

**THE ROLE OF INCUBATORS IN PROMOTING  
YOUTH ENTREPRENEURSHIP IN KENYA**

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<b>Executive Summary</b>	<b>iii</b>
<b>Introduction</b>	<b>1</b>
<b>Literature Review</b>	<b>2</b>
2.1 The Challenges of Youth Entrepreneurs	2
2.2 Incubation as a Solution for Youth Entrepreneurs	3
2.3 Services Offered By Incubators	5
2.4 Incubators Within Technology Hubs Across Africa	8
2.5 Partnerships Between Incubators and Stakeholders	10
2.6 Characteristics of a Successful Incubator within a Hub	11
2.7 Challenges Faced by Incubators	12
<b>Research Methodology</b>	<b>14</b>
3.1. Introduction	14
3.2. Sampling	15
3.3. Data Analysis	15
<b>Research Findings and Analysis</b>	<b>15</b>
4.1. Types of Incubators in Kenya	15
4.2. Services Offered by Incubators in Kenya	18
4.3. Types of Partnerships Between Incubators and the Public and Private Sector	24
<b>Conclusion and Recommendations</b>	<b>26</b>
<b>Bibliography</b>	<b>29</b>

# Executive Summary

This Major Research Paper explored the types of incubators in Kenya and the services they offer to support youth entrepreneurship in Kenya, as well as the types of partnerships the incubators have with the public and private sector that contribute to offering these services. The research showed that there has been a growing number of incubators in Kenya, especially in the ICT sector. These incubators are located mostly in Nairobi, which contribute to the rising technology scene in Kenya. These incubators offer a number of the core services that include: mentorship, linkages to partners, investors, and market, networking, community membership, co-working office spaces, business skills training, business advisory services and corporate administration. The results further illustrate that the services provided by the incubators in Kenya mainly address the challenges of entrepreneurs that relate to limited access to networking, strategic links to partners, and business and technical skills. Moreover, the incubators primarily provide a community, where entrepreneurs can connect, collaborate and support each other, especially during the early stage of building a startup. The findings also show that although seed funding is identified as a core service, it is not provided by all the incubators. This illustrates that the incubators focus more on services such as mentorship, training and community membership and highlight the need for an entrepreneur to first be around a supportive, learning and collaborative environment, in the early stages of a startup. Once the entrepreneur is trained and mentored in building an idea into a business, then the need for seed funding is recognized.

With regards to the partnerships between the Kenyan incubators and external stakeholders, the findings show that these partnerships mainly exist with the private sector. Apart from providing funding for the operational expenses of the incubators, private sector actors like donors offer seed funding for entrepreneurs, business and technical skills training, and access to partnerships and investors for entrepreneurs. The research drew attention to government efforts on supporting entrepreneurship, which are currently focused on providing seed funding for entrepreneurs as well.

The recommendations that are discussed revolve around the role of the Kenyan government in creating and implementing a standard policy for business incubation across the nation, in order to coordinate the efforts of different ministries in supporting the incubators. Furthermore, the government could extend more funding and support for both technology and non-technology incubators, in order to support youth entrepreneurs across diverse industries. Moreover, in addition to providing seed funding, support from the public and private sector for incubators could also be geared towards offering the common core services including mentorship, business skills training, and co-working office spaces, in order to better support youth entrepreneurs.

# 1. Introduction

Africa is the youngest continent in the world with 1.1 billion people, and more than 50% of the population is under the age of 19 (Kamel, 2017). According to Kamel (2017), the young labor force in Africa signifies a great opportunity for the continent in the form of critical human capital, which is the most important resource of emerging societies. Investing in the youth largely contributes to socio-economic development and growth (Kamel, 2017). The youth in Kenya are 43% of the working age population and make up 70% of the total unemployed population (Sambo, 2016). According to the Constitution of Kenya, the youth are defined as an individual between the ages of 18 and 35 years (Sambo, 2016). In Kenya, the youth have often been marginalized, which has resulted in young people grappling with unemployment, crime, drug abuse and not actively engaging in constructive nation building (Sambo, 2016). In order to address these challenges, the youth often turn to short-term, low-paid jobs or the informal economy (Sambo, 2016). The informal sector in Kenya provides 82% of the employment opportunities across various industries that include agriculture and the service sector (British Council, 2017).

Sambo (2016) highlights that entrepreneurship is being seen as an alternative for the youth. An entrepreneur can be defined as an individual who identifies an opportunity and obtains the necessary resources to use it to produce a product or a service (Lose & Tengeh, 2016). Entrepreneurs in Africa are considered instrumental in addressing social, employment and economic problems, especially socially oriented entrepreneurs who work to address issues such as poverty, crime and abuse (Verashina, 2018). African countries are also becoming home to rising entrepreneurs who are building tech startups that are meeting the needs of the continent (Kamel, 2017). The growing information and communication technology (ICT) sector across Africa is providing a unique opportunity for the youth, who are adapting and adopting new technologies to create solutions to various socio-economic problems (Kamel, 2017). Furthermore, sustainable and scalable entrepreneurship is being considered as a strong force that has great potential in contributing to economic growth on the continent (Kamel, 2017).

As much as entrepreneurship is viewed as a critical contributor to reducing the rates of unemployment among the youth, it also comes with its set of challenges. According to Sambo (2016), the rate of young people in Kenya who are creating successful enterprises is low, highlighting the poor economic participation of the youth, which slows the economic development of the country. According to Willemse, startups in emerging countries have a high rate of failure ranging between 50% and 95% within the five years of operations (Kibuchi, 2016). Because of the high failure of startups in emerging economies, business incubation has been promoted as a solution to strengthen the chances of survival for enterprises (Kibuchi, 2016). An incubator can be defined as an organization that provides a nurturing environment for startups in the early stages through a wide range of services, in order to support entrepreneurs in developing an idea into a business (Kibuchi, 2016).

Considering the role of business incubators in promoting entrepreneurship, this paper seeks to further look into the services available at incubators in Kenya and whether they address the main challenges faced by youth entrepreneurs during the first years of operation, when the

failure rate is high. Additionally, this paper looks at the types of partnerships between the incubators in Kenya and external stakeholders including the public and private sector and how they impact the services provided by the incubators.

The main research questions this paper will explore are: Which services do the incubators in Kenya offer and do they address the needs of young entrepreneurs? What type of support do the incubators get from the public and private sectors and how does it contribute to the services they provide to the young entrepreneurs? In order to answer the research questions, the methodology will take a qualitative approach that will involve a review of secondary sources, including academic journals, organizational reports and websites, news articles, and print and video interviews.

The paper will start with a literature review that begins with the challenges faced by entrepreneurs and how incubators address these challenges based on the services they provide. The following part will explore the types of incubators that generally exist in Africa, the challenges they face and the type of support they receive from the public and private sector that enables them to operate and provide the necessary services to entrepreneurs. The paper will then explore the research findings on the types of incubators found in Kenya, the type of services they provide, and the type of partnerships they have with the public and private sector that contribute to providing these services. The paper will then end with a conclusion that includes further areas for research and policy geared towards investing in incubators to support youth entrepreneurship.

## **2. Literature Review**

### **2.1 The Challenges of Youth Entrepreneurs**

One of the major constraints to the growth of Micro, Small and Medium Enterprises (MSMEs) is the lack of access to credit (Sambo, 2016). David-West et al. (2018) observe that funding in the form of local seed capital or venture capital and poor infrastructure pose great challenges for African entrepreneurs who seek to launch businesses independently. Tanna (2021) also corroborates that youth entrepreneurs are unable to access capital that is needed to start their businesses, because they are excluded from the formal financial sector.

Kibuchi (2016) highlights that some of the additional challenges that entrepreneurs face include limited access to information on business opportunities, limited exposure, information sharing and networking, lack of business support and advisory services, and the lack of awareness and use of emerging technologies.

When it comes to female entrepreneurs in Africa, women and girls face additional challenges. Apart from limited access to capital, which female entrepreneurs experience at a higher rate than men, women also face discrimination when obtaining capital in the formal economy (Gaye, 2018). Furthermore, they also lack information on the types of resources available and also how to get into male-dominated sectors like the technology sector (Gaye, 2018).

According to Omweri (2016), the challenges faced by young entrepreneurs in Kenya that

contribute to the high failure rate of startups include inadequate business skills, limited connections to strategic partners in the business industry, limited technological skills, limited access to financing and investment and a “poorly developed end to end supply chain and market access.”

Sambo (2016) adds that entrepreneurship education is also a barrier to youth entrepreneurs and governments around the world have started focusing on making investments in entrepreneurship education and training. Another barrier to youth entrepreneurship is society’s attitude towards young people, who face discrimination based on age (Sambo, 2016).

Omweri (2016) argues that the missing link in the interventions aimed at addressing youth unemployment is providing the youth with skills such as management and communication, and providing them with strategic links to partners. Omweri (2016) adds that this will greatly contribute to making businesses successful and consequently reducing the employment gap. Kamel (2017) argues that although access to capital is critical for entrepreneurs, human capital is the backbone of developing an entrepreneurial culture and ultimately a strong private sector that positively impacts the economy. Considering this, Kamel (2017) strongly emphasizes that lifelong learning should be the foundation of the startup culture and should be viewed as the “engine of socio-economic development.”

