



Viffa Consult
Unlocking Africa's Entrepreneurship Spirit

STATE OF KENYAN STARTUP ECOSYSTEM 2022

—
Africa Innovation capital



Contents

Acronyms	2
List of Figures	2
Study Methodology	2
Acknowledgement	3
Introduction	3
Results	7
Top Sector 2021	7
Startup Type	7
Turnover Position	8
Business Financed Receipt Trend in 2021	9
Startup Partnerships	9
Type of partnership Agreement	10
Type of Innovation most prevalent	10
Top Startup Target Market	11
Mechanism for Protecting Intellectual Property (IP)	11
Most Pressing Challenge	12
Preferred Government support	13
Strengthening Kenya's startup policy architecture	14
Start-up Ecosystem Development: A case of Singapore	14
Key takeaways for Kenyan policymakers	17
References	19



Acronyms

AI	Artificial Intelligence
GII	Global Innovation Index
IP	Intellectual Property

List of Figures

Illustration 1: Startupblink ranking parameters

Illustration 2: Kenya GII Ranking Trend

Illustration 3: Kenya's Innovation performance pillars

Study Methodology

Study tool

Online & Telephone survey
Expert Interviews

Sample Design

Purposive {Counties;
Nairobi, Machakos,
Kiambu, Kisumu,
Mombasa, Taita Taveta,
Eldoret, Turkana, Nakuru,
Kisii}
Random {Within counties}



Acknowledgement

Deepest gratitude to Viffa team that worked tirelessly to bring the report to fruition. A big thank you to all startups who participated in the survey as well as key experts who shared their expertise.

Introduction

Kenya's start-up ecosystem has been active driven by both state and non-state actors. Government start-up support has been driven by Kenya National Innovation Agency (KENIA) with notable event being the inaugural Kenya Innovation Week as well as Konza Techno city. Non state actors have been led start-up stakeholder associations being Association of start-up and SME enablers of Kenya (ASSEK), Association of countrywide innovation hubs, East Africa Venture capital association (EAVCA) among others.

Kenya's government has been involved in startup ecosystem development since 2013, with the launch of Konzo Techno City, a tech park project built outside of Nairobi. Global tech giants like Google, Microsoft, Samsung, and Intel are also located in the capital city. Further Kenya is in the process of enacting a start-up bill that aims to recognise start-ups and related support organizations, offer framework to catalyse significant growth of start-ups as well as offer fiscal support. Kenya's start-up bill has been passed by the senate and has been introduced in the national assembly

The Kenyan start-up ecosystem leads the East African region in innovation, takes position 2 and 61 in Africa and globally respectively based on startupblink 2021 ranking ranking (Illustration 1: Startupblink ranking parameters).

Nairobi and Mombasa are the most recognised innovation places out of the 47 counties with leading sectors being ; Foodtech, Transportation Technology, and Energy & Environment Technology. Kenya has an estimated 209 start-ups, 4 accelerators and 17 coworking spaces.



Illustration 1: StartupBlink ranking parameters

Score	Parameter
Quantity	<ul style="list-style-type: none"> No of start-ups No of coworking spaces No of accelerators No of start-up related meetups
Quality of start-up & related organizations	<ul style="list-style-type: none"> Traction of over 70,000 entities in all ecosystems Presence of branches & R&D centers of International Technology Corporations Branches of multinational companies (e.g. WeWork spaces) Total private sector investment in thousands of startup ecosystems Number of employees per startup Presence of Unicorns, Exits & Pantheon companies Presence of Global Startup Influencers Global startup events (e.g WebSummit)
Business Environment	<ul style="list-style-type: none"> Ease of Doing Business & registering companies Internet Speed Internet Freedom R&D investment Availability of various technological services (payment portals, ride-sharing apps) Number of patents per capita Level of English proficiency

Source: StartupBlink

Global Innovation

India, Kenya, the Republic of Moldova and Viet Nam are still record holders for being innovation achievers for 11 consecutive years in the 2021 global innovation index. Kenya keeps its 3rd place in sub-Saharan Africa and scores above its income group in Institutions, Market and Business sophistication and Knowledge and technology outputs.

Kenya was ranked position 85 globally and 3rd in Africa in the global innovation index with innovation output outperforming inputs (Illustration 2)

Illustration 2: Kenya GII Ranking Trend

Year	GII	Innovation Input	Innovation Output
2021	85	89	76
2020	86	92	78
2019	77	89	64
2018	78	91	64

Source: GII 2021



Although Kenya's ranking improved overall in 2021 to 85 as compared to 86 in 2020 as well as output outperforming input, the level of both output and input dipped. A deep dive into Kenya's performance (Illustration 3) indicates best and weakest performance were knowledge and technology output and human capital and research respectively

