

“What are the limitations and challenges of Singapore’s economic growth model? And what reforms and transformations do you think are required to overcome those limitations and challenges, particularly in terms of productivity and innovation?”

Summary

In the next 50 years, Singapore’s biggest challenge lies in creating value. In an already advanced economy, to raise productivity, our economy needs to be innovation-driven, increasing production through the creation of original ideas and intellectual property which translates into more efficient business solutions, marketable products and services, and successful companies. In short, the future economy we must anticipate is necessarily innovation-driven, focused on value-creation rather than value-adding, predicated on the innovative capacity of a limited pool of tech-savvy, highly-creative workforce working in collaboration to produce high-value goods and services.

However, there exists many challenges to innovation with Singapore’s current economic model. Not only is there a lack of opportunities for our workforce to nurture their creativity, resulting in innovation that is limited only to a select few entrepreneurs who are often highly-educated and highly-intelligent, there exists no comprehensive educational reform to change societal attitudes and values with regards to taking risks and learning from past mistakes, which are crucial elements to entrepreneurship and innovation. Most importantly, on a corporate level, there exists considerable barriers disallowing our local start-ups to internationalize. To correct these, this essay primarily suggests comprehensive educational reforms and organic growth in entrepreneurial ecosystems.

(197 words)

Towards an Innovation-Driven Economy: Value-Creation instead of Value-Adding

According to PM Lee, Singapore's biggest challenge is "raising productivity in order to grow an already-advanced economy" (Lee, 2015). To raise productivity, our economy needs to transition from value-adding to value-creating. 50 years ago, this challenge was negligible since, by starting from a low base, it was easy to create value by producing virtually anything. Back then, it was also possible to leverage on our strategic geographical location and low cost of labour to stay ahead of competition (Tan, 2015). However, after having moved up the value chain, together with increasing manpower and productivity challenges, value-creation will be key in ensuring our economy maintains its relevance in the years ahead.

With increasing economic integration brought about by the advent of globalisation, the significance of natural resources will diminish over time but the importance of human capital as a strategic asset for growth will only become more apparent (Goh, 2005). As other countries catch up fast, the comparative advantage in human capital Singapore currently enjoys will wane quickly; hence, it is even more imperative for the government to develop the knowledge and innovative capacity of our workforce to push ahead of other economies (Goh, 2005).

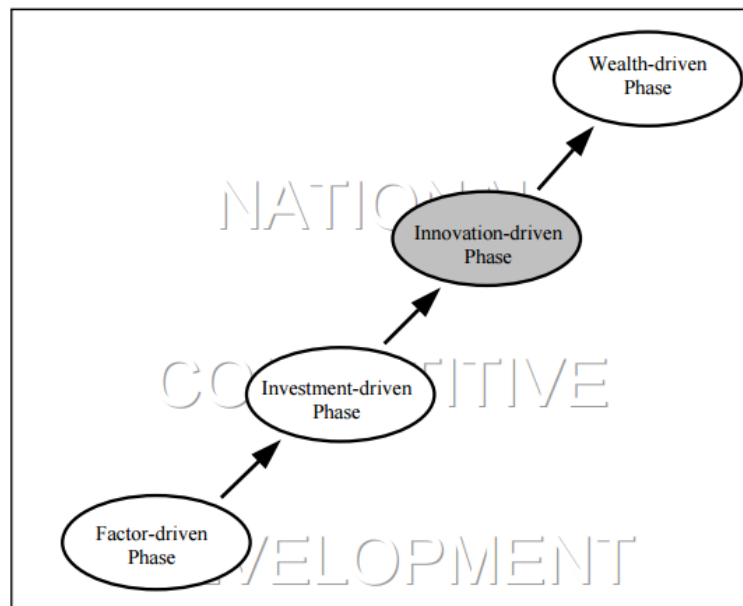


Figure 1: Porter's Four-Phase Model of National Competitive Development

A value-creating economy will necessarily be innovation-driven since creating value must involve the creation of original ideas and intellectual property which translates into more efficient business solutions, marketable products and services, and successful companies (Smalani, 2016). The importance of innovation is corroborated by Porter's (1998) classification of economies, which illustrates that moving towards an innovation-driven economy will progress Singapore to the next stage of development. In short, the future economy we must anticipate is necessarily innovation-driven, focused on value-creation rather than value-adding, predicated on the innovative capacity of a limited pool of tech-savvy, highly-creative workforce working in collaboration to produce high-value goods and services.