Based on the literature, the main challenges faced by entrepreneurs that have been identified include lack of access to funding, limited access to business information, limited exposure and networking, lack of access to strategic links to partners, limited business and technical skills, and lack of access to entrepreneurship education. These challenges affecting youth entrepreneurs are contributing to the high rate of failure among startups in emerging countries that stands between 50% and 95% within the five years of operations (Kibuchi, 2016). Because of the high failure rate of startups, business incubation has been promoted as a solution to strengthen the chances of survival for enterprises (Kibuchi, 2016).

## **2.2 Incubation as a Solution for Youth Entrepreneurs**

In order to address the challenges faced by MSMEs, one of the solutions proposed and sought after by entrepreneurs is being part of an incubator (Lose & Tengeh, 2016). Venter, Urban and Rwigema define an entrepreneur as “someone who takes advantage of an opportunity and then gathers various resources to exploit these opportunities that will be able to produce a product or service” (Lose & Tengeh, 2016). Lose & Tengeh (2016) observe that this definition highlights the role of resources in defining an entrepreneur and argue that the lack of these resources or being unable to mobilise them is the reason why entrepreneurs seek business incubation services. According to David-West et al. (2018), the Resource Based View (RBV) theory has been used to describe entrepreneurial success in startups with potential. David West et al. (2018) draw from Edith Penrose’s pioneering work on the RBV theory, which states that, “the absence of critical resources in a firm can limit the growth of that firm; while the presence of the same could promote growth in such firms.” Using this theoretical lens, David-West et al. (2018) point out that the resources provided to a startup have the ability to impact its survival and growth.

David-West et al. (2018) highlight two definitions of business incubation, starting with

Kemp, who refers to it as “the process through which assistance (in the form of business incubation services) is provided by a business incubator to businesses operating from within a facility,” while Hackett and Dilts define business incubation as “a shared office-space facility that seeks to provide its incubatees with a strategic, value-adding intervention system of monitoring and business assistance.”

Omweri (2016) highlights the UK Business Incubators (UKBI) perspective that the goal of a business incubator is to “support and create enterprises that are successful.” It is up to the entrepreneurs to maximize on the services provided in order to launch successful and sustainable businesses upon graduating from the business incubator (Omweri, 2016).

It is the business incubators that provide the most support to entrepreneurs at the most critical start up phase (Omweri, 2016). UKBI adds that it is the incubation centers that drive the business growth process by providing the required skills, access to strategic networks, markets and opportunities to fail up and ultimately build strong businesses. Omweri (2016) observes that incubation centers contribute to economic growth by introducing new services and products into the market through the incubated startups and creating jobs for the youth.

When taking a more refined look at the incubator within a hub, AfriLabs (2019) defines an incubator as “a support structure that helps early-stage startups transform from idea to venture, by offering advisory services, resources, workshops and hands-on training that guide entrepreneurs in defining and refining their business models and value propositions with the goal of becoming sustainable businesses. They sometimes have a limited pool of cash to support the portfolio companies.” Kibuchi (2016) spotlights the definition by Kinoti and Struwig, who refer to a business incubator as “a nurturing environment for startups that provides business support programs and networking including physical infrastructure. They enable businesses to develop within a controlled environment” (Kibuchi, 2016). Kibuchi (2016) also refers to the definition of a business incubator by Pettersen, who views it as “a formalized entity with an infrastructure intended to nurture incubated startups with critical resources in pursuit of survival and growth.”

Omweri (2016) highlights that business incubation is a process that involves “developing enterprises with the intention of growing young enterprises, new products, services and technology.” Omweri (2016) explored the Business Incubation Model presented by Costa-David, whereby the business incubator process can be described as a “simple input output model” (Omweri, 2016). In this model, the inputs are provided by stakeholders and management who offer resources and the entrepreneurs who submit business ideas (Omweri, 2016). The outputs would be the incubatees graduating with a successful business and the ability to generate income and contribute to the local and national economies (Omweri, 2016). According to Costa-David et al., the process of the model occurs between the inputs and outputs through the “provision of incubator space and other support services to provide successful outputs, in this case successful incubate graduates” (Omweri, 2016).

In a study conducted on business incubators in South Africa, Lose & Tengeh (2015) observed that few studies have been done on the effectiveness of incubators and how they contribute to the success and development of businesses. While previous studies on the effectiveness of incubators have focused mostly on the number of businesses incubated, the success rate and the number of jobs created by the businesses, Lose & Tengeh (2016) shifted their focus on how well the business incubators are meeting the needs of entrepreneurs. The study assessed four areas which include: the challenges that the SMEs had prior to joining the

program; the reasons why SMEs join the program; SME satisfaction with the services received; and relating business incubation managers' skills to those required by their clients (Lose and Tengeh, 2016).

Lose & Tengeh (2016) concluded that the main role and objective of incubators is to “promote new venture creation and survival by providing them with essential support.” Furthermore, incubators best support entrepreneurs by addressing the needs of the incubatees at the critical early stages of the entrepreneurial journey (Lose & Tengeh, 2016).

There are different types of incubators, based on the entrepreneurs and startups that they work with. The technological incubators work with technologically oriented firms and mainly collaborate with higher institutions of learning, research institutions and science and technological parks, while business incubators focus more on nascent companies (Omweri, 2016). Kamel (2017) highlights the role of the university-based incubator (UBI), which contributes to the nurturing of an entrepreneurial culture through the education system. According to Kamel (2017), the university-based incubator (UBI) provides a foundation for the building of knowledge in the education and technology sectors and consequently plays a key role in the entrepreneurial ecosystem. UBIs provide the nurturing environment for business ideas and startups developed by students and graduates (Kamel, 2017). Moreover, the UBIs provide entrepreneurs with a pathway to the marketplace, while receiving support, opportunities, mentorship and possible funding (Kamel, 2017).

The unique addition of campus incubators is that they provide “a vision and a strategy for the promotion of innovative research technology-based startups,” which are becoming key in the growing ICT sector of emerging African economics (Kamel, 2017). Furthermore, an important difference between campus incubators and independent technology and business incubators is that campus incubators have established partnerships between the academic institution and businesses across different industries (Kamel, 2017). The UBIs connect technology resources and human capital to tech entrepreneurs, in order to promote the growth of startups and “consequently accelerate the commercialisation of technology” (Kamel, 2017). Furthermore, the UBIs provide a learning environment that enables student entrepreneurs to relate theory to practice and also promote an entrepreneurial and collaborative culture among the youth (Kamel, 2017).

According to the literature, the main characteristics of an incubator are that it mainly works with entrepreneurs in the early stage of a startup. The primary role of an incubator is to provide a nurturing environment and the necessary services that enable entrepreneurs to develop an idea and grow it into a business. There are different types of incubators depending on the type of startups they work with, which include technological and non-technological businesses. These incubators can be independent or be based at a university.

## **2.3 Services Offered By Incubators**

Based on the literature, incubators provide a wide range of services depending on the target population and capabilities. The most important element that distinguishes incubators from other organizations is that it provides “high level business support/management services” in one place for entrepreneurs and startups (Mutambi et al., 2010). Consequently, the environment

of interaction and collaboration created between the incubator managers and the incubatees, as well as among the incubatees is viewed as a crucial element of incubation (Mutambi et al., 2010). According to a report by Davies (2009), incubation projects are created to primarily address the following challenges for ICT entrepreneurs: “appropriate office space with reliable internet, appropriate support services and professional networking.”

According to David-West et al. (2018), the services provided by business incubators include “access to a working space, management advice and training, subsidized access to business resources (technical, financial, accounting, advertising and legal) and business credibility lending, and networking functions.” David-West et al. (2018) emphasize that the survival of incubatees depends on how the services are utilized and internalized by the incubatees, on a case-by-case basis.

Benchmarking of Business Incubators views business incubators as organizations that create a path for growing businesses by providing the entrepreneurs with a range of services that include secretarial support, networking, and strategic linkages (Omweri, 2016). Incubators also provide entrepreneurs with access to investors, economic development coalitions and government (Kibuchi, 2016).

Furthermore, business incubators provide MSMEs with “access to resources for innovation and they enhance their capacity in Research and Development (R&D) and the dynamics of starting up innovative enterprises, in order to facilitate more competitive small enterprises and support economic growth” (Omweri, 2016). Omweri (2016) asserts that the most fundamental role played by incubators is to promote innovation and youth entrepreneurship, which contributes to the creation of MSMEs.

Omweri (2016) highlights that incubators also differ based on their core purpose, business model, organizational structure and the entrepreneurs they are targeting. One type is the classical incubator, which provides “office space, secretarial services, and business training among other services” (Omweri, 2016). Many of the classical incubators have links to sources of capital and investors, but they rarely invest in the businesses (Omweri, 2016). Another type is the youth entrepreneurship and incubation platform, which is mostly considered by stakeholders and governments when implementing policies to support “MSMEs in technology innovation, spreading entrepreneurship education and access to funding” (Omweri, 2016). This type of platform focuses on three factors, which include providing business support services, business skills and capital investment (Omweri, 2016).

