



Viffa Consult

**THE KENYAN STARTUP ECOSYSTEM:
LESSONS FROM THE EVOLUTION
AND STATE OF SINGAPORE'S
START-UP ECOSYSTEM**



Table of Content

| | |
|--|---|
| Acronyms | 1 |
| About Singapore Startup Eco system | 2 |
| Quick Stats | 2 |
| In the beginning | 3 |
| Characteristics of the Singaporean ecosystem | 4 |
| Government support | 4 |
| Strong university network that has a catalytic role in the ecosystem | 5 |
| Global linkages and positioning | 5 |
| Singapore challenges to ecosystem growth | 5 |
| Key takeaways for Kenyan policymakers | 7 |
| References | 8 |

Acronyms

| | |
|-------|--|
| KARLO | Kenya Agricultural and Livestock Research Organization |
| KIE | Kenya Industrial Estate |
| KIRDI | Kenya Industrial Research and Development Institute |
| NFIE | National Framework of innovation and Enterprise |
| R & D | Research and Development |

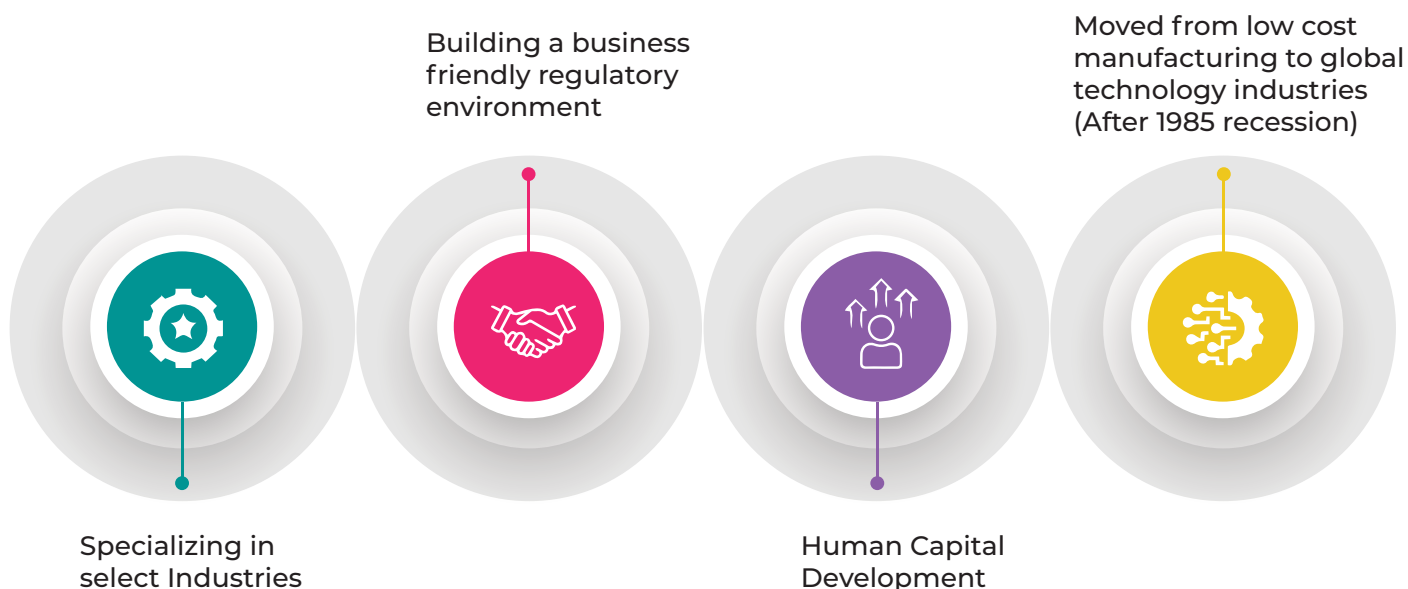
About Singapore Startup Eco system

Quick Stats



In the beginning

Singapore started its startup journey through the laying of foundation for its economy to be competitive by:



Source: World Bank-The evolution and state of Singapore Startup Ecosystem Illustration: Author