Illustration 3: Kenya's Innovation performance pillars

Indicator Name	Sub units	Strengths {***} Weakness {*}
Institutions	Business Environment {Ease of solving insolvency}	***
Human capital and Research	{Education} Education expenditure % of GDP {Education} Pupil teacher ratio-secondary Research & Development {Global corporate R&D investors, top 3, mn US\$} Research & Development {QS university ranking, top 3}	*** * * *
Infrastructure	General infrastructure { Electricity output, GWh/mn pop} General infrastructure {Gross capital formation, % GDP}	
Market Sophistication	Credit { Ease of getting credit} Credit {Microfinance gross loans, % GDP} Investment {Ease of protecting minority investors} Investment {Venture capital recipients, deals/bn PPP\$ GDP} Trade, diversification & market scale { Applied tariff rate, weighted avg}	*** *** *** *



Business Sophistication	Innovation linkages {University-industry R&D collaboration} Innovation Linkages {GERD financed by abroad} Knowledge absorption {Intellectual property payments, % total trade}	*** ***
Knowledge and Technology outputs	Knowledge impact { Labor productivity growth, % } Knowledge diffusion { Intellectual property receipts, % total trade } Knowledge diffusion {ICT services exports, % total trade}	*** *** ***
Creative Outputs	Intangible assets {ICTs and organizational model creation} Creative goods and services { Cultural and creative services exports, % total trade} Creative goods and services {Printing and other media, % manufacturing} Online creativity {Wikipedia edits/mn pop. Online creativity {Mobile app creation/bn PPP\$ GDP}	*** * *** * *

Source: GII 2021

Kenya's innovation ecosystem players that include: Government, Academia, financing institutions, Private sector and multi-lateral institutions among others must align their interventions in the innovation environment in order create synergy hence reap maximum value in terms of national innovation output

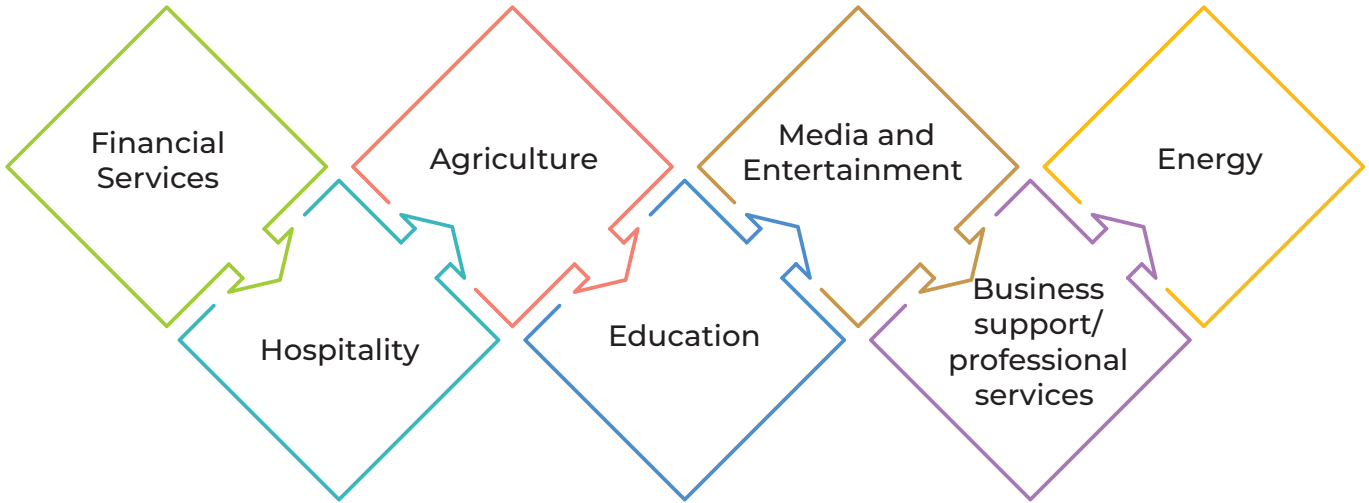
Cognizant of the critical role startups have in driving innovation output; Viffa conducted its 3rd edition study that sought to explore critical factors affecting the growth of startups in Kenya with a view of monitoring as well as catalyzing corrective action by eco system stakeholders.

The study defined startup as any business that applies an innovative solution which validates a scalable economical model (startupblink 2021)



