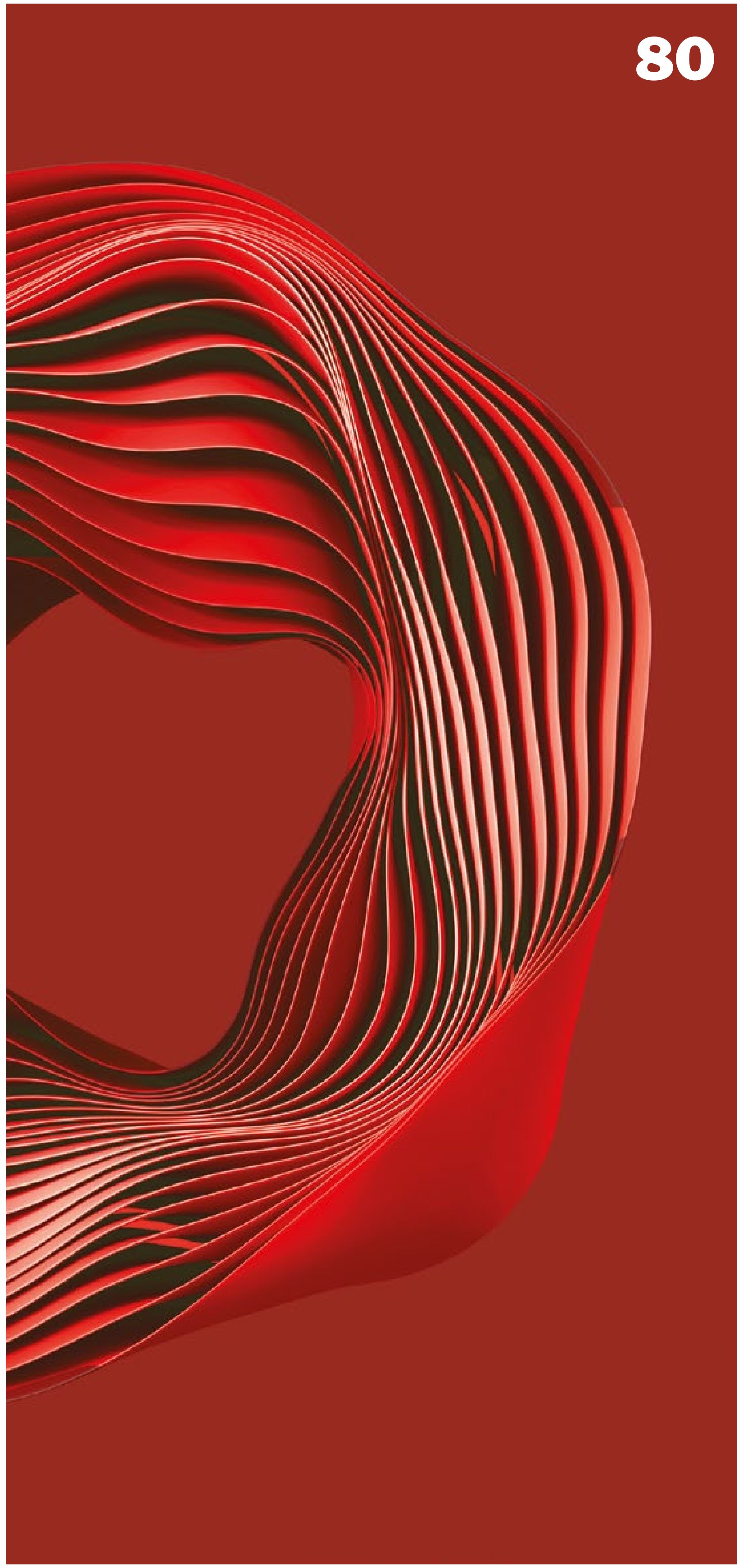

Whether in the classroom or the marketplace, there's no perfect formula for innovation and entrepreneurship

Successful innovation is never easy, and the fine line between creating the next tech unicorn and the next failed start-up often lies in the founders' capacity to learn from both their successes and setbacks.

Higher education plays a key role in shaping future entrepreneurs. However, traditional business curricula, with disciplines like accounting and marketing, while essential, are becoming increasingly inadequate. Sun Sun Lim and her colleagues argue that Southeast Asian universities can provide valuable networking and knowledge-sharing opportunities to foster innovation and entrepreneurship (I&E).

I&E is also vital for established businesses. Daryl Ng, Deputy Chairman of Hong Kong's Sino Group, highlights the Group's innovation platforms and ecosystems aimed at driving Hong Kong's growth and positioning it as an international innovation hub. He advocates for the city's renewed economic and cultural ties with ASEAN post-COVID to build new capabilities and global connections.

Meanwhile, Tata Group exemplifies how to embed innovation within a large organisation. Through its Open Innovation initiative, Tata matches 'seekers' with 'ideators' across its vast network, fostering a collaborative culture that drives change. Reddi Rayalu Kotha, Lipika Bhattacharya, and Ravi Arora explore this approach in depth.

How does working from home affect innovation? Andrew Heng's research indicates remote work can hinder employee creativity, particularly in Chinese culture which relies on dynamic face-to-face interactions, especially for women. Finding the balance between remote efficiency and effective innovation will thus be crucial.

On technology and innovation, Tom Davenport believes Artificial Intelligence (AI) is unlikely to cause widespread job displacement in the next decade. He reckons human-AI collaboration will yield the best outcomes, though measuring the effectiveness of technologies like Generative AI or GenAI remains challenging. Data will be a key success factor.

Aaron Tan, co-founder and CEO of online car marketplace Carro, a tech unicorn, also underscores the importance of a data-centric culture. He reminds his 5,000 employees of Carro's value: "We are not a car dealer; we are a tech company."

Industry giants like Apple and Microsoft dominate their ecosystems, setting standards and terms for suppliers. Chen Liang points to a group of companies called 'complementors' that create products and use cases for these suppliers. His research suggests that supplier-complementor alliances can help suppliers mitigate risks associated with overdependency on a single ecosystem leader, and add value that benefits everyone, including ecosystem leaders.

Singapore's hosting of Taylor Swift's *The Eras Tour* concerts generated an estimated S$500 million in tourism receipts and invaluable global coverage for its burgeoning 'cultural economy'. Koh Buck Song argues that while such events boost Singapore's country brand, investment in local arts is also crucial to the nation's balanced and sustainable development.

In this issue's 'Case in Point', Patricia Lui and her co-authors detail how the second-generation leaders of footwear maker DMK have refreshed the brand and strengthened its digital capabilities to address slowing growth attributed to the chain's dated offerings.

Large-scale infrastructure public-private partnerships (PPPs), such as India's Hyderabad Metro Rail Project, impact multiple stakeholders. Vijaya Sunder M and his co-authors present an 'orientation precedes strategy' approach to PPPs that would facilitate effective PPP stakeholder management by generating wider societal acceptance and stronger financial viability for stakeholders.

For Southeast Asia's MSMEs (micro, small and medium enterprises), the current funding winter is dampening ambitions. Shoeb Kagda argues that this window could be used to re-educate the region's MSMEs on the fundamentals of running a business.

And finally, as we celebrate a decade of thought leadership, our issue's refreshed look symbolises our very own commitment to continual innovation. We look forward to the next decade and beyond to inform and inspire decision-makers worldwide!

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Asian Management Insights (ISSN 2315-4284) is published thrice a year by the Centre for Management Practice, Singapore Management University, 81 Victoria Street, Singapore 188065.

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INNOVATING TODAY TO BUILD A SUSTAINABLE TOMORROW

Daryl Ng, Deputy Chairman of Hong Kong-based real estate property developer Sino Group, speaks about his ideas and ideals on the built environment, sustainability, and how business and innovation can be a force for good.

As someone who has lived and worked across multiple geographies and cultures, how have these experiences shaped your world views, especially regarding your business decisions and public service involvement?

I was born and brought up in Hong Kong. I've also lived in the US, where I attended boarding school in Connecticut and then studied at Columbia University, New York. In addition, I have served in Singapore's National Service (NS), which is its conscription system. These experiences enabled me to make friends with people from diverse backgrounds, and gain exposure to multiple cultures and systems. In Singapore, everyone serving NS was treated the same, regardless of their background, and that taught me very good life lessons. I am grateful for all these experiences.

I am a firm believer of globalisation and sustainability, which I have experienced first-hand in my studies and work. I also believe that the business community has a crucial role in making our world a better place, from building a more sustainable and resilient world to serving those in need, all while harnessing new technologies and preserving cultural heritage.

From a young age, I have been captivated by how the built environment influences our lives, well-being, and productivity, especially how we interact with the world around us.

I studied economics for my undergraduate degree and real estate development for my postgraduate degree at Columbia University. I joined Sino Group in 2003 and spent the first few years working very closely with the Projects team on development and management. There I learnt from architects and engineers about delivering quality projects, from planning to architectural design and total quality management.

These experiences continue to benefit me today and reinforce my commitment to delivering good spaces for people to live, play, and most importantly, enjoy. In a nutshell, it's about how to make people's lives better. This ethos has been integral to Sino Group's mission of 'Creating Better Lifescapes'–where the community thrives in harmony by embracing green living and wellness, pursuing meaningful designs, and seeking innovation while respecting heritage and culture. This is something we have been doing for more than half a century, and we will continue to do so for the years to come.

I am fortunate to have had the opportunity to work in Hong Kong and Singapore–both are amazing metropolises connected to the world and have their respective catchments, thanks to their geographical locations and histories. Connectivity is integral to the development of these two great cities, which have been serving as global trading, logistics, and financial centres.

You have advocated for Hong Kong to have "meaningful re-internationalisation" with ASEAN. What has shaped your views towards such a vision? What more do you feel needs to be done?

There have been significant shifts in geopolitics on the global stage. There are new challenges, and at the same time, there are new opportunities. More than ever before, we need to maintain relationships with our partners, and ASEAN, as the Association of Southeast Asian Nations is commonly referred to, is an important area of opportunities. Hong Kong enjoys deep-rooted economic and cultural ties with ASEAN that have spanned more than a century. The numbers say it all. ASEAN was Hong Kong's second largest trading partner in merchandise trade in 2021 while its member states were among the top four destinations for Hong Kong's direct investments in 2020.

It is in this spirit that I founded the Hong Kong-ASEAN Foundation, an independent platform seeking to promote and deepen relationships and exchanges with ASEAN. It is my wish to make use of my network and experiences to contribute and collaborate with like-minded partners.

You are very receptive towards innovation and emerging technologies. How have you brought in innovation to your business and non-profit commitments?

Innovation is key to the sustainable development of our company and community. We are investing in our capabilities to innovate. For instance, we established Sino Inno Lab in 2018 as a sandbox platform for start-ups and technology companies to facilitate co-creation. Earlier this year, we launched the second Sino Inno Lab at One North, the Group's latest commercial project in Hong Kong's Northern Metropolis. Complementing the second Sino Inno Lab is The Spark, a dedicated exchange platform accelerating the development of innovative solutions and co-creations across a wide spectrum of areas while better connecting Hong Kong to the Greater Bay Area and mainland China. These developments put us in a good position to capitalise on the Northern Metropolis initiative and the innovation ecosystem in the Greater Bay Area, which will be conducive to Hong Kong's growth into an international innovation and technology hub.

The Sino Inno Labs are part of the holistic innovation ecosystem we're seeking to build through the Hong Kong Innovation Foundation, a not-for-profit platform I established in 2018. Taking a holistic approach, we seek to serve different sectors of the community. For example, the coding classes and activities at Olympian City (OC) Science, Technology, Engineering, and Mathematics (STEM) Lab target young students by supporting their education and facilitating their upward mobility, while Sino Inno Lab supports corporate innovation and co-creation. In addition, the Hong Kong Science Fair showcases innovative creations by primary and secondary school students to the public.

We have also been running Sinovation, a corporate incubation programme for Sino Group staff. Through Sinovation, we scale solutions provided by our colleagues to address daily operations issues. I continue to be impressed by their creative ideas.

Other tech-for-good innovations we have been working on include EcoBricks and Archireef. We have worked with Hong Kong local start-up EcoBricks on a breakthrough solution to upcycle all seven major types of plastic into sustainable construction materials, thanks to its proprietary process and formula. The low-energy, 100-percent cold production process entails no heating or melting of waste plastic, eliminating harmful emissions or pollutants. Up to 50 percent of aggregates in concrete bricks can be replaced with plastic waste, meaning that up to 2,000 kg of plastic waste can be diverted from landfills for every 100 square metres of EcoBricks produced, which is equivalent to 200,000 plastic bottles. EcoBricks have been used at OC, Gold Coast Piazza and The Fullerton Ocean Park Hotel, with more to come. We shall also encourage the participation of tenants and stakeholders to drive a circular economy.

CORAL REEFStoration is our collaboration with the University of Hong Kong, the Hong Kong Ocean Park, and local start-up Archireef. It is also the first cross-sector coral conservation and restoration project in Hong Kong. The project features the world's first specially designed 3D-printed terra cotta reef tiles. Once attached to the tiles, corals will begin to grow, and the organic structures will provide habitats for more organisms, thus supporting marine biodiversity. We plan to regrow 20 square metres of coral habitat in the southern part of Hong Kong Island. So far, we have made good progress with the first batch of 7.5 square metres of coral habitat regrown and deployed.

Most people associate 'urban sustainability' with simply planting more trees and overlook the social and economic aspects. What more can we do to promote a better understanding of this term?

Sustainability is how we create value, grow more resilient, and thrive together; it is more than planting trees or reducing the consumption of resources. In fact, it is an attitude.

Green is integral to sustainability, and indeed an important part. We are observing reports of extreme weather with torrential rain, floods, and storms in many parts of the world, and in well-established cities such as Hong Kong, we are seeing the impact first-hand. For instance, we're experiencing warmer and shorter winters, heavier rain, and more frequent and stronger typhoons, so there is a pressing need for sustainability efforts.

At Sino, we integrate sustainability into all aspects of our business and operations, as we seek to create long-term value for stakeholders and communities, as well as ensure that we grow more resilient together. By harnessing new technologies to enhance construction productivity, and optimising power consumption through the use of renewable energy and green transport, we are doing our bit to contribute to a more sustainable built environment. For instance, we have installed more than 4,000 solar panels at properties under our management in Hong Kong, generating more than 1.04 GWhr per annum, which is enough to support the power consumption of 315 three-person households.

I established Sino Group's Sustainability Committee in 2010, which became the Environmental, Social and Governance (ESG) Steering Committee in 2020. Comprising executives from various business units, the ESG Steering Committee formulates sustainability strategies and assists the Board in the execution. We continue to make strides on the sustainability journey with the publication of our Sustainability Vision 2030 and Decarbonisation Blueprint, as well as the development of climate risk assessment tool, and the earning of a green building certification. Other initiatives include harnessing renewable energy, driving digitalised property development, enhancing operational efficiency with the help of Artificial Intelligence-powered solutions, and joining global calls-to-action such as the United Nations Global Compact and Business Ambition for 1.5ºC, among others.

We endeavour to serve those in need to make our community a more compassionate place. The Ng Teng Fong Charitable Foundation was established in 2010 in memory of my late grandfather. The Foundation focuses on supporting education, arts and culture, medical services, heritage, and other charitable causes across mainland China, Hong Kong, Singapore, and other parts of the world. Recent efforts include the Community Living Room initiative led by the Hong Kong Government, with the Pilot Programme launched in December 2023. Feedback is very positive, with work on the second Community Living Room underway, demonstrating the possibilities of tripartite collaboration among the government, the business sector, and the community to support underprivileged families.

> I believe that the business community has a crucial role in making our world a better place, from building a more sustainable and resilient world to serving those in need.

Sino Group and the Ng Teng Fong Charitable Foundation have also worked on Wellness Lodge, a transitional housing project for underprivileged families that are on the waiting list for public housing in Hong Kong. Wellness Lodge provides 85 units ranging from 125 to 190 square feet (11.6 to 17.7 square metres) in size at preferential rents. Each unit is equipped with an open concept kitchen, a bathroom, and a living and dining room. Accessible facilities are provided to cater to the needs of elderly residents and the physically challenged. The project also provides a farming area and cosy space for families to engage in various activities, in addition to a multi-purpose room for classes and STEM-related activities for children. The first batch of residents moved in earlier this year.

Heritage is another crucial part of our sustainability efforts. It defines who we are and bridges to the future. We have worked on a number of memorable heritage revitalisation projects, one notable example being the conversion of the historic Fullerton Building in Singapore into the beautiful hotel now known as The Fullerton Hotel Singapore, as well as The Fullerton Heritage project to develop the surrounding area into a world-class and vibrant cultural and entertainment waterfront precinct.

In Hong Kong, our family set up the Hong Kong Heritage Conservation Foundation in 2008 to help preserve the city's collective memories and foster stronger community bonds through the revitalisation of historic buildings. One project that is particularly close to my heart is the revitalisation of the Old Tai O Police Station. Originally built in 1902 and now designated as a Grade II historic building, i.e., a building deemed by the Hong Kong Antiquities Advisory Board to be of special merit and should therefore be selectively preserved, the former marine police station has been given a second life as Tai O Heritage Hotel, an architectural gem that is uniquely Hong Kong. The hotel, which opened in March 2012, operates as a not-for-profit social enterprise, using local culinary specialities, and providing jobs for Tai O and Lantau residents. It has welcomed more than two million visitors from Hong Kong and overseas, and won over 30 local and international accolades, including the Award of Merit from the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation in 2013, making it Hong Kong's first UNESCO-awarded hotel.

Who has shaped your life, especially how you lead? As a third-generation business leader, what are your thoughts about your legacy?
I am humbled by the guidance of my grandfathers, my father, and my uncle, as well as the trust they have placed in me. They have all shown exemplary leadership. My paternal grandfather, the late Ng Teng Fong, an outstanding businessman with foresight, had founded Sino Group and Far East Organization, and laid the foundation for our development. My maternal grandfather, the late Professor Yeoh Ghim Seng, Singapore's longest-serving Speaker of Parliament to date with a tenure of 19 years, taught me the importance of public service, especially helping the underprivileged. My father, Robert Ng, who is Chairman of Sino Group, imparted to me important values such as integrity, discipline, the quest for excellence, attention to detail, customer-centric ethos, and walking the extra mile. My uncle Philip Ng, CEO of Far East Organization, is my mentor on the business landscape in Singapore and Southeast Asia.

We must hold on to our common vision of being inclusive, caring, cooperative, efficient, and hardworking. It is how our pioneers built our societies and launched one miracle after another. I see the staggering achievements and innovations our youth are capable of when given suitable opportunities. I am keen to pass on these family values to my children, and I share our family philosophies and my own experiences with my son to help prepare him for the future.

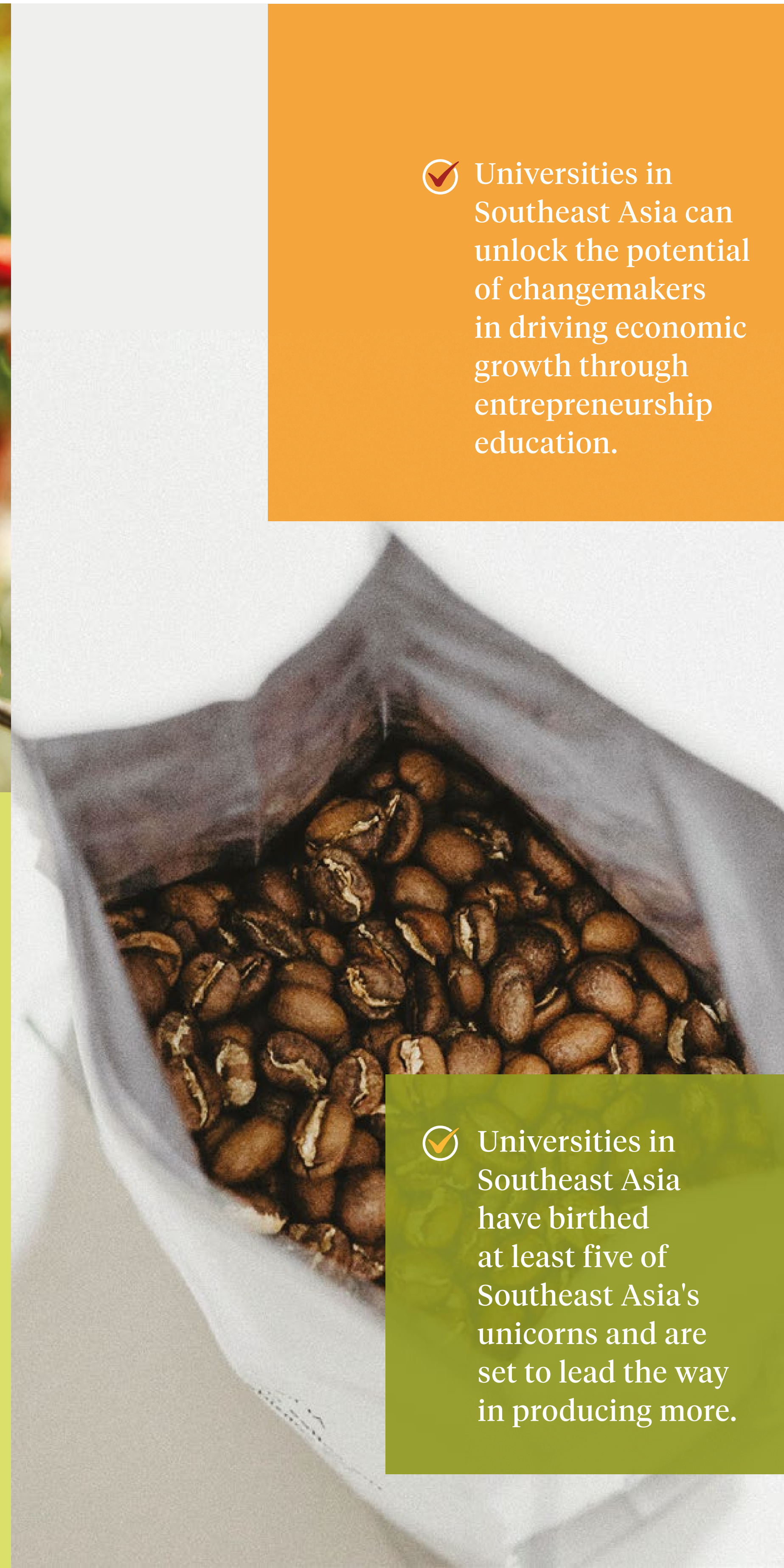
Our future lies in leveraging our strengths while building new capabilities and being connected to the world. Co-creating this future requires all of us to take the initiative together.

We must hold on to our common vision of being inclusive, caring, cooperative, efficient, and hardworking. It is how our pioneers built our societies and launched one miracle after another.

by Sun Sun Lim, Abdullah Khurshid, Dexter Tan Ye Kai, and Gabrielle Tan Lay Khim

Nurturing Entrepreneurship *and* Growing Entrepreneurs

How Southeast Asia's universities can pave the way.



- Universities in Southeast Asia can unlock the potential of changemakers in driving economic growth through entrepreneurship education.

- Universities in Southeast Asia accelerate the growth of the ASEAN start-up ecosystem by facilitating technology commercialisation, leveraging regional networks for mentorship and funding, and fostering cross-border collaborations.

- Universities in Southeast Asia have birthed at least five of Southeast Asia's unicorns and are set to lead the way in producing more.