How does Kenya compare

| Action | Performance |
|--|--|
| Specialization in high value industries | Kenya's economy is still driven by Agricultural export with little to no value addition. |
| Business friendly regulatory environment | Kenya has made significant gains in improving the regulatory environment currently ranked 56 in 2019 |
| Human Capital Development | Although Kenya ranks 86 th globally and 3 rd in sub-Saharan Africa its major weakness is in Human capital & research: has weaknesses in the indicators Pupil-teacher ratio, Global R&D companies and QS university ranking |
| Strategic direction | Kenya's Vision 2030 has 6 priority sectors that are estimated to raise GDP growth rate to 10%. These sectors are; Tourism, Agriculture and Livestock, Wholesale & Retail, Trade, Manufacturing, Financial Services, Business Process Offshoring and IT-Enabled Services. |

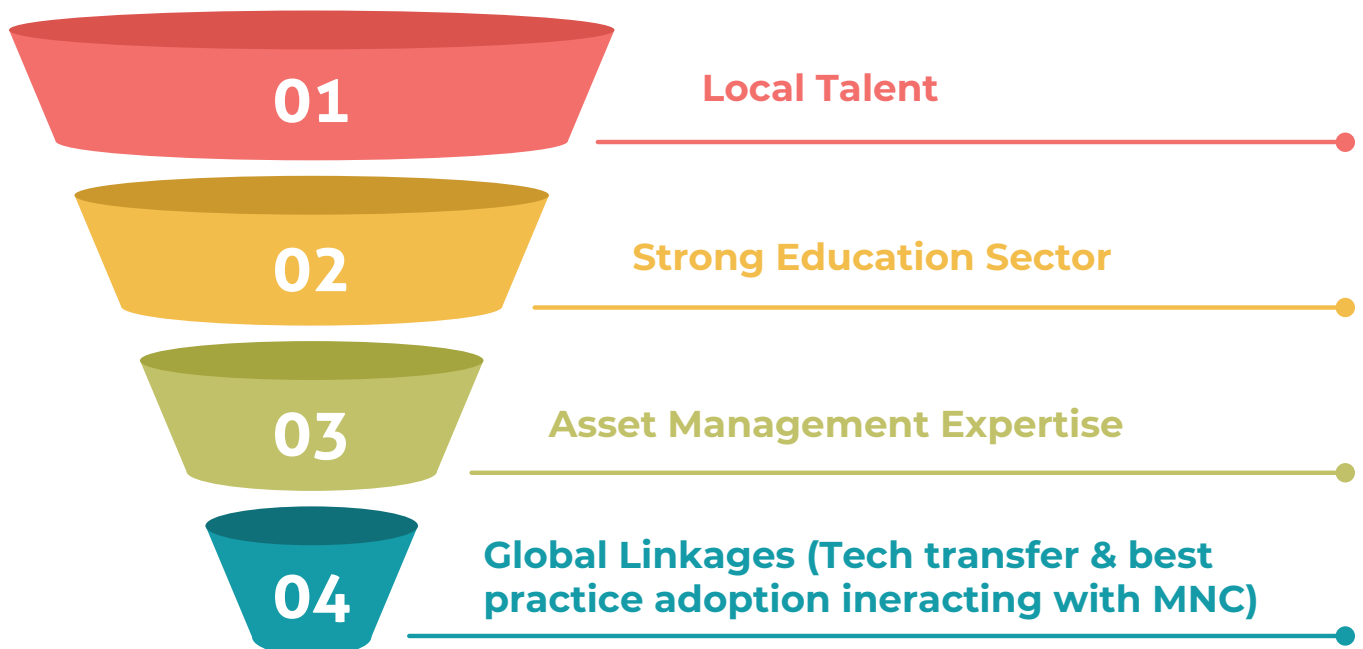
Characteristics of the Singaporean ecosystem

Government support

Besides the foundational work, the Singaporean government was cognizant of the need to respond to shifting global markets including the COVID 19 pandemic
Example of government led interventions are:

National Framework for Innovation and Enterprise

The foundational work through public policy was critical in supporting Singapore's startup ecosystem. Other factors that support the startup ecosystem include;



Source: World Bank-The evolution and state of Singapore Startup Ecosystem Illustration: Author