Results

Top Sector 2021

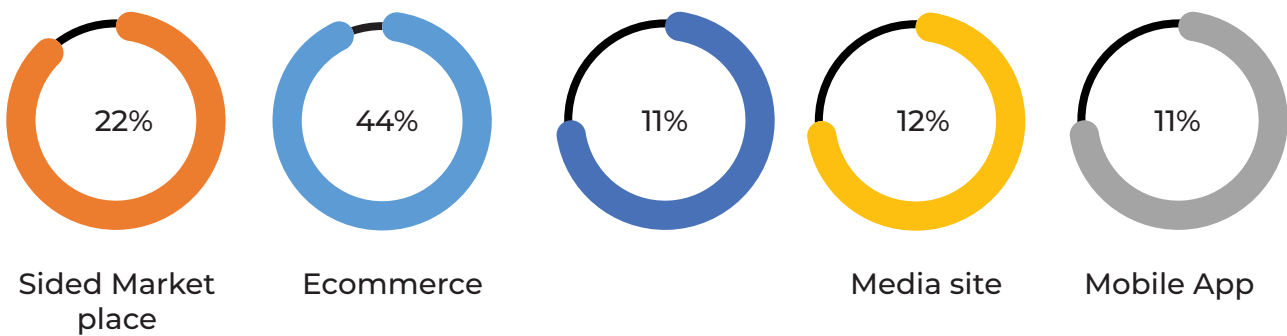


Insight

The bias towards financial services and agriculture is in response to gaps in the current economic architecture on issues such as challenges of access to finance, access to goods (due to low retail penetration) as well as a sub optimal performance of Kenya's agricultural sector. Hospitality, education, Media and entertainment may be due to alignment to opportunities brought about by COVID 19

At a Marco African level top startup sectors are ; fintech, logistic tech, edtech, ecommerce, Enterprise, Healthtech, Cleantech, Agritech, Mobility (Partech 2021). Further fintech accounted for 63 percent of total equity funding.

Startup Type

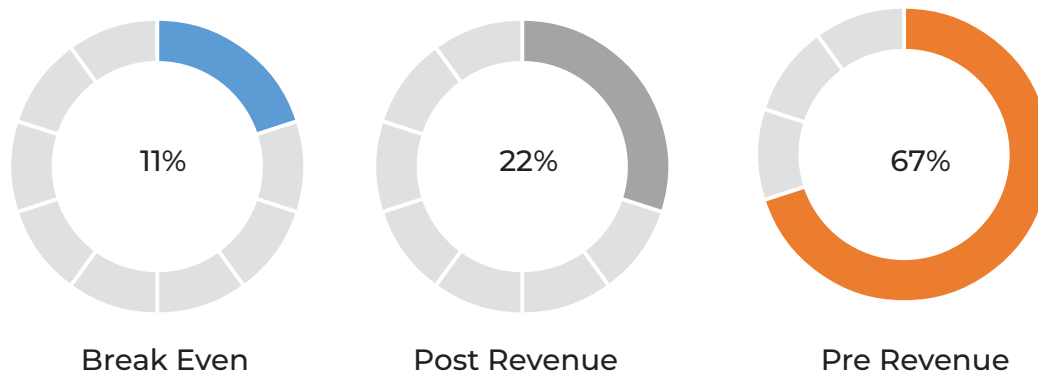


Note

- E-commerce (Buying something from a web-based retailer, online business Ex. Jumia)
- Sided Marketplaces (Variation on e-commerce sites, making money when a buyer and seller come together to complete a transaction Ex.OLX/JIJI)
- Mobile App (Gaining revenue from app purchase or other sources, such as in-game content, features, or advertising)
- User-Generated Content (Rallying an engaged community that creates content Ex. Facebook)
- Media site (Sharing advertisers' message with viewers & getting paid for impressions, click-throughs or sales Ex. Google's search engines)