What does it take to be an entrepreneur and what conditions are ideal for allowing entrepreneurial ideas to take flight? In a fast-changing region like Southeast Asia, we are seeing bursts of entrepreneurial drive that are transforming cities, livelihoods, and lifestyles in positive and significant ways. Just think about the likes of ShopBack changing the face of digital payment, enabling consumers to earn cash rebates or 'cashback' on their everyday purchases. Or how Gojek has made commuting, food delivery, and digital payments a breeze while online automotive marketplace Carro has taken the grief out of purchasing big-ticket items like cars.

Whereas one could certainly attribute entrepreneurial success to the element of chance and the positive qualities of a company's founders, it is worthwhile to ponder how institutions such as universities can help promote entrepreneurship and, historically, what notable contributions they have made in fostering innovation and entrepreneurship (I&E). This article reflects on the role of universities in driving I&E by shining the light on Southeast Asia. It first sets the stage by painting a broad overview of the region's dynamic economy and high-growth areas before unpacking the position of I&E. It then discusses how universities can marshal distinctive resources and strengths to nurture entrepreneurship and grow entrepreneurs. Finally, it highlights how Southeast Asia's universities have supported I&E through individual and collective efforts, and what more they can do in the fast-changing technologically-disrupted landscape.

But first, let us take a step back to reflect on the experiences of some young Southeast Asian entrepreneurs and their paths to success.

SOUTHEAST ASIA'S ENTREPRENEURSHIP SUCCESS STORIES

ShopBack, founded in 2014 by Henry Chan and Joel Leong, disrupted the e-commerce landscape by offering cashback rewards to online shoppers. Inspired by the success of similar platforms in the US, Chan and Leong recognised the untapped potential of the Southeast Asian market. Despite investors' initial scepticism and the challenges in building partnerships with e-commerce merchants, the ShopBack founders persevered. Over time, their innovative business model, coupled with strategic expansion into multiple markets, propelled ShopBack to become Southeast Asia's leading cashback platform. Today, ShopBack boasts millions of users and partnerships with thousands of merchants, solidifying its position as a trailblazer in the region's vibrant e-commerce ecosystem.

Gojek, founded in 2010 by Nadiem Makarim (now Indonesia's Minister of Education, Culture, Research, and Technology) and Michaelangelo Moran, revolutionised Indonesia's transportation and delivery services landscape. Nadiem, inspired by Jakarta's motorcycle taxi culture, envisioned a platform that could offer urban dwellers affordable and convenient transportation options. The founders faced strong headwinds in the form of regulatory challenges and fierce competition from traditional transportation providers but pressed ahead, nevertheless. Through hard work and perseverance, they expanded into food delivery, payments, and other services which further solidified Gojek's position as Indonesia's leading super-app. Today, Gojek serves millions of users across Southeast Asia, offering a wide range of services that is virtually indispensable in daily life.

Carro, an online car marketplace founded in 2015 by Aaron Tan and his college friends Aditya Lesmana and Kelvin Chng, achieved the coveted US$1 billion unicorn status in 2021. The company's name is a portmanteau coined by combining 'car' and 'hero'. Carro swiftly disrupted the car-buying process with its Artificial Intelligence (AI)-driven platform by providing consumers with a transparent, hassle-free experience. Through Carro's innovative online marketplace, users can browse a wide selection of pre-owned vehicles, replete with detailed information and transparent pricing. Moreover, Carro introduced services such as financing, insurance, and warranty options, thus simplifying and streamlining the entire car-buying journey. Building trust and credibility was the cornerstone of Carro's success. By prioritising customer satisfaction and transparency, Carro quickly gained traction and garnered a loyal following to become a leader in the automotive marketplace, expanding its reach across Southeast Asia and beyond.

A REGION RIPE FOR INNOVATION

These individual success stories, distinctive as they are, also reflect broad trends in the region from which they emerged. Indeed, over the past few years, Southeast Asia has captured global attention with its remarkable economic growth. This trajectory is bolstered by international agreements positioning the region at the heart of global trade and connectivity.[1] As the world's third most populous region, its economy has flourished due to its young demographic, rising incomes, and urbanisation, resulting in a thriving middle class.

Another vital component of this growth is the digital economy, which has expanded more than

The digital economy drives inclusive growth, providing income-generating opportunities for informal workers and enabling the scaling of small businesses.

eightfold since 2016 and is expected to outpace broader economic growth.[2] The e-commerce sector in particular has become integral to the daily lifestyle of the region. Regional businesses are adapting to the needs of digital consumers,[3] improving country standings on the Global Innovation Index.[4]

Significantly, the digital economy drives inclusive growth, providing income-generating opportunities for informal workers and enabling the scaling of small businesses. Major platforms like Lazada, Shopee, and Tokopedia are key pillars by connecting businesses to serve the growing middle class with a wide array of products, tailored to suit regional tastes and meet logistical needs. Such platforms not only facilitate consumer access to goods but also significantly impact the development of fulfilment logistics, as the demand for efficient, timely deliveries escalates.

Relatedly, the financial technology (fintech) sector is an ever-growing vertical driven by rising consumer demand for cashless payments, technological advancements, the growing needs of the underbanked, and robust government support. The market is projected to reach US$30 billion by 2025,[5] bolstered by a youthful, digital-savvy population, and friendly policies such as regulatory sandboxes and digital banking licences. Key players in the region include fintech start-ups like Grab Financial Group, SeaMoney, Ajaib, Endowus, and GoPay, which are diversifying their offerings beyond basic payment solutions to encompass lending, insurance, and wealth management. With this growing suite of players, the previously underbanked population now benefits from novel and viable financial solutions.

Clearly, technological innovation has been a critical engine of the region's striking economic growth trajectory and start-ups have been the key drivers. To be sure, local governments have recognised the value of the start-up ecosystem, investing in various long-term initiatives, while the venture capital community has invested in promising founders and entrepreneurs who have proved their mettle. The region's youth, inspired by successful entrepreneurs, represent a key resource for further advancements in I&E.

UNIVERSITIES AS CRADLES OF I&E

Universities contribute in a significant way to I&E. They play a pivotal role in championing I&E, nurturing entrepreneurial talent during their formative years with unique institutional resources and networks. They offer academic programmes, student-led initiatives, research facilities, technology commercialisation capabilities, venture support programmes, and international exposure. Universities also foster collaboration with industry, government, and private sector partners, facilitating investments, knowledge sharing, and strategic partnerships. Successful university-led ventures also demonstrate the potential of leveraging academic assets to drive I&E.

University Resources	How They Help Nurture Entrepreneurs and Entrepreneurship
Academic Programmes	Foundational education and knowledge about entrepreneurship to enable students to take the first steps in starting a business
Student-Led Initiatives	Peer-to-peer communal and social support, knowledge transfer between seniors and juniors, and expanding networks
Incubators	Business development programmes that help entrepreneurs test proofs-of-concept, build market-ready products, and secure funding
Network Expansions	Access to investors, mentors, corporates, partners, and faculty that would be extremely challenging if they were to source it themselves
Technology Transfer	Commercialisation of research initiatives of faculty members by supporting them in both administrative matters and business development
Research Facilities	Access to equipment and resources to experiment in cutting-edge fields, especially in DeepTech. Some research facilities are also in collaboration with corporate partners that leverage their proprietary assets and knowledge
Wide-Reaching Platforms	Conferences, competitions, and market expansion programmes which provide great exposure and coverage

Nevertheless, we should ask ourselves this question: Can entrepreneurship be taught and if so, how best to do so? After all, there is a distinction between traditional education, which often focuses on imparting technical skills and knowledge, and the multifaceted nature of entrepreneurship, which demands a diverse array of qualities including creativity, resilience, adaptability, and the ability to take calculated risks in the face of uncertainty. Can these qualities truly be cultivated in a classroom setting?

The answer, it seems, lies in a nuanced understanding of the role of entrepreneurship education in shaping the entrepreneurial mindset, and providing aspiring business owners with the tools, frameworks, and resources to navigate the complexities of the modern business landscape. While some individuals may indeed possess a natural inclination towards entrepreneurship, entrepreneurship education can play a crucial role in unlocking the latent potential within individuals who may not have previously considered themselves entrepreneurial.

By exposing students to real-world case studies, interactive simulations, and hands-on projects, educators can help individuals develop the critical thinking, problem-solving, and decision-making skills essential for entrepreneurial success.

University-run incubators also provide a safe space for students with entrepreneurship aspirations to test their ideas, work with

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Notably, at least five Southeast Asian start-up unicorns, including Patsnap, Carro, and shopping platform Carousell, were nurtured within an academic environment.

like-minded collaborators, develop prototypes, and seek expert advice. Through experiential learning opportunities, these students can gain valuable insights into the entrepreneurial process, from ideation and market analysis to business model development and venture scaling.

Moreover, entrepreneurship education can foster an environment of innovation and creativity, providing students with the tools and frameworks to identify opportunities, develop innovative solutions, and bring their ideas to market. By encouraging experimentation, risk-taking, and interdisciplinary collaboration, entrepreneurship programmes can inspire students to think outside the box and challenge the status quo, driving improvements and innovation in various industries.

However, it is essential to acknowledge the limitations of entrepreneurship education. While it can provide valuable knowledge and skills, it cannot guarantee real-world success. The entrepreneurial journey is inherently risky, marked by challenges, setbacks, and failures, and no amount of education

can eliminate these inherent risks. Furthermore, entrepreneurship is not solely about profit-making ventures; it is also about creating value and making a positive impact on society. Therefore, entrepreneurship education must go beyond traditional business models, and also emphasise the importance of social impact, sustainable business practices, and ethical leadership.

Ultimately, the question of whether entrepreneurship can be taught is not a simple dichotomy of yes or no. Rather, it is a complex interplay among a person's innate drive, education received, and experiential learning. While some aspects of entrepreneurship may be inherent, there is undeniable value in providing aspiring entrepreneurs with the knowledge, skills, and mindset necessary to thrive in today's competitive business environment. As educators, policymakers, and business leaders, we must continue to invest in entrepreneurship education, creating inclusive and accessible opportunities for individuals from all backgrounds to pursue their entrepreneurial ambitions. By doing so, we can unlock the potential of the next generation of innovators and change-makers, driving economic growth, social progress, and meaningful change in the process.

Implementing a regional mentoring platform, inspired by proven models, would be a wide-reaching and impactful way to address disparities across universities in Southeast Asia.

I&E SUPPORT IN SOUTHEAST ASIAN UNIVERSITIES

Southeast Asia's start-up ecosystem holds immense potential, and universities are crucial in realising this potential. The rise in tertiary education enrolment, fuelled by the region's economic development, sets the stage for a growing pipeline of potential entrepreneurial talent. Notably, at least five Southeast Asian start-up unicorns[6], including Patsnap, Carro, and shopping platform Carousell, were nurtured within an academic environment. Furthermore, research reveals the distinct value of formal education in cultivating successful entrepreneurs[7], and that start-ups with founders holding at least a bachelor's degree are more likely to achieve unicorn status.[8] Additionally, universities serve as neutral platforms for facilitating public-private partnerships, making them ideal settings for fostering and meeting the needs of the start-up ecosystem.

Beyond individual universities, networks and groupings can amplify discrete efforts for collective impact. This is where the ASEAN University Network-University Innovation and Enterprise (AUN-UIE) group of universities is uniquely positioned to catalyse the region's I&E development. Established in 2018, the AUN-UIE is one of the 17 thematic networks of the AUN. Principally, it is tasked with strengthening and leveraging the innovative capacity of universities in ASEAN, providing a space for research and academic cooperation, and equipping current and future generations of ASEAN students with technological competencies and innovative thinking. Comprising 15 member universities including the two co-chairs Chulalongkorn University in Thailand and Singapore Management University (SMU), the network has come together to forge a community actively sharing knowledge of activities, challenges, and best practices relevant to developing I&E ecosystems.

Looking ahead, we believe that greater collaboration can yet be realised in the areas of data management, technology commercialisation, funding, internationalisation, and mentorship. For data management, one possible initiative is a Centralised ASEAN Repository for Start-up Data, which could be set up in collaboration with AUN-UIE universities. The repository can seek to unify the regional start-up ecosystem, enhancing data-driven strategic planning and collaboration. It can also spur engagement with the private and public sectors to spotlight innovation opportunities in the region. This includes collaborations between corporate innovation labs and start-ups, joint Intellectual Property (IP) development with global research institutes, and data utilisation for policymaking by government agencies. Such a database would also increase the visibility of ASEAN start-ups, attracting venture capital and fostering an interconnected ecosystem.

To boost commercialisation, another potential initiative to put forward is the establishment of a regional knowledge platform for technology commercialisation within the broader AUN. The knowledge platform aims to leverage the collective knowledge, experience, and resources of AUN members through workshops and seminars, both in physical and digital formats to enable peer-based learning. These would not only serve the academic community, but also allow the public and private sectors to understand the perspectives of the universities and facilitate tripartite dialogue. In the long run, these collective best practices and experiences can be synthesised to develop comprehensive frameworks and methodologies applicable to technology commercialisation. Such synthesis could lead to the establishment of a standardised programme or a professional certification programme, aimed at equipping university staff across the region with the necessary skills for effective technology transfer activities to fully exploit university-based research and development assets.

With regard to the critical issue of funding, another interesting proposition is to establish a regional funding platform that democratises connections among start-ups, investors, and other funding opportunities at both local and regional levels. This platform could serve as a central hub, not tied to any single university, but rather a collective effort across institutions to leverage local and regional networks effectively. University incubators should also seek to proactively cultivate relationships with a diverse array of investors (venture capitalists, angel investors, and corporate venture arms). By establishing stronger connections with the investor community, incubators can ensure that their start-ups have broader access to potential funding sources. This could be achieved through hosting thought leadership dialogues and industry networking events, or inviting potential investors to share their perspectives in closed-door sessions.

International exposure is another important area where universities can foster a global perspective among start-ups and future founders. By facilitating meaningful international experiences and cross-border partnerships, I&E activities among university communities and start-ups will benefit from the diversity of ideas they encounter and the networks they forge. Useful initiatives include running short-term immersion programmes that capitalise on the strength of bilateral partnerships within the AUN where each university's innovation and incubation centre could act as a focal point for market immersion and knowledge exchange. Another compelling possibility is the setting up of a common job platform to promote entrepreneurship amongst students and enhance international exposure by offering overseas internships at incubated start-ups. This streamlines the process of connecting students with internship opportunities across the network and facilitates talent acquisition for start-ups. This unified platform would list diverse internship opportunities, spanning different regions and sectors, to ensure broad access to international experiences.

Finally, mentorship is known to be a key ingredient in a start-up's success. Establishing a regional mentorship platform would be a viable solution for democratising access to experienced mentors, ensuring that all university-incubated start-ups can benefit from a wealth of domain expertise, market knowledge, and operational insights, regardless of their home base. The concept of a mentorship platform is well-established within the global start-up ecosystem, with several successful examples demonstrating the model's viability and effectiveness. One such example is GrowthMentor, which offers start-ups the opportunity to book one-on-one meetings with over 600 marketing mentors to obtain tailored guidance and advice. Implementing a regional mentoring platform, inspired by proven models, would be a wide-reaching and impactful way to address disparities across universities in Southeast Asia.

Entrepreneurship education must go beyond traditional business models, and also emphasise the importance of social impact, sustainable business practices, and ethical leadership.

WHAT'S NEXT FOR I&E IN SOUTHEAST ASIA

The I&E ecosystem in Southeast Asia is brimming with possibilities–demographically-driven growth, rising digital consumption, and vast potential for economic development. At the same time, the region's youth are increasingly technologically-native with strong competencies, and are therefore becoming key players in the region's bustling entrepreneurship scene. Against such a backdrop, the region's universities have exciting opportunities to pave the way for nurturing entrepreneurship and growing entrepreneurs. However, resource limitations and varying levels of I&E maturity across regional universities present challenges. Addressing these through the afore-discussed recommendations can boost collaboration within the AUN-UIE network and lead to mutually beneficial outcomes. AMI

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Cognitive Technologies

AI and the revolution of work.

Professor Tom Davenport, the President's Distinguished Professor of Information Technology and Management at Babson College, speaks about how companies can integrate generative Artificial Intelligence (GenAI) into their operations while ensuring workforce adaptation and skills development.

How is AI transforming job roles and labour markets? How can companies integrate AI into their operations while ensuring workforce adaptation and skills development?

I try to be both empirical and optimistic about that issue, and so far, we haven't seen large-scale job losses yet, even though AI has actually been with us in various forms for 40 to 50 years now. In the long run, my guess is over the next five to 10 years, this situation is not going to change much, and we won't see massive layoffs. And in the areas where we do see layoffs, for instance, at call centres, the level of customer service that we'll get from a purely AI-based call centre will likely not be very satisfactory and customers will continue trying to get the human operator on the line.

On the other hand, today we're also seeing more people working alongside AI. If you're not paranoid about what AI will do to work, then you're not really paying attention. Therefore, we have to constantly think about what the role of humans is, especially how they can add value to what AI can do.

The best results are achieved from humans collaborating with AI, rather than AI doing all the work. It will also be true for a while at least that if we want interesting and error-free content, we'll have to let humans take a pass at it. There have been some experiments, where people were given a choice whether to let AI-generated output be the final product or review the AI content themselves first. In one Massachusetts Institute of Technology (MIT) study on how its subjects used AI, 68 percent of them did not review or edit the AI-produced work at all. That's a bad sign, and we have to watch out. We have to encourage people to adopt a critical perspective on work produced with AI, so that they can figure out how to make it better.

For now, we have this environment where people and AI are going to be working with each other. I do believe that people who use AI in their jobs will generally be more productive and effective than those who don't. So, if you're a radiologist, you most likely won't lose your job to AI; you might lose it to another radiologist who uses AI. Not in the short run, however, since there is a global shortage of radiologists!

It's therefore incumbent upon people who run organisations to make sure that their employees understand AI, use AI, and are critical in their application of this technology to their jobs, while ensuring humans are in charge of the final outcome. There are some companies that are already doing that. At PwC, for instance, AI has been introduced to all its employees.

What are some examples of successful use cases you have seen where GenAI has enhanced customer experience and service outcomes?

On the customer front, we've always believed what every business school around the world has advocated–you need to listen to your customers, understand them, and act on their inputs. In reality, customers are very diverse, and they send unwieldy messages that come through from different channels. As a result, reading and responding to them all is very labour-intensive. At the same time, we're inundated with content, and this is certainly even more so with us living in the attention economy, where getting people's attention for something that matters is becoming increasingly difficult. I think GenAI can really help in that regard.

In a consulting company that I co-founded, we worked with a retailer client on dealing with customer comments via email and social media, and so on, and realised that GenAI could do some things that typically could not have been done previously when dealing with multi-faceted comments. For instance, a customer commented that the meat from the deli was stale and shouldn't have been sold anymore; on the other hand, there was also a comment that the staff at the point of sale was very helpful and had returned the customer's money while complimenting the individual on his loyalty to the store. All that was in one single message. It turned out that GenAI, if given the right set of prompts about who is responsible for what, can determine that this positive comment should be forwarded to the store manager, but the negative comment is probably the responsibility of the meat department, so it should be notified. GenAI would also suggest that perhaps there was a supply chain issue and would assign a probability rating to determine whether the supply chain manager should be informed.

> The best results are achieved from humans collaborating with AI, rather than AI doing all the work.

Another company was using GenAI to examine conversations of staff who were calling customers to get them to settle their unpaid bills, and asking if they could work out a payment plan. GenAI was very good at that as well, and could even tell whether the call centre agent was following regulatory guidelines on how to treat customers. Eventually, the company figured out how to make GenAI assign a probability rating to assess whether the customer would ever pay, which would help the company decide whether further efforts to call the person would be worthwhile. While these are all things that humans can do, we haven't really done them very well in most organisations, because they're so labour-intensive and require a fair amount of knowledge about how the organisation works. And it's not necessarily even an entry-level role. So, there are all sorts of possibilities out there for what can be done. Again, smart organisations will have humans review the messages first before they are communicated to customers.

What should C-suite executives consider when deciding how to use and measure the efficacy of GenAI?

This is a very big issue. It's particularly important for GenAI because most companies are really implementing it on the basis of productivity gains, and unless you measure it carefully, you're really not going to know this. In many cases, companies should do a controlled experiment or have a couple of different variations for the treatment group that does use GenAI in terms of the work processes they follow. Unfortunately, most organisations don't have the discipline to measure what they're doing in that regard.

There have been some efforts by academia thus far to measure the efficacy of GenAI. In some cases, the results show productivity gains while in others they don't. All organisations really need to look at measures like 'How many customer messages have been dealt with hourly? What's the level of customer satisfaction?' If you're creating marketing messages, you would know what the outcome has been–whether people "click-through on it". If it's something digital, it requires a fair amount of attention to measurement. We're not seeing a lot of that yet, and there's already beginning to be a small backlash to GenAI, with people noticing that it may not be yielding the productivity benefits that it should have.

What are some of the common challenges organisations face in adopting AI technologies and their strategies to overcome them? What practical advice would you have for businesses at various stages of AI maturity?

Some of the surveys I've done suggest that data is a big challenge, particularly in GenAI, where data is generally unstructured and typically in the form of documents, so you really have to carefully curate and manage it. Morgan Stanley, for instance, was working with OpenAI a couple of years before anybody was knowledgeable about ChatGPT. But even before that, many years earlier, they had realised that the quality of the documents on their intranet was not really what it should have been. They embarked upon a process of curating the documents and built an offshore capability of 20 people in the Philippines who would classify each document in terms of how unique, accurate, and up-to-date it was, as well as how well it was tagged, and so on. So when GenAI came along, Morgan Stanley could pretty much quickly identify 100,000 or so documents to feed into a language model and effectively implement knowledge management with it, making important knowledge available to its financial advisors and their teams.

The survey that I did at the end of 2023 also suggested that about 80 percent of Chief Data and Analytics Officers agreed that they needed a new data strategy to deal with GenAI. And the majority had not done anything yet, so there is a lot of work to do in that regard.

Is companies' data ready for GenAI? I think in general, the answer is 'No'. There's also significant behavioural change that is going to be necessary to get people to use the technology in the right way. Furthermore, these people are generally knowledge workers, and if I had to take one lesson away from studying knowledge workers, it is that they don't like to be told what to do. Historically, they have had a lot of autonomy which they enjoy. That's kind of why they sought out the job. So being told that this is exactly the process you need to follow if you're going to use GenAI is probably not going to be appealing to many of them. Therefore there's a big behavioural change issue as well. And if you factor in that challenge and the data issue, that's a pretty considerable set of things that you have to get working well first in order to successfully deploy AI.

There's already beginning to be a small backlash to GenAI, with people noticing that it may not be yielding the productivity benefits that it should.

'Citizen developers', i.e., people with domain expertise but little formal computer science training, have become more common in recent times. How can organisations find the right balance between investing in state-of-the-art AI technology and reaping the low-hanging fruit presented by no-code AI development platforms?

This is my current area of research, so I'm quite attuned to it. I have a book that will soon be published on that set of issues. Already there were fewer and fewer barriers between non-technical humans and the ability to create systems of various types, and I think whatever barriers there are will also rapidly go away with GenAI.

This trajectory would result in start-ups that might truly embrace this low-code/no-code approach to the extent that the start-up profile might have very few technical personnel. I think we should train every potential entrepreneur to use those kinds of tools. The big area now in the low-code/no-code front for many organisations is the Microsoft Power Platform because they already have deals with Microsoft, and for a relatively small sum or incremental sums, you can get access to Power Apps like Power Automate or Power BI. And I think every student should probably be trained in those. This way, we will have fewer boot camps for entrepreneurs on 'Here is how you need to develop all or most of the technological capabilities you need to get your start-up up and running'. Instead, there will be a big infrastructural development that will make GenAI even easier to use. But there will still be some barriers to succeeding as an entrepreneur–like whether your business model makes sense–although you can ask GenAI that question too! On the whole, technological capabilities will be much more readily available to entrepreneurs than they had been in the past.