Key government led milestones were:

| Government Action | Detail |
|--|--|
| National Science and Technology Board | support the Research, Innovation and Enterprise Council |
| launched six 5-year plans, led by different government agencies | align Singapore's research with industry demand so it can be translated into tangible outcomes with economic and social impact. One important component of this strategy was deep engagement with the investment community |
| Government founded the Standards, Productivity and Innovation Board under the Ministry of Trade and Industry | Its mission was to "lower technical barriers to trade, provide quality assurance for products and services and promote industry use of Singapore and international standards core focus areas: productivity and innovation; standards and quality; SMEs and the domestic sector. |
| National Framework of innovation and Enterprise (NFIE) | Allocated \$ 254 million over 5 years (2008 – 2012) to develop innovation and entrepreneurship with a key focus on Academic entrepreneurship and the creation of enterprise support structures. One of the objectives of the NFIE was to commercialize leading-edge technologies developed by the public research institutes and institutes of higher learnings through the creation of high-technology ventures. It included the creation of Universities Innovation Funds established in each university to fund entrepreneurship education, technology incubators, entrepreneurs in-residence and other programs, to promote commercialization of university technologies. |
| Support to special sectors (Deep Tech Sector) | government is supporting specific sectors, including a growing emphasis on deep-tech sectors. The public sector is taking a lead role in beginning the specialization process, which could ultimately incentivize the private sector to follow suit. Additionally, multiple institutions and programs have been established with sector specific focuses: CATALYST, PIER71, ICE71, Seeds Capital, Diagnostics Development (DxD) Hub, The National Additive Manufacturing Innovation Cluster (NAMIC) and GROW are several examples. |

Strong university network that has a catalytic role in the ecosystem.

Singapore is home to several worldclass universities with specializations in engineering, technology and other sciences. The government is involving several universities in its efforts to build strong linkages between researchers, students, start-ups and industry. In addition, innovation and start-up challenges and incubation programs also encourage aspiring entrepreneurs to start companies in key campuses. Many universities also have programs that establish and strengthen international linkages.

Global linkages and positioning.

The government has emphasized building global linkages to make the country a mainstay in international business, which has helped its ecosystem and supports startups' ambitions to scale.

Despite its limited market and population size, Singapore has become a regional base for numerous global tech giants including Google, Facebook, Microsoft, LinkedIn, and Stripe, which all have offices in the country. According to data from Singapore's Economic Development Board, 59% of technology multinational corporations have regional headquarters based in Singapore, adding to the country's profile as a regional business hub.

Singapore challenges to ecosystem growth

Government involvement could be fostering too much dependency on the public sector.

69% of start-ups were participating in government schemes in 2017, an increase from the 19% in 2010. Too much government funding may be propping up foundering companies that should in fact cease operations, while also not effectively incentivizing private investors to engage with start-ups, and in general helping to build a market-driven ecosystem.

Fully utilizing and commercializing R&D outputs.

Gross expenditure on R&D rose from \$0.8 billion in 1991 to \$9.1 billion in 2017, a 10% CAGR, yet there is ongoing discussion as to the level of impact that R&D activities in the country have had on increasing start-up activity. Research suggests that investors may still be reluctant to invest in deep-tech, opting for less innovative companies.

Start-ups face challenges to acquiring and retaining talent.

The university system in Singapore is strong, yet given the country's small size there is inevitably a limited talent pool.

While Singaporean start-ups could find talent from abroad, restrictions on the number of international workers, and quotas surrounding local hires, may further hinder start-ups' efforts to find the necessary skills, and could lead both employees as well as entrepreneurs to settle in neighboring markets.

Increased regional competition.

As neighboring countries – i.e. Vietnam, Indonesia, etc. - have created their own start-up ecosystems, regional competition has in turn increased. A start-up attempting to scale from Singapore into a neighboring market will now find more difficulty than it may have faced in years past. Taking note of this, Singapore's 2020 budget features specific allocations for enhancing regional and global connectivity for its ecosystem.

Funding gaps remain.

