Institute of Policy Studies

POST-COVID-19, CRITICAL SUCCESS FACTORS TO AN INNOVATION INNOVATION-LED ECONOMY, 6 APRIL 2021

By Faizal YAHYA

Executive Summary

The Institute of Policy Studies (IPS) conducted a roundtable discussion on 6 April 2021, titled “Post-COVID-19, Critical Success Factors of the New Innovation Led Economy”. The aim of the roundtable was to re-examine the Singapore economy and its policy measures to develop a more resilient and vibrant economy. Singapore could achieve this by transforming itself not only as a hub for innovation but also to prototype the innovations and to seek pathways to commercialise the prototypes. To focus only on start-ups and to rely only on private, foreign, angel or venture capitalists is to discard the commercial pathways to create global corporate brands and Singapore’s own unicorns. Some of the industries discussed were food services, security services and real estate.

Some concerns included the difficulty of accessing information and applying for the various government schemes and grants; lack of specific skills sets available in the local work force; and the inability of the training on offer to reduce such shortages. In relation to innovation and growth, as markets evolve, companies have to be attentive to their product and service ecosystems as well as have a global mind set. Technology is critical to innovation but companies have to conceptualise and develop a suitable business model that leverages on their strengths for growth. Key stakeholders such as trade associations and chambers (TACs) show willingness to collaborate with the government to assist companies on their innovation journeys.

Introduction

The pandemic has caused great disruption and decimation to businesses and the economy. Governments the world over, to varying degrees, have implemented a slew of assistance packages to sustain their economies including Singapore. Nonetheless, such additional government spending is not sustainable. In this regard, governments including Singapore, would need to taper down their assistance and prioritise and target the most critical sectors for continued assistance packages. In Singapore, the most impacted industries such as aviation, F&B, retail and tourism, among others, have received the most assistance. Going forward, the government will also provide assistance to high-impact industries such as healthcare, biomedical and artificial intelligence (AI).

In this context, the pandemic provides a timely opportunity to restructure or realign the Singapore economic model in order to rebuild better; but in order to do this, the government has to maintain core and strategic capabilities of the economy. Some of the highlighted concerns include: What are the critical core strengths or strategic capabilities of the economy? Innovation is key to the future of the economy, but what sort of innovation is strategic for Singapore? Are incremental innovations that can be commercialised fairly recognised and valued in the economy? Would government bureaucrats who evaluate the applications for funding on innovation have the necessary framework, knowledge and expertise to appreciate the potential commercial impact of the companies' application for funding?

The Institute of Policy Studies (IPS) conducted a roundtable discussion on 6 April 2021, titled "Post-COVID-19, Critical Success Factors of the New Innovation Led Economy". The discussion was convened and co-moderated by Dr Faizal Yahya, Senior Research Fellow, Institute of Policy Studies and Mr Victor Tay, Chief Executive Global Catalyst Advisory. The panellists were:

1. Dr Ori Sasson, Director, S2TUnlocking Cyberspace
2. Adjunct Associate Professor Neo Kok Beng, Business School, National University of Singapore and Founder and CEO, Imagineering Global and Neo Aeronautics
3. Dr Toh Mun Heng, Honorary Fellow, NUS Business School
4. Mr Alan Chua, Executive Director, Concorde Security Pte Ltd
5. Ms Leong Si Ngah, Director, Digital Transformation Deloitte
6. Mr Eugene Tan, Assistant Honorary Treasurer and Council Member, Association of Small & Medium Enterprises (ASME)

The aim of this forum is to re-examine the Singapore economy and the policy measures to develop a more resilient and vibrant economy. Singapore could achieve this by transforming itself not only as a hub for innovation but also to prototype the innovations and to seek pathways to commercialise the prototypes. To focus only on start-ups and to rely only on private, foreign, angel or venture capitalists is to discard the commercial pathways to create global corporate brands and Singapore's own unicorns.