What about the importance of a data-driven culture within organisations?

The good news is that GenAI seems to be creating more of a data-driven culture. Surveys I have worked on suggest that the percentage of organisations saying they have such a culture has doubled in the last year or two. But there are organisational leadership issues that often get in the way of developing this culture. Data problems have been there all along and we are creating data at a much faster rate than we can manage effectively. So there are these issues of what data management is about and how its role evolves. I'm very interested in these executive roles that manage technology–Chief Information Officers (CIOs), Chief Technological Officers (CTOs), Chief Digital Officers, Chief Data Officers, and so on. In some cases, these roles are going to have to merge.

Also, a survey I have just completed suggests that there are too many of such tech chiefs, and even the incumbents themselves are confused about the scope of their responsibilities relative to other C-suite jobs. With GenAI, it's a coveted responsibility, and you would think that Chief Data and Analytics Officers who have historically owned AI might be the owners of it. However, that is not the case in many companies. CIOs and CTOs tend to have more access to senior management, so they kind of grab these GenAI leadership roles in some companies. This is an illustration of the fact that we don't have clarity for these roles, and there are too many of them. I call those in this new role of managing a lot of these functions the 'super tech leaders'. They are the ones who are responsible for several of these areas and have specialists reporting to them, who deal with the details of that particular resource.

How important is it to establish robust ethical frameworks to guide AI development and deployment?

That needs to be an area of focus. While most organisations don't really have much of a framework, I think the real need is not just for a framework, but for a process and, increasingly, even an automated or semi-automated process to evaluate AI development and deployment. Some really aggressive companies now have thousands of use cases. DBS Bank in Singapore is a great example where they have hundreds of use cases. As a result, having each one carefully examined by a human is rather time-consuming. Hence firms are looking for alternatives. For instance, Unilever has worked with a company in London called Holistic AI to develop a semi-automated process to examine every proposed use case and comment on how the GenAI initiatives may be impacting transparency, bias, and the ways in which people might be negatively affected by them. And the process assigns a green, yellow, or red mark of approval, depending on whether the initiative is good to go, has potential issues, or should not continue, respectively. And it turns out that at Unilever, very few have come out red and need to be revised totally. Most of them need only a minor change.

My general feeling is humans are so biased and make so many decision errors that it's relatively easy for AI to be better at it than humans. In some cases, that will be enough to go ahead with using AI; in some other cases, we may say it's better than a human, but we still need to improve it. That is the way we feel about things like autonomous vehicles. Yes, they cause fewer accidents than humans do, but we want them to be almost perfect, which is a really high standard, and so far, nothing seems to be able to live up to that.

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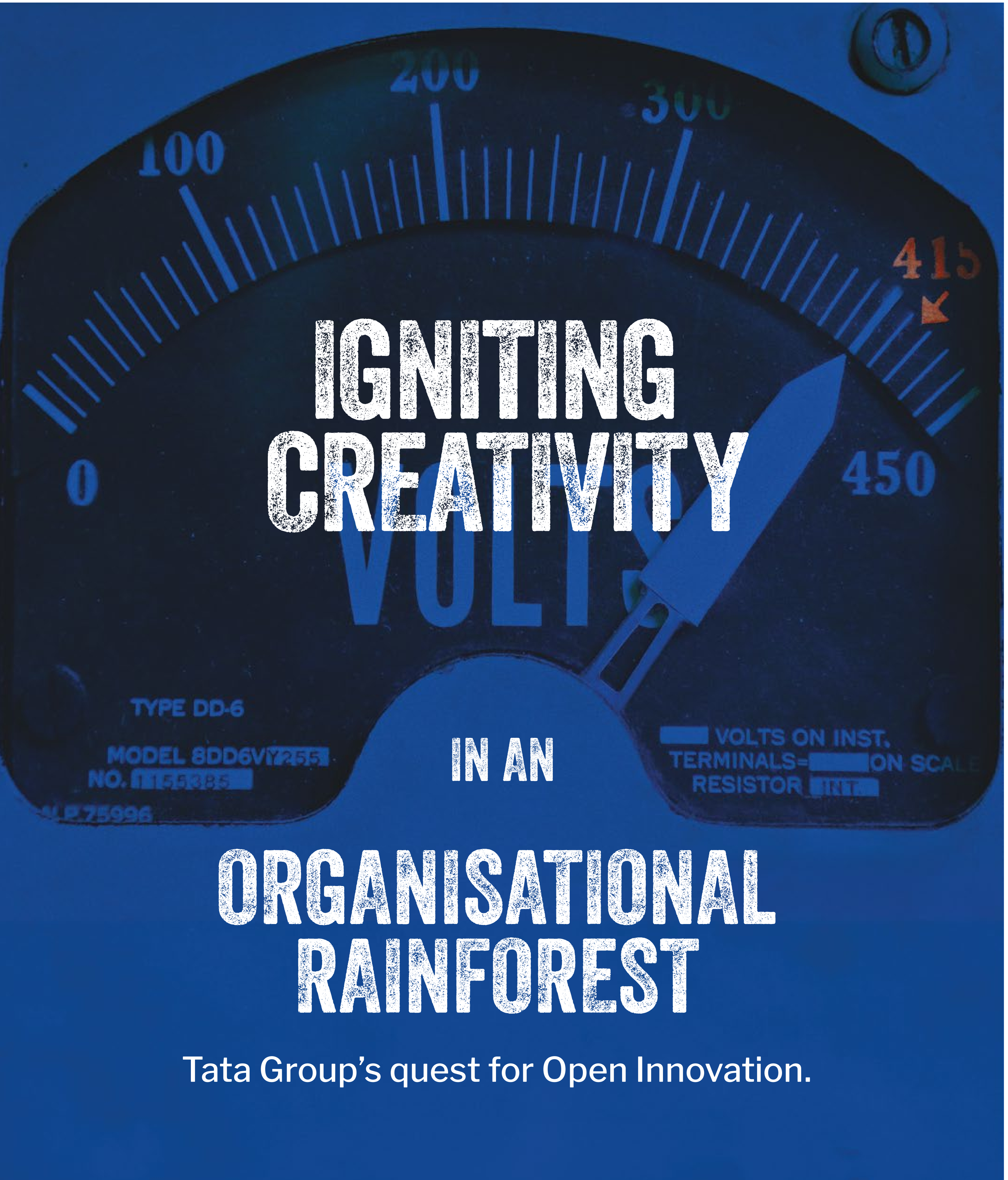

IGNITING CREATIVITY IN AN ORGANISATIONAL RAINFOREST

Tata Group's quest for Open Innovation.

- **Open Innovation advocates collaborative relationships, emphasising a dual-flow approach that integrates the best ideas within and outside of a firm.**
- **Tata Group's implementation of the Open Innovation model has created a conducive environment for innovation, enabling cross-boundary idea exchanges and establishing strategic partnerships with diverse stakeholders.**
- **'Seekers' and 'ideators' build a community-driven Open Innovation model that sustains a supportive ecosystem and innovation across a decentralised conglomerate like Tata Group.**

Innovation has often been considered the lifeblood of human progress, and communities, nations, industries, and organisations have relied on it to adapt, thrive, and overcome challenges in a rapidly changing world. However, innovation often tends to have an inward focus rather than transcending boundaries, thereby limiting its potential to foster widespread influence. These boundaries are multifarious, and so are their motivations. For instance, communities of farmers may conceal their innovative advancements to boost their profits. Also, developed countries invest heavily in solar and wind energy research but often fail to share these advancements with other nations, therefore limiting benefits of this to their domestic markets. Organisations may even safeguard their innovations with expensive patents to maintain competitiveness.

It is this boundary between internal and external stakeholders that the philosophy of Open Innovation tries to transcend. It states that firms can and should be open to both internal and external ideas, and paths to market as they attempt to advance their innovations.[1] Many organisations have begun benefiting from this approach by making it an integral part of their corporate culture. Think about the ecosystem in the Amazon rainforest: flowering plants rely on pollinators to transfer pollen; predators rely on herbivores as a source of food; herbivores regulate plant populations by consuming vegetation to maintain an ecosystem balance; decomposers, such as insects, fungi, and bacteria break down dead organic matter into nutrients, which are then recycled back into the soil. Open Innovation fosters similar symbiotic relationships, enabling various parties in a business ecosystem to benefit from one another while mirroring the dynamic interdependence observed in natural ecosystems.

REMOVING BOUNDARIES

Popularised by Professor Henry Chesbrough in 2003, the Open Innovation paradigm challenges organisations to embrace a dual-flow approach to idea generation and implementation. It characterises a shift from a traditionally closed and controlled research and innovation environment to an open and flexible model that captures ideas and solutions from within, as well as beyond the organisational boundaries. The focus is on incremental innovations rather than radical change, or in Chesbrough's terms, new processes or products. The understanding is that innovation is better fostered by emphasising the flow of ideas, knowledge, and technologies across organisational boundaries. Unlike traditional closed innovation practices, where ideas and technologies are often developed internally, Open Innovation encourages collaboration with external partners such as customers, suppliers, universities, research institutions, and even competitors.[2]

While the challenges of this approach, which often involve cultural barriers and risks of sharing proprietary information, are obvious, there are several benefits. The methodology promotes collaboration of various forms, such as joint research projects, licensing agreements, partnerships, and crowdsourcing initiatives. It enables cross-pollination of ideas, and facilitates a broader range of perspectives and expertise. It also encourages organisations to share risks associated with innovation, including research and development (R&D) costs, technological uncertainties, and market risks.

Many conglomerates have successfully leveraged Open Innovation methodologies to unlock untapped potential, spur breakthroughs, and redefine the boundaries of what is possible. Aircraft manufacturing company Boeing, for example, has a programme to tackle complex manufacturing problems like optimising the production process for aircraft components.[3] Siemens, a global leader in industrial automation, has also leveraged Open Innovation to drive advancements in smart manufacturing. Through its Insights Hub network, Siemens collaborates with customers, partners, and developers to co-create digital solutions for the factory of the future. This approach has led the company to develop cutting-edge technologies (like predictive maintenance and digital twins).[4]

TATA GROUP'S INNOVATION APPROACH

However, applying Open Innovation in corporate environments is far from simple.

At Tata Group (Tata), India's largest conglomerate, whose products and services are available in over 150 countries and whose operations span across 100 countries, Open Innovation is not just a strategic imperative but also a deeply ingrained cultural value, which the company uses to drive excellence across its global footprint. Tata uses a three-pronged strategy to foster Open Innovation: cultivating an environment that promotes idea generation, enhanced communication, and recognition of innovative endeavours; promoting collaboration by facilitating cross-pollination of ideas beyond organisational boundaries; and initiating strategic partnerships with academia to generate groundbreaking research and drive technological advancements.

Across the Group, Open Innovation practices have sprung up in various units for some time. For example, Tata Consultancy Services (TCS), a software services and consulting company, had launched its Co-Innovation Network (COIN) in 2006 which has become very successful. TCS COIN is an innovation network of start-up partners, venture capitalists, technocrats, academia, and other collaborators. At the Group level, there is another programme called Tata Innoverse, which brings together innovators, scientists, start-ups, academics, small and medium enterprises (SMEs), and individuals from across the globe to solve technical challenges. In the past few years, a few other Tata companies have also started to develop their own Open Innovation programmes.

In 2008, Tata invited Chesbrough to host three Open Innovation workshops for its leadership teams. Ravi Arora, Senior Vice President and Head of Group Innovation at Tata Sons, recalls how the Group thereafter began implementing Open Innovation, starting with eHackathons to promote a collaborative mindset. His role involves facilitating an innovation culture for Tata companies and introducing new processes to foster Open Innovation practices. Despite initial challenges in obtaining opportunities in the form of problem statements from companies, Ravi and his team gradually cultivated a culture of problem-sharing through workshops and InnoClusters (group gatherings to promote an Open Innovation mindset), thus paving the way for collaborative problem-solving. "Our role in Group Innovation is to provide additional support to the companies seeking to enhance their Open Innovation capabilities through training, facilitation, and inspiration. Many of our companies need this kind of support, but a few do not," he explained.

THE CHALLENGES OF APPLYING OPEN INNOVATION

Complexity of large, decentralised conglomerates

The complexity of a large multi-location organisation, as in Tata's case, presents significant challenges for the adoption of Open Innovation. As of March 2024, Tata comprises over 50 companies, 29 of which are publicly-listed, with a combined market capitalisation of INR 31.6 trillion (US$382 billion).[5] Unlike other conglomerates like General Electric (GE), which operates through a centralised model, each of Tata's companies operates independently and thus has the freedom to pursue its own distinct innovation strategies; this autonomy makes it challenging to implement the most common programmes across the Group including Open Innovation.

Operational limitations of manufacturing

In Ravi's view, companies in the Technology and Financial Services industry are better positioned to implement Open Innovation than those in manufacturing as there are lower adoption risks and faster implementations with comparatively fewer resources used for the former. However, they have their own set of challenges, which tend to revolve mostly around technical implementation, scalability, fast-changing technologies, issues like data privacy concerns, and the seamless integration of new technologies. The fundamental difference lies in the nature of experimentation and risk-taking, which companies in manufacturing tend to adopt at a slower rate compared to those operating in digital environments. Open Innovation in manufacturing often requires multiple trials and significant investment thereby incurring far more risks. Additionally, there is a psychological barrier between mid-level to senior managers and domain experts, who hesitate to seek external solutions as they have traditionally been tasked with solving problems internally.

As the Tata companies have extensive manufacturing operations, particularly in the steel and automotive sectors, the adoption challenges are varied. "We are a large, decentralised conglomerate with standardised and highly specialised processes which are designed and perfected to deliver benchmark levels of output. Innovation and particularly Open Innovation strategies that try to involve external collaborators with their unproven solutions at the shopfloor pose significant challenges, leading to cautious evaluation and slow adoption," shares Ravi.

A classic example of the manufacturing dichotomy would be the challenges faced by aircraft manufacturer Boeing in the development of the 787 'Dreamliner', which was initially hailed as a benchmark of Open Innovation since the company had worked with external suppliers, as well as its internal research team to design the aircraft. Over time, however, the project became plagued with delays and structural flaws, which resulted in time overruns and increased costs, and created a significant risk at the market stage of the innovation.[6]

Supply chain and patent challenges

Supply chain challenges further hinder the adoption of Open Innovation in manufacturing industries. For instance, procurement departments are accustomed to dealing with established vendors who meet strict compliance standards. They are often reluctant to add new ones, and the procurement process typically relies on competition among existing vendors. These practices are at odds with the requirements of Open Innovation, which may necessitate collaborating with a single start-up with opaque cost structures.

Patents are another obstacle, as negotiation regarding intellectual property rights often shifts the focus from problem-solving to overcoming legal hurdles. Balancing the desire for requiring patents with the urgency of solving problems leading to innovation thus becomes a delicate dance.

AN UMBRELLA OF STRATEGIES FOR OPEN INNOVATION

But is Open Innovation really a strategy? While in an organisational context, Open Innovation is more of a cultural characteristic, its practice in reality often requires the use of several strategies. Tata has invested in Innovation Centres, R&D Centres, Innovation Labs, and Centres of Excellence through its various Group companies. It has also used several learning mechanisms like innovation workshops, learning missions, and the dissemination of innovation-related literature, including case studies, to build capability. It has even created a group-wide community of 'innovation evangelists', who advocate for and facilitate fellow Tata employees' innovation efforts.

Ravi's team initially focused on these learning mechanisms, and used digital platforms to fuel innovation efforts, and improve the idea generation and selection process. One of their platforms, Tata eHack, serves as the in-house social networking platform with social media-like features and market prediction capabilities to augment the innovation life cycle that starts from idea generation. Another platform is Tata Innoverse, which is used to generate solutions from external entities (start-ups, academia, and SMEs) to accelerate problem-solving and innovation.

eHackathons

The eHackathon (also known as eHack) concept is a virtual adaptation of the traditional hackathon notion, and a key tool Tata used to initiate, embed, and deepen the culture of Open Innovation. Unlike conventional hackathons that rely on teams coming together, eHackathon participants collaborate remotely to solve specific problems that Tata companies are facing. eHacks are flexible and of shorter duration, hence they are more effective in facilitating collaboration among dispersed teams. The primary distinction is their virtual nature.

At Tata, eHacks begin with a few problem statements provided by the company seeking ideas and new pathways. Employees propose ideas to address these challenges. Selected ideas are further developed into detailed concepts, and the top concepts then advance to the prototype stage.

However, a key implementation hurdle is scale. Tata has more than 900,000 employees working in companies across diverse industries and geographies. Such complexities make it challenging to create a culture of Open Innovation, which involves sharing problems openly to seek ideas, as well as sharing ideas with other companies. Ravi recalled, "We had to proceed slowly but steadily within the larger group. Therefore, our approach to eHacks was also gradual, and it took almost a decade to reach the stage that external people feel was scaled-up, but we feel it is still in the early stages given the size of our Group."

Community is key

Implementing an Open Innovation culture also requires building an ecosystem of communities that can interact with one another to foster creativity and collaboration. Tata focused on a 'two-character' community approach to build this environment. The two characters were 'seekers' and 'ideators' (also known as 'solvers'). Seekers were those who had problems for which they were looking for solutions, and ideators were those who came up with ideas to solve those problems. Ravi found that seekers were relatively harder to find and difficult to convince, while ideators were easier to come by. Consequently, Ravi and his team spent the first few years motivating and nurturing this community, and in about two years they were able to attract about 1,000 seekers and more than 15,000 passionate ideators. It is crucial to recognise that out of 100 ideas, maybe only two to three are groundbreaking, but there is no way yet to just isolate the few brilliant ideas without also receiving the 100 others.

Tata also assured both groups–ideators and seekers–that they would remain anonymous, which helped them become more comfortable with eHacks over time. However, despite the general appreciation of the significance of anonymity, few companies outside Tata have implemented it as an innovation strategy. It is a challenging concept to adopt because it goes against the grain of managerial biases.

Implementation of ideas

An obvious question that comes to mind when discussing innovation is whether ideas are more important than outcomes. At Tata, both were observed to be equally significant. The goal is to improve idea quality and increase the number of sources for ideas to better the chances of converting them into winning ones. The next step is to track both the return on investment (RoI) of the ideas and the return on effort (RoE) of the work put in by seekers and ideators, as these are believed to be a more comprehensive metric for measuring the success of such innovation initiatives.

Instead of merely chasing ideas, Tata Group began emphasising the implementation of these ideas. Such a transition was crucial as it ensured that the seekers not only sought ideas, but also invested in resources and capabilities to execute them effectively. However, this process took more time, especially since developing detailed concepts and prototypes could take several months. A couple of years after launching the first few eHacks, Ravi and his team realised that their platform was unable to verify if seekers possessed both the budget and authority to implement the ideas they received. To address this issue, they introduced a concept called 'assured outcome hackathons'. Under this framework, they tried to ensure that only managers with the necessary resources and the intention of implementing the proposed solutions were accepted as seekers. Additionally, they began monitoring and reviewing the progress of the idea implementations, collaborating closely with the senior leadership team of the solutions-seeking company. They also began establishing governance mechanisms to monitor the progress of idea implementation and allocated a small budget to support prototyping efforts. This shift in approach yielded successful implementations, which were then showcased at events like Tata's annual innovation exhibition.

"We are now trying to bring some accountability to the eHack programme. We're implementing a system where we inform the seekers and the implementation team every month about the progress and bottlenecks," says Ravi. This information serves two purposes. First, if an idea is not making progress, the information helps to highlight and escalate the issue, which ensures that attention is drawn to any obstacles or delays, allowing the necessary actions to be taken to address and resolve these problems. Second, for those actively working on implementing ideas, the information acknowledges and recognises their efforts. This recognition serves as a source of motivation and rewards those who are dedicated to the process of turning ideas into reality.

Tata is in the process of completing over 200 projects, which are currently at various stages of development, through its eHack and Tata Innoverse programmes over the last five years. One example is a problem posted by one of the companies specialising in the construction of flyovers and bridges. It faced safety challenges transporting large beams for construction, especially during the night when visibility is low. The idea proposed by an employee of another Tata company involved attaching bright red lights to the beams to increase visibility for other road users. Another example relates to the trucking industry, where drivers knowingly or unknowingly use counterfeit diesel exhaust fluid (DEF), resulting in vehicle breakdowns. Several ideas from Tata employees of various companies were implemented to address this issue, including educational campaigns, and improved DEF delivery and authentication methods. In yet another instance of successful implementation, Tata Motors established container workshops in remote mining areas to serve customers on-site.

Internal focus cannot be undermined

While Open Innovation shifts attention from internal innovation to including both internal and external parties, the internal focus often becomes diluted in the process because of the propensity of companies to seek external help. To avoid this imbalance, Tata tries, through its eHacks, to get more participation from its own employees to provide solutions.

This helps in two ways–it galvanises internal staff to resolve critical challenges actively, and develops a genuine appreciation for external partners who bring with them cutting-edge technologies and solutions, thereby nurturing a learning organisation.

Rewards feed creativity

Problem-solvers or ideators, as Tata calls them, often seek recognition and rewards as a form of motivation. Ravi's team uses cash rewards as incentives; winning ideators are given cash rewards, and top management in their companies are also informed of their accomplishment. Selecting ideas is resource-intensive, but the team has managed to scale this process considerably. Between 2020 and 2022, for example, it declared over 150 ideas as winners. The shortlisted ideators were required to go through a process like a 'Shark Tank' to get their ideas selected. Tata prefers calling it 'Shark Dolphin' tanks or 'kind sharks', that is, seekers are not only potential investors in the idea, but they are also helping to build a culture of Open Innovation.

Assured outcome eHacks also became a major strategy to motivate seekers to become highly supportive and eager to participate in more eHacks. There is sometimes a struggle to meet the demand, as the eHacks are held only once a month on every third Monday. To address this issue, the team also introduced technical problem-solving eHacks on every fourth Monday of the month.

Ravi opines that most firms always have a pool of creative problem-solvers. If such ideators are presented with the right set of problems, and their ideas are dealt with agility and impartiality, they can contribute significantly to a firm's innovation goals. Bias is a major issue in firms–people often feel that their ideas might not be selected because of factors like designation, gender, proximity, and nationality, so considerable effort has been put in to address these biases. For instance, all idea submissions for eHacks remain anonymous, right up to point of selecting the winning ideators from the Shark Dolphin tanks. This anonymity offers a sense of psychological safety so that

contributors can freely express themselves, knowing very well that not all their ideas will be accepted.

COLLABORATIVE RAINFOREST

While Tata's ecosystem is a challenge for Open Innovation, it also provides ample opportunities for cross-industry collaboration and knowledge sharing. Notably, the conglomerate has companies in sectors like energy, chemicals, technology, consumer products manufacturing, engineering, tea, and software services. Tata actively engages in strategic partnerships and collaborations with external stakeholders, including start-ups, academic institutions, and research organisations.

These partnerships bring fresh perspectives, cutting-edge technologies, and complementary capabilities to the table. Tata also has a few innovation platforms–some of which have been highlighted in this article–which provide effective channels for scouting, evaluating, and partnering with start-ups and innovators to co-create new solutions and technologies. Additionally, its leadership actively champions and promotes Open Innovation initiatives, providing guidance, resources, and strategic direction to enable the successful implementation of Open Innovation practices.