Lose & Tengeh (2016) draw from Adegbite, whose work notes that business incubators support the survival of MSMEs when they provide the following services: affordable working space in a fully built up factory; a range of services such as business counselling and training, secretarial support, startup financing and assistance with product development and marketing, enterprise counselling and training, and shared secretarial support. Kibuchi (2016) points out that the constant mentorship and networking provided to startups by incubators can have both a positive and a negative impact on the business at the critical early stages. Considering this, Kibuchi (2016) observes that incubators provide different services for entrepreneurs, with the goal of having the startups leave the program as self-independent businesses. Kibuchi (2016) spotlights that during the incubation process, there are “training, seminars, shared facilities, mentorship, coaching, linkages to venture capitalist, and sources of finance as well as networks within and without the incubator.”

According to the AfriLabs 2019 report, incubators within hubs typically offer two types of support, which include support that is in-kind in the form of training, advice, and facilities, and the second type is financial support through programmes. The most popular type of funding provided by hubs is in the form of equity investment at around 30%. Other forms of financial support from hubs, especially those that are supported by donors, are “cash injections in the form of grants at 23% and non-equity at 13%” (AfriLabs, 2019). There are also opportunities for mixed funding, whereby entrepreneurs receive in-kind and equity investment (AfriLabs, 2019). Additionally, another form of financial support is debt financing that is the least common financing at 12% (Afrilabs, 2019).

Omweri (2016) conducted a study on the role of business incubation in supporting youth entrepreneurship and looked at how the business network support, financial support, management support and business skills training offered at the incubators promoted youth entrepreneurship in Kenya.

Omweri (2016) observes that access to training and resources are huge barriers for entrepreneurs in developing countries. Considering this, incubators step up to provide the necessary resources for entrepreneurs from inception to graduation from the programme (Omweri, 2016). These resources include “access to office space, secretarial services, basic entrepreneurship training and in most cases a link to strategic partners who invest to grow the business” (Omweri, 2016).

Omweri (2016) points out Olaopa’s work, (2010), who recognized that business skills are one of the main services offered by incubation centers, while links to strategic partners and management skills are critical services offered to youth entrepreneurs. Links to strategic partners, both local and international, are key to the growth of youth’s business skills, because they provide access to needed capital and essential business skills to incubatees (Omweri, 2016). Based on the findings by Omweri (2016), youth entrepreneurs in Kenya responded that strategic partnerships were key in the growth of their businesses. Mentorship also played a great role in providing access to markets and financing, which led to the expansion of many of the businesses (Omweri, 2016).

Based on the study by David-West et al. (2018) on the tech hub ecosystem in Africa, the results show that many of the incubators identified across sub-Saharan Africa are different from the ideal incubator, based on the services offered. About 28% provide space to incubatees while only 18% offer mentoring, co-creation and technical training services (David-West et al., 2018). More than 90% of the incubators do not provide services that include “corporate administration, seed funding, business development, consulting, product development, research and development and user experience laboratories services” (David-West et al., 2018).

David-West et al. (2018) argue that the reason why major services that are at the center of startup entrepreneurship are not offered by many of the incubators is unknown, considering the growth of the hubs between 2011 and 2016. Furthermore, David-West et al. (2018) point out that the lack of access to these core services could be the reason why there is a low rate of successful startups across the continent, considering the number of entrepreneurs enrolled in the incubators operating in sub-Saharan Africa.

David-West et al. (2018) spotlight the work of the OECD (2010), which states that services such as seed funding, corporate administration and business development are important

characteristics of technology incubators in the aim of supporting tech entrepreneurs in the early stages. Considering this, David-West et al. (2018) argue that these services must be at the core of incubators in order to contribute to the “growth and sustainability of technoentrepreneurship.”

Based on the existing literature, the core services of incubators that have been identified include:

1. Seed funding
2. Linkages to partners, investors and markets
3. Co-working office space
4. Corporate administration - this includes secretarial services and office support
5. Mentorship
6. Technical training
7. Business skills training
8. Consulting services - this includes consulting in the following areas: accounting, legal, financial, technical, and advertising
9. Product development
10. Research and development
11. Networking
12. Business management advisory services

The 12 listed services address the main challenges faced by entrepreneurs which relate to access to funding, business information, networking, links to partners, business and technical skills and entrepreneurship education. In addition, these services also address limited access to office space, access to mentors and links to markets (Davies, 2009).

## **2.4 Incubators Within Technology Hubs Across Africa**

Several studies have been done on the entrepreneurial ecosystem in Sub-Saharan Africa that includes the growing number of business incubators across the continent. One of the recurring themes across the literature is the different uses of terminology in relation to the elements that make up the entrepreneurial ecosystem. Incubators are now being considered as part of a hub, which is defined as a “centre, structure or network comprising all actors supporting entrepreneurial ventures or innovation” (AfriLabs, 2019). Beer et al. (2017) point out that it has been difficult to categorise the rising number of technology hubs in Africa and refer to the 2016 World Bank Development Report, which places the hubs in Africa in four categories: government-led hubs, civil society-led hubs, academic institution-led hubs, and hybrid hubs. In order to establish a clearer framework for categorizing hubs in Africa that can be replicated in other regions, Beer et al. (2017) used the tech hubs in Kenya as a case study and established three categories that include: cluster hub, company hub and country hub.

According to Beer et al. (2017), a “cluster hub” is defined as a “relatively small geographical region containing a high density of [company] hubs, as well as the infrastructure and organizations that support such hubs.” A cluster hub can have at least one accelerator, incubator, shared working space and investment equity, which creates an environment for training and mentorship opportunities for entrepreneurs (Beer et al., 2017). A “company hub” is

a distinct entity that builds its own community and interacts with external stakeholders as a company (Beer et al., 2017). Based on the findings by Beer et al. (2017), this definition of the company hub is what is mostly referred to, when hubs are discussed in policy-oriented literature. Beer et al. (2017) also refer to business incubators as “company hubs,” since they operate as an entity within a cluster hub. Beer et al. (2017) point out that the available research shows that company hubs can have different models and operate as a combination of “a workspace, Internet café, coffee shop, training center, incubator, accelerator, event venue, and/or makerspace.” These company hubs ultimately serve as a meeting place for the community and an environment that supports creativity and knowledge sharing through mentorship and networking opportunities (Beer et al., 2017). A “country hub” refers to the macro view of a hub, where a country or a region terms itself as a hub and is guided by government policies (Beer et al., 2017). This category identifies large geographic areas that are becoming “centers of entrepreneurship activities” (Beer et al., 2017). The development of country hubs heavily depends on government policies and initiatives that are related to growing innovation activities (Beer et al., 2017). Countries including South Africa, Nigeria and Kenya have been viewed as country hubs, considering the recent implementation of policies to develop the technology sector and promote the creation of new technologies (David-West et al., 2018).

For the purpose of this paper, the definition of a “hub” will focus on a center that has multiple actors in the entrepreneurial ecosystem that provide a wide range of services to entrepreneurs throughout the different stages of the entrepreneurial journey, while an “incubator” will be considered as one of the actors in a hub that focuses on providing services to entrepreneurs in the early stages of building a business.

### *Technology Hubs in Africa*

AfriLabs (2019) carried out a study to examine the state of technology hubs across Africa, considering that there has been a significant rise in the number of networks and alliances among hubs and ecosystem builders, who are collaborating to “share and adopt best practices, avoid repetitions, and increase the exposure of their respective ecosystems.” According to the AfriLabs 2019 report, there are now 643 hubs across Africa, which are in the form of “coworking spaces, incubators, accelerators, and hybrid innovation hubs affiliated with government, universities, or corporates.”

With regards to the distribution of hubs across the continent, the highest concentration is currently in Nigeria, with at least 194 operational hubs (David-West et al., 2018). South Africa comes in second with 108 hubs, while Kenya follows with 78 hubs. Ghana has 37 and Cameroon and Tanzania have 24 hubs each (David-West et al., 2018). According to David-West et al. (2018), research shows that Nigeria, South Africa and Kenya continue to be the strong innovation markets and are leading the way in establishing the hub ecosystem. Nigeria’s lead in the hub ecosystem could be explained by the “large market size, low entry barriers to the IT industry relative to large multinational corporations in the service and manufacturing industry and the high unemployed youth populations” (David-West et al., 2018). Furthermore, Nigeria’s ICT sector previously relied on importation to cover the country’s IT infrastructural needs and is now working on local development and capacity building to meet these needs (David West et al., 2018). This has resulted in the emergence of the “ICT clusters, incubators and innovation hubs

providing a platform for digital and techno-entrepreneurship” (David-West et al., 2018).

South Africa has been in the lead in establishing hubs since the 1990s, because of its development in IT infrastructure on the continent (David-West et al., 2018). Moreover, South Africa has a strong talent pool that contributes to its prominence in having established hubs on the continent (David-West et al., 2018). Based on the results of the study by David-West et al. (2018), South Africa has the largest share of technology incubators at 19.4%, followed by Kenya at 10.7% and Nigeria at 8.7%. David-West et al. (2018) argue that the strong presence of incubators in South Africa is because of the “strong infrastructural presence,” while for Kenya it’s because of the “enabling market and industry policies” and for Nigeria it relies on the “high unemployment rate driving entrepreneurship.”

Based on the survey distributed by AfriLabs for the study, the findings show that hubs use three main revenue streams: “a membership fee to use facilities; donor funding to both sustain operations and run startup support programmes; consulting, which was identified as the largest additional revenue stream by 40% of the hubs” (AfriLabs, 2019). The consulting involves research related to innovation and programme implementation for particular donors (AfriLabs, 2019). Additionally, the hubs with enough space also rent out these spaces for events and others provide paid training or partnership fees (AfriLabs, 2019).