It is likely that a portfolio of innovation strategies from the government is required to include both high and low impact innovation to maintain the strategic capabilities of the economy for future growth. Some of the key questions to be addressed are the following:

1. What are the challenges and impediments to innovation in Singapore?
2. Are our regulations and ecosystem suitable for innovation?
3. What will accelerate market or industry practice to adopt innovation?
4. What about equity and financing readiness?
5. Distilling learning points from digital transformation case studies: industry and enterprises

Co-moderator Mr Victor Tay highlighted that Singapore had spent billions on R&D but is challenged by low population growth rates, disparity in income levels and need to sustain

productivity levels. Every five to 10 years, or after an impactful global event such as the Asian Financial Crisis (AFC) and Global Financial Crisis (GFC), the government has convened national committees to review economic performance and to plan ahead. The last national review was coordinated by the Committee of the Future Economy (CFE) that produced the 23 Industry Transformation Maps (ITMs) which covered 80 per cent of total economic sectors. Despite the efforts and resources spent on restructuring the economy, the same formulae are being used for growth — such as developing the manufacturing sector. In contrast, instead of relying on the familiar model, new frameworks focusing on innovations should be used for future growth.

Old Wine in New Bottles

The first speaker, Dr Ori Sasson, said that the various committees seemed to recycle the same slogans; nonetheless SMEs are an important part of the economy because they employ the majority of the work force and contribute a large component of Singapore's GDP. The problems faced by SMEs could be generally clustered into a few key areas: cash flow management, manpower challenges due to inability to secure work permits, and high cost of business operations. COVID-19 was a great accelerator for digitalisation and remote working for SMEs. However, larger companies had great advantage in the digital transformation process compared with SMEs. Globally, SMEs were adversely impacted by COVID-19. In Singapore, the government has been rolling out schemes and grants to assist companies. While this has helped companies in general, it has also enabled the stronger and more aggressive companies to expand at a faster pace. Therefore, as the government assistance tapers off towards the more impacted sectors, some SMEs run the risk of going bankrupt.

Digital transformation could lead to displacement of labour due to remote working. For example, companies that hire foreign workers could have them located in Singapore or back in their source countries to reduce labour costs. Digitalisation may offer companies opportunities to reduce staff strengths and accelerate their growth such as through the use of e-commerce platforms. However, it will reduce the number of SMEs that are more personalised such as the "mom and pop" shops, and the deep knowledge of the industry accumulated over decades would be lost. Digitalisation also has a deflationary effect because the goods and services posted on the platform will be very price competitive.

On innovation, the government support for innovation is very generous and useful for the "unicorns" (large billion-dollar companies) and multinational companies (MNCs) like GRAB, which follow the EDB model of growth. However, for SMEs there are several challenges. First, it is difficult to understand and navigate the maze of the various government schemes and grants. Second, in some schemes the assistance offered comes with "strings attached" such as the need to work with certain organisations, make use of specific laboratories, or create roles for certain groups, and other criteria. Third, the application process involves long cycles of verification. Fourth, late reimbursement may be a deterrent due to concerns over cash flow. Fifth, some types of schemes are opaque and difficult for SMEs to gauge their eligibility.

In order to apply for these schemes and grants, SMEs would need to have the skills of a "grantpreneur" in order to acquire the grants. Some of the deliverables for the schemes will also be hard to achieve. For example, it will be challenging to retrain workers from one sector and move them to another sector. For instance, to retrain a HR executive into a qualified data scientist is not feasible given the current retraining schemes. Furthermore, the "old ways" (traditional path) to generate growth and prosperity are eroding. For example, in terms of innovation, Indonesia has a lot more start-ups as they have the scale and resources that are hard to replicate in Singapore. In addition, when charting a growth path, empowering civil servants to pick winning sectors and winning companies will obviously improve the chosen sectors or companies' capabilities to succeed. However, this approach could be detrimental to the government's plan to create more home grown "unicorns" because it will be difficult to choose winning companies due to risk aversion mentality among civil servants evaluating the start-ups growth potential.