While Tata's experience shows that Open Innovation is a viable option in the realm of manufacturing, issues like intellectual property concerns and differences amongst diverse stakeholders are likely to continue presenting formidable challenges. eHacks emerge as a dynamic solution in this sphere, utilising digital platforms to bridge geographical barriers and cultivate a culture of innovation.

Open Innovation is, however, not just about new technologies, platforms, events, and problem-solving. It is a collaborative, cultural rainforest where multiple stakeholders come together to ignite creativity, and it enables organisations to address business challenges and effectively drive meaningful change.

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by Chen Liang

SUPPLIER-COMPLEMENTOR ALLIANCES

Enhancing value creation for the ecosystem.

1

Suppliers can better protect their positions in an ecosystem by building stronger relationships with 'complementors', which are businesses that offer products or services that enhance the value of the core product. Such supplier-complementor alliances (SCAs) can enhance the value of the entire ecosystem, including that of the leader.

2

SCAs such as Nvidia-Adobe drive innovation by encouraging suppliers to develop products that cater to broader needs beyond the ecosystem leader's specific demands. This strategic alignment between suppliers and complementors also ensures that suppliers build a more resilient and diversified business model.

3

SCAs present both opportunities and challenges within ecosystems–suppliers can benefit from increased bargaining power, which could be a challenge to the ecosystem leader. Effective management of SCAs is thus crucial for maintaining a healthy ecosystem.

Snagging a big contract from a tech giant such as Apple is the Holy Grail for supplier firms. Electronic components manufacturer Luxshare saw its share price jump three percent on the day it became the only firm other than Foxconn to assemble Apple's premium iPhone Pro models.[1] Luxshare first gained access to the tech giant's ecosystem in 2011. It initially produced peripherals such as charging cables before graduating to Airpods–Apple's signature wireless ear buds–in 2017. AirPods subsequently contributed some 26 percent to its revenue the following year.[2] This milestone eventually led to the coveted contract to assemble iPhone Pro models. However, being so closely wedded to lead buyers or ecosystem leaders like Apple also carries substantial risks.

The main hazard is that much of the investment Luxshare had made to manufacture Apple products and accessories, which encompasses machinery, human capital, and training, is going to be specific to Apple. To win the contract for iPhone Pro models, the Apple supplier had spent hundreds of millions of dollars to acquire iPhone-related manufacturing and supply chain firms such as Wistron and Pegatron. While these moves signal to Apple its ability to meet production demands and standards, the specialised knowledge and skills that Luxshare has acquired are non-contractible. In other words, Luxshare's strengths and advantages are not relevant or translatable to other ecosystems.

This puts suppliers like it at risk of being left high and dry when the leader orchestrates a macro or technological environment shift in the ecosystem, such as when Apple transitioned away from Intel to ARM-based processors in 2020. Luxshare's investments will therefore lose value substantially if it stops supplying to Apple. Apple knows that and can always abandon Luxshare. The other risk is that if Apple decides to change its own tech, Luxshare's investment could be made obsolete or it could be forced to adapt its product accordingly. These are all additional risks and costs Luxshare has to bear because of its Apple-specific ecosystem investment.

We argue that suppliers can better protect their positions in an ecosystem by building stronger relationships with a type of firm known as 'complementors'. These are businesses that offer products or services that enhance the value of the core product–in this case, Apple's iPhone–and this coupling can lead to increased demand for both parties' products.

Here, we introduce the idea of a 'supplier-complementor alliance' (SCA) to characterise this unique relationship and its implications for the buyer-supplier relationship, particularly a supplier's 'membership status' in the ecosystem. Our research suggests that when a supplier develops capabilities that are informed by its complementors' on-the-ground experience and customer feedback, the SCA in turn enhances the value of the entire ecosystem, including that of the leader.

SUPPLIER-COMPLEMENTOR ALLIANCES

Focusing on the role of SCAs in ecosystems is critical because we know so much about the buyer-supplier dyad, but it is less clear as to what complementors are, why they are important, and how they can add value too. We argue that without a critical mass of complementors, supplier firms committing to an ecosystem leader could end up making a losing bet. For example, while Microsoft's switch to ARM processors (i.e., the new supplier) represents better performance vis-à-vis the chips from Intel (the incumbent supplier), Windows software developers (complementors) accustomed to building apps based on Intel chips were not keen to transition to the new architecture. Without those apps, a more powerful Surface Pro would serve little purpose; without consumer demand, Microsoft's suppliers cannot generate returns on investments that might have been made as per Microsoft's expectation or request.

In another example, the dynamics between Nvidia and Adobe are characteristic of those of an SCA.[3] Nvidia, a global tech leader with its graphics hardware, has long been a natural partner to facilitate Adobe's premier visual editing products,[4] but recent widespread interest in Generative Artificial Intelligence (GenAI) has driven further collaboration between them.[5] Even Apple, which had phased out Nvidia graphics cards (often used for graphic and video editing on Adobe software) on its Mac models during a fractious relationship, has started working together with Nvidia on the Apple Vision Pro VR headset.[6]

Another example of a high-profile SCA is that of AMD and Bethesda Game Studios in the Microsoft/PC ecosystem. The pair collaborated on the latter's *Starfield* PC video game, making AMD its 'exclusive PC partner'.[7] While the technically demanding game runs smoothly on AMD's Central Processing Unit (CPU) and graphics cards, the game experience on PCs running on rivalling Intel and Nvidia hardware is described as a "bizarrely worse experience".[8] For Microsoft, which owns the Windows ecosystem in which such PC games are played, AMD is a valuable partner not only for any investment in R&D and production capabilities, but also for delivering a positive experience to the consumer via an alliance with complementors such as Bethesda.

These examples of SCAs illustrate the link between suppliers and complementors–that is, complementors need to leverage the suppliers' components to build products and fulfil certain functions. The reliance on the ecosystem leader already carries considerable risk for suppliers, as we saw in the earlier Luxshare example. This is because suppliers need to be willing to expend considerable financial outlay when convincing an ecosystem leader of their commitment to its supply chain and manufacturing processes.

At the same time, an ecosystem leader needs to balance its reliance on a handful of suppliers against other critical considerations, such as production deadlines and bottlenecks. Here, we use Apple's prime supplier Taiwan-founded Foxconn as an example. When COVID-19 was still seven months from being cleared as a 'global health emergency',[9] the world's largest iPhone factory operated by Foxconn in the central Chinese city of Zhengzhou was gripped by a major outbreak in October 2022. Besides the negative publicity generated by the shocking scenes of thousands of workers leaving the factory on foot with their luggage, it led to another hit to Foxconn's production schedule following the closure of two of its factories in Shenzhen, China in March 2022. Notwithstanding analyst criticism over a shortfall of about six million iPhone 14 Pro and Pro Max units,[10] Foxconn had until that point been Apple's only supplier that was assembling its premium iPhone models. It operated multiple factories across China, including one in the epicentre of the pandemic, Wuhan, and had consistently made investments,

Suppliers that work with complementors such as downstream software/app developers can stay abreast of market demand independent of those of the ecosystem leader.

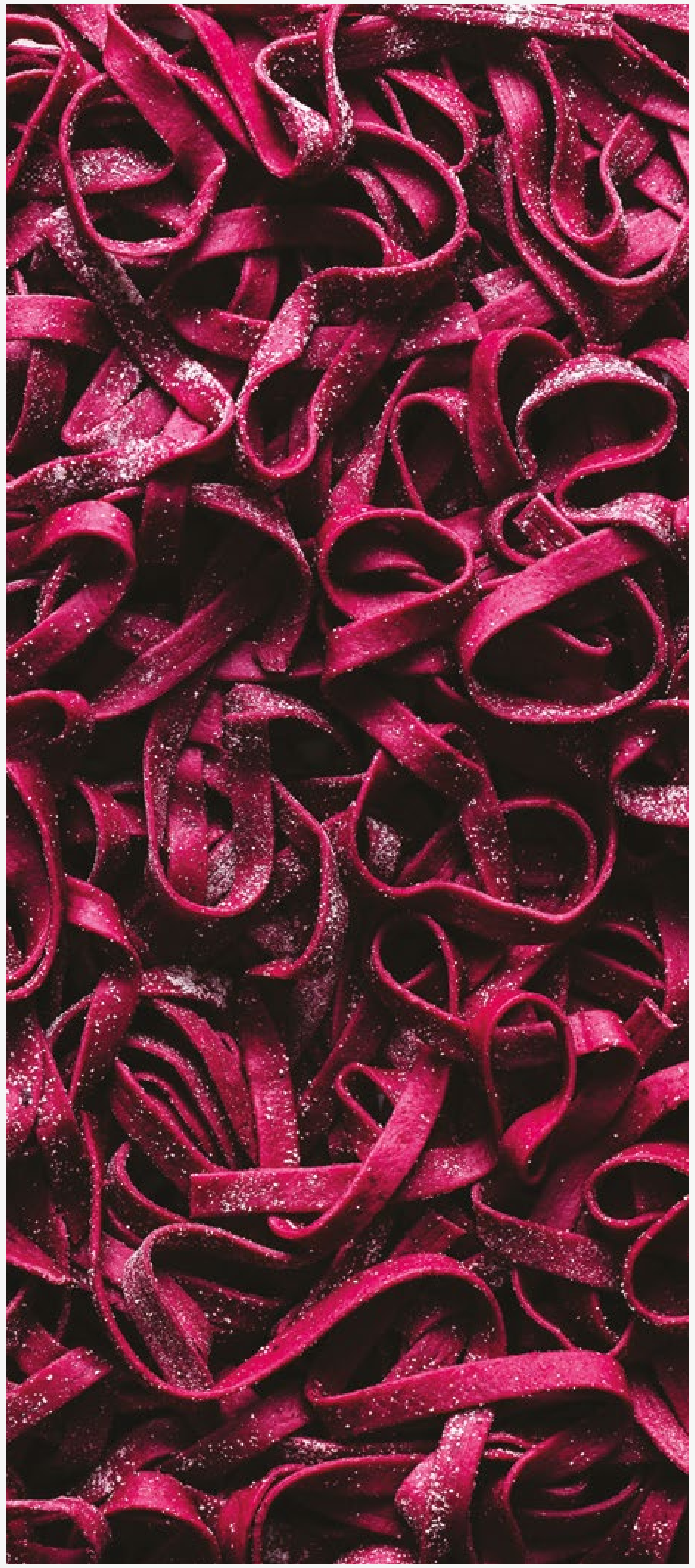
including a US$2-billion plant in Chengdu[11] and a US$356-million upgrade of its facilities in India in 2019,[12] to meet Apple's requirements. For sure, Foxconn's iPhone-making investments are a source of competitive advantage for ecosystem leader Apple, which enjoys the fruits of innovation and efficiency borne of its suppliers' financial risk-taking. However, Apple's over-reliance on this arrangement also led to the magnified COVID-19 supply chain issues and analyst criticism, and its eventual production diversification via Luxshare.

And therein lies the tension: suppliers, while wanting to signal their value to Apple, do not want to be stuck with it or put in too much investment exclusive to Apple. On the other hand, while reliant on its suppliers' investment/capability, Apple does not want to be overly dependent on any single supplier, as it had learnt its lesson during the COVID-19 pandemic.

This is where SCAs can help suppliers like Foxconn and Luxshare deliver additional value, so that they stay in the ecosystem and generate continued revenue for themselves without having to overcommit to ecosystem leaders like Apple.

SUPPLIERS VERSUS ECOSYSTEM LEADERS

We next discuss how suppliers, as focal firms in the SCA configuration, could recruit complementors to achieve such ends, and how the ecosystem leader can retain control of its dominant position.



One way for ecosystem leaders to keep ambitious suppliers in check is by maintaining close control over the core technology, such that they can define tightly the way complementors utilise components in product development.

Supplier's role: Not just pleasing the ecosystem leader

Instead of driving component innovation specific to an ecosystem leader, suppliers can reconfigure their product offerings in a way that alleviates downstream bottlenecks to create innovation and enhance the ecosystem's focal value proposition. In other words, suppliers' ecosystem-specific investments may not be the only way to bring value to the ecosystem (which is to satisfy the ecosystem leader). Suppliers that work with complementors such as downstream software/app developers can stay abreast of market demand independent of those of the ecosystem leader. Similarly, complementors in such arrangements with component suppliers are better able to maximise their technical capabilities even if they are integrated into a certain ecosystem. The net result is value creation for the entire ecosystem.

Going back to the Nvidia-Adobe and AMD-Bethesda SCA examples, the value that suppliers such as Nvidia and AMD offer is underlined by their various complementor partnerships within the tech industry. Be it AMD tweaking its hardware to deliver a better gaming experience for Bethesda or Nvidia modifying its code to deliver better rendering results on Adobe software, SCAs have the potential to elevate a supplier's contribution to a wide array of complementors beyond the partnered one. By working closely with complementors, suppliers can find ways to overcome bottlenecks often borne of an ecosystem leader's control of the technical specifications that predefine, and possibly restrict, technological opportunities.

Therefore, the more SCAs that suppliers and their complementors draw up, the more likely it is that productive innovation can be unleashed in a rising-tide-lifts-all-boats scenario that creates value for ecosystem leaders such as Apple and Microsoft. In turn, such ecosystem leaders would be more likely to retain the partnered supplier's membership in their ecosystems, especially when the supplier demonstrates its potential to boost value creation across a wide range of complementor domains, whether they are software developers, cloud service providers, hardware manufacturers, or service providers.

While often the case, such SCA configurations do not always have to be couplings between hardware and software suppliers. Component suppliers usually supply hardware. Complementors though do not always provide software; they could also be manufacturers of IoT (Internet of Things)-based devices, such as sensors and domestic appliances. That said, we anticipate that an ecosystem leader's dominance may steer the ecosystem towards developing more hardware-software alliances, and away from hardware-hardware ones. This is because the ecosystem leader is likely to invest in the major hardware complementors, as what we have seen in the case of Xiaomi.[13]

Ecosystem leader's role: Protecting itself

Using SCAs as a way to assess a supplier is good news to firms such as Foxconn and Luxshare as it presents a value-creating path that involves relatively less specific investment exclusive to the ecosystem leader. Perhaps because of this, ecosystem leaders have good reason to fear suppliers that might also grow too strong and become a competitor. Returning to the example of Nvidia, the firm controls an estimated 90 to 95 percent of the high-end AI chip market,[14] and is already a key part of AI projects under the biggest tech firms ranging from Google to Amazon to Tesla. Its dominance of the market has prompted some observers to say that "most companies aren't merely buying chips from Nvidia; they're buying entire systems".[15] There is also an opportunity for such powerful suppliers not so much to usurp or replace the leader, but to break away and create a different ecosystem where it is the leader. If Nvidia becomes an ecosystem leader, its ecosystem would be very different from the one which Apple dominates.

One way for ecosystem leaders to keep ambitious suppliers in check as a response to strategic actions by suppliers and complementors is by maintaining close control over the core technology, such that they can define tightly the way complementors utilise components in product development. A perfect example of such architectural innovation, which determines how the different components of the system interface or connect with one another, and how complementors are connected to the core technology, is Nvidia's Cuda framework, which allows developers to code on the graphics processing unit. If complementors can only mobilise certain component functions through the lead firm's technology (such as the use of software like Application Programming Interfaces or APIs as they are commonly referred to), suppliers, as well as complementors, may find it challenging to break away from the lead firm.

Large complementors are usually untouchable in the sense that consumers will keenly demand their products (e.g., killer games) in the focal product (e.g., iPhone). This is their strongest form of protection. Complementors cannot do much other than multihoming to a competing ecosystem like Android/Samsung, so that they do not place all their eggs in one basket. This can be done with the help of some middleware, which is software that helps to interface or connect different computer programs or systems. Another strategy is to engage in integration so that one firm (such as a powerful supplier) acquires and owns multiple complementors in order to beef up its bargaining power against the ecosystem leader.

> In an ecosystem where suppliers are dispersed and disconnected, SCAs will be instrumental as the suppliers are able to work out with their complementors on how their products or services interface with one another to realise the latter's value proposition.

THE ECOSYSTEM WILL BENEFIT

Our research suggests that SCAs accrue benefits at the ecosystem level. As mentioned, suppliers are usually unwilling to undertake innovation that is highly specific to the ecosystem leader. This is because the lead firm may change its architectural design over time (e.g., major upgrade in response to AI) which could distort the focal component's interface with other components, that is, how components are connected with one another and how their functions interact. In turn, this change imposes additional adjustment costs on the supplier. But when a supplier develops capabilities that are informed by its complementors' capabilities and experience, the SCA enhances the value of the entire ecosystem, including that of the leader.

However, the conundrum remains–while an SCA creates value for the lead firm by increasing the attractiveness and customer satisfaction of its core product, it also has the potential to break away or at least increase its bargaining power against the lead firm. This could possibly make it more dependent on the supplier and therefore lose the architectural control it had over the entire ecosystem, such as deciding what components to use or replace.

In a tightly-connected supplier network, the usefulness of an SCA is probably limited because suppliers can work out within themselves how to respond collectively when the architectural design as determined by the ecosystem leader changes. However, in an ecosystem where suppliers are dispersed and disconnected, SCAs will be instrumental as the suppliers are able to work out with their complementors on how their products or services interface with one another to realise the latter's value proposition. In turn, such specific innovation engendered by suppliers with their complementors will lead to better performance of the focal product, higher revenue, and market share. Thus the next step for us is to better understand the complexities at play in such successful SCA scenarios.

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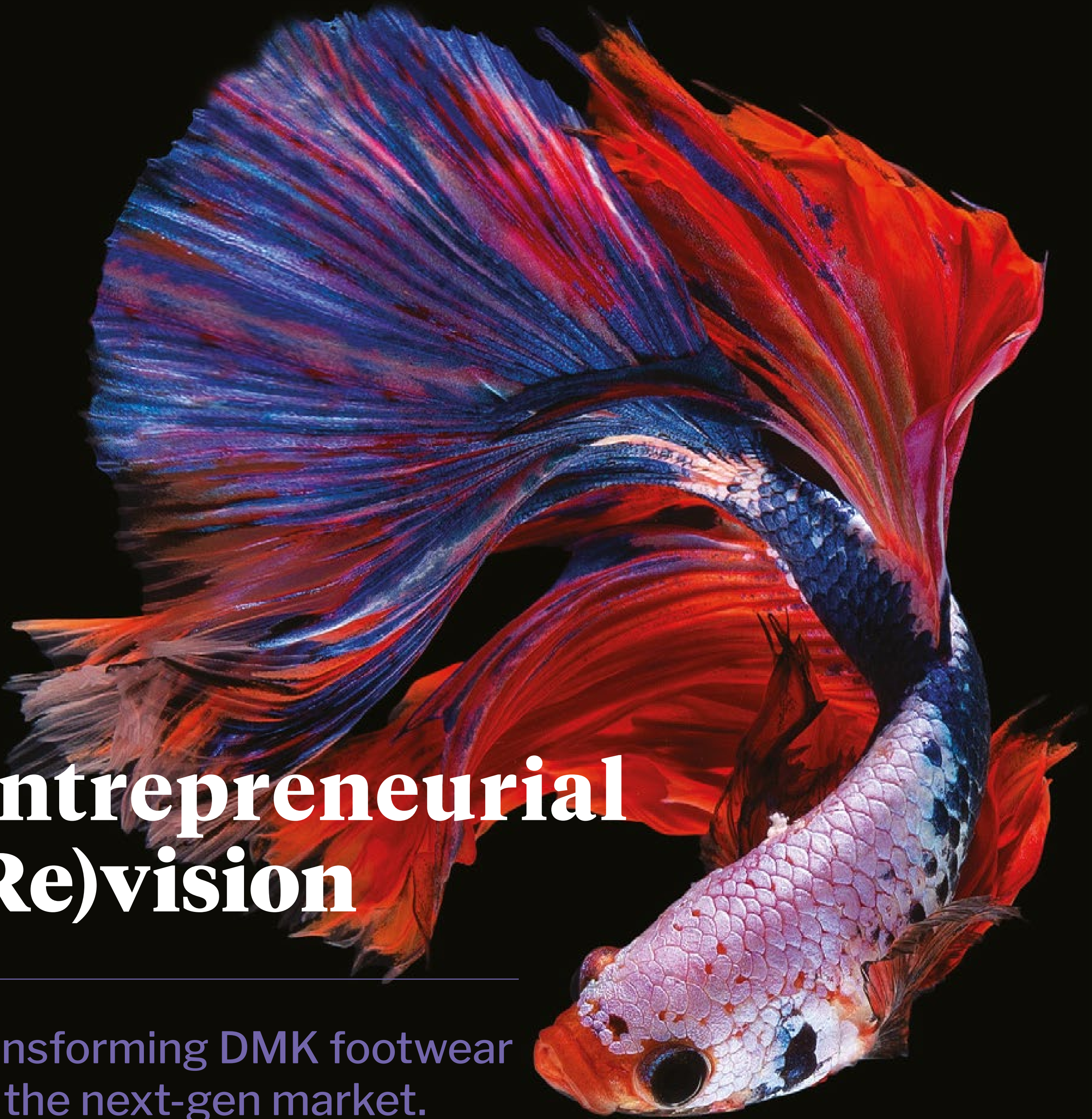
by Patricia Lui, Jovina Ang, and Lipika Bhattacharya



Entrepreneurial (Re)vision

Transforming DMK footwear for the next-gen market.

Footwear business DMK, founded in Singapore by Wendy Ng and her husband Peter Goh, was conceptualised to address an issue that troubled many Asian women—wide feet and bunions. Launched in 2000 with a brand promise of "Look Good, Feel Good", the footwear was priced reasonably at an average retail price of no more than S$80. Wendy and Peter ran the business with a lean team until their two daughters, Sophia and Eileen, joined the business in 2014 and 2016 to take care of operations and design/branding respectively.

Growth was steady in the first 20 years and it was primarily driven by word of mouth. However, by 2020, the brand seemed to have lost its appeal to the younger generational groups, specifically the millennials and Gen Zs. In September 2020, the sisters embarked on an initial rebranding strategy by repositioning DMK as shoes for every occasion and milestone across a woman's lifetime journey. In 2022, they strengthened the rebranding effort by basing it on five pillars: supporting the female community, diversifying DMK's products, reintroducing DMK Care to enhance the comfort of its shoes, providing a new and immersive retail experience, and strengthening DMK's digital capabilities.

With the Singapore footwear market projected to reach US$1,270 million by 2025[1] and amid intensifying competition, the Goh sisters faced the challenge of further elevating the brand and future-proofing the business. What else could they do to cope with the ever-changing digital marketing landscape?

HOW DMK CAME ABOUT

It was Wendy who first came up with the idea for a range of comfortable and stylish shoes as she had wide feet and had suffered from bunions since she was 30 years old. It had been a long search to find comfortable and stylish shoes that appealed to her. Coming from an underprivileged background, Wendy had grown up wearing hand-me-downs. Recognising how shoes played a significant part in a woman's perception of her image, she wanted to offer a range that was accessible to all women regardless of their socioeconomic status.

Launching a new footwear brand was challenging. The barriers to entry were high, primarily driven by high inventory and warehousing costs. However, Wendy and Peter had been owners of a footwear Original Design Manufacturer (ODM) since 1983, and thus had considerable industry experience, knowledge, and resources—including strong relationships with footwear manufacturers, and suppliers from Malaysia and China. The focus of the DMK brand was initially on the design of workwear shoes, especially covered pumps, which were comfortable and stylish for women with wide feet. The shoes adhered to three key design pillars: they were produced based on real foot measurements rather than industry standards, they were aligned to the latest fashion trends, and most importantly, they were designed for comfort when worn.