## 2.5 Partnerships Between Incubators and Stakeholders

In a study on business incubators in Africa conducted by David-West et al. (2018), the research found that hubs, including incubators across sub-saharan Africa, are mostly privately owned, with very rare instances of hubs owned through a public-private partnership. A possible reason could be because the African economies are mostly driven by the private sector, while the government takes on the role of providing a favorable political and socioeconomic environment for business activities (David-West et al., 2018). Despite this, Beer et al. (2017) argue that the tech hubs provide a platform for partnerships, which are formed across the public and private sectors, leading to impactful relationships and collaborations (Beer et al., 2017). Beer et al. (2017) observe that the technology hubs in Africa play a great role in nurturing and promoting home-grown entrepreneurs who are innovating local solutions to socio-economic problems, as well as providing the opportunity for regional and global partnerships.

With regards to the partners incubators could have, Davies (2009) identifies six stakeholders that include local businesses, investment funds, banks, universities, government, NGOs and donors. Local business can be crucial in providing mentorship, various services such as technical and legal consulting, and investment in the startups (Davies, 2009). Banks, investment funds, NGOs and donors can contribute the necessary financing for the startups as well (Davies, 2009). Based on the AfriLabs 2019 report, 60% of the hubs in Africa that were part of the study reported that they received external funding especially from “corporate sponsors, philanthropic organisations, and NGOs.” International donor organizations have formed partnerships to create initiatives that aim to promote entrepreneurship across the continent. One of these initiatives is Boost Africa, which was launched in 2016 by the African Development Bank (AfDB), in partnership with the European Investment Bank (EIB) (AfDB, 2016). The

Boost Africa Initiative is currently focused on establishing an entrepreneurship lab (E-Lab) in each of the following five African countries selected in the pilot programme: Côte d'Ivoire, Kenya, Ghana, Nigeria and South Africa (AfDB, 2019). In South Sudan, the United Nations Conference on Trade and Development (UNCTAD) launched a training programme on entrepreneurship and enterprise development for budding youth entrepreneurs that was adapted for the local context, by taking into consideration the economic effect of recurring conflict in the region (Lose, 2021).

Government, on the other hand, is key in establishing policies that promote entrepreneurship and creating businesses, as well as providing financing, awareness and credibility for the startups (Davies, 2009). Meru and Struwig (2015) recommend that the government should take the lead in the incubation process by implementing an incubation policy to guide stakeholders on “incubator goals, roles and outcomes.” Additionally, the policy should involve funding, which is mainly addressed by governments in some countries (Meru and Struwig, 2015). In countries such as Nigeria and South Africa, where there is a higher concentration of technology hubs, the governments have taken steps to implement policies that promote the technology sector and provide a favorable environment for tech businesses. The Nigerian government had set up the Technology Based Incubators (TBIs) as early as 1993, in order to establish the ICT sector, promote entrepreneurship and rejuvenate the economy (Lose, 2021). Currently, Oludim (2018) argues that the TBIs require restructuring, as they cater to a variety of startups in the manufacturing industry as opposed to ICT, they are underfunded and staffed with civil servants who lack experience in entrepreneurship. South Africa, on the other hand, has incorporated the support for early stage entrepreneurs and startups in the ICT sector in the national policies and seeks to directly fund at least 250 incubators through the Department of Trade and Industry (Lose, 2021).

The literature on the entrepreneurial ecosystem in Africa suggests that there has been a rapid increase in the number of organizations such as business incubators on the continent that are providing services to entrepreneurs, mainly in the ICT sector. These organizations operate together in ‘hubs,’ where entrepreneurs can access multiple services, based on where they are in the entrepreneurial journey. A majority of the technology hubs and incubators are privately owned and potentially collaborate with the public and private sectors, including national governments and international organizations.

## **2.6 Characteristics of a Successful Incubator within a Hub**

Beer et al. (2017) found in a study that the driving factors that contribute to the success of a strong technology hub revolve around government support (in the form of funding, access to markets and infrastructure), science, technology, and innovation; strategic partners (in the form of business partners, funders and mentors), a community of members (mainly the entrepreneurs); human capital (this includes skilled and experienced staff); research and development; and monitoring and evaluation mechanisms. The findings in the AfriLabs 2019 report also corroborate this view, as the hub managers who were interviewed suggested that financial support and collaboration are key for hubs to provide services to entrepreneurs.

Beer et al. (2017) review a study by USAID's Morgan McClain-McKinney, who sought to evaluate the effectiveness of incubators in sub-Saharan Africa. In conducting the study, McClain-McKinney experiences challenges which are rooted in the fact that the success of an incubator is measured based on the number of startups that graduate or voluntarily exit (Beer et al., 2017). McClain-McKinney noted that the main problem with this metric is that startups have a higher rate of failure upon exiting the incubator (Beer et al., 2017). Considering this problem, McClain-McKinney recommends measuring success by tracking the startups that graduate from the incubator for three to five years after their exit, but many of the incubators in sub-Saharan Africa have not been in existence for that long.

Kibuchi (2016) draws from Lalkaka's work, who argues that the sustainability of an incubator demonstrates a measure of success and is possible through wise investments in the facilities, monitoring of the operation expenses and creative ways of generating income.

Buys and Mbewana (2007) also conducted a study on the factors that led to successful incubators in South Africa based on a case study of the Godisa incubators across the country. The findings of the study showed that a successful incubator should have the following eleven characteristics: access to science and technology expertise and facilities, a comprehensive business plan, a stringent selection criteria, availability of funding, quality of entrepreneurs, stakeholder support, supportive government policies, competent and motivated management, financial sustainability, experienced advisory board, and networking.

Based on the literature, the characteristics of a successful incubator that include government policies and stakeholder support emphasize the importance of partnerships between incubators and the public and private sector. Furthermore, these partnerships contribute to the funding and sustainability of the incubators. Access to science and technology expertise and facilities, investing in the necessary facilities and operating through competent and management staff impacts the types of services the incubators provide. Ultimately, the public sector has a key role to play in contributing to the success of incubators through implementing supportive policies and providing funding, while actors in the private sector can also provide funding, linkages to investors, partners and the market, access to facilities, mentorship and expertise to the entrepreneurs, which can be offered through the services of the incubators.

## **2.7 Challenges Faced by Incubators**

There are a number of challenges that incubators in developing countries encounter that include financial strains, human skilled staff that is well qualified for running the incubators, lack of partners to provide services needed at the incubating programs, startups that are not too serious in their ambitions, very cautious entrepreneurs who do not trust the incubation process, poor infrastructure of the economy, lack of proper networks, and maintaining graduates who have since left the incubators space (Kibuchi, 2016). AfriLabs (2019) found that more than 110 hubs, which include incubators, shut down in the past five years due to sustainability issues and models that relied on external donors. These factors highlight the major challenge of access to funding, which prevents actors in the entrepreneurial ecosystem such as incubators in connecting

startups with investors or providing a pathway to finding capital (AfriLabs, 2019). Furthermore, the lack of experienced staff who are able to effectively nurture entrepreneurs affects the ability of incubators to positively contribute to the growth of startups (AfriLabs, 2019).

Omweri (2016) spotlights in the findings from a study on incubation services in Kenya that managers of incubators called for more partnerships between incubation centers, government and the private sector, so as to provide access to funding, mentorship and the required market, in order to support youth entrepreneurship. Additionally, they suggested more collaborations and exchange programs with international incubation centers, which would contribute to the improvement of incubation managers' skills and also encourage entrepreneurs to adapt a global mindset that would lead them to create products for a global market (Omweri, 2016).

AfriLabs (2019) recognized in the past few years that hubs, including incubators, have been pressured to take on roles and responsibilities that are out of their scope, as entrepreneurs have pointed out that they are not living up to their expectations in helping them scale. Additionally, there is a huge gap in accessible information on the success stories and relevant track records of the hubs, which would enable the African entrepreneurial ecosystem to identify best practices (AfriLabs, 2019). This gap in information on best practices could be contributing to the growing partnerships and "knowledge transfer networks," as well as collaborations that lead to saving costs and providing the essential resources to entrepreneurs (AfriLabs, 2019).

Beer et al. (2017) highlight Hersman's work, who identifies the lack of angel investors and seed capital as the biggest challenge impacting the technology scene in Africa. Hersman explains that there is a lack of investment and capital because there are local investors who prefer traditional and straightforward investments in real estate, other local investors who cannot comprehend the software space, and international investors who are not knowledgeable of the local situation (Beer et al., 2017). Nevertheless, Hersman emphasizes that the local innovations spurring from the technology hubs, including incubators, that seek to address local problems are the strength of the African technology initiatives (Beer et al., 2017).

Kibuchi (2016) notes that sustainability is a key area of difficulty especially for business incubators supported by the government. Many incubators are not financially self-sustaining, which limits their ability to meet the needs of entrepreneurs (Kibuchi, 2016). Omweri (2016) adds that incubation managers cite the lack of in-house funding as one of the main barriers in supporting startups. Although governments pledge to provide funding, it is often delayed, leading to the inability of incubation centers to provide capital to entrepreneurs in their incubation programs (Omweri, 2016).