Turnover Position

Turnover Position 2021



Insight

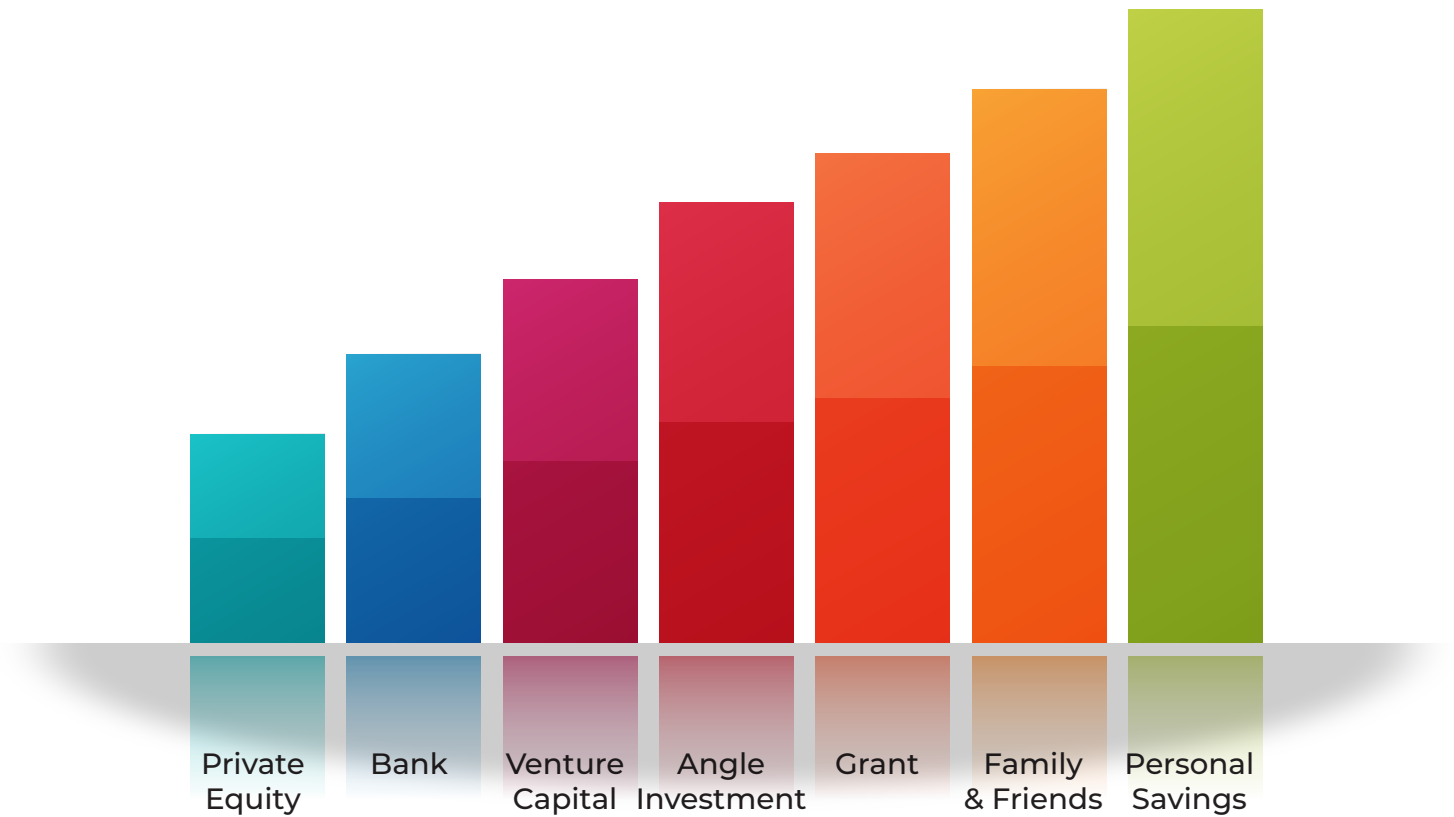
Startup recording pre revenue (negative revenue/losses) dropped by 15 percentage point to 67 percent from 82 percent 2021 and 2020 respectively

Africa Startup equity deals in 2021 recorded 5.2 bn USD as compared to 1.43 Bn in 2020 with 72 percent of funding going to deals of over 20m USD . Nigeria accounted for 34 percent of the total equity funding with Kenya attracting 93 deals of which 74 percent was seed stage (Partech 2021).

Kenya may be missing out on funding as majority of investment appetite seems to be on series B and growth round sizes with only 26 percent of Kenyan startups being in series A to growth rounds



Business Financed Receipt Trend in 2021

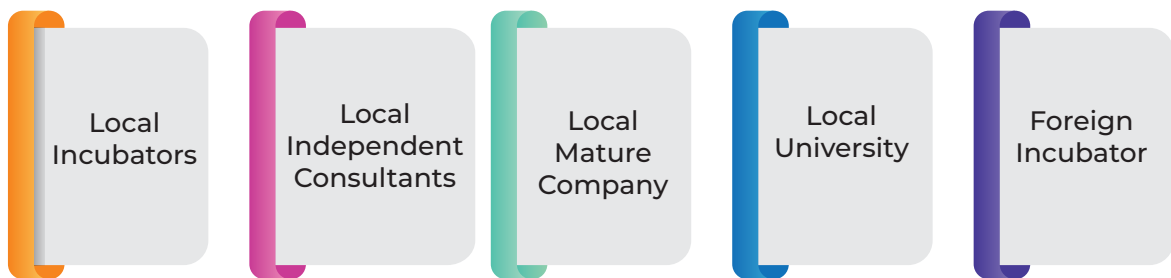


Insight

The big bulge of financing being personal savings, family and friends and grants is correlated to low turnover position/negative revenue as these startups are way below the radar of investors who have a much higher ticket size deal.

Kenya's stakeholders must find a solution of transitioning startups from pre revenue to significant scaling in order to compete effectively with Nigeria and Egypt in terms of attracting venture capital