Compared to other similar shoes on the market, DMK shoes were reasonably priced, enabling women to buy and own multiple pairs of value-for-money fashionable and trendy DMK shoes. By 2003, DMK's business broke even, and from 2003 to 2014, it continued to grow steadily. To keep costs low, functions like design, retailing, human resources, and logistics were managed in-house.

RETHINKING THE OFFERING

Sophia, the older sister, joined the family business in 2014, and moved up the ranks to become Chief Operating Officer. Eileen joined in 2016 and was the Chief Creative Officer. Despite their daughters joining the family business, the founders continued to hold the reins of the business. Sales were growing steadily year on year, and they believed it would be better to stick to the winning formula rather than try something different or start anything new.

The two sisters, however, felt that more could be done to revitalise the brand and increase sales. They believed that the brand perception had aged as the customer base comprised mainly Gen X and baby boomers, who were also approaching retirement age.[2] It was also evident that DMK was missing out on new market opportunities, especially from the emerging generational groups–the millennials and Gen Z, who typically had deep pockets,[3] preferred brands that focused on sustainability and made a positive impact on the community,[4] and practised ethical and eco-friendly manufacturing along with fair treatment of their employees.[5]

The final trigger came with the COVID-19 pandemic in 2020. Confined to their homes during the government-imposed lockdown, customers had no reason or motivation to buy new shoes or bags. Women's footwear sales in Singapore, thus, plunged drastically to S$453 million in 2020, down 30 percent from 2019.

THE INITIAL REBRANDING STRATEGY

Throughout the rebranding exercise that commenced in September 2020 and continued for a year, the sisters did not want to deviate from the core beliefs or go against the opinions of their parents. They wanted to adhere to the brand's core promise of fit, style, and comfort, and they wanted to continue to provide for women with wide feet and bunion sufferers. The sisters' idea was to revitalise the DMK brand and extend the product lines to support a woman's journey more holistically beyond work, such as for a fun night out, as well as milestone events such as the first job interview, a friend's wedding, or even their own wedding. They also wanted to create other shoe categories such as sneakers and casual shoes. In addition, increasing sales and targeting the millennials and Gen Z were two key considerations. One of the first collections that targeted these generational groups, who were known to like versatile and minimalistic designs so that they could easily express their unique selves, was the 'Minimalist Dreams Collection'.

The initial sales of the extended product offering in sneakers, casual wear, and occasion wear shoe categories during the first six months only amounted to less than 20 percent of total sales. A year after the sisters launched the rebranding strategy, sales for sneakers, casual wear, and occasion wear shoes had doubled.

THE NEW BRANDING STRATEGY

The sisters, particularly Eileen, felt that the brand promise of "Look Good, Feel Good" connected at the level of the "head and heart", but left out the "gut". Connecting at the "head, heart, and gut" was critical because younger generations including the millennials and Gen Z were known to be drawn to brands that aligned with their personality, values, and beliefs.[6] This insight led the sisters to repurpose the brand promise from "Look Good, Feel Good" to "Look Good, Feel Good, and Do Good" in March 2022. In particular, "Do Good" involved making a difference and driving impact in the community. This required DMK to take a harder look at how the brand could feature more prominently in the lives of women, such as supporting domestic violence victims and breast cancer survivors.

> DMK's focus on product diversification led to a product mix that comprised 50 percent of workwear and 50 percent of shoes for all occasions.

Five pillars were developed to support the new branding strategy. These included: supporting the female community, diversifying DMK's products, reintroducing DMK Care, providing a new and immersive retail experience, and strengthening DMK's digital capabilities.

1. Supporting the female community

In March 2022, DMK started collaborating with United Women Singapore and SWCO (Singapore Council of Women's Organisations) Star Shelter to raise funds to support marginalised women. Such initiatives strengthened its brand appeal to its target consumers. Together with their partners, they raised thousands of dollars to empower women from different walks of life. A series of content marketing campaigns with SCWO Star Shelter, Breast Cancer Foundation, United Women Singapore, and Daughters of Tomorrow was launched. Since March 2023, DMK established a long-term partnership with Resilience, a social organisation that shared its commitment to mental health and wellness. Together, they wanted to create a community where people felt heard, valued, and supported.

2. Product diversification

The sisters also tried to promote DMK as a brand of choice for women who closely followed the latest local or global fashion designs, by drawing inspiration from fashion trends within and outside Singapore. As an example, when pastel colours became hip among the millennials and Gen Z, DMK introduced the "Y2K Colour Pop Collection".

A focus on product diversification led to a product mix that comprised 50 percent of workwear and 50 percent of shoes for all occasions. By the end of 2022, DMK had eight categories of shoes–boots, sneakers, flat pumps, flat sandals, heel pumps, heel sandals, wedge sandals, and moccasins. A seasonal approach was used to curate footwear collections, alongside the expanding range of handbags that ranged from workwear handbags to fashion handbags. In line with the new 'Do Good' rebranding strategy which also

focused on sustainability, DMK reduced the number of styles launched each week by up to 30 percent to between six and 12 new styles to curate a more focused collection, and placed more emphasis on the intricate details of each product.

3. Reintroducing DMK Care

Even though DMK had been providing shoe accessories and complimentary services to help customers maximise the comfort of their shoes through DMK Care, not much had been done before 2020 to promote this service. DMK Care was thus reintroduced when it was found that there was a need for customer education, especially to show how customers can maximise the comfort of their shoes. The range of products in DMK Care was expanded. DMK's Fit Stylists were also upskilled to provide advice and show customers how to select the best-fitted shoes and recommend the appropriate accessories for enhancing comfort. The "DMK Fit Guide" was constantly updated with new ideas and suggestions for its customers.

4. Renovating major retail stores

The DMK retail outlets were renovated so that customers could experience a space that was in perfect harmony with history, culture, and sustainability. The stores were meant to exude a sense of modernity and warmth so that customers would be inspired to visit them to explore and try on new styles of shoes. Additionally, the stores were designed to evoke surrealism and realism so that the DMK brand would arouse an emotional connection that would speak to both the subconscious and conscious minds of customers. After renovating the flagship store at NEX Shopping Mall, a major suburban mall in Northeast Singapore, the same retail concept was extended to the rest of the major stores.

The new retail concept was a hit with customers. It was fresh and unique, attracting significantly more footfall compared to other DMK stores. With this initial success, the new retail concept was extended to the remainder of its major stores. To take the brand abroad, franchise arrangements were drawn up. By the end of

2022, there were six franchised outlets in Brunei, Fiji, Myanmar, and Nepal, and a pop-up store at Showfields New York, USA. Overseas customers could also buy DMK shoes through its online store which provided worldwide shipping.

5. Strengthening of DMK's digital capabilities

Two streams of digital capabilities were shortlisted to strengthen the brand–one involved building analytics capabilities, and the other, social media and digital marketing.

For social media and digital marketing, Instagram was used to promote the brand and its products. To drive customer engagement, posts combined information on products like shoes and handbags with lifestyle content for impactful storytelling. The Instagram social media initiative tripled the sales on the DMK website. The social media content also supported women's causes such as creating public awareness of breast cancer–in line with Pillar 1 of the new branding strategy.

In January 2021, the DMK social media and digital marketing strategy was further amplified through local Singaporean influencers. Influencers such as Lindsay Voitton who had more than 105,000 followers, as well as Sonia Asyira Arman, Eileen Mak, and Rachel Ng, who had more than 30,000 followers each on Instagram, were engaged to be a part of DMK's rebranding exercise. These influencers and many others with whom DMK partnered helped boost its follower numbers by 250 to 630 per month on Instagram to reach 18,926 followers by the end of October 2022.[7] As 2022 came to a close, DMK had successfully partnered with over 250 influencers. Key fashionistas were constantly identified to endorse the brand, and promote DMK's brand mission of "Look Good, Feel Good, Do Good" on social media. This helped DMK to connect with customers without the use of 'intrusive' advertising or direct placement of products on social media feeds. The DMK creative team also extended its brand presence by venturing into TikTok in August 2021.

The strategy was working. By 2022, DMK had grown to a 50-staff-strong enterprise and amassed more than 2.5 million customers, of which 12 percent were loyal patrons who had purchased products from DMK for more than 10 years. Due to customer demand, DMK had expanded its product offerings to include handbags, and the mix of shoes to handbags was 95 to five percent. By May 2023, there were close to 7,000 followers on DMK's TikTok handle, which had grown by more than 6,900 percent since 2021. Several of its videos had also gone viral with more than half a million views.

MOVING INTO THE FUTURE

While the rebranding strategy was effective in extending DMK's brand appeal to millennials and Gen Z, DMK started facing competition from global rivals. Are the sisters on the right track in managing DMK's brand? What must they do to future-proof the business? How else can they cope with the ever-changing digital marketing landscape?

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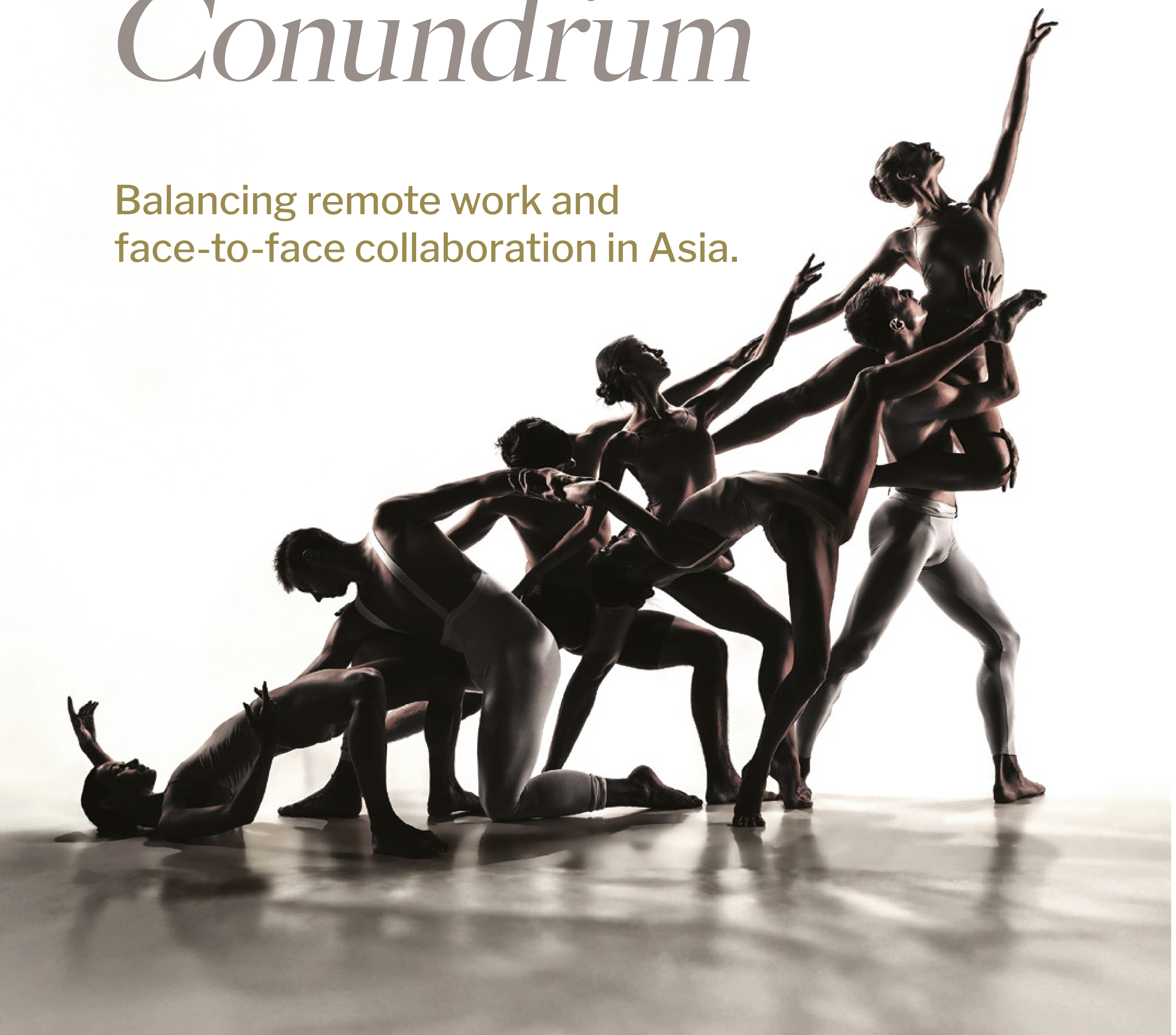
This article is based on the case study 'DMK: Rebranding a Footwear Brand to Connect with Millennials and Gen Z' published by the Centre for Management Practice at Singapore Management University. For more information, please visit https://cmp.smu.edu.sg/case/5816 or scan the QR code below.

For a list of endnotes to this article, please visit https://tinyurl.com/5suahf42 or scan the QR code below.

by
Andrew Heng

The Creativity Conundrum

Balancing remote work and face-to-face collaboration in Asia.



In today's rapidly evolving workplace landscape, the discussion around the effectiveness of remote work in fostering employee creativity has become increasingly contentious. This debate holds particular significance in Asia, where cultural nuances intersect with the modernisation of work practices.

Winnie Wei, a 47-year-old marketing specialist at a leading global automotive supplier, believes in the value of face-to-face interaction. The moments she finds most inspiring stem from unexpected in-office exchanges and brainstorming sessions. Wei splits her work week between the solitude of her home office and the bustling corridors of her corporate office. But it is during these office-bound days, through unexpected exchanges over coffee or impromptu brainstorming sessions, that Wei encounters her most profound moments of inspiration. Her experience vividly illustrates that creativity is not a solitary endeavour but a collective journey, enriched by diverse perspectives and spontaneous interactions.

As I delve deeper into the narrative, looking at the first Tesla electric vehicle (EV) which bears testament to innovation born from the confluence of varied disciplines and a spirit of collaboration, it has become clear that creativity often emerges from collaborative efforts spanning multiple disciplines.

It is evident that the inception of the Tesla EV was not the solitary achievement of an individual working alone from home. Yet, as organisations navigate the complexities of modern work arrangements, finding the optimal balance between remote and in-office work becomes paramount, especially in view of their impact on creativity.

My research sheds light on this critical challenge, exploring the dynamics within one of the automotive industry's giants and uncovering intriguing insights from a survey of 410 individuals across China and Germany. My findings include:

- There is a striking inverse relationship between the frequency of remote work and instances of employee creativity.
- Chinese employees experience a more significant decline in creativity when working remotely, especially when compared to their German counterparts.
- The adverse effects of remote work on creativity are particularly pronounced among Chinese women, highlighting potential gender-specific dynamics.

These findings underscore the urgent need for organisations to strategically re-evaluate their work arrangements to cultivate a conducive environment for creativity. This imperative is particularly salient in Asian contexts, where cultural dynamics may exacerbate the challenges posed by remote work.

- **My survey of Chinese and German workers shows that the impact of remote work on creativity varies by gender, culture, and age.**
- **Chinese women, in particular, grapple with cultural and gender norms that hamper creativity in remote work settings.**
- **Hybrid work models can provide flexibility without sacrificing talent or creativity.**

REMOTE WORK: IMPACT ON CREATIVITY IN ASIAN FIRMS

Amidst the ongoing global recalibration post-pandemic, Asian businesses find themselves at a critical juncture, grappling with the efficacy of remote work models. While the shift to remote work has undeniably offered flexibility and safety, a discernible murmur among Asia's business leaders, particularly in China, hints at a deeper concern: the intangible losses incurred during the transition from office to home.

Prominent industry players such as Alibaba are already heeding this call for adjustment, pivoting away from exclusively remote set-ups to embrace a hybrid model that prioritises physical presence in the office.[1] This strategic shift underscores a fundamental belief: while digital tools have undoubtedly streamlined processes, they fall short in facilitating the vibrant exchange of ideas inherent in physical work environments.

Jason Liu, 42, Head of Product Marketing at a leading auto supplier, participated in my survey and echoed this sentiment. With a regimen of two office days per week, Liu observes a stark contrast between virtual and in-person interactions. While virtual meetings adhere to structured agendas, they often lack the spontaneity and depth of discourse that catalyse innovation. For Liu, the limitations of online meetings include how they tend to prematurely end once a consensus is reached, thus stifling the free flow of ideas and serendipitous exchanges that encourage creativity.

My research found that higher remote work frequencies can potentially reduce creativity, especially in the Chinese workforce. While the pivot to remote work has introduced flexibility, concerns have arisen regarding the loss of spontaneous idea exchanges found in physical office settings.

CULTURE CLASH: NURTURING INNOVATION IN CHINA'S OFFICES

In the dynamic arena of modern workplaces, the fusion of culture and communication styles has emerged as a pivotal force shaping creativity. Nowhere is this interplay more pronounced than in the juxtaposition of high-context societies like China against lower-context ones such as Germany. In high-context societies like China, communication is accomplished not just through the words themselves, but also from shared cultural understanding and indirect cues. People derive meaning not just from the words spoken, but also from the speaker's tone, body language, and the shared history or culture of the group. This contrasts with lower-context societies like Germany, where communication is possible via plain text messages. The meaning is spelt out directly through the words themselves, with less reliance on non-verbal cues.

In China, a tapestry of tradition and subtlety weaves through workplace interactions, elevating face-to-face exchanges to an art form. The corridors of bustling offices serve as fertile ground for the cultivation of ideas, where the essence of communication transcends mere words to encompass nuanced gestures and unspoken understandings. This cultural tapestry, epitomised by the concept of *guanxi*, underpins the very fabric of creativity,[2] as exemplified by the experiences of individuals like Liu.

Conversely, in Germany, which is celebrated for its precision and efficiency, the transition to virtual environments unfolded with relative ease. Armed with a communication style characterised by clarity and directness, German professionals seamlessly navigate remote settings, ensuring that collaboration remains unhindered, and creative output is achieved unabated.

Yet, amidst these cultural nuances, one universal truth resonates: for Chinese businesses where innovation reigns supreme, the wholesale embrace of virtual work models risks diluting the very essence of creativity. As strategic leaders navigate this delicate equilibrium between full remote flexibility and the indispensable magic of face-to-face engagement, they are tasked with charting a course that honours tradition while seizing the opportunities of an ever-evolving landscape. A heavy reliance on virtual work could stifle the creativity that fuels success. Finding the delicate balance between remote efficiency and the irreplaceable spark of in-person interaction has thus emerged as the linchpin for fostering a workforce primed for innovation and success.

> Chinese employees experience a more significant decline in creativity when working remotely, especially when compared to their German counterparts.

GENDER DYNAMICS: EMPOWERING CHINESE WOMEN FOR CREATIVE SUCCESS

In the dynamic realm of virtual work, Chinese women face a unique set of challenges that underscores broader gender disparities. Research illuminates how gender-specific communication styles, often emphasising non-verbal cues, intersect with cultural expectations, impacting women's ability to thrive in remote settings.[3] Across cultures, women tend to rely more on non-verbal cues like facial expressions and body language to convey messages effectively. This tendency aligns with societal expectations, where women are encouraged to prioritise relationship-building and employ indirect communication.

However, this reliance on non-verbal cues poses significant hurdles for women in adapting to the constraints of remote work on creativity. Concerns about maintaining likeability and avoiding the appearance of over-assertiveness may deter them from adopting a more direct communication style in virtual settings.

My findings highlight the disproportionate impact of remote work on women, particularly in China. Chinese women, who are heavily reliant on non-verbal communication cues influenced by both gender and cultural norms, are more likely to experience decreased creativity while working from home, compared to their German counterparts. In this instance, countries can be classified according to their power distance, which refers to the degree to which people in a society accept hierarchical structures and unequal power distribution. In countries like China with a high power distance culture, respect for authority is emphasised, and indirect communication is often preferred. In contrast, countries with a low power distance culture like Germany tend to be more egalitarian and have a more direct communication style.

Chinese women typically thrive on brainstorming sessions. They tend to feed off the energy in the room, using subtle nods and smiles to gauge colleagues' reactions to their ideas. Working from home, however, makes them feel isolated. They struggle to convey their vision through text messages and video calls as they are worried that their ideas will be seen as too bold if they are too direct. This hesitation stifles their creativity, making them feel frustrated and disconnected.

In contrast, German women shine in virtual environments. They do not shy away from expressing their ideas directly, even in large online meetings. This confidence allows them to flourish creatively, proposing innovative solutions and collaborating effectively with colleagues across the globe.

> In China, a tapestry of tradition and subtlety weaves through workplace interactions, elevating face-to-face exchanges to an art form.

The contrast between Chinese and German women highlights the impact of cultural norms on communication styles. Gender stereotypes are further compounded by power distance. In nations with a high power distance culture such as China, entrenched gender roles may hinder women from deviating from traditional communication norms. Conversely, in nations with a low power distance culture such as Germany, women may encounter less pressure to conform, potentially empowering them to express themselves more openly in virtual environments.[4]

HARNESSING AGE DIVERSITY: BOOSTING CREATIVITY IN CHINA'S REMOTE WORKFORCE

In China's rapidly evolving remote work landscape, my research uncovers a stark digital divide between younger and older employees, illuminating profound implications for creativity and remote work.

Digital natives, epitomised by the younger generation, exhibit an innate fluency with technology, seamlessly navigating digital communication platforms to maintain productivity and foster innovation. Their comfort with online tools, honed through constant exposure, empowers them to communicate effectively in virtual spaces, transcending the limitations of traditional face-to-face interactions. This proficiency not only enhances collaboration but also fuels creative idea generation in remote work environments. Conversely, older employees face formidable challenges in adapting to digital workspaces. Their limited familiarity with technology, compounded by a reliance on non-verbal communication cues, poses significant barriers to effective collaboration and creative expression.

Innovative companies in China like Huawei are leading the charge in bridging this divide. Huawei's pioneering digital literacy programmes target older employees, equipping them with the skills needed to navigate modern communication tools.[5]

The overarching lesson? As businesses navigate the digital age, there is a growing imperative to tailor corporate strategies to accommodate diverse age groups. By embracing innovative solutions that facilitate effective communication and collaboration across generational divides, companies can harness the full spectrum of talent within their workforce to drive creativity and success in an increasingly digital world.

My findings reflect a broader need for companies to adapt corporate strategies to accommodate the diverse

Finding the delicate balance between remote efficiency and the irreplaceable spark of in-person interaction has thus emerged as the linchpin for fostering a workforce primed for innovation and success.

needs of a multigenerational workforce in the digital age. Companies in Asia should take a step forward to explore innovative solutions to facilitate effective communication and collaboration regardless of age.

NAVIGATING THE NEW NORMAL: UNLOCKING CREATIVITY IN A HYBRID WORK FUTURE

As leaders chart the course for their organisations in a post-pandemic world, they face a crucial decision: how to harness the newfound flexibility of remote work without sacrificing talent or creativity. The answer lies in embracing a hybrid model that accommodates the best of both worlds.

Take Liu, a staunch advocate for the hybrid approach. For him, the flexibility of remote work is not just about convenience–it is about seizing precious moments with family while maintaining peak productivity. Yet Liu acknowledges the importance of in-person collaboration, recognising that sparks of creativity can only be ignited in a bustling office environment.

Across Asia and beyond, the era of remote work is here to stay. But as leaders navigate this paradigm shift, they must strike a delicate balance, prioritising creativity, productivity, and employee well-being. Here is how they can do so.