The literature on entrepreneurship in Sub-Saharan Africa shows that the main challenges for entrepreneurs have been identified and business incubation is viewed as one of the effective solutions in addressing these challenges. The growth of entrepreneurship, especially in the technology sector, has led to the emergence of an ecosystem that includes the role of incubators and other organizations in offering multiple services to entrepreneurs. The organizations are diverse in their models and the type of services they provide, leading to the different terminology used to describe them. The term 'hub' has been used to describe an organization or a network that provides multiple resources to entrepreneurs, including business incubation. Furthermore, the literature shows that incubators face their own challenges such as limited access to funding

for supporting entrepreneurs with startup capital, as well as partnerships with the public and private sector that can contribute to delivering services to entrepreneurs. The research in this paper seeks to further look into the role of business incubators in supporting youth entrepreneurship in Kenya within the growing entrepreneurial system. Although incubators are viewed as part of hubs, they are unique because they address the challenges faced by entrepreneurs in the early stages of building a startup. Furthermore, this research will look into the types of partnerships between the incubators in Kenya, the government and the private sector to further understand how they impact the provision of services to entrepreneurs.

## **3. Research Methodology**

### **3.1. Introduction**

In order to further explore the role of incubators in youth entrepreneurship in Kenya, this study looked into the following research questions: Which services do the incubators in Kenya offer and do they address the needs of young entrepreneurs? What type of support do the incubators get from the public and private sectors and how does it contribute to the services they provide to the young entrepreneurs? The research methodology used to investigate these questions focused on a qualitative approach that centered on desk research. The secondary sources used to learn about the incubators in Kenya, the services they provide and the partnerships they have included the official incubator websites, academic journals, reports, news articles, print and video interviews, and videos about the incubators.

One research method that was planned for was five semi-structured interviews with incubator managers. Interviews were to be conducted virtually, because of the ongoing COVID-19 pandemic that began in March 2020 and led to limited physical meetings to prevent the spread of infections among individuals. Twelve incubator managers were contacted in June 2021, during the time period set for data collection. Initial communication was done through email and follow up calls were made to the incubators. The incubator managers who were reached by phone stated that they would review the initial email sent and respond to the interview questions included in the message. The last follow up calls were made to the incubators and the managers in the last week of June and they reiterated that they would respond, when they had time. The incubator managers have yet to respond to the interview questions. In order to save time and move to the time period set for data analysis in July 2021, the research methodology was adapted for desk research to collect data using the secondary sources. The most notable impact on doing the research was the limited ability to find information on all the incubators, as well as obtaining raw data from primary sources through interviews, which could have provided up to date information on the incubators, further insight on how they aim to promote youth entrepreneurs through their services, and a better understanding of how partnerships affect their ability to provide these services. The limitations on the desk research include the inability to find accessible information on all the existing incubators in Kenya. As of August 2021, an updated database or report that lists all the existing active incubators in Kenya is not available.

## 3.2. Sampling

The population of the study includes business incubators located in Kenya. This paper looks at a business incubator as one of the resources of a hub, and will primarily focus on organizations that either describe themselves as incubators or provide an incubation programme that young entrepreneurs can join in order to build their startups. Based on the secondary sources found that list or feature existing incubators in Kenya, there are currently 30 incubators in Kenya that actively work with youth entrepreneurs from the early startup phase that centers on creating ideas into business ventures. Out of the total 30, 26 incubators have accessible information about the services they offer to youth entrepreneurs, because they have official websites and information about their work is featured in additional secondary sources.

## 3.3. Data Analysis

The qualitative data was analyzed using thematic analysis and the main tool used was Microsoft Excel. The data for the first research question on the type of incubators in Kenya and what services they offer was grouped in two themes identified in the question: type of incubators and services. For the first theme on the type of incubators and the services they provide, the incubators were put into three categories: civil-society-led – which means the incubator was started by an individual or group in the society, academic institution-led – which means the incubator is based at a university or college, and government-led - which means the incubator is an initiative of the government. The data on the services provided by the incubators was grouped under 15 services that emerged based on the findings, which included the 12 core services identified in the literature.

# 4. Research Findings and Analysis

## 4.1. Types of Incubators in Kenya

Based on the findings, there are currently 30 incubators existing in Kenya. Kibuchi (2016) conducted a study on the services of incubators in Kenya and highlighted the first notable incubators to emerge in the country. The first ICT business incubator in the country is KeKoBI (Kenya Kountry Business Incubator), which started in 2004. Many of the technology incubators are clustered at Bishop Magua Center along Ngong Road in Nairobi, which is a major roadway linking the capital's Central Business District to Ngong Town, which is in the outskirts of Nairobi (Beer et al., 2017). Beer et al., (2017) consider the network of organizations located in this area as a cluster hub that sprung up in 2010 and has become the epicenter of the “tech boom” in the capital and is now home to eight Kenyan hubs. It is the collection of hubs, startups and venture capital firms on Ngong Road that has been referred to as the “Silicon Savannah,” “Silicon Avenue,” and “entrepreneurship row”, among other names (Beer et al., 2017). Beer et

al. (2017) point out that having the various entities in the cluster hubs that offer a variety of services leads to mutual benefits for the actors involved. The organizations at Bishop Magua Center, such as Nailab, m:Lab and Akirachix all offer different services, but have the common goal of supporting early stage startups (Beer et al., 2017). These services include an incubator that provides training and mentorship to early stage mobile startups at m:Lab, and an incubator and accelerator that provides rapid fix-term mentorship, funding, and education to early-stage growth driven startups at Nailab (Beer et al., 2017). Considering the various services offered by the organizations, Beer et al. (2017) point out that entrepreneurs have the opportunity to be part of the hubs at different stages in their entrepreneurial journey.

As listed in Table 1, nine of these incubators are based in academic institutions, which include the biggest public universities in the country: Nairobi University, Kenyatta University, Jomo Kenyatta University of Agriculture and Technology (JKUAT), and Maseno University.

With regards to the location of the incubators, 24 out of the total 30 incubators are in the capital city of Nairobi. The location of the incubators in the capital city are in line with the existing literature that highlight Nairobi's growing tech scene, which greatly contributes to Kenya establishing itself as a country hub in the region (Beer et al., 2017). However, this limits the access to incubators for youth entrepreneurs who are not located in Nairobi and lack the resources they need to turn their ideas into potential businesses. James Odede, the founder of LakeHub in Kisumu, Western Kenya, pointed out that he co-founded the incubator because he wanted to emphasize that innovation and creativity can be found outside of the capital city of Nairobi (KTN, 2021). Additionally, SoteHub was co-founded by David Ogiga to target the young people in the rural areas Kwale and Taita Taveta in Coastal Kenya, who are marginalized and have limited access to career opportunities (SoteHub, 2021).

Table 1: List of the Types of Incubators in Kenya

	<b>Name</b>	<b>Leadership Type</b>	<b>Location</b>
1	C4DLab/ Cisco EDGE Incubation Centre / Nairobi University	Academic institution-led	Nairobi
2	Chandaria Business Innovation and Incubation Centre - Kenyatta University	Academic institution-led	Nairobi
3	DeHub - Dedan Kimathi University of Technology	Academic institution-led	Nyeri, Central Kenya
4	@IBizAfrica – Strathmore University	Academic institution-led	Nairobi
5	Nairobi Industrial and Technology Park (NITP) - Jomo Kenyatta University of Agriculture and Technology (JKUAT)	Academic institution-led	Nairobi

6	Kenya College of Accountancy Business Incubator	Academic institution-led	Nairobi
7	Maseno University Business Incubator	Academic institution-led	Kisumu, Western Kenya
8	Business Incubation Center - Mount Kenya University	Academic institution-led	Nairobi
9	Technical University of Kenya – Business/ Technology Incubation Unit	Academic institution-led	Nairobi
10	Bithub.Africa	Civil-society led	Nairobi
11	Business Incubation Africa	Civil-society led	Nairobi
12	Dlab Hub	Civil-society led	Eldoret, Western Kenya
13	EOS Nairobi	Civil-society led	Nairobi
14	iHub	Civil-society led	Nairobi
15	KeKoBi - Kenya Kountry Business Incubators	Civil-society led	Nairobi
16	LakeHub	Civil-society led	Kisumu, Western Kenya
17	M-lab	Civil-society led	Nairobi
18	Mara Launch Incubation Center	Civil-society led	Nairobi
19	MEST Incubator	Civil-society led	Nairobi
20	Metta Nairobi	Civil-society led	Nairobi
21	Mt Kenya Hub	Civil-society led	Nairobi
22	Nailab	Civil-society led	Nairobi
23	PAWA254	Civil-society led	Nairobi
24	Seven Seas Technologies Innovation Labs - SST Kabla	Civil-society led	Nairobi
25	SoteHub	Civil-society led	Voi, Coastal Kenya
26	StartUp Africa	Civil-society led	Nairobi
27	SwahiliBox	Civil-society led	Mombasa, Coastal Kenya