Startup Partnerships

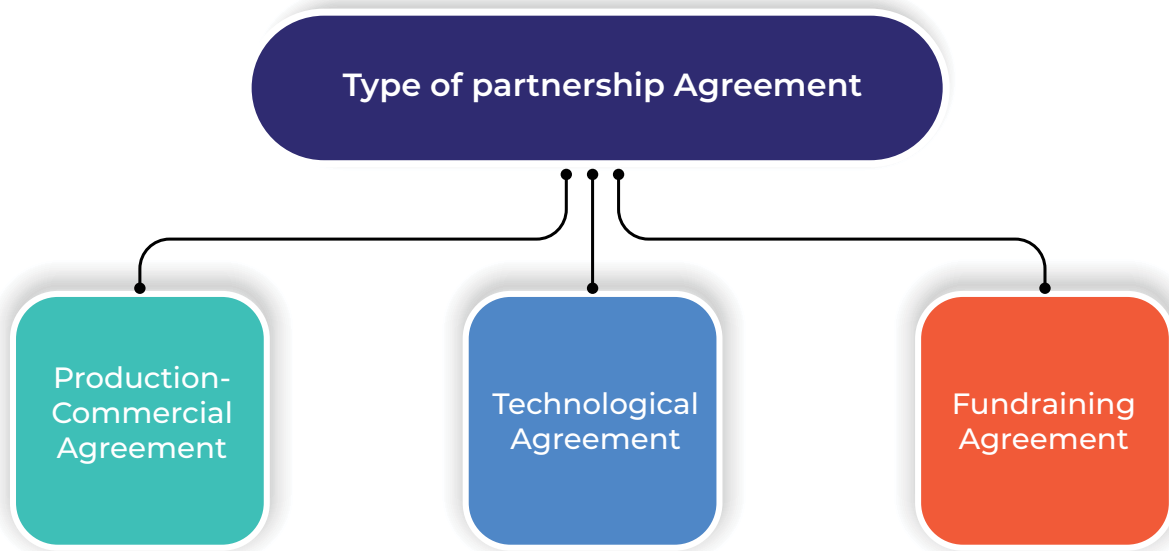


Insight

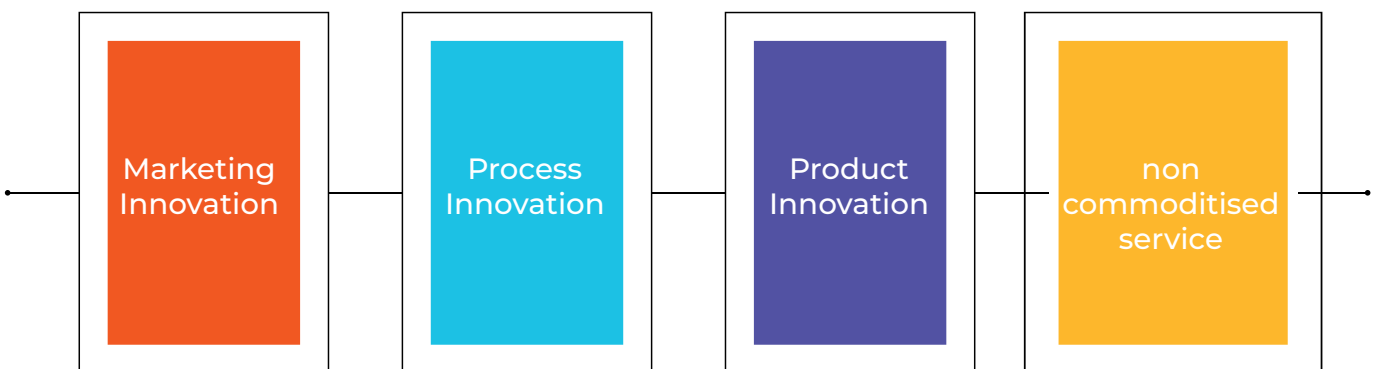
Choice of partner is driven by startup founder's demography {Age, Gender} and background which includes education level and background, level of professional network and level of business management experience among others.

Startup Incubators are important to startups for the following key reasons:

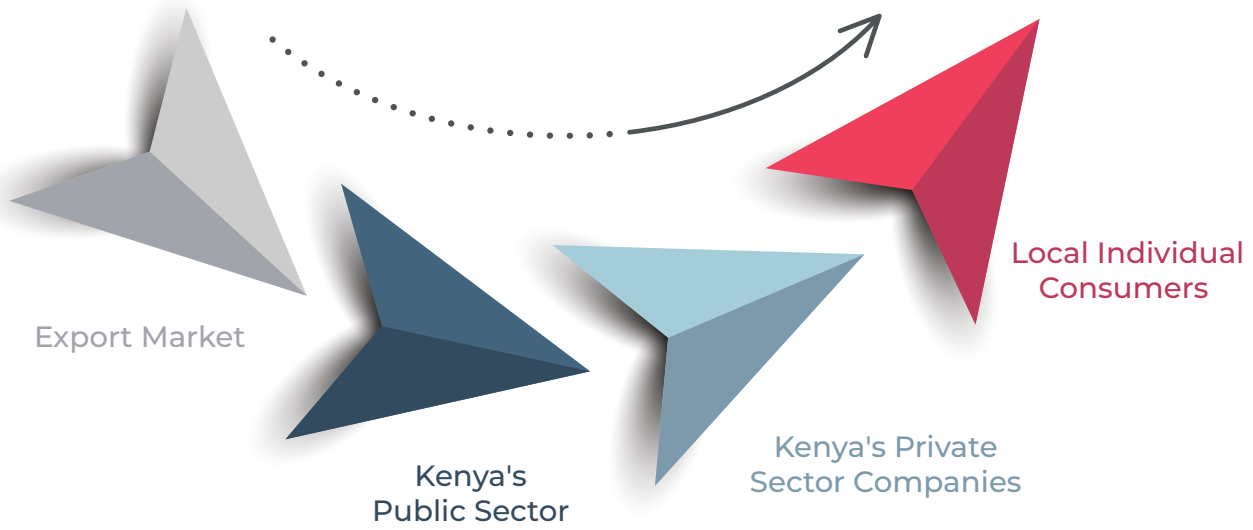
1. Startups are insulated from the harsh reality of a business environment, where rent and costs of operations can overwhelm a startup.
2. Startups can access capacity-building support in developing the business.
3. Startups can build their networks