Singapore ranks below the global average for early-stage funding. According to the 2019 global Start-up Genome report, the average early-stage funding size for start-ups stood at \$284, 000, versus an average of \$202,000 in Singapore. Additionally, funding for later-stage companies may also be harder to come by in the country. The country's small market size also mean that many investors need to operate with a regional scope to ensure a sufficient pipeline.

Limited access to data and validation of impact.

There is minimal data available on the ecosystem, as well as the degree to which efforts to support start-ups have achieved developmental impact.

The government has spent large sums to create new funds, programs, real estate, and other initiatives, yet the specific results and how these efforts have led to tangible development outcomes is still unclear. Without knowledge on the specific outcomes of individual efforts and impact that the funding has achieved, pinpointing the precise areas for improvement is difficult.

Key takeaways for Kenyan policymakers

Mainstream Startup led innovation to Vision 2030

Cognizant of the potential of startup to support rapid socio economic development as evidenced by scale up startups such as Twiga Foods, Sendy among others supporting over 30,000 small business across their value chains not to mention Mkpoa solar and Fintech companies providing electricity to rural areas and financial inclusion respectively.

Kenya's Vision 2030 has 6 priority sectors that are estimated to raise GDP growth rate to 10%. These sectors are; Tourism, Agriculture and Livestock, Wholesale & Retail, Trade, Manufacturing, Financial Services, Business Process Offshoring and IT-Enabled Services. Under the IT enabled services, the government has prioritized infrastructure such as Konza Technology City as well as national internet backbone. Whilst this is a commendable strategy, establishment of startup specific business friendly environment through legislation can have a higher benefit vis a vis cost/investment as compared to physical infrastructure investment

Strong university network that has a catalytic role in the ecosystem.

Kenya has several globally recognized universities with specializations in engineering, technology and sciences including University of Nairobi, Jomo Kenyatta University of Technology, Kenyatta University, Egerton University among others. Further government has support agencies in different shape and size including; Kenya Industrial Research and Development Institute (KIRDI) , Kenya Industrial Estate (KIE), Kenya Agricultural and Livestock Research Organization (KARLO) among others that must be aligned internally under government with the objective of supporting startups.

Deliberate effort must be made in facilitating linkages between university/government agency researchers, students, start-ups and industry. In addition, innovation and start-up challenges and incubation programs also encourage aspiring entrepreneurs to start companies in key campuses.

Academic Entrepreneurship

Kenya through Kenya National Innovation Agency (KENIA) must promote academic entrepreneurship and can establish a framework to commercialize leading-edge technologies developed by the public research institutes and institutes of higher learnings through the creation of high-technology ventures.

This can include the creation of Universities Innovation Funds established in each university to fund entrepreneurship education, technology incubators, entrepreneurs in-residence and other programs, to promote commercialization of university technologies.

Private sector incentives to engage startups

One of the challenges experienced by Singapore is the effectively incentivizing private investors to engage with start-ups, and in general helping to build a market-driven ecosystem

Attracting Startup Investors

Kenya has put the foundation by creating a business friendly environment through the ease of doing business program. This must be further bolstered by focusing on addressing the needs of startup investors in order to attract them and enable them set up shop in Kenya cognizant that venture capitalist are already investing in Kenyan startups who account to for over 17 percent of funding coming to Africa (Partech 2019) in order for the economy to reap the full impact of such investments.

Similarly, Kenya can align startup investor interest in the ongoing conversation of establishing Kenya as an international financial center.

Systemic data collection

Collection of data of the startup ecosystem is important just like any other economic sector in order to support policy as well as other interventions towards the sector. Similarly, data serves to give the Kenyan startup ecosystem international visibility.

Estonia has a great example of a national startup database that has the following advantages;

01

Strengthening the Estonian startup ecosystem – uniting and building the community through different events and activities, creating and executing unified marketing and branding strategies, assisting regional development and science-based decision making;

02

Co-organizing impactful startup events with the community, advocating diversity in age, gender, culture, and backgrounds;

03

Educating the local investors and attracting foreign investors to Estonia, helping available resources and vital know-how to reach startups and the community;

04

Eliminating regulative issues and barriers that are complicating the process of operating a startup, investing or raising funding in Estonia, and implementing startup friendly regulations such as the Startup Visa.

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