Deep Technology Ventures

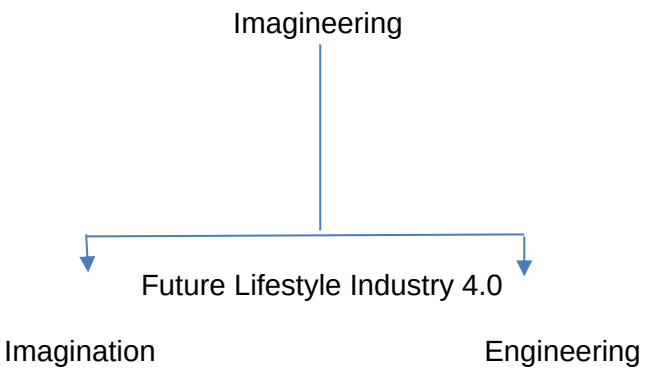
The second speaker, Associate Professor Neo Kok Beng, spoke on "Developing DeepTech Technology Ventures", to create world-class innovations for the global market. However, on average, it would require approximately a decade to produce a "unicorn" company. For example, some ideas such as developing apps for specific markets may not be feasible; others such as developing micro drones for vertical farming are workable because it is impossible to use bees to pollinate high-tech farming crops.

In a disruptive world it is important for SMEs to move forward and pay attention to their service ecosystem as well as product ecosystem. In this context, while the digital platform is very important, SMEs would also require a global mind set.

How to be a world-class innovator?

1. The world is an instant market. Companies must be global from the beginning. For example, innovating with the use of LED lights at the backs of bicycle helmets to indicate direction that are controlled on the handlebar. The innovation is based on the concept of safety and not about the helmet itself and the value of the product increases. For example, a normal bicycle helmet costs US $50 but this safety LED bicycle helmet costs US $200. Using the "kick start" advertising channel to market the product, its sales reached US $2.9 million within 10 days of launch.
2. Important to be opportunistic, for example, Associate Professor Neo's team developed a breathalyser kit meant to detect for COVID-19. They couldn't acquire any publicity time to market the innovative product against the background of COVID-19 events. Therefore, they brought the breathalyser to the attention of the Changi Airport Group (CAG) to be included as part of the new measures for safe travel. The breathalyser was tested by then Minister of Transport Mr Ong Ye Kung at Changi Airport.
3. Important to have foresight to design the preferred future for your innovative products and services. For example, Associate Professor Neo is keen on the "flying car" or Urban Aerial Vehicle (UAV). Currently, five models are being tested and evaluated by

the authorities. Initial government funding of $10 billion to defray costs. Below is a simplified version of an innovation flow chart from Associate Professor Neo.



Associate Professor Neo highlighted that “Imagineering” requires both imagination and engineering skills. For imagination, innovators could use scenario planning, hind sights, insights and foresights. In essence, it is science fiction writing. For engineering, technology forecasts have to be used to take into context the ecosystem, social planning, R&D and implementation. The average timeline for such a process is 9.5 to 10 years.

Food Industry and Innovation

The third speaker, Dr Toh Mun Heng, presented on the food industry services with regard to transformation and innovation. Digital transformation has spurred digital adoption and e-payment to enable companies to utilise e-commerce platforms. Workers in the sector such as chefs have to learn new skills such as social media marketing. Chefs are now using social media to reach out to their customers and develop online menus for this group of customers. For example, the Din Tai Fung restaurant chain has developed frozen dumplings to be heated up for customers to consume at home. Some Michelin chefs have even developed “cold only” (could be eaten without warming up) meals to be eaten by customers in their homes. Other food preparations could also increasingly be bought through vending machines. These innovations were in line with the Industry Transformation Map for the food industry. In general, for the food services industry, only 60 per cent of F&B outlets survive for the first five years and it would require approximately 13 months for their return on investment. It is a very competitive sector and Singapore has twice as many dining outlets compared to Hong Kong.

A key government-spurred innovation is the use of central kitchens that enabled the quick scaling up of orders for F&B outlets at competitive pricing. Ghost kitchens or virtual kitchens are also an innovative idea that enables virtual restaurants to operate, where they also act as incubators for the testing of various recipes. These digital solutions have boosted the capabilities of F&B outlets and improved their sales.

Security Services, redefining Security

The fourth speaker, Mr Alan Chua, spoke on the security industry, which is manpower-based but increasingly reliant on technology. There are various technological improvements in the sector such as improved cameras, personal mobility devices (PMDs) for patrolling and handheld digital tablets to monitor systems, among others. But do these enhance security? Technology can be found everywhere but it needs to be adapted for specific use.