Embrace flexible hybrid scheduling

The hybrid model ushers in a new era of uninterrupted focus and creative breakthroughs. By granting employees the autonomy to choose where they work, whether it is in the comfort of home, the ambience of a café, or the tranquillity of a library, organisations unleash the full spectrum of human ingenuity. This spatial flexibility cultivates personal creativity havens where minds roam free, unshackled by the constraints of traditional office settings. Moreover, these diverse environments spark fresh perspectives and innovative ideas, invigorating the creative process and driving progress forward.

Create a 'Destination Office' environment

Traditional offices can be transformed into a dynamic hub of collaboration and community. Gone are the days of isolated workstations; instead, envision open, flexible spaces teeming with energy and creativity. By infusing elements of nature, art, and comfort, organisations create an environment where employees are drawn to connect, ideate, and innovate. This intentional design fosters direct, collaborative interactions that ignite the spark of creativity, propelling teams towards collective excellence.

Champion equity in technology access

There should be equal access to technology and comprehensive training ought to be provided to all employees. Organisations must dismantle barriers and biases in order to empower all employees to leverage technology effectively. Through mentorship programmes that bridge generational divides and peer support groups that foster inclusivity, organisations can cultivate a culture of mutual learning and respect. By addressing gender-specific challenges head-on, companies can empower women to navigate digital communication tools with confidence, driving innovation and progress. Gender-specific groups can also be formed to address particular challenges women might face in using digital communication tools.

CONCLUSION

The research findings discussed above underscore the nuanced impact of remote work on creativity, with significant variations observed across different demographics, including gender, nationality, and age. The hurdles faced by Asian workers and the digital disparities among generations underscore the imperative for inclusive solutions. By embracing flexible hybrid scheduling, redefining workplaces, and providing equity in terms of access to technology, organisations will be able to not only mitigate the challenges of remote work but also unlock its boundless potential to propel creativity to new heights.

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by Vijaya Sunder M, Ram Nidumolu, Milind Sohoni, and Siddhartha Modukuri

Setting Up the Right Guardrails

Using a stakeholder orientation view to steer infrastructural public-private partnership projects.

- Emerging economies need public-private partnerships (PPPs) to deliver much-needed large-scale infrastructural projects.
- An 'orientation precedes strategy' approach to partnerships generates wider societal acceptance and financial viability for stakeholders.
- The stakeholder-orientation framework improves decision-making by promoting adaptability and inclusive engagement, as illustrated by the success of India's Hyderabad Metro Rail Project.

An investment gap of US$4 trillion—almost as large as Japan's economy in 2023—exists in infrastructural development among emerging economies, particularly to fulfil the Sustainable Development Goals (SDG).[1] Advanced economies will similarly need to make large investments in modernising and digitising their existing infrastructure to reduce inequalities, and improve access to critical public goods like education, healthcare, and food.[2] Consequently, given the limited fiscal resources of governments, there is likely to be a surge in public-private partnerships (PPPs) in infrastructural development in the coming years. According to the World Bank, private participation in infrastructure initiatives has already grown by 23 percent during the 2021-23 period.[3]

Because of their large-scale nature, infrastructural PPP projects significantly impact the local economy, no matter whether they fail or succeed. For example, on the positive side, Botswana emerged as one of the fastest-growing economies because of its well-articulated and robust governance practices for PPPs, despite its economic challenges from a fiscal deficit in the minerals trade.[4] Conversely, the Philippines had to bear severe losses due to financial bankruptcies and public discontent with its infrastructure initiatives, which required it to overhaul its approach to PPPs.[5]

Given the significant impact of infrastructural PPPs, executives who are managing these partnerships must effectively address the many risks that plague these projects. While past studies have largely explored the financial, legal, and organisational aspects of PPPs, there is no guiding framework that PPP executives could use to address the performance risks from the variety of stakeholders and their interests. This article presents a novel approach of 'orientation precedes strategy' to do so. We argue that *how* PPP executives orient to their stakeholders lays the foundation for the kinds of stakeholder management strategies that are developed, and the success of these strategies. In our article, we distinguish between two kinds of stakeholders, and describe the various orientations that PPP executives can adopt to address the associated performance risks.

STAKEHOLDER RISKS: BALANCING FINANCIAL AND SOCIETAL OUTCOMES

The performance risks that PPPs face regarding stakeholders arise from two sources. The first relates to stakeholders' financial risks during the project and beyond. Although every PPP project starts off with optimistic estimates, unexpected challenges often threaten its financial viability and impose considerable financial losses on some stakeholders. A prominent concern pertains to the prevalence of project setbacks precipitated by unanticipated cost overruns. For instance, in Canada, the Blue Line extension of the Montréal Metro has encountered numerous delays despite assurances from the government and years of careful consideration.[6] The substantial escalation of the initial estimates, and the egregious underestimation of numerous costs associated with acquiring space for the expansion have led to unanticipated setbacks. On the other hand, successful PPPs such as the trams in Freiburg, Germany have created substantial commercial outcomes through well-thought-out ticketing and marketing strategies rather than pricey architecture.[7]

This article presents a novel approach of 'orientation precedes strategy' to address performance risks. We argue that *how* PPP executives orient to their stakeholders lays the foundation for the kinds of stakeholder management strategies that are developed, and the success of these strategies.

The second major source of performance risks comes from the challenges in gaining societal acceptance of the project. Infrastructural PPP projects have large-scale impacts on the local community or society, given their size and significance. Societal legitimacy, therefore, forms the other dimension of our framework. Projects cannot proceed smoothly unless they have secured buy-in from influential stakeholders.

However, the initial buy-in or the lack of conspicuous opposition should not be confused with a societal licence to operate across the entire lifecycle of the project. This is because public acceptance of PPPs that initially appear to address legitimate developmental and commercial challenges may quickly mutate into opposition as their social and environmental impacts become clearer during implementation. The Mumbai Metro Rail Project (MMRP) in India is an example of a metro PPP that has faced significant public resistance.[8] The project aimed to build a network of 14 metro lines in Mumbai at a total estimated cost of over US$23 billion. Several critics argued that the project was too expensive and would primarily benefit private investors, rather than the public. Besides, as the project was expected to displace thousands of people, many of whom were poor and lived in slums, there were concerns that the government would not be able to provide adequate compensation and resettlement for those who would be displaced.

STAKEHOLDER GROUPS: VALUE CHAIN AND ECOSYSTEM

PPP stakeholders can be grouped into two categories: value chain and ecosystem. Value chain stakeholders are typically entities in the economic value chain for the PPP, such as financial investors, construction firms, input providers, private concessionaires, technology partners, and funding agencies from local and federal/central governments, all of whom have a financial stake in the project. If the PPP is an upgrade or replacement for an existing infrastructure, value chain stakeholders also include its existing customers.

Ecosystem stakeholders cover entities such as the media, local merchants and communities, social and environmental groups, political parties, the government at large, and other entities that comprise the ecosystem in which the value chain is embedded. The initiative impacts ecosystem stakeholders, even if they are not directly part of the economic value chain. They also include the general public who are likely to be future customers of the PPP services. These stakeholders especially affect infrastructural PPPs as they often represent conflicting social, environmental, political, and other interests.

Since the stakeholder management strategies differ depending on the category the stakeholder belongs to, we depict these strategies in two separate grids (refer to Figure 1).

As shown in Figure 1, the optimal position for a PPP project is in the upper right quadrant in both grids, where financial viability and societal legitimacy for both value chain and ecosystem stakeholders can be attained. However, financial risks like cost overruns and delays, or societal legitimacy risks like adverse public perception and inadequate communication, can push the project into other quadrants. In such situations, PPP executives need robust strategies to work with their stakeholders to return the project to the desired upper right quadrant. We will illustrate these stakeholder management strategies using the Hyderabad Metro Rail Limited (HMRL) initiative, which is a PPP involving the government of Telangana (a state in India), several Indian government ministries, and private players such as Larsen & Toubro (L&T) Limited. HMRL was

STAKEHOLDER MANAGEMENT GRID

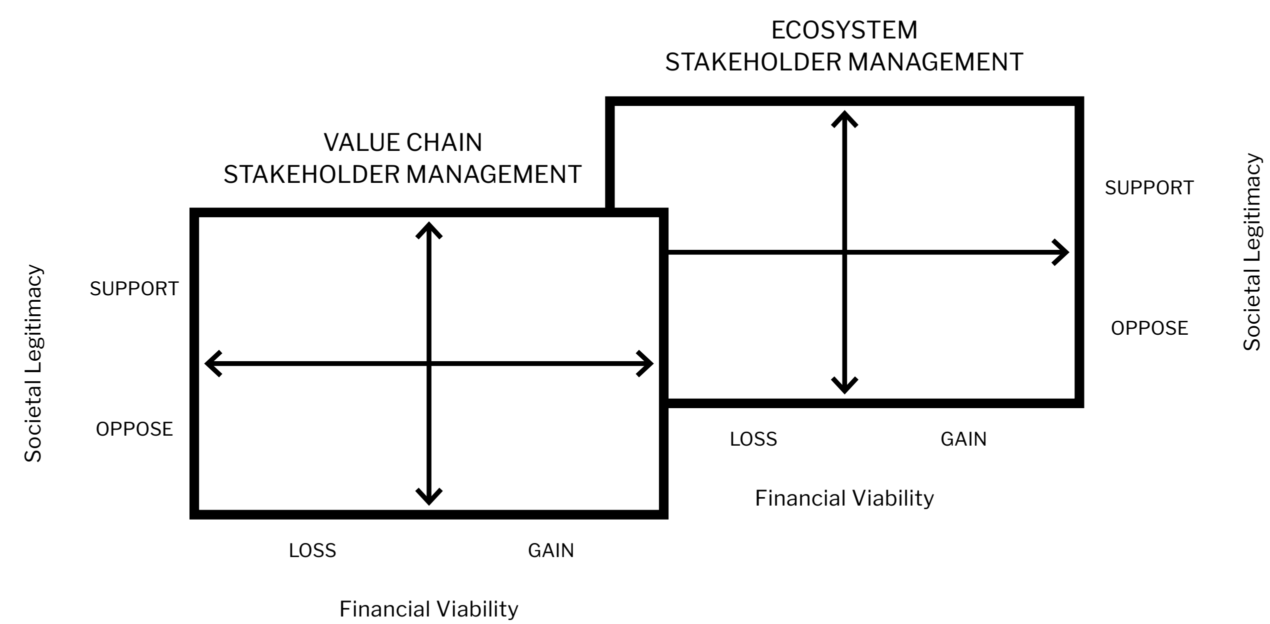

FIGURE 1

the business entity created to coordinate among the stakeholders and ensure the completion of metro rail facilities in Hyderabad, the capital of Telangana and a Tier-1 metropolitan city with a population of 10.5 million.

GETTING ON TRACK: THE HYDERABAD METRO RAIL PROJECT

The Hyderabad Metro Rail is reportedly the world's largest metro rail project implemented by a PPP, costing over US$2 billion during its initial implementation.[9] It is arguably one of the most complex infrastructure projects undertaken in India this century, given its size, the variety of stakeholders, congested conditions, and shifting sociopolitical forces. In the early 2000s, millions of Hyderabad residents faced traffic congestion, leading to heavy air pollution that made a metro rail a desirable solution. The ambitious Hyderabad Metro Rail project proposed to shorten transit times by as much as 70 percent and reduce carbon emissions by up to 3,100 tons a year once fully operational, compared to existing transportation systems.[10] Despite the variety of challenges involving financial losses, stakeholder issues, and substantial public opposition initially, the project succeeded and has become an iconic example of infrastructural development in India.

The HMRL was created in 2006 to manage the Hyderabad Metro Rail project. L&T Limited, an end-to-end infrastructure services provider in India, was the private partner that HMRL executives worked with to construct the metro rail. The project had found itself in different quadrants at different points in time. To demonstrate how stakeholders could be steered towards the upper right quadrant, we highlight the variety of orientations that the HMRL executives adopted with regard to their stakeholders and discuss the strategies they used to bring the project back on track to success.

Managing value chain stakeholders

Value chain stakeholders have 'skin in the game' regarding investments and other resources that represent their stake in the success of the PPP project. As such, they are most financially exposed to the project's success or failure. In the HMRL project, the most important value chain stakeholders were L&T (the general contractor for the project), and the state and central government agencies that had invested in the project. HMRL executives adopted the following orientations to manage these stakeholders, as illustrated in Figure 2.

STAKEHOLDER ORIENTATIONS FOR VALUE CHAIN MANAGEMENT

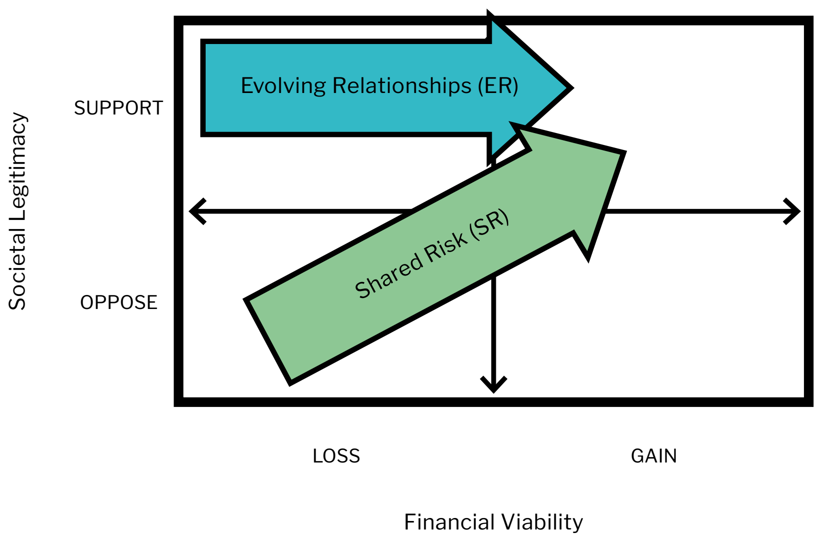

FIGURE 2

Orientation of Evolving Relationships (ER)

During the initial bidding phase for the project valued at US$1.5 billion in 2007, HMRL executives presented standard terms and conditions for a concessionaire over a 30-year duration. The offer was awarded to a local infrastructure development company named Maytas, which backed out shortly afterwards because it could not meet the terms of the offer, leading to the failure to achieve financial closure for the project as scheduled.

Although societal legitimacy was secured through considerable support from key stakeholders, the project's financial viability suffered a huge blow, and the whole venture found itself in the top-left quadrant of Figure 2. HMRL executives substantially reoriented their approach to the contract and the monitoring mechanisms by adopting an ER orientation. How this novel orientation differs from conventional contract management is that the HMRL executives emphasised 'ongoing' flexibility and adaptation in response to changing circumstances and evolving project needs, instead of static adherence to predefined terms and conditions. With this orientation, HMRL executives invited fresh tenders for constructing the metro, and in July 2010, L&T secured a bid for about US$1.8 billion. Both entities encountered numerous challenges as the project unfolded, but their relationship was strengthened due to the HMRL executives' willingness to have a flexible orientation towards evolving project needs.

This flexibility was exemplified by the HMRL executives' unique construction plan. It called for 85 percent precast materials, in order to cause the least disruption to traffic and connect the metro to the narrowest streets in Hyderabad, while L&T provided the necessary resources per the revised budget to design a first-of-its-kind, single-pier model that would ensure the least disturbance to Hyderabad's heritage sites and dense marketplaces.

Thus, adopting a progressively ER orientation is critical for adapting to an ever-changing landscape of public-private sector interactions. During the course of a PPP project, the roles and expectations of public and private entities will continue to evolve and even transform. This will require managers to adjust to shifting conditions, emergent technologies, and evolving global trends. By adopting an ER orientation, PPP executives can continually identify and resolve challenges, forecast future requirements, and promote innovation in project design and implementation.

Orientation of Shared Risks (SR)

Political tensions emerged in the state when the project was recommended in 2010 with L&T as the construction partner. The political volatility intensified and further stalled the project for another few years. As a result, the delays in everyday operations led to the metro rail project incurring additional cost overruns that pushed the overall cost to US$2 billion. Since the initial implementation efforts involved digging the roads and transporting materials, the delays cast doubt in the public's mind over the overall credibility of the project. As the state's political situation deteriorated, tensions among ecosystem stakeholders, such as the Telangana public and political parties, as well as social, religious, and environmental groups, became palpable. With the project facing financial losses and societal opposition, it was pushed into the bottom left quadrant.

Four consecutive changes in government structure had occurred within a five-year period (2009-2013) due to the severe political tensions. Consequently, HMRL executives were compelled to reposition and repurpose their proposal to gain the support of each new state government. The HMRL and L&T executives joined forces to mitigate the risks and reached out to the new state government that had taken over in 2014 and previously opposed the project. Yet again, the additional overruns were shared among the project's core value chain stakeholders, i.e., other private partners, and the state and central government ministries funding the project. In addition, HMRL executives came up with a novel concept of renting out the spaces around the metro to L&T for developing shopping malls and market areas. These malls were planned to eventually generate revenues by leveraging the high footfalls created by commuters at the metro stations, thereby contributing to the project's top line. Consequently, this initiative created 18.5 million square feet of infrastructure, including office and infotainment spaces, near critical metro stations, thus enhancing the quality of life and stimulating economic activity there.

Therefore, an SR orientation was cultivated to manage its stakeholders in ways in which all parties benefitted. Value chain stakeholders derived economic benefits while ecosystem stakeholders leveraged upgraded lifestyles. Thus, HMRL executives created a partnership that went beyond the letter of the PPP agreement and built personal connections that sustained the project over the next decade. The partnership emphasised the usage of the value chain stakeholders' complementary capabilities. To wit: L&T provided technical and operational expertise to implement the metro project and develop nearby areas for economic benefits, while the government agencies provided a key portion of the funding thereby fostering public trust. As for the HMRL executives, they provided political cover by managing the rest of the ecosystem stakeholders to create a win-win situation for all.

In the challenging settings that characterise infrastructure projects, it is critical for PPP managers to adopt such an SR mentality. This stands in contrast to conventional risk-sharing methodologies that may disproportionately assign risks to a single party. An SR orientation in turn prioritises the fair and balanced allocation of risks among public and private collaborators.[11] Risk-sharing becomes a strategic imperative especially when unpredictability is the norm, such as in the case of the Hyderabad Metro Rail project. This orientation promotes cooperation, openness, and confidence among interested parties by recognising that every participant contributes distinct competencies and strengths to the alliance. By promoting an SR orientation, PPP executives can bolster resilience, foster a collective sense of accountability, and motivate proactive resolution of issues.

Managing ecosystem stakeholders

While ecosystem stakeholders may not directly invest resources in the project, they can nevertheless powerfully influence its performance via their support or opposition. For the Hyderabad Metro Rail project, the most important ecosystem stakeholders were the political parties in opposition, the social and environmental groups in Hyderabad, as well as the local street vendors, merchants, property owners, and religious leaders, since their livelihood and the public's access to them would be affected by the metro. HMRL executives used the following strategies to manage these stakeholders, as illustrated in Figure 3 below.

Orientation of Proactive Transparency (PT)

After the project recommenced in 2010, HMRL executives planned to divide it into distinct phases such as route selection, land acquisition, and metro construction to alleviate public discomfort and foster trust. This would also enable a more organised and transparent approach to implementation and communication with the public. At each phase, HMRL executives had to work closely with L&T managers to ensure the timely completion of critical milestones while mitigating delays in obtaining the necessary permits.

STAKEHOLDER ORIENTATIONS FOR ECOSYSTEM MANAGEMENT

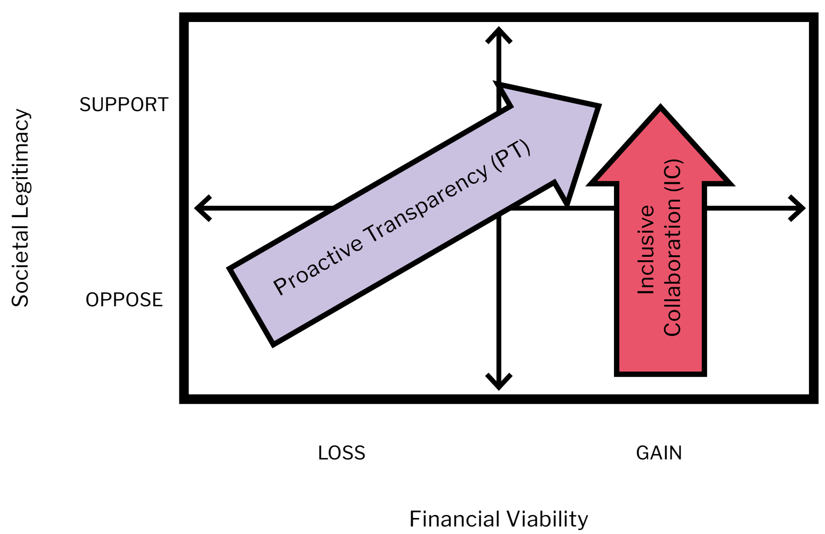

FIGURE 3

With our novel 'orientation precedes strategy' framework, managers need to have orientations such as evolving relationships, shared risks, proactive transparency, and inclusive collaboration to navigate the potential barriers via stakeholders in mega projects.

For instance, HMRL executives conducted an intricate evaluation of the metro rail network's route alignment by considering traffic patterns, population density, and anticipated demand. As the final route plans and execution procedures emerged, several authorising bodies that were key ecosystem stakeholders were convinced that the metro rail project would not only bring more relief to city commuters, but also be a game changer in attracting infrastructural investments. With the acceleration of approval processes, HMRL executives gained considerable momentum to proceed with subsequent phases. As a result, what was once deemed a slow-moving project during its initial stages surged ahead of schedule and captured widespread media attention and support among ecosystem stakeholders. By adopting a PT orientation for ecosystem stakeholders, HMRL executives brought the project back on track, erasing the financial losses and stakeholder opposition at the time of project recommencement.

PPPs require proactive transparency to build trust, address social opposition, and minimise financial losses. Open communication builds trust among stakeholders, thus fostering a sense of shared responsibility. Proactive transparency also allows project managers to address public concerns and incorporate feedback, avoiding delays and legal disputes. Early identification of issues prevents financial setbacks and ensures long-term success. This orientation enhances the resilience of PPPs, and fosters collaboration and mutual understanding.

Orientation of Inclusive Collaboration (IC)

Hyderabad, one of the oldest cities in India, had narrow and old roads that would need to be widened to accommodate the metro stations and pillars. Consequently, HMRL executives had to acquire around 3,000 properties for the metro rail project. However, this land acquisition faced great resistance from ecosystem stakeholders such as traders in high-density market areas. They demanded realignment of the route to safeguard both their businesses and the historic markets that had existed in the areas for decades, resulting in approximately 370 court cases.

To further exacerbate the situation, several religious leaders insisted on realignment as the metro line required the relocation of certain religious structures. A major public outcry ensued, requiring immediate attention. Although the metro rail project was on track to achieve financial viability, its societal legitimacy suffered, pushing the project into the bottom right quadrant, as shown in Figure 3.

At this juncture, HMRL executives adopted an IC orientation when working with their ecosystem stakeholders. They prioritised efforts to actively engage local communities and civic organisations, address land acquisition concerns, and harmonise the project's objectives with the city's developmental aspirations. Public hearings and interactive workshops facilitated meaningful dialogue, which helped create a sense of shared ownership among community members. Open communication, joint problem-solving, and knowledge sharing amplified operational efficiency, quality, and stakeholder satisfaction. For example, joint steering committees and project management teams comprising public and private consortium partners were established, fostering seamless collaboration.