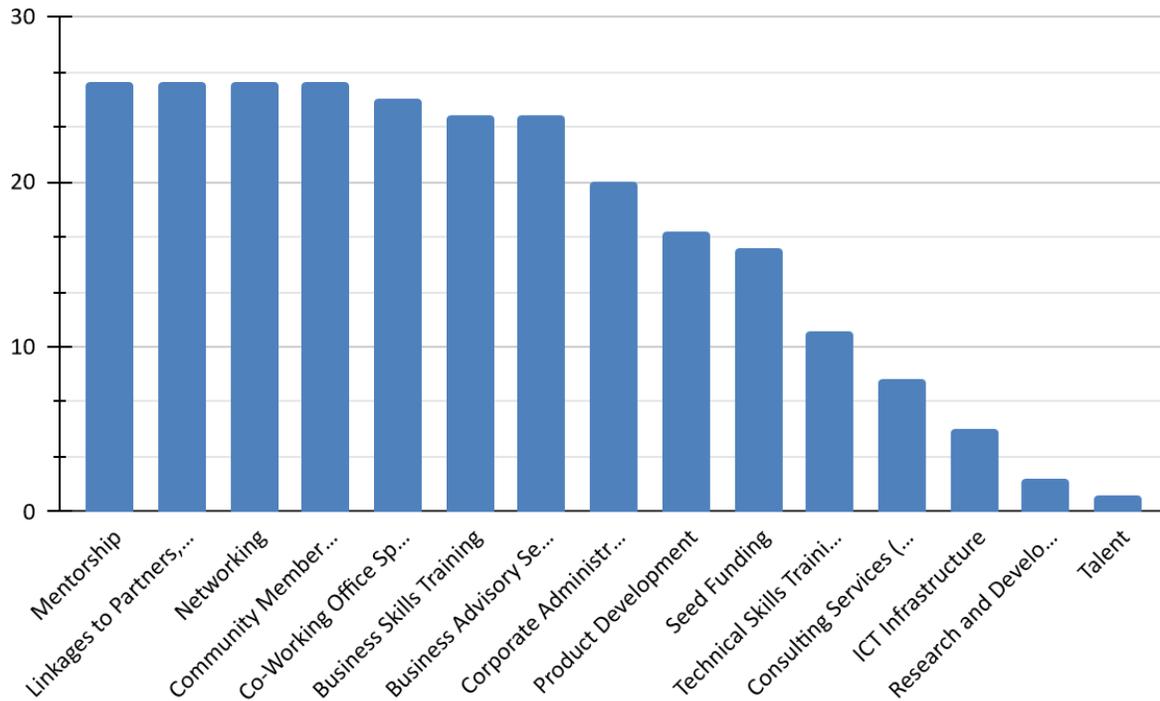
28	The Hub East Africa/ The Entrepreneurs Hub	Civil-society led	Nairobi
29	Villgro Kenya	Civil-society led	Nairobi
30	Kenya Industrial Research and Development Institute (KIRDI) Business Incubation Programme	Government-led	Nairobi

## 4.2. Services Offered by Incubators in Kenya

The research on the services provided by incubators in Kenya was grouped under 15 different services listed below. Graph 1 shows the breakdown of the services based on data obtained on the 26 incubators:

1. Mentorship
2. Linkages to Partners, Investors, Market
3. Networking
4. Community Membership
5. Co-Working Office Space
6. Business Skills Training
7. Business Advisory Services
8. Corporate Administration
9. Seed Funding
10. Product Development
11. Technical Skills Training
12. Consulting Services (Legal, Advertising, Accounting, Financial)
13. ICT Infrastructure
14. Research and Development
15. Talent

Graph 1: Services Offered by 26 Incubators in Kenya



### 1. Mentorship

Mentorship is a critical element that is made available at all the 26 incubators in the study. The main services offered at the @iBizAfrica Incubation Services include access to mentors, coaches and expertise in diverse areas of business management (@iBizAfrica, 2015). The entrepreneurs at the C4DLab have access to mentors who are leading business experts, venture capitalists, industry experts and academics. The mentors offer “guidance and advice based on startup specific needs through calls, lectures, and informal meetings.” The student entrepreneurs who are part of the Chandaria Business Incubation and Innovation Center at Kenyatta University place high value on the mentorship opportunities that they are able to access at the center (Bungei, 2016). Moreover, Vershinina (2018) highlights that in Kenya, there are firms and business owners that seek to empower the youth and the disadvantaged to get basic education and skills, in order to encourage “creativity and confidence in them to become entrepreneurs.” These firms also set aside resources mentoring and educating the youth in order to promote a business-oriented mindset (Vershinina, 2018). Based on the findings, the incubators in Kenya list mentorship as one of their crucial services, so that entrepreneurs receive guidance in the business journey, especially in the early stages when they are facing the risk of failure.

### 2. Linkages to Partners, Investors and Market

Strategic links to partners was one of the common services among those offered by the incubators including SoteHub, Nailab and the Chandaria Business Incubation and Innovation Center. Omweri (2016) conducted a study on the particular set of services offered by Nailab, which include strategic partnership, financial support and training and whether they positively

impact youth businesses. According to the study by Omweri (2016), the majority of the entrepreneurs who were surveyed responded that they made strategic partnerships with customers and suppliers through Nailab. Omweri (2016) concluded that this was a positive indication that good networks which are built at the incubation center increase an enterprise's opportunity. Omweri (2016) also highlights Omondi's work, (2001) who argues that creating alliances, cluster hubs and networking enables young entrepreneurs to launch their products and compete in the market. When entrepreneurs collaborate, they are able to scale by building partnerships with producers and consumers, ultimately breaking into national and international markets. This spotlights the role of business incubation in promoting entrepreneurship through the creation of horizontal links between the incubatees and vertical links with the manufacturing industries, to enable market access, pathways to funding and skills development (Omweri, 2016). According to the research data, the incubators that do not provide funding alternatively provide access to investors and financing networks.

### 3. *Networking*

Another key service offered by the incubators is networking, which involves events and meets ups where incubatees can meet experts in the industry. Metta Nairobi hosts regular monthly events that bring together professionals to share relevant information with entrepreneurs. During the month of August 2021, Metta Nairobi held a series of online webinars titled #WhatsGood, which hosts legal professionals and business owners who discuss the legal processes that affect businesses in Kenya (Metta Nairobi, 2021). iHub serves as a location for events also hosted by other companies. In June 2021, Atlassian, an Australian software company, hosted the mid-year networking party at iHub that brought together tech entrepreneurs and software professionals to get more information about the Atlassian technology tools and also provide feedback on how to improve the products (iHub, 2021).

### 4. *Community Membership*

Building a community of innovators and creatives is one of the most common elements of the incubators. The incubators list being part of a community as one of the benefits for the entrepreneurs that join the organization as an incubatee. Based on the findings, the incubators seek to bring together entrepreneurs in the shared co-working spaces to foster a collaborative and creative environment, where the incubatees can learn from each other. While conducting a study on iHub, Kibuchi, (2016) noted that what set iHub apart for entrepreneurs was that it offered a "community with an open culture of interaction and networking with fellow startups as well as the investors who frequently visited the space" (Kibuchi, 2016). Being part of a community is one of the most common services that entrepreneurs are drawn to at incubators. According to the co-founders of iHub, Juliana Rotich and Erik Hersman, the hub started as a space that brought together creatives with innovative tech ideas, software engineers and investors who built a community of ideation and collaboration (Design Indaba, 2014). The growing community led to the creation of m:Lab East Africa, the incubation center at iHub that supports mobile app developers (Design Indaba, 2014). Nailab has gone a step further to develop the Mwanzo platform, which is an online community for entrepreneurs to connect, ask each other questions regarding their entrepreneurial journey, to collaborate on projects and also receive coaching on building startups (Mwanzo, 2021).

### 5. *Co-Working Office Space*

Co-working office space is one of the common services offered by the incubators, where entrepreneurs are able to find office space and additional resources such as access to the internet. StartUp Africa is the only incubator that does not offer co-working office space. StartUp Africa functions through an office based in Nairobi for the company's staff and Entrepreneurship Clubs hosted at various high schools in Kenya, as it seeks to support students and young entrepreneurs to build their businesses (StartUp Africa, 2021). The university based incubators including C4DLab at Nairobi University offer office space to entrepreneurs, which includes fast internet and printing services. MSMEs that are part of iHub are able to save on costs, because they are able to share resources like secretarial services, internet, office furniture and equipment (Kibuchi, 2016). Furthermore, Beer et al. (2017) spotlight the GSM (Groupe Speciale Media) Association (GSMA) study, which shows that Kenyan entrepreneurs often relocate close to Bishop Magua Center on Ngong Road to be part of the creative and collaborative community, when their startups start growing.