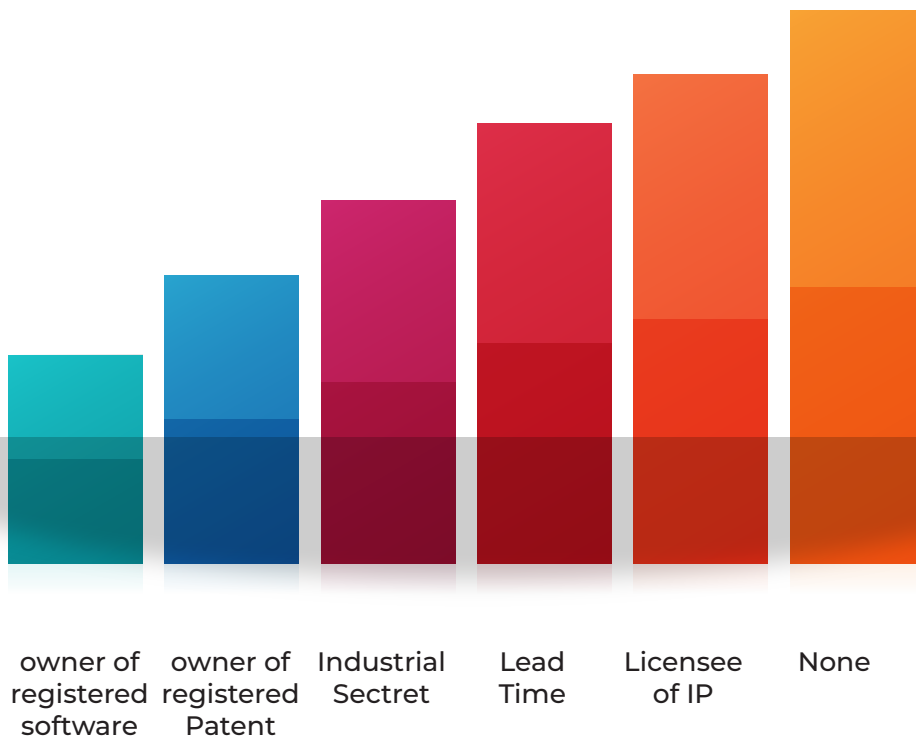
Type of Innovation most prevalent



Top Startup Target Market



Mechanism for Protecting Intellectual Property (IP)