A key element of an IC orientation was to tailor the approach to the particular stakeholder by paying special attention to the religious, cultural, and social issues at play. An HMRL executive told us, "If we had to fly over or reposition a Hindu structure, the general manager would deal with it because that is his religion. If we were assessing a Muslim structure, we would appoint a devout Muslim so he could advise. And we had several Christian officers who would advise us when we were approaching the leaders of a church. In India, tackling these issues with sensitivity and inclusiveness is important."

In the Hyderabad Metro Rail project, the IC orientation was especially important during the long and difficult stages of land acquisition, because it engendered community support in a variety of ways. Numerous artists joined forces to create jingles and poems that highlighted the public's identity and emotional attachment to the city's development. These activities fostered a positive sentiment among the public towards the metro rail project, revitalising Hyderabad's urban landscape. By creating an inclusive and collaborative relationship among the key ecosystem stakeholders, HMRL executives were able to secure societal legitimacy for the project.

An IC orientation differs from conventional approaches because in addition to the direct stakeholders in the value chain, it actively involves a broader range of stakeholders in the larger ecosystem. It promotes shared ownership and understanding, ensuring that the demands of the various groups are considered. By acknowledging the complexities of social circumstances, this more comprehensive and socially-conscious approach also fosters trust and reduces opposition. Most importantly, it ensures that a PPP meets the diverse needs and expectations of the variety of stakeholders that comprise the general public.

CONCLUSION

With the growing global need for PPPs to develop large infrastructure projects, it is vital that managers have a definitive framework to mitigate the risks posed by stakeholders during the project's lifetime and beyond. Using our novel 'orientation precedes strategy' framework, we argue that managers need to have orientations such as evolving relationships, shared risks, proactive transparency, and inclusive collaboration to navigate the potential barriers via stakeholders in such mega projects. In our article, we used the HMRL project as a prominent example of how a PPP that adopted the appropriate approach can overcome obstacles including financial, infrastructural, political, and religious tensions to achieve success. With the proposed framework, managers are better equipped with an orientation that helps them design strategies to overcome the barriers at every stage of the project.

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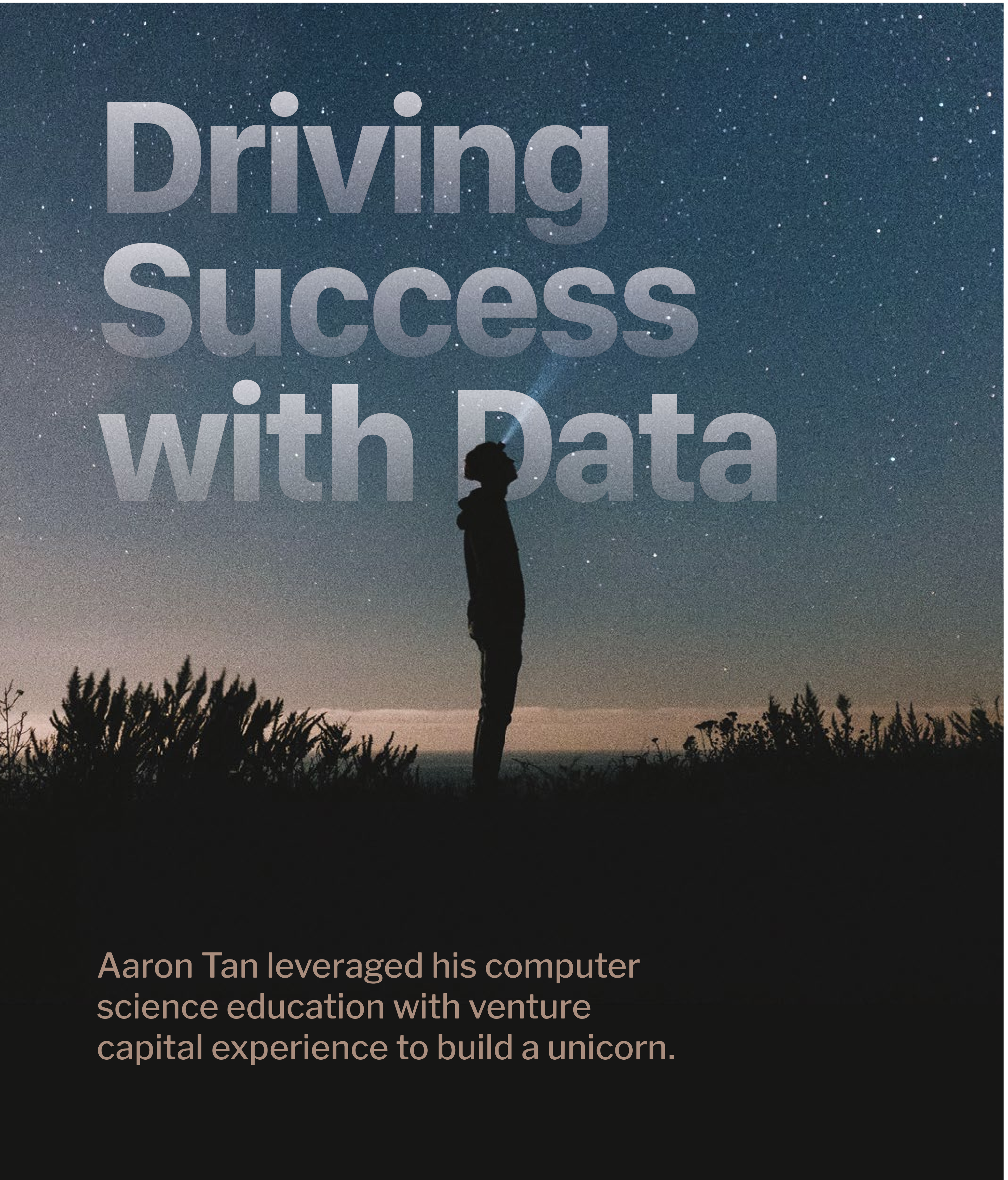


Driving Success with Data

Aaron Tan leveraged his computer science education with venture capital experience to build a unicorn.

With annual revenues of about US$800 million and a workforce of some 5,000 people across seven markets in Asia, online car retail platform Carro has come a long way since CEO Aaron Tan founded the start-up with two former schoolmates. Less than 10 years after Carro sold its first car, and three years following its attainment of unicorn status with a valuation of at least US$1 billion, it is now mulling over an Initial Public Offering (IPO). Tan charts the start-up's early challenges, the hard lessons learnt, and the importance of a data-driven culture.

What inspired you to start Carro? Did you spot a specific market gap or opportunity?

I started the company between 2015 and 2016 while I was serving out my government scholarship bond with the then-IDA (Infocomm Development Authority of Singapore). I was in the US working in a venture fund called SingTel Innov8, and I noticed something interesting about the way that people buy cars in the US. There was this company called CARFAX, and another one called KBB (Kelley Blue Book). One tells you the price of the vehicles, and the other tells you the accident history of vehicles. Long story short, it was all about establishing trust, and helping people buy and sell vehicles better.

In 2015, I was close to serving out my bond. I got a couple of my Carnegie Mellon University classmates (Carro co-founders Aditya Lesmana and Kelvin Chng) together and said, "Hey, we should form a start-up together!" The opportunity cost wasn't very high at that point in time because, five years into our first jobs, how senior could we be?

We thought it was an interesting and big enough opportunity. Given my venture capital background, a few things are important. First, adjacencies. That means, where can I go from here? Today, I'm in the automotive business, but I can branch out into financing, insurance, warranties, and after-sales services. So adjacencies are super important for me. Second, competition. Is there too much unhealthy competition where there's a red ocean? If so, we avoid it. Third, I look at either TAM (Total Addressable Market) or SAM (Segment Addressable Market). What's more important to me is SAM. In this case, we were looking at the used car segment regionally—it was worth about US$20-30 billion. Today, it's worth US$20 billion in Indonesia alone. If you look at Singapore and Malaysia, each is worth about US$10 billion. Thailand's value is about US$10-20 billion. This adds up to a market of about US$50-60 billion regionally just in ASEAN (the Association of Southeast Asian Nations). Fourth, as we were doing up our initial business plan, we wanted to do something that people wouldn't find too hard to understand. If you're selling wellness and self-help, it is harder for most people to understand, even from the investor standpoint. Buying and selling cars is easier to relate to, just like selling properties and clothing is easy to understand. Think 衣食住行 (Chinese for "Clothing, Food, Housing, Transport", i.e., daily necessities). When we were thinking about what to do, we wanted to make sure that we were doing something that was related to those four things.

In our case, we caught the mobility trend pretty well. At that point in time, in 2015, I was based in the US and in my final year with the venture fund. I had met the founders of Tesla, Grab, Gojek, and Uber. I felt there was a lot of movement and momentum in the used car business, or for that matter, the mobility business. There was self-driving and EVs (electric vehicles), so there were a lot of things going on. I thought the momentum was right, and the competition intensity was low because nobody was doing what I wanted to do at that point in time. There was a good market size with very large market segments, and they were very addressable markets. And there were a lot of adjacencies that we could go into. So we thought this was a very good space and we took the plunge.

What major obstacles did Carro face in the first five years? How did you overcome them?

The biggest issue going into any business is always manpower. How are you going to compete with Facebook and Google for talent? How are you going to get developers to build your system? How are you going to get middle and general managers?

Any of the big companies can pay 10 times more what I can pay. How can we sell the Carro story? The easy answer is: You can give them equity and make them equity partners. But how can a Series A company, which is still at a very early stage with maybe 20 people, convince a world-class talent to say, “This is it, I see the potential” and join us? Most people just prefer more cash. So the compensation and hiring of people was the biggest hurdle that we had.

Coupled with this was the fact that we have to be regional, if not global, from Day Zero. Let’s say you raise a million dollars. You could hire a few people with that money and your runway is about a year at best. And you have to show numbers if you want to raise your next round. One thing that we did relatively well as a company was fundraising. We never really had this issue of a fundraising gap whereby we needed money, and we didn’t have it. The company was always relatively cashed up.

How did you manage to do that? Did the company produce the necessary numbers?

At the seed stage, it is easier to get money compared to the more mature stages, because you have family and friends. Sometimes we might be able to get some investor money, and of course I’m in the investor camp since I know all of them. We raised about US$700,000 for our first fundraiser. It was literally just four coffees with four high-net-worth individuals, and that was done.

But I was very clear that if we do not have the requisite numbers, be it revenue or gross profit or EBITDA (earnings before interest, taxes, depreciation, and amortisation), we would not be able to raise Series A funding, no matter how good a storyteller I am. We were lucky that we had good numbers from the start. A car in Singapore costs about S$100,000 to S$200,000, so after we sold some cars, I could show my investors a few million dollars in sales, and other investors were then willing to put money in.

It cannot just be luck that led to your success.

One might say it is down to skills as well, but a lot of it is also market timing. Because I was still actively involved in the capital markets, I saw things other CEOs in the start-up world didn’t see. I saw a funding winter going into 2022 and we were lucky to strike the last deal for Series C funding before the winter came. I pushed for it to be done by the end of 2021, and by January 2022, it was completed.

We also made some hard decisions in 2021. We got out of one of our highest revenue-generating businesses in Indonesia. The problem was that our competitors were raising hundreds of millions of dollars and were subsidising the markets. We didn’t want to play that game because the revenues were ultimately going to drop, so we left that market and kept our cash instead.

In 2022, we also decided to be careful with how we spend and, more importantly, how we track the business. What I mean by ‘tracking’ is having an end-to-end view of the entire business process, knowing exactly where the process is at any point in time. One day, my Chief Financial Officer (CFO) returned from a business trip in Hong Kong where he had met a PE (private equity) fund manager who asked how many cars we had in inventory for more than 180 days. My CFO answered that it was probably around 20 to 30. The fund manager said, “That’s a complete lack of discipline!” I took that rebuke quite seriously. I asked the CEOs of the various countries to report to me how many cars we had held onto for over 180 days, because I realised it’s information I did not have off the top of my head. When the numbers came back, it was a bigger number than the 20 to 30 that my CFO had initially thought.

For us as a business, we don’t want the inventory to be ageing. Ideally, we would want to have zero-day or one-day churn—that would be the Holy Grail. If you have a car that is ageing, that means you will have to incur significant losses on the valuation of the vehicle.

Does this speak to the importance of a data-driven culture within the company?

I always tell my team, “We are not a car dealer; we are a tech company.” What’s the difference between us and XYZ Dealer out on the streets? It has to be because we use AI (Artificial Intelligence), and more importantly, we are able to improve the customer experience and achieve operational excellence.

> We never really had this issue of a fundraising gap whereby we needed money, and we didn’t have it. The company was always relatively cashed up.

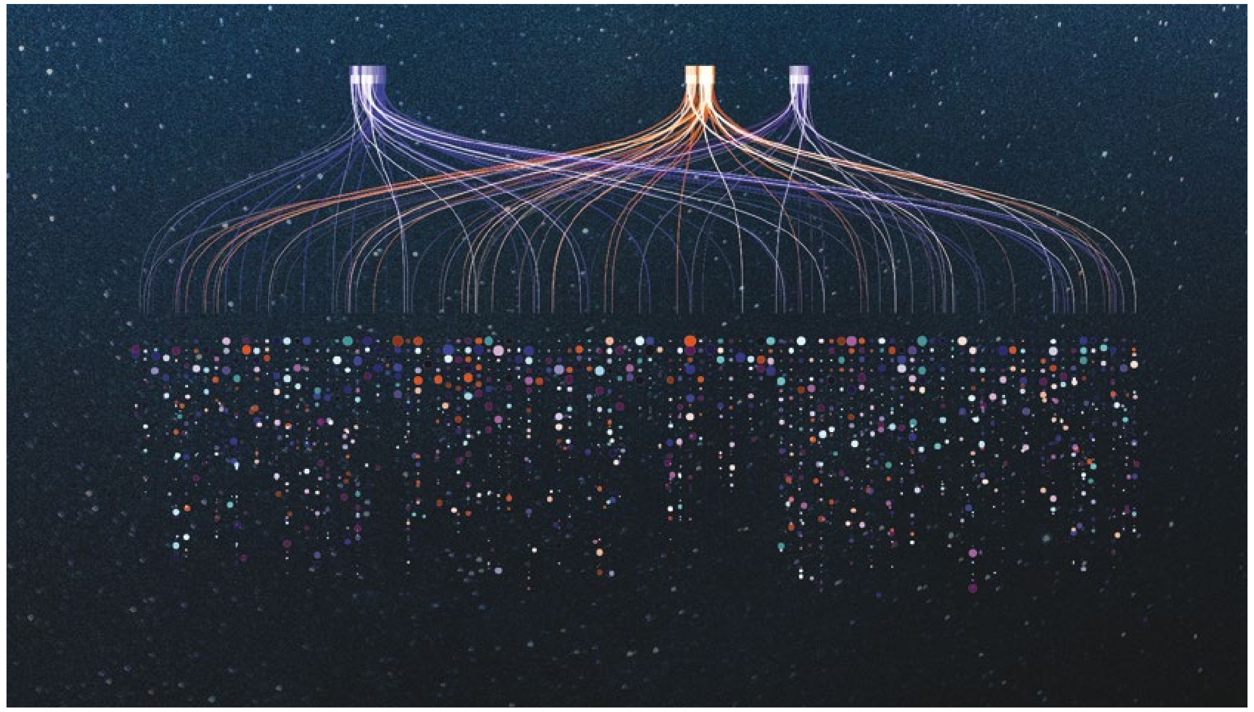
In theory, if you implement tech properly and you have a data-driven culture, your recommendation engine should get better over time, and you’ll find a match much faster. My productivity is about two to three times more than the traditional car dealer’s. One headcount for us does, on average, two to three times more than that for the traditional car dealer. Why? Because we have tech to assist us.

Our customers can buy a car entirely online without the need to see a single salesperson. Even if they want to see one, they can still complete the purchase online in less than 20 minutes, because all the paperwork is automated. If you go to a traditional used car dealer, it will take you hours to get the paperwork done.

How did you identify and approach each market, starting with the most mature one, which we assume is Singapore?

I look at it from a population and market interest standpoint. For start-ups, you should look at where the investor interest lies. Most investors across the globe tend to draw parallels. They say, “China has good TAM, so when the middle class grows, everything else will grow like Alibaba and Tencent did.” They look at it from a population growth standpoint, which is a convenient way to look at it. I tend to look at it a bit differently. Carro has a presence in populous countries such as Indonesia and Thailand, but we’re not in the Philippines or Vietnam. Why? The SAM for the latter two countries is too small. Vietnam has a population of almost 100 million people, but the used car market is tiny. It’s about a few hundred thousand units per year because most people ride scooters. This is where the SAM is way more important than population size.

Carro has recently expanded into Hong Kong and Japan. A Japanese business partner asked me why I had expanded into Japan when its economy isn’t expanding. I responded, “It’s true your economy is not growing, but I am starting with zero sales in Japan, so every dollar I make is growth!” Furthermore, people often believe that there should be fewer people driving in Japan as the population ages, but the roads in Tokyo are always congested. And Tokyo is not the only Japanese market segment—there is still Osaka, Saitama, Nagoya, and many places in and around Greater Tokyo. We decided to go into Japan because



we felt that the third-largest economy in the world was still a very large market.

Why we are entering these Pacific markets such as Taiwan, Japan, and Hong Kong is simply because we thought these are the markets where the investors are. When I do my business, I'm targeting my end-consumers in Singapore, Malaysia, and the rest of Southeast Asia. But in Japan and Hong Kong, I'm targeting the investors instead. We're thinking of an IPO in the coming months, depending on the situation in these markets. We need investors to buy the story, and to recognise, understand, and hopefully love the brand. The best thing you can do is being in the market where the investors are, and I believe that Hong Kong is still a market where a lot of investors still hang out.

We should hire from our headquarters instead of locally. In other words, put someone you can trust to be in charge first.

What is your leadership style?

I like to think of myself as being performance-driven. At the end of the day, as the CEO, I have to be very clear about the carrots and sticks. If a person is not performing, how and when should I fire him? It's easier said than done, but these are the disincentives or sticks. Conversely, if he is doing well, what carrot should I give him? Also, how do I highlight to the other employees someone who is doing well, so they can look up to him and do the same?

To me, it's again all about having a data-driven culture. Actually, I don't want to use the word 'culture'; I prefer the Chinese phrase 赏罚分明, translated as rewards and punishments are delivered clearly and impartially. Last year, a few of my senior executives came to me asking about getting pay raises. I was finding it very hard to justify why someone should get more than another person. I eventually realised there was a big issue with the way we were doing compensation, and for that matter, the way we were doing our staff appraisal rankings. There's a science to all that, and when you have a few thousand people on your payroll, you really need the science.

Looking back, is there anything you would have done differently in the early stages of Carro's development?

We could have done a lot better with our market expansion. We were lucky that we had the right founders. My co-founder Adityah is Indonesian, so it was fairly easy to enter the Indonesian market. Our Chief Technological Officer (CTO) for Carro Indonesia, Paisit Jarunnamsiri, was my housemate when I was working in the US, and he's Thai, so venturing into Thailand was quite simple too.

When it came to newer markets such as Japan, Hong Kong, and Taiwan, I thought we lacked management oversight. One of the learnings as we expanded was that we should hire from our headquarters in Singapore, instead of locally. In other words, put someone you trust to be in charge first. It was only when we expanded beyond the fourth market, which was Malaysia, that we started hiring the respective country CEOs locally.

Looking back, we made the mistake of assuming that people can learn about Carro's business easily, and we did not have anyone supervising operations. I've just told my board of directors that, going forward, in every new market that we go to, we must have someone who has been with us for at least one to two years and who understands what we are doing, so that this person can implement the same system of working. We will definitely hire locally, but these hires need to report to this person that we've sent over and be trained accordingly.

Upon reflection, what are the key entrepreneurial lessons that you would like to pass on to new founders?

I've always said I wished we ran ERP (enterprise resource planning) software from Day Zero. It goes back to having a data-driven culture. If there's any advice that I would give to any start-up founder, it's this: Do whatever you need to do to get the business going in the first one or two years, and once you are at Series A, you should invest in back-end systems. Install an ERP software. It could be SAP, Oracle, or NetSuite; it doesn't matter. That way, you can be more efficient in the long run. It would have been incredibly helpful if we had done this early on, instead of doing it five years after starting the company, which was very painful. This whole push about looking at numbers and productivity right from the start and bringing it to the core of the business is super important to get any business off the ground.

Secondly, from a fundraising standpoint, always keep to your numbers and projections. Don't go out with too aggressive numbers. A mistake founders often commit is to paint too rosy a picture and assume the VCs (venture capitalists) will forget these numbers later. They might, but don't forget they have a copy of your PowerPoint slides. These figures could come back to haunt you especially when you over promise and under deliver. AMI

by
Shoeb Kagda

The Growth of Southeast Asia's MSMEs

Funding winter presents opportunities to reboot for the future.

Walk down most streets in Bangkok, Jakarta, or Manila and one will find the sidewalks teeming with entrepreneurial activity. From food stalls to vendors selling clothes, bags and other items, the capital cities of Southeast Asia are a perfect illustration of the entrepreneurial drive and innovation of its peoples.

Micro, small, and medium-sized enterprises (MSMEs) are a vital source of income and employment in Southeast Asia. Whether they are start-ups or family-run stores, they play an outsized economic role especially in smaller cities and suburbs. And coupled with a growing urban middle-class, new opportunities will certainly emerge for young entrepreneurs.[1]

There are at least 71 million MSMEs in Southeast Asia, based on 2020 data from the Asian Development Bank (ADB).[2] Such enterprises account for 97 percent of all businesses in the region and employ 67 percent of the working population. Many of these enterprises operate informally which means the numbers could be even higher. However, despite their huge numbers, MSMEs only contribute an average of 40.5 percent to their respective country's gross domestic product, as a result of their small size, lack of access to capital, and inability to innovate.

A large number of MSMEs are fully aware that in this new era, digitalising their operations will be critical for future growth. In terms of innovation, they are not focused just on developing new products and services but also on creating greater efficiencies in their operations. Transforming their business models in areas such as digitalisation, technology, sustainability, and talent development will therefore become as important as coming up with super apps in time to come.

SUPPORTING REGIONAL START-UPS

Indonesia, which alone has over 62 million MSMEs, is undergoing unprecedented change, propelled by a rising middle class and the adoption of digital technologies. The key challenge lies in helping these micro-enterprises to grow into larger companies, which will be critical to the country's future development. According to an ADB report, a third of young Indonesians, inspired by the founders of Gojek, Tokopedia, and Bukalapak, aspire to become successful entrepreneurs.[3] These budding entrepreneurs need help and mentoring as well as access to capital, and the government is responding to these needs. The country's Ministry of Education, Culture, Research, and Technology has prepared a medium-term investment plan for higher education that promotes entrepreneurship at top universities and aims to accelerate innovation in new technologies.[4]

The rest of Southeast Asia is also putting down money to help build the next unicorn. Thailand has earmarked up to five billion baht (US$138 million) to fund 10,000 start-ups by 2027, focusing on sectors such as agriculture, tourism, and electric vehicles.[5] The Philippines has set up the DICT (Department of Information and Communications Technology) Startup Grant Fund, handing out grants of up to a million Philippine pesos (approximately US$17,000) to fast-track "proof of concept to prototype" and "prototype to the Minimum Viable Product (MVP)".[6] Malaysia, which has been looking to augment its start-up ecosystem, recently announced 'Golden Passes' that promise venture capitalists (VCs) expedited clearance from the country's Security Commission, and also incentives for foreign start-ups that can prove they will attain unicorn status (i.e., reach US$1 billion in valuation) by 2030.[7]

These efforts reflect Southeast Asia's rise as a hothouse for tech start-ups over the past decade. Led by the likes of Gojek in Indonesia and Grab in Singapore, many of the region's start-ups have enjoyed solid growth over the past 10 years. This has led to the emergence of a new breed of entrepreneurs in the region who are young, highly educated, and tech-savvy. Leveraging on technology and innovation, these firms have been driving change and disrupting established industries such as finance, health, retail and logistics, and education.