The Role of Innovation and Productivity in the Future Economy

In this future economy, productivity will be driven by innovation. The most substantial way of raising production in an economy that is already advanced – with natural resources and business capital utilised to their maximum potential – is to further develop human capital. In

particular, increasing innovative capacity to harness the collective creative potential of our workforce will enable continuous improvement and evolution in our products, businesses and industries, keeping our economy always on the onset of change and never stagnant.

Hence, the government should perceive productivity and innovation as a single, rather than separate, concern in the future. Moving forward, its foremost objective is to encourage innovation to create value in order to remain productive. Not only will greater innovation provide a strong impetus for firms to introduce new products and services as a means of consolidating their foothold in international competition, it will also create new opportunities for industrial growth by constantly improving existing products and services which will aid the development of other industries as well, especially advancing technologies (Goh, 2005). As a result, by focusing on innovation, the government will be able to spearhead sustainable economic growth in the next 50 years, ensuring that our economy does not just survive, but thrives as well.

Challenges to Innovation and Productivity in Singapore's Current Economic Model

Given where we are headed, the question is if we are taking steps in the right direction. In other words, we must assess what barriers to innovation exist in our economy today, and, more importantly, what the government is doing to reduce these barriers.

Fortunately, the Singapore government has kept a strong emphasis on improving innovation in the economy. For example, the Standards, Productivity and Innovation Board (SPRING Singapore) is the main government agency for enterprise development and helps to facilitate the growth of industries and enhance innovation. One of its key initiatives is the Young Entrepreneurs Scheme for Schools (YES! Schools), which seeks to imbue problem-solving skills and an entrepreneurial mindset in youths. Through SPRING Singapore, the number of

business start-ups has increased by more than 90 percent from 2,800 in 2004 to 5,400 in 2014 (Teng, 2016).

Additionally, government initiatives like the National Research Foundation sets the national direction for research and development (R & D) by developing policies, plans and strategies for research, innovation and enterprise. It aims to transform Singapore into a vibrant R & D hub that contributes towards a knowledge-intensive, innovative and entrepreneurial economy. Most importantly, the creation of entrepreneurial ecosystems has nurtured the growth of innovative business and enterprises. For instance, “Block 71” - located at JTC LaunchPad at One-North – is Singapore’s equivalent of Silicon Valley, with more than a thousand people in hundreds of start-ups and incubators. By 2017, JTC LaunchPad@One-North will expand from three blocks to six and is set to house as many as 750 emerging start-ups (Teng, 2016).

However, there currently exists a lack of opportunities for our workforce to nurture their creativity, resulting in innovation that is limited only to a select few entrepreneurs who are often highly-educated and highly-intelligent. By assuming that only entrepreneurs are capable of innovation, and hence starving the rest of the workforce of the opportunity to innovate in different ways, the government is severely limiting our economy’s potential to innovate.

Even if ordinary workers cannot be entrepreneurs – since not everyone is willing and has the means to create his or her own company – they can be “intrapreneurs”, which refer to workers who take direct responsibility for innovation within a corporation, behaving like an entrepreneur by taking risks, trying different methods and creating new ideas for the organization to adopt. To unleash the potential of innovators, industrial policy-making must therefore enable innovation-related imperatives to permeate all layers of and cannot be exclusive to a select few (Goh, 2005).

Furthermore, nurturing innovation cannot be achieved through industrial policy only – it has to involve the education system as well since it requires a change in societal attitudes and values. On a societal level, our adherence to “obedience, respect for authority, hierarchical structures and insistence on conformity... go against what are generally thought to be the catalysts for innovation — namely, an open culture where exchange of ideas are encouraged, individuality, and diversity which brings about different perspectives.” In Singapore, our fear of failure is an additional barrier to innovation. “The willingness to take risks is a prerequisite for an innovative culture, which of course will challenge Singaporean preferences for predictability and order.” (Miles, 2013) To put things in perspective, in 2011 when Apple co-founder Steve Wozniak was invited as a motivational speaker to Singapore, he made the observation that a company like Apple could not emerge in societies like Singapore. While many were educated with well-paid jobs in Singapore, “creative elements” in society were missing and people are not taught to think for themselves (Mahtani and Holmes, 2011).

Finally, on a corporate level, our start-ups find it difficult to internationalize. While it is commendable that the number of entrepreneurs and start-ups are increasing over time, their success is defined not only by “new venture creation but also by venture exits”. While there are more start-ups receiving greater investment from venture capitalists, there have not been many start-ups which have successfully broken onto the global market (Teng, 2016).