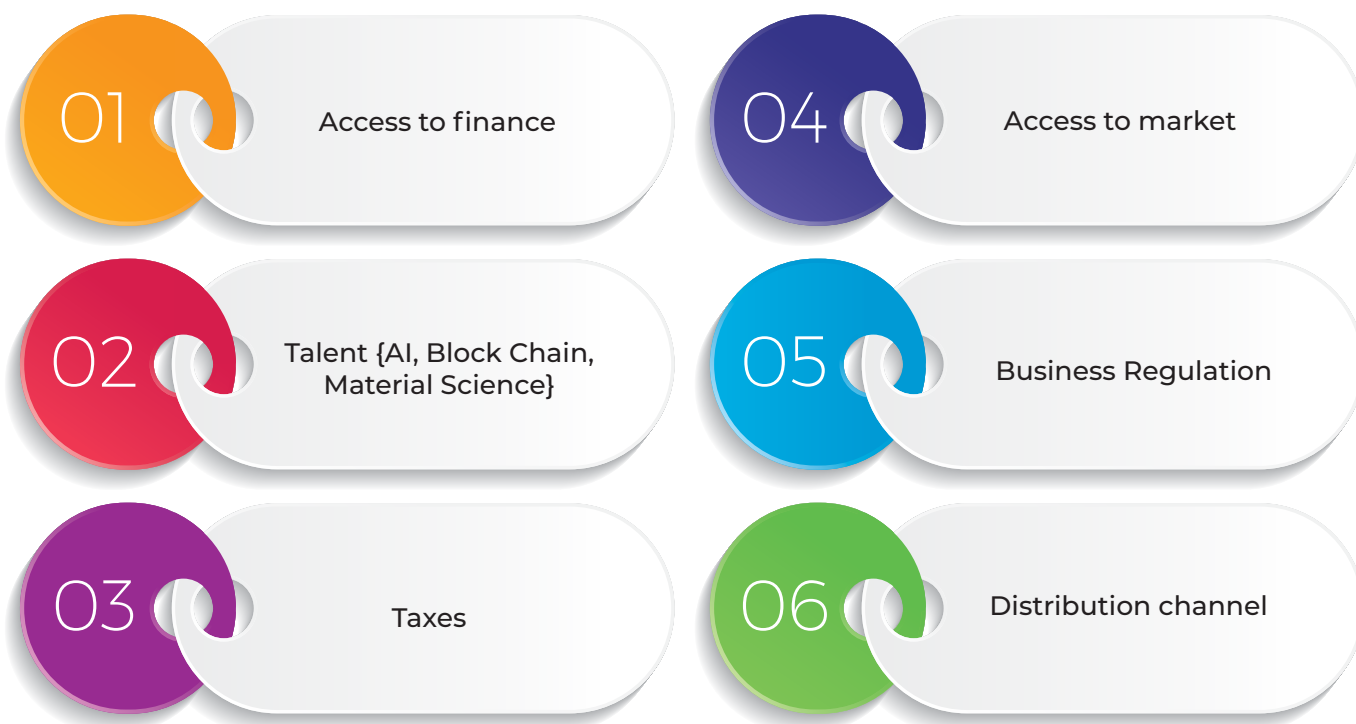
Insight

The high response to lack of mechanism by startups in protecting IP is driven by:

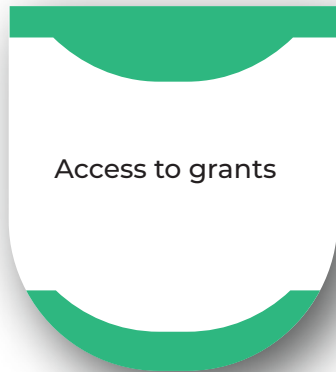
1. High cost and complexity of filing for an IP in Kenya
2. Reported weaknesses in IP enforcement in Kenya
3. Weaknesses in talent and HR to file patent especially in engineering and material science innovation
4. Threat of dishonesty and theft by corporate partners (Large private sector companies) leading to non-filing

IP support is a major incentive for startups as espoused in startups bills of Tunisia, Senegal and Kenya's draft bill. IP has a direct correlation with research and development which is a key parameter in both global innovation and startup index hence the need for Kenya to have a robust R&D policy and budgetary support

Most Pressing Challenge



Preferred Government support



Strengthening Kenya's startup policy architecture

Start-up Ecosystem Development: A case of Singapore

Quick Stats

Estimated contribution of startups will be 2 percent of GDP by 2035 (Pwc 2015)

Population 6 Million

Tech Startup Population 3,600

184 Startup Support Organization-184 accelerators, incubators, and other intermediaries (such as angel networks)

10.9 Billion USD Invested in startups (2019)

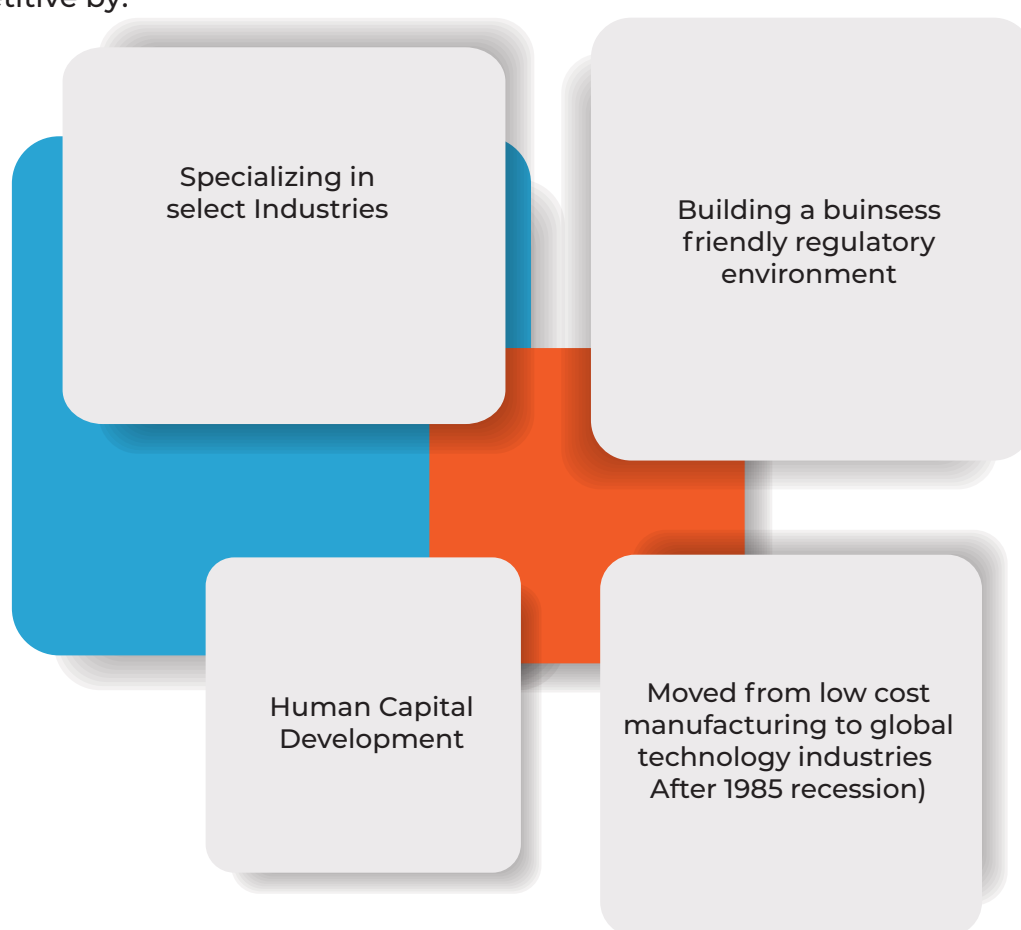
67% of key local acquisitions are by foreign companies while 33% local companies