### 6. *Business Skills Training*

The next common service offered by 24 of the incubators in the study is business skills training. According to a study by Kihugu (2017) on the benchmarking practices by business incubators in Kenya, the findings showed that the incubators heavily focused on providing adequate training to entrepreneurs, in order to equip them with the necessary skills to build successful startups. The incubators in Kenya viewed business management skills training as one of the most important services that should be offered, improved and tailored to meet the needs of different entrepreneurs (Kihugu, 2017). At iHub, businesses received assistance in creating striking pitch presentations for investors and access to renowned business moguls who served as mentors to the emerging startups (Kibuchi, 2016). Furthermore, iHub focused on training the youth and young entrepreneurs in the necessary skills to start their own businesses, organizational management skills as well as training on human resources (Kibuchi, 2016). At the C4DLab at the University of Nairobi, entrepreneurs also benefit from training on how to run a business, how to create scalable software and how to introduce it to the market. (C4DLab, 2021). The entrepreneurs who are part of the incubation program at SoteHub receive training on "lean startup, business model, customer acquisition, go to market strategies" (SoteHub, 2021). Due to the financial barriers that prevent entrepreneurs from scaling their startups, SoteHub provides entrepreneurs with training on how to access funding for their businesses and also linking them with potential investors (SoteHub, 2021). Entrepreneurs who join the incubation program at MEST for a period of 18 months go through rigorous training that is divided in two stages. During the first six months of training, incubatees receive training in "product development, legal training, market traction and strategy, developing a sales pipeline and how to do a beta launch" (MEST Hubs, 2021). In this stage, incubatees are offered links to specific accelerators, who would assist companies in product and sales, based on their particular needs (MEST Hubs, 2021). In the second stage which lasts between seven and 18 months, incubatees receive support and training in "growth strategy, implementing customer feedback, hiring, product iteration, investor readiness, how to achieve funding post-graduation from the program and how to leverage investors and partners in the entrepreneurship ecosystem" (MEST Hubs,

2021). The current incubation program at LakeHub is currently working on selecting the first cohort for 2021. The incubation program aims to “support entrepreneurs to develop scalable business models that address the needs of the communities in western Kenya” (LakeHub, 2020). The program will last for six months and will work with business startups to develop them into scalable business models (LakeHub, 2020). The program will take in 15 entrepreneurs for the first cohort, who will receive training in business management, among other areas (LakeHub, 2020). At SoteHub (2021), the incubation program is divided into two stages, whereby the first stage centers on training incubatees on finding investment, while in the second stage, the startups are matched with potential investors.

#### *7. Business Advisory Services*

Business advisory services is another popular service offered by 24 of the incubators and it also includes business counselling for entrepreneurs. The @iBizAfrica incubation center offers consulting services in the areas of “business services for startups, innovation management services for organisations, and employee-driven innovation” (@iBizAfrica, 2015).

#### *8. Corporate Administration*

Corporate administration incorporates services related to office support and secretarial services. There are 20 incubators that provide entrepreneurs with the office support that includes access to printing facilities, office administrators, as well as meeting rooms for teams.

#### *9. Product Development*

This service incorporates business development resources and technical support. There are 17 incubators that offer this service to entrepreneurs, especially in the technology sector. The NITP incubation center at the Jomo Kenyatta University of Agriculture and Technology (JKUAT) goes beyond to provide product testing and quality assurance, whereby entrepreneurs are able to test their products with the incubation center staff and students, before it is introduced in the market (NITP, 2016). The quality assurance department at JKUAT can also review the entrepreneurs’ products and provide advice on product development (NITP, 2016).

#### *10. Seed Funding*

Access to seed capital is one of the services offered by 16 of the incubators, which directly invest in the entrepreneurs or through partners, while other incubators connect the entrepreneurs to funders or platforms where they can apply for grants. One incubator that directly invests in the startups it is working with is MEST, whereby entrepreneurs in all MEST hubs across the continent receive seed funding, in addition to working space and support in order to promote the growth of startups (MEST Hubs, 2021). Based on the findings from a study by Omweri on how Nailab supports entrepreneurs, the findings showed that 77% of the incubatees at Nailab who participated in the study expressed that they were able to access funding from Nailab or its partners, while 22.9% of the respondents had not been able to access any funding from Nailab or its partners. The Kenyan government also partnered with Nailab to establish and fund an incubation project between from 2012 to 2015 (Beer et al., 2017). This

partnership was initiated as a “Business Process Outsourcing project,” which demonstrated the government’s commitment to supporting startups by outsourcing to a specialist hub (Beer et al., 2017). The Chandaria Business Incubation and Innovation Center also provides seed capital to student entrepreneurs, based on the available funds provided by external partners (Kenyatta University, 2021). At the @iBizAfrica incubation center at Strathmore University, entrepreneurs are also able to receive seed capital for their business ideas as part of the services (Ogenga, 2017).

### *11. Technical Skills Training*

Technical skills training is mainly offered by 11 of the incubators focusing on entrepreneurs in the technology sector. The C4DLab hosts the CISCO Edge Incubation Hub, which enables entrepreneurs to connect with CISCO professionals and undergo software development training (ImpactHub Media, 2019). At BitHub Africa, entrepreneurs who join the incubation programme receive training in blockchain engineering (BitHub, 2021). Entrepreneurs in the MEST incubation programme receive software development training in the first stage of the programme (MEST Hubs, 2021).

In order to address the gender imbalance in the technology sector, two of the incubators have programs specifically to promote women and girls in tech through technical skills training and supporting women-led startups. At Strathmore University, the @iBizAfrica incubation center and Standard Chartered, a leading multinational bank with operations in Kenya, partnered to create the “Women in Tech Incubation Programme” (iLabAfrica, 2020). Up to 15 female-led startups received technical skills training in addition to business skills and funding, which amounted to one million shillings each (iLabAfrica, 2020). SoteHub has the Sote Tech Queens Programme, which seeks to “empower more girls and women into technology, knowledge and skills for self improvement and economic participation” (Sote Tech Queens Programme, 2021). The aim of this programme is to provide coding and software development training to girls in high school, students in university, graduates and career women, with a special focus on girls and women from a poor social and economic background (Sote Tech Queens Programme, 2021).

### *12. Consulting Services (Legal, Advertising, Accounting, Financial)*

One of the least common services is assistance with consulting services. The incubators that provide these consulting services are mostly the academic institution-led incubators such as @IbizAfrica at Strathmore University, Chandaria BIIC and the Maseno University Business Incubator. The consulting services are especially in accounting, managing legal processes and the registration of intellectual property. SoteHub is one of the few civil society-led incubators offering support in registering patents (SoteHub, 2021).

### *13. ICT Infrastructure*

The Maseno University Business Incubator and the Kenya College of Accountancy Business Incubator offer ICT infrastructure in the form of access to laptops for the entrepreneurs, while iHub has a hardware lab that enables innovators to create and test new technology products (Hersman, 2013).

#### *14. Research and Development*

Although research and development was viewed as one of core services offered by incubators, it is only offered by two incubators: LakeHub and KIRDI. According to Odede, the co-founder of LakeHub, research and development was offered to provide entrepreneurs with data they need, especially in product development and marketing (KTN, 2021). KIRDI also provides research and development services, which is one of its mandates as a state research institute that focuses on the manufacturing industry (KIRDI, 2021).

#### *15. Talent*

Another one of the least common services is access to a talent pool for entrepreneurs with startups, which was mentioned at C4DLab. Entrepreneurs have access to the talent pool in the University of Nairobi, who they can hire as interns from the School of Computing and Informatics and are able to assist with the technical areas of the startup (C4DLab, 2021).

### **4.3. Types of Partnerships Between Incubators and the Public and Private Sector**

#### *Government Partnerships and Initiatives for Business Incubation*

The initiatives launched by the Kenyan government with regards to business incubation can be found across three ministries, starting with the Ministry of ICT. The technology sector is steadily becoming a critical part of the Kenyan economy, as it contributes about 18% to the country's Gross Domestic Product (GDP) (Omweri, 2016). The Vision 2030, which is Kenya's development policy blueprint, is centered on innovation and creativity, which, Omweri (2016) argues, will make Kenya competitive and contribute to successful and sustainable youth businesses driven by the technology sector. David-West et al. (2018) observe that the Kenyan government's intentional implementation of policies that support digital innovation could be a strong reason for the country's prominence in the technology sector. The Kenyan government has implemented a detailed action plan that aims to further establish itself as a country hub through the ICT Masterplan (Beer et al., 2017). The plan includes the enactment of ICT favorable laws and policies, as well as investment in ICT infrastructure (Beer et al., 2017). Some of these investments include establishing incubators referred to as "local ICT development groups," which were created at some of the biggest public institutions of higher learning. These incubators include the Chandaria Business Innovation and Incubation Centre at Kenyatta University in 2011 and the C4DLab at Nairobi University in 2013 (Beer et al., 2017). These innovation centers were created at the public universities to enable citizens to have affordable access to opportunities for innovation (Beer et al., 2017). The Kenyan government has sought partnerships with the private sector that support entrepreneurship (Mulligan, 2015). In 2015, the ICT Authority in Kenya signed a memorandum of understanding with Microsoft to get 10,000 SMEs online, within three years (Mulligan, 2015).

The most significant initiative of the Kenyan government is the development of Konza Technology City, which will be "a sustainable, world class technology hub and a major

economic driver for the nation, with a vibrant mix of businesses, workers, residents and urban amenities” (Beer et al., 2017). The project was started in 2009 with a 5000-acre piece of land that is located sixty kilometers southeast of Nairobi and construction is ongoing (Beer et al., 2017). Konza is expected to host business processing, outsourcing, and residential areas, and a university focused on research and technology among other buildings (Beer et al., 2017). The project is expected to take twenty years and upon completion, it would be home to the largest technology hub in East and Central Africa (Beer et al., 2017).