The new security system leverages on technology and innovation. The system comprises of three specially trained officers called “i-man” to replace night guards during after office-hours operations. The monitoring of building facility and security protection were transferred to a central command post. This reduces costs for the long term but increases service level for the clients. The benefit of this new system is that security officers receive better working conditions, and the clients are paying less. The aim of this new system is to spearhead a higher level of security service due to greater efficiency and effectiveness to meet the clients’ expectations. The new system also promotes work-life balance and boosts productivity among its workers. In addition, the new skill sets required will create more employment opportunities. With the likelihood of strong socio-economic benefits this would make cities more liveable, secure and safe. In addition, this new approach would also address the shortage of 19,500 security officers in the sector. This model could then be exported and help promote the company’s internationalisation efforts.

Real Estate

The fifth speaker, Ms Si Ngah Leong, presented on innovation in the real estate sector. Ms Leong was appointed as CEO for a property tech firm just before the Circuit Breaker (CB) in April 2020. The real estate sector was at an ebb during the CB in 2020 and faced two choices: the company could continue on the same track and wind down, or it could try a new business model and hopefully survive. There are various firms that have used digital platforms to transform their businesses but these costs millions to fund. Alternatively, Ms Leong focused on the strengths of the firm, which are their data, the data analysts and technicians that they recruited. With funding from their brokerage firm partners, the firm used design thinking to re-examine their real estate business model. They looked at it from the customers’ point of view and the key functions required, which are selling and buying properties. Their customers require current and critical information to make informed choices and decisions. Therefore, they could use the data collected to assist customers’ needs and charge a fee these services.

In designing the information system, the app has to be user-friendly and competitively priced. The company used the “agile” way of design thinking to change their business model. They had to rethink their processes to attract and recruit people that could expand their business model. In order to increase efficiency and reduce manpower costs, they designed a chatbot that could interact with all stakeholders 24/7.

Trade Associations and Chambers

The sixth speaker, Mr Eugene Tan was from ASME, a Trade Association and Chambers. He highlighted that the government has improved opportunities for SMEs to grow. For example, in the tendering process, the government introduced Gebiz and changes in the order sizes, which have enabled more SMEs to participate. Suggestions to improve cash flow concerns for SMEs would include prompt payment for smaller companies. In the tender process, projects awarded to larger companies are often outsourced to smaller companies that have the required capabilities and to reduce costs. In terms of innovation, it is a difficult concept for SMEs to understand and implement. It could mean many different things to SMEs; therefore, ASME is working with Design Singapore to discuss further, ways to assist companies in their innovation journey.

Digitalisation is a huge and complex task for SMEs, and they usually implement for the "lowest hanging fruit" (i.e., easiest option) such as such as using e-commerce platforms. They are also concerned about the choosing the right vendors for their business transformation. In addition, SMEs also encounter problems trying to hire manpower with specific skill sets and experience. The reduction of foreign labour is a huge challenge, but this is not compensated by hiring locally because the skills required are in short supply. Furthermore, the courses on offer by government agencies do not always fit the needs of the SME employers.

On internationalisation, SMEs' views are diverse. With ASME's membership, one group of SMEs are choosing to focus on the Singapore economy as their primary market. Another group of SMEs aims to export their products and services overseas, but they fear that they will lose their innovations or innovative ideas through copying by competitors. Therefore, ASME is collaborating with IPOS to raise the awareness and educate their members on the pathways to internationalise.

In general, SMEs are confused by the many grants and schemes offered and even their consultants have resorted to a generic template approach when introducing solutions. The grant application process is very arduous and time-consuming for SMEs. The application process should be accelerated, and the grants and schemes could be simplified and streamlined. The trade associations and chambers like ASME could assist to increase the process flow of grant applications. In terms of manpower, job scopes are being redesigned to support reskilling and retraining. ASME is also assisting in the process of providing feedback and information from sources, such as websites that companies face problems trying to access.

Conclusion

While the terrain of schemes and grants offered is complex, companies need to navigate them and access information and opportunities available. While some of the schemes and grants may seem to favour larger companies, smaller companies could still play a role in the various projects when tasks are divided and outsourced by larger companies. Despite the challenges, companies have to innovate for growth and could use several approaches such

as design thinking to transform their business model. Technology such as digitalisation could lead to displacement of labour, but companies have to leverage on this transformation to redesign job scopes for their staff to grow. Companies need to understand their markets for growth opportunities whether locally and or overseas. The critical factor is to deliver the needs of their customers and provide products and services that are user-friendly and competitively priced.

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