In 2021, 15 start-ups achieved unicorn status through investment rounds, including Vietnam-based Sky Mavis, a blockchain-based video game developer, and Advanced Intelligence Group, a Singapore-based AI (Artificial Intelligence) financial services provider that operates in 12 markets across Asia and Latin America.[8]

WINTER IS COMING

But as the global funding winter continues to drag on, a fundamental shift is underway within the start-up ecosystem in Southeast Asia. According to Jason Lee, co-founder of Jakarta-based BintanGO, a start-up that helps connect content creators with producers and publishers, the funding winter has forced start-ups to freeze hiring and scale down their operations. In fact, funding from VCs for the region fell by 65 percent in the first half of 2023 from the previous year to just US$4 billion, noted Preqin, a global financial data provider on start-up investment and venture capital.[9]

"Investors are still cautious, and they are saving their funds for existing portfolio companies, rather than investing in new start-ups," Lee said. "In fact, many VCs are encouraging their start-ups to expand beyond just Indonesia to also invest in other Southeast Asian markets."

BintanGO raised US$2.2 million in fresh funding in 2023 to help it expand its services to encompass live commerce platforms. The start-up offers content creators a suite of tools for productivity, monetisation, and financial solutions to enhance their endeavours.

Lee added that while the current mood may be depressed, investors are still positive about the long-term outlook for the region. With over 71 million MSMEs in Southeast Asia, entrepreneurship is the foundation of the economy, as well as an integral part of the social fabric. Owning and running a business is highly valued within society and a new generation of business leaders has arisen.

Indonesian entrepreneur Sirly Nasir is familiar with the challenges of running her own business. She founded SWN PR & Advisory, a full-service strategic public relations and communications advisory firm. As part of her work, Sirly advises start-ups on branding, and she actively participates in initiatives to empower women-led SMEs in Indonesia. "There are still many incubators and accelerators helping start-ups in Indonesia," she commented. "The enthusiasm is still there but there has been a reboot, and investors are re-educating the market on the fundamentals of running a business."

CONCLUSION

Despite these challenges, Southeast Asia continues to witness a steady rise in MSMEs, including start-ups, driven by resilience, government support, and a growing risk appetite among founders and investors. Identifying the right opportunities for budding entrepreneurs, however, will require a data-driven approach, in view of the increased adoption of technology, and more in-depth research to map and measure entrepreneurial behaviour in the region.

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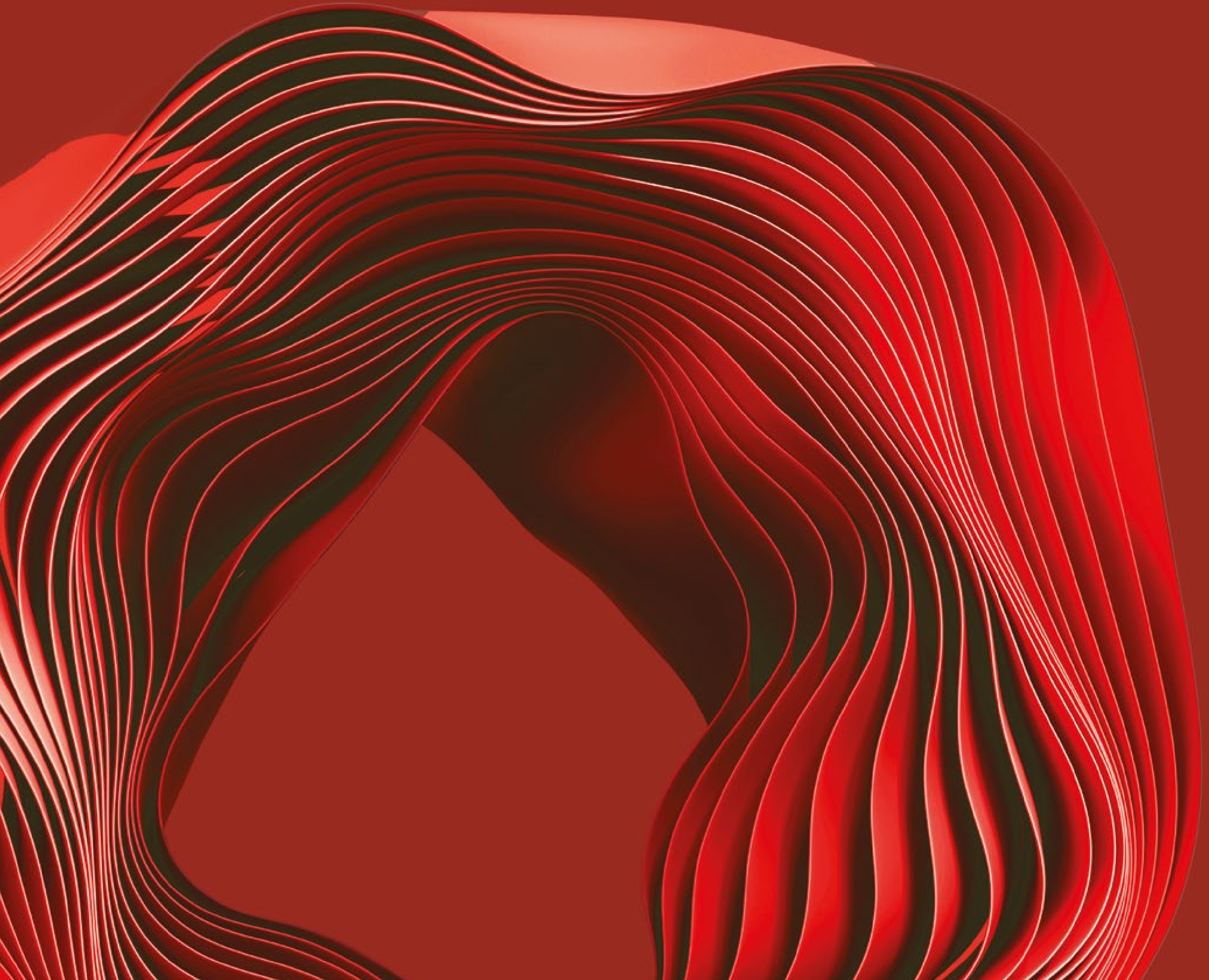
by
Koh Buck Song

Staging Singapore's Cultural Economy

Growing and cultivating soft power is the name of the game.



Entrepreneurship and innovation are normally discussed within the context of company (or individual) aspiration and achievement, in a business or academic setting. But these two attributes can also be applied to government agencies seeking to advance a country's commercial fortunes, just like what corporations do.

Singapore provides a very current mini-case study of state-level enterprise and out-of-the-box thinking and action.

In March 2024, American pop superstar Taylor Swift played six nights of her *The Eras Tour* concert to more than 300,000 fans at the Republic's National Stadium. About 70 per cent of the concert-goers had flown in from the city-state's regional neighbours.

Swift is in a league of her own, and an outlier as a concert performer, with her *The Eras Tour* shows leading her to be officially declared a billionaire in April 2024 by Forbes magazine.[1] Some estimates suggest that the Singapore concerts, with their multiplier effects, could add some S$500 million to the Republic's economy.[2]

A similar phenomenon had been seen in other venues of Swift's tour, such as in Australia. But what appears to have set Singapore apart from other host locations of her tour is the direct involvement of the state in securing this run of concerts.

This is a reflection of what could even be considered one of Singapore's lesser-known nation brand attributes: A government that behaves in ways more often associated with a multinational corporation (MNC), exemplifying an entrepreneurial mindset and instincts, that seeks to be innovative to gain an edge over the competition.

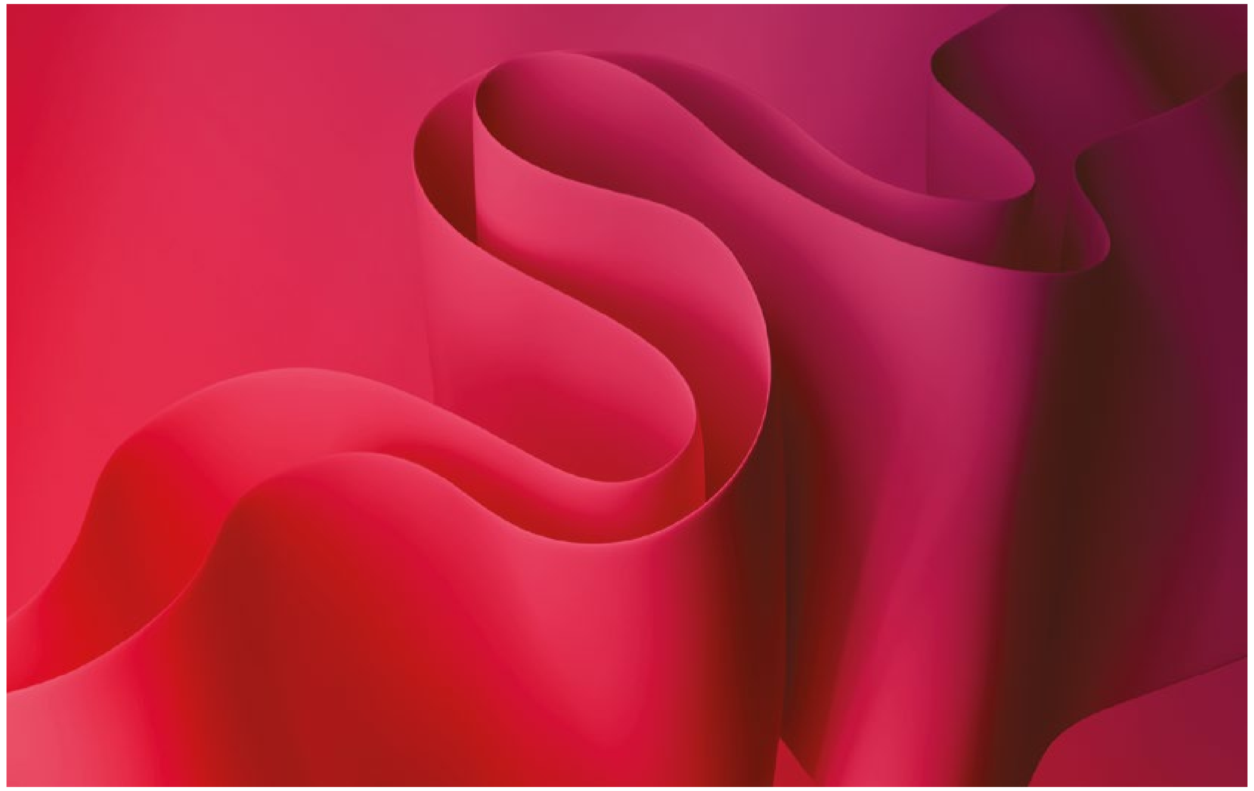
It was Thailand's Prime Minister, Srettha Thavisin, who revealed in February 2024 in remarks reported in the media, that Singapore had brokered an exclusive deal with Swift's team, under which monetary incentives had been given in exchange for Swift not to perform anywhere else in Southeast Asia.

Two months later, Srettha said his initial remarks had been "distorted" by the media as criticism and jealousy, and clarified that he had actually spoken of Singapore "with admiration". He also said he thought, when then Singapore Prime Minister Lee Hsien Loong was asked by journalists about the concert deal at the ASEAN (Association of Southeast Asian Nations)-Australia Special Summit in March 2024, that Lee's explanation illustrated Singapore's approach to such deals as "a wise way of managing a country".[3]

- Singapore used soft power to secure Taylor Swift's concerts. The resulting projection of a culturally rich image enhances its national branding, and attracts global talent and investors.
- Investment in local arts is key to balanced cultural development and integration into the global market.

GOVERNMENT AGENCIES CAN BEHAVE LIKE PRIVATE COMPANIES TOO

Also responding to news of the exclusive arrangement with Swift's



team, Singapore's Minister for Culture, Community, and Youth, Edwin Tong, revealed that, some months earlier in 2023, he had personally led a multi-agency team of officials from Singapore to visit Los Angeles, California, in the US, to negotiate this deal.[4]

That was a pre-emptive move that took everyone, including Singapore's regional neighbours, by surprise. Clearly, this new strategy by the Singapore Government to promote the country as a 'cultural hub' is a game-changing shift, steered from the highest levels.

What this shows is how the public sector has the capacity to behave, in many ways, like the private sector. This includes envisioning a long-term development plan; studying the means to get ahead in 'red ocean' market segments, as well as the market potential and gaps in 'blue ocean' opportunities; devising a staging and marketing strategy; and then sitting down with private sector players to strike or in short, to 'hustle', which in commercial parlance means to 'always work hard and smart, and seize the best opportunities'.

In fact, this is something Singapore has done since its earliest days of internal self-government, even before achieving independence in 1965. Devoid of natural resources such as oil or oil palm, this small island has always had to look outwards for sources of development. Since 1961, promoting Singapore as a magnet for foreign investment and talent has been a top priority of the government, from the establishment of the Singapore Economic Development Board (EDB) that year.

Since then, every day, EDB officers have engaged the captains of industry based in high-growth economies overseas, to try to persuade them to relocate business activities to Singapore, to grow the economy here, and to create jobs for the people. Incentives and other forms of assistance are always part of the offer.

WHAT'S NEW ABOUT FOCUSING ON A 'CULTURAL ECONOMY'

Drawing foreign investments is supported by efforts in sustaining the 'total infrastructure'—the entire environment in Singapore that would contribute towards making the country a favoured place for MNCs (along with other related organisations such as research and development units) to locate their activities, and for their top executives and staff to relocate to live, work, and play.

That third component, 'play', has become more significant in recent years—and this is where the new 'cultural economy' comes in.

Boosting tourism has also been a key focus since 1972, when the Merlion[5], together with a second statue of Sir Stamford Raffles[6], was erected by the then Singapore Tourist Promotion Board, as part of major efforts to attract more visitors to Singapore. Tourism, however, has always been a 'supporting actor' as an economic driver, adding, at most, around four percent to Singapore's Gross Domestic Product (GDP),[7] compared with some 20 percent from manufacturing.

What is new now, with this fresh focus on the 'cultural economy', is the elevation of arts and culture to centre stage as a facet of national reputation, and a driver of foreign revenue. This increasingly important source of investment from major cultural acts, as well as a segment of tourists who are primarily drawn to arts and culture, will play a greater role in Singapore's economy in the years to come.

This is a significant advance from earlier years, when arts and culture was seen, in some quarters, as a secondary concern for economic growth. This has changed now, in a world in which culture is a vital growth driver in itself, and it has also become key to differentiating a country in the relentless global contest for investment and talent.

Culture is always where national identity and belonging are being fostered, and where outsiders can see, and feel, the authenticity and character of a place. Hence, quite apart from the material and monetary gains of hosting mega-concerts, such big-name shows also have an impact on the host country's brand, which, in turn, is the fundamental basis for all other sources of economic growth.

One way to assess the lasting net impact of shows like Swift's on Singapore's country brand is by analysing it through the lens of hard and soft power. Deciding which location to include on a concert's tour itinerary, and for how many shows in each place, always depends on a mix of considerations of hard and soft power.

The concept of 'hard power', coined by Harvard Kennedy School professor Joseph Nye, Jr. more than two decades ago,[8] refers to securing cooperation from others by using concrete, material incentives, such as, in this case, a concert location partially funding a show.

By contrast, 'soft power' is about earning support from others through non-monetary, inherent attractions, such as a city's existing reputation as a culturally interesting place. If you already have a powerful brand, there is much less need to spend money to attract more investment. The world's top cities—London, New York, and Paris—are in this special league.

Concerning hard power, Singapore's advantages as an international entertainment hub are already well-known, including reliable state-of-the-art infrastructure, minimal traffic congestion, and exceptional public safety, in this context, especially for young women travelling alone to, and from, the concerts.

After the revelations about how Singapore became the only Southeast Asian stop for Swift's *The Eras Tour* concerts, one more of Singapore's hard power factors can now be added to the list: Proactive deal-making to secure top A-list shows, with commercial incentives funded with government backing added to the mix.

Singapore provides a very current mini-case study of state-level enterprise and out-of-the-box thinking and action.

These added incentives are an additional facet of Singapore's hard power, but its soft power characteristics are clear, nonetheless.

TAYLOR SWIFT'S IMPACT ON SINGAPORE'S COUNTRY BRAND

As for soft power (always the less obvious dimension), Swift's concerts will win even more affinity for brand Singapore, for a few reasons.

First, many more positive impressions of the Lion City have been gained by the thousands of visiting 'Swifties' (the moniker for Swift's fans) from all over the world. They all exchanged friendship bracelets, took selfies, and sang their hearts out here with citizens, residents, and fellow tourists inside the National Stadium, outside, and elsewhere around the island. They also experienced more of Singapore during their stay–not just the facilities and infrastructure, but also the friendliness of the people they met, and the general vibes of the country.

In future, to build on these real-life connections and impressions, it would benefit the development of the homegrown arts scene to see more Singaporeans being included in similar A-list shows, such as Coldplay having Singapore singers Jasmine Sokko and Rriley as opening acts in January 2024, and Ed Sheeran having JJ Lin perform with him onstage the following month.

The memories that audiences take away with them become visitor testimonials that will add to the international awareness of Singapore as a diverse, cosmopolitan, open, and welcoming place for people of all ages to have wholesome fun.

> What is new now, with this fresh focus on the 'cultural economy', is the elevation of arts and culture to centre stage as a facet of national reputation, and a driver of foreign revenue.

Second, Singapore has been, and will be, featured with these appealing country brand attributes countless times on mainstream and social media, amplified by the power of the Swifties' word of mouth. Singapore will be seen on many more TV and smartphone screens around the world, creating an effect similar to having scenes of the island nation as the backdrop for the annual Formula One night race events here, beamed and shared across the globe.

Third, as they say, even 'bad publicity' is publicity. Singapore appears to have been able to "shake off" (from the title of a Swift song) the few initial media attempts to suggest that the Republic's exclusive staging of Swift's concerts had stirred "bad blood" (the title of another Swift song) in what could have become an emerging diplomatic row with its regional neighbours.

Instead, this controversy, which some dubbed 'a storm in a tea cup', only sparked many more media headlines abroad, winning even more mindshare for Singapore. In fact, a survey of online media across Southeast Asia reveals very little rancour expressed, and instead, much more positive regard for Singapore's first-mover proactiveness to secure Swift's concerts for a longer run in the Republic. Some even dubbed Singapore's move "a masterclass in concert economics".[9]

A broader regional perspective could perhaps be highlighted more in future, where it can work commercially: Singapore playing the role of a regional gathering place for such acts in Southeast Asia, with room for spillover benefits of 'concert economics' for the rest of the region. For example, there could be joint marketing of Singapore tour packages to visitors from other continents that also include stopovers in other Southeast Asian countries.

Fourth, the media's highlighting of Swift's mother and grandparents having lived in 1960s Singapore,[10] and Singapore being featured as a setting in Swift's music video for

her song entitled "marjorie" (a tribute to her grandmother),[11] adds to the awareness of Singapore's longstanding appeal as a home away from home for MNC staff and international talents. This news about her grandparents was reported in Vietnam, Hong Kong, and elsewhere.

Swift's grandfather, Robert Finlay, was a construction engineer. His move to Singapore for work was most probably facilitated in some way by EDB's efforts to attract oil and manufacturing companies to relocate here. Till today, the sector is an anchor of Singapore's success as an economy.

Meanwhile, Swift's grandmother, Marjorie Finlay, is a reminder of Singapore's pedigree as an arts hub. She was an accomplished opera singer who performed as soprano lead for five nights running in 1968 in the opera *The Bartered Bride* at the Victoria Theatre in Singapore.[12]

ONLY SOFT POWER CAN BE SUSTAINED IN THE LONG TERM

In essence, the magic of soft power is that its effects can work through the subconscious, and it can entice even pure spectators to begin with, but, very often, leads to far-reaching, enduring outcomes.

As a personal example, in 2022, I went to a community club to watch a few matches of the FIFA World Cup hosted by Qatar. My positive impressions of Qatar from the viewings prompted me, a few months later, to travel to Doha, the Qatari capital, where I enjoyed my visit so much that I have been an unpaid, unofficial brand ambassador of the city ever since, telling others about the place's plus points.

Overall, from these Swift concerts in Singapore, there is one key country branding takeaway for the future: Nations applying hard power to boost their appeal (to investors and singers alike) can usually achieve significant results in the short to medium term.

For example, everyone has, by now, probably heard of footballers like Cristiano Ronaldo moving to play in Saudi Arabia. Ronaldo is, in fact, just a prominent example of what has always been standard practice in the global competition for investment and talent.

All the big names in Singapore in the business sector and the arts–from appliance manufacturer Dyson setting up its global headquarters in 2022, to groundbreaking art exhibition company Art Stage that organised Singapore's largest art fair Art Stage Singapore from 2011 to 2018–would have received state assistance, and some form of incentives.

But hard power is finite, and can do only so much. Only soft power can sustain the attractiveness of any place for the long term.

When his contract runs out, only the soft power–i.e., the intrinsic, intangible merits–of his present place of residence can entice Ronaldo to keep living there. Similarly, if Swift and her legions of Swifties had a great time in Singapore, they will be back for sure.

Soft power is best developed by investing in, and showcasing, the homegrown.

GOVERNMENTS ALWAYS HAVE A DUTY TO NURTURE HOMEGROWN TALENTS

But, even as the successful staging of acts like Swift's concerts will boost Singapore's soft power, developing Singapore as a cultural hub could also bring about unforeseen consequences that may need to be addressed, such as the 'global versus local' gap widening further in Singapore's arts and culture scene.

Governments can behave like the private sector, but they ultimately cannot forget that they also have a duty to act in the public's best interest. As more resources and attention are channelled to wooing big, foreign acts like Swift that appeal to the masses and especially the youth demographic, one question that emerges is whether there will be, at the same time, added investment in homegrown arts and culture to help build Singapore's soft power?

Even if few seemed to question the initial offering of incentives to Swift's team to secure the exclusive shows for Singapore, queries may surface later about how the revenue earned from these shows could be re-invested to support the growth of Singapore's own arts and culture.

As is true everywhere, even major arts players like the national galleries and symphony orchestras can stand only with state funding. Against pop culture, the small-scale, indigenous 'vanishing trades' of arts and culture–such as, say, Peranakan[13] folk songs–would stand no chance at all of gaining national attention without some form of state assistance.

An insight from the world of tourism–and, more specifically, in mitigating over-tourism in places such as Venice–is that any promotional effort to attract tourists to any place can be sustainable only if there is no 'collateral damage' to the local infrastructure, and also, if the domestic population can participate in that growth and derive some benefits from it.

Knowing Singapore, the country will, in future, surely come up with even more enterprising, inventive ways of stimulating growth for business and culture, and for culture as a business.

But the path forward will be best served by applying hard power always in tandem with also building up soft power. And soft power is best developed by investing in, and showcasing, the homegrown, in what is rooted in the place itself.

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For a list of endnotes to this article, please visit https://tinyurl.com/5suahf42 or scan the QR code below.