Average age of founders in Singapore is 33

Ranked 17th on the Global Start-up Ecosystem Index

Where to begin?

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



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

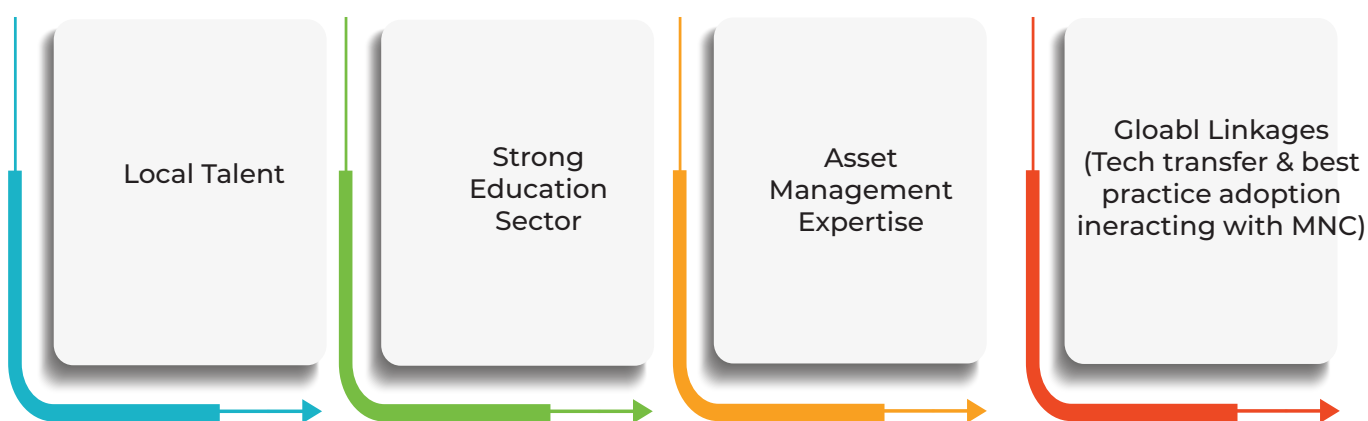
Government support

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.

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



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.

Key takeaways for Kenyan policymakers

The government has led the creation of the ecosystem as well as in identifying gaps where others could enter.

Mainstream Startup led innovation to Vision 2030 t

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. t

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;

1. 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;
2. Co-organizing impactful startup events with the community, advocating diversity in age, gender, culture, and backgrounds;
3. Educating the local investors and attracting foreign investors to Estonia, helping available resources and vital know-how to reach startups and the community;
4. 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.

References

Global Innovation Index

2022-https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021.pdf

Partech Africa Tech Venture Capital

2021-file:///Users/victorotieno/Downloads/2021_Partech_Africa_Tech_VC_Report_reduced_2.pdf

Partech-

<http://partechpartners.com/news/2019-partech-africa-report-here-and-its-best-yet-us-2-02-b-raised/>

PWC 2015-Singapore's tech-enabled start-up

ecosystem-<https://www.pwc.com/sg/en/microsite/media/assets/startup-google.pdf>

Startup Estonia- <https://startupestonia.ee/about>

Startupblink Global map-<https://www.startupblink.com/startupecosystemreport.pdf>

Vision 2030 { <https://vision2030.go.ke/> }

World Bank-The evolution and state of Singapore Startup Ecosystem-

<https://openknowledge.worldbank.org/handle/10986/35328>





Viffa Consult

Unlocking Africa's Entrepreneurship Spirit

Viffa Consult limited
www.viffaconsult.co.ke
One padmore place
George padmore Road
info@viffaconsult.co.ke
Tel +254 723982528