Nurturing Innovation through Harnessing Collective Creative Potential and Refining Entrepreneurial Ecosystems

The overarching objective of this economic model is to increase innovation in two key ways – firstly, nurturing creativity in the workforce through educational measures; secondly, refining the conditions of entrepreneurial ecosystems for them to flourish.

Nurturing Creativity in the Workforce through Education

The ability to innovate is largely a result of an individual's mindset towards problem-solving and making mistakes. The ideal entrepreneur is unafraid to challenge the status quo and even less afraid of failure, because only through repeated mistakes can improvements be made. To cultivate this entrepreneurial spirit, our government need to provide the suitable learning experiences and lessons from young, cultivating creativity and emphasizing problem-solving skills starting from our education system so as to change the way in which Singaporeans think, act and behave.

Firstly, it is imperative for our education system to abandon rote learning in favour of a more holistic examination system that tests students on their ability to think critically and creatively. Greater emphasis should also be placed on nurturing a willingness to stand up for one's opinions and challenge the status quo if need be, instead of following authority blindly. Secondly, schools need to inculcate in students a passion to improve the world around them and provide outlets for that passion to be expressed in the form of innovative solutions that resolve urgent problems. This can come in the form of more sustained project work assignments where students are attached to grassroots organizations, allowing them to observe societal problems, brainstorm innovative solutions and execute those solutions on the ground with assistance when necessary. Such assignments will familiarize students with the entire process of innovation, starting from the germination of an idea to its eventual materialization.

Refining Entrepreneurial Ecosystems

The reason local start-ups often do not go further than catering to a domestic market is because of ineffective government support that impairs, rather than aids, the growth of these start-ups.

Firstly, the organizational culture of creativity in businesses and start-ups must be organically cultivated rather than implemented from a top-down approach. In fact, any government efforts at manufacturing a culture of creativity in corporations run the risk of, ironically, killing creativity, since regulations restrict and creativity cannot thrive under restriction. Hence, it is recommended that governments let entrepreneurial ecosystems develop on its own with response to changing market trends, ideas and collaborations instead of stunting the growth of start-ups in these ecosystems through government policy and regulation.

Entrepreneurial ecosystems, which “represent a conceptual framework designed to foster economic development via entrepreneurship, innovation and small business growth” (Mazzarol, 2014, page 3) are a complex environment that depends on a multitude of factors and actors. (Isenberg, 2010), (WEF, 2013):



Adapted from: Isenberg (2010); World Economic Forum (2013)

Figure 2: Components of an Entrepreneurial Ecosystem

Government policy is a but one variable in an equation containing multiple other factors – should the government bear too much pressure on start-ups to innovate through continual regulation instead of leaving the ecosystem to develop on its own, this might run the risk of hurting the ecosystem rather than benefitting it.

Secondly, as is often the case with most governments, the Singapore government is guilty of trying to create something from nothing – “too often government policy seeks to stimulate the growth of high-tech Silicon Valley replicas through the construction of science parks and technology hubs [which is] seldom a success” because “entrepreneurial ecosystems need to evolve from industries that are already extant within the region of country (Mazzarol, 2014, page 10). Instead, the government should “build from existing industries that have formed naturally...rather than seeking to generate new industries” (Mazzarol, 2014, page 14).

Most importantly, governments should not focus on merely growing the total number of firms in ecosystems and then ‘picking winners’ by “targeting funding and programs at specific parts of the entrepreneurial ecosystem”. Instead, government should focus on “assisting firms that are seeking growth” through relational support, which “involves facilitating network building, and connecting smaller firms and entrepreneurs with others who can assist their growth”. In other words, a growth-oriented approach that focuses on the networks between all components of the ecosystem, rather than a top-down approach which targets a couple of ‘winners’ in the ecosystem, is preferable (Mazzarol, 2014, page 11 & 12).

Through the creation of a successful entrepreneurial ecosystem, the government will be able to drive entrepreneurship and thus economic growth through multiple virtuous cycles.



Figure 3: Virtuous Cycle of Entrepreneurship

Source: Venkataraman (2004)

In short, greater entrepreneurship attracts greater talent and resources, nurturing more entrepreneurial institutions which spur greater entrepreneurship in turn.

Conclusion

In conclusion, Singapore needs to prepare for an innovation-driven, value-creating future economy. While there has been considerable government emphasis on increasing innovation in the economy, more can be done to nurture the innovative capacity of Singaporeans through educational reforms and allowing local start-ups to internationalize through organic developments in local entrepreneurial ecosystems. This will not only achieve economic growth for Singapore in the short-term, but also in the long-term as well, so long as we continue to keep our sights on the economic reality in 50 years' time and prepare for that reality.

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