With regards to partnerships between the public and private sector that seek to promote entrepreneurship, Amrote Abdella, the director of startup engagement and partnerships for Africa initiatives at Microsoft, observes that the government would have the main role of creating a “positive regulatory environment,” while the private sector would address the “infrastructural and skills-based obstacles to entrepreneurship” (Mulligan, 2015). The former permanent secretary at Kenya’s Ministry of ICT, Bitange Ndemo, highlighted that although the government has recognised the vital role of entrepreneurs and the type of support they need, there are still challenges in implementing the policies that promote entrepreneurship and innovation (Mulligan, 2015). These challenges include “the dissipation of momentum, lacking resource allocation, and coordination gaps between stakeholders in the ICT industry (Mulligan, 2015).

Under the Ministry of Public Service, Gender and Youth Affairs, the Kenyan government also established the Youth Enterprise Development Fund (YEDF), which has the main purpose of providing finance to youth enterprises through microfinance institutions (MFIs), non-governmental organizations (NGOs) and cooperatives (Vershina, 2018). To achieve its goals, one of the main actions of the YEDF is to provide infrastructure such as business incubators as well as providing entrepreneurship and capacity building training (Vershina, 2018). To date, the YEDF has supported over 1,000 youth enterprises to access incubation services through partnerships with the various incubators in Kenya (YEDF, 2020). The Kenyan government has also partnered with the incubators, including Nailab, the Chandaria Business Incubation and Innovation Center at Kenyatta University and the C4DLab at the University of Nairobi through the YEDF, which has provided funds for entrepreneurs to utilize as seed capital for their startups. Kamel (2017) emphasizes that the government support of youth entrepreneurship, especially at academic institutions, further solidifies the role of partnerships between government and institutions of higher learning in building a strong entrepreneurial culture on the continent.

The Ministry of Industrialization, Trade and Enterprise Development (MoITED) launched the project of establishing incubation centers across all the constituencies in Kenya in 2020 (KBC, 2020). A variety of international non-governmental organizations (INGOs) including the UNDP and private sector stakeholders including Microsoft and Stanbic Bank partnered with the Ministry to provide financing, skills training and market linkages to promote entrepreneurship as well as donating computers to be used in the incubation centers (MoITED, 2020).

Through public/private partnerships, the government outsources its commitment to promoting entrepreneurship by partnering with business incubators in Kenya that are either civil-society led or located at an academic institution (Beer et al., 2017). Mulligan (2015) points out that Kenya is a pioneering force with regards to the development of business incubators, which have sprung up around the country to provide entrepreneurs with facilities, mentorship –

and sometimes funding – to develop innovative new businesses. Despite this, incubator managers observe that more can be done by the government to support incubators in promoting youth entrepreneurship. KeKoBI Operations Manager, Caroline Aoll, cites “tax incentives, rent and bandwidth subsidies” as some of the support that the government should offer to encourage them to set up many incubators (Njoroge, 2008).

### *Donor Partnerships and Initiatives for Business Incubation*

There are more civil society-led incubators in Kenya, which mostly have partnerships with private sector actors who are either corporate companies or donors. According to Aoll, KeKoBi was started by the support of the World Bank’s Information for Development Program (InfoDev) (Njoroge, 2008). At Maseno University, the business incubation center was established by a group of professors at the university with funding support from the World Bank as well (Kubhoka, 2014). Odede, the co-founder of LakeHub, started the organization through a grant from Google and is currently working with the Siemens Foundation, which is funding the incubation program that will host the next cohort of entrepreneurs (LakeHub, 2020). In 2020, iHub partnered with Viffa Consulting, a company that provides business support services, to launch the 2020 incubation programme (Birgen, 2020). Through the programme, Viffa Consulting would offer tailored business advisory services, as well as business training and access to investment partners (Birgen, 2020). SoteHub currently works in partnership with the Embassy of The Netherlands for Kenya, Somalia and Tanzania, as well as RVO and Orange Corners (SoteHub, 2021). The @iBizAfrica incubation center at Strathmore University partnered with Standard Chartered Bank to launch the Women in Tech programme that supports female tech entrepreneurs.

KIRDI works in collaboration with network organizations, to facilitate the recruitment of entrepreneurs to participate in additional incubation programmes for further training. In 2020, KIRDI partnered with the Business Incubator for African Women Entrepreneurs (BIAWE) to recruit female entrepreneurs in Kenya to take part in a virtual incubation programme, which provided business advisory services (Anyango, 2020).

## **5. Conclusion and Recommendations**

In order to further explore the role of incubators in youth entrepreneurship in Kenya, this study looked into the following research question: Which services do the incubators in Kenya offer and do they address the needs of young entrepreneurs? What type of support do the incubators get from the public and private sectors and how does it contribute to the services they provide to the young entrepreneurs?

Based on the findings, the incubators in Kenya offer the 12 core services identified in the literature with an addition of three more services: Community membership, ICT infrastructure and Talent. The most common services that are offered by more than 20 of the incubators include: Mentorship, Linkages to Partners, Investors, Market, Networking, Community Membership, Co-Working Office Space, Business Skills Training, Business Advisory Services and Corporate Administration. These results illustrate that the services provided by the

incubators in Kenya mainly address the challenges of entrepreneurs that relate to limited access to networking, strategic links to partners, business and technical skills. Moreover, the incubators mainly provide a community, where entrepreneurs can connect, collaborate and support each other, especially during the early stage of building a startup. The working space that is shared contributes to building an entrepreneurial environment that promotes learning and collaboration among youth entrepreneurs. Young students who are able to be part of the university incubation programs also benefit from the learning environment that enables them to relate practice to theory (Kamel, 2017). Furthermore, the training in the incubation programmes that target women and young girls provide a supportive platform for female tech entrepreneurs building their startups.

Seed capital is identified as a core service, yet it is not provided by all the incubators. This finding emphasizes the argument presented by Kamel (2017), who points out that although entrepreneurship initiatives mainly focus on providing seed funding, investing in human capital is crucial to supporting entrepreneurs and meeting their needs. This argument is further cemented by the findings, which show that 24 of the incubators provide rigorous business skills training to the entrepreneurs that must be completed, before they are provided with funding or linked to investors and partners. These findings illustrate how services such as mentorship, networking, community membership and business skills training are more available than seed funding and also show that one of the most important needs of an entrepreneur in the early stages of a startup is to be around a supportive, learning and collaborative environment. Once the entrepreneur is trained and mentored in building an idea into a business, then the need for seed funding is recognized.

The least common services that are provided by the incubators include: Consulting Services (Legal, Advertising, Accounting, Financial), ICT Infrastructure, Research and Development and Talent. The findings show that the incubators in Kenya are missing two of the core services, which include consulting services, which are critical for entrepreneurs when it comes to establishing and maintaining their business through legal and tax processes. Additionally, the incubators are not offering research and development services, which can aid entrepreneurs with information that can contribute to key areas such as product development. These findings are still similar to previous studies that highlight the gaps in the services provided by incubators and potentially contribute to the low success rate of startups in Sub-Saharan Africa (David-West et al., 2018).

The partnerships between the Kenyan incubators and external stakeholders, especially in the private sector, are key in the ability of incubators to provide services to youth entrepreneurs. Donor initiatives and partnerships are mostly from international NGOs like the World Bank, tech companies like Google and Siemens and banking companies such as Standard Chartered. Apart from providing funding for the operational expenses of the incubators, they also offer seed funding, business and technical skills training, and access to partnerships and investors for entrepreneurs. What was missing in the findings were more partnerships among the incubators, especially between civil society - led and academic institution-led incubators, in order to strengthen the area of research and development through academia, widen their networks and share best practices in providing services to promote youth entrepreneurship.

With regards to the government initiatives for business incubators, the trend is similar to the findings, which emphasize the focus on supporting youth entrepreneurship in the technology

sector. Guided by the Vision 2030 blueprint for development, Kenya is driving the growth of entrepreneurship in ICT through its policies and initiatives in the technology sector. Moreover, the government's efforts on supporting entrepreneurship are currently focused on providing seed funding through the incubators, both civil-society led and academic institution led, while its initiatives like business incubation centers across the county and Konza Park are still being constructed. This signifies, however, that the Kenyan government still plays a smaller role in supporting incubators, apart from providing funds for seed funding through YEDF. Lose (2021) suggests that governments should create and implement a standard policy for business incubation across the nation, in order to coordinate the efforts in supporting the incubators. Considering this, the Kenyan government can greatly benefit from establishing a common policy on supporting incubators, as the efforts are disjointed, since they are situated throughout three different ministries. Furthermore, the current government support is focused on technology driven incubators, with KIRDI being one of the few incubators that is focused on the manufacturing industry. More funding and support would be required to also promote youth entrepreneurs in the non-technology industries. Furthermore, the findings show that apart from providing seed funding, investments made in incubators by the public and private sector could also be geared towards providing the common services including mentorship, business skills training, and co-working office spaces, in order to better support youth entrepreneurs.

Kibuchi (2016) spotlights that the potential impact of business incubation on the growth of small businesses should be explored, because small businesses are seen as the "most available option for expansion in terms of jobs, especially in struggling economies such as Kenya." One of the key areas for further research centers on how incubators can create sustainable business models that enable them to continue providing services to youth entrepreneurs and rely less on external funding that can be limited. Additionally, more research can be done on how incubators can effectively measure their impact and success once the entrepreneurs have graduated from the program and how they can further support them, in order to strengthen their survival rate during the first years of operation.

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