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A comparative case study of an early stage VC firm, an incubator and a hub

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Assignment text

To investigate entrepreneurial support organisations such as hubs and incubators, and discover how they adapt to meet the needs of entrepreneurs in Sub-Saharan Africa, specifically Kenya and Ghana.

The following main topics will be included: Theory on entrepreneurship, barriers to innovation on the African continent and entrepreneurial support organisations (ESO's), methodology, case study, analysis of empirical data, discussion of findings, conclusion and implications for further research.

Preface

This thesis was written during the spring of 2021, as part of the master of science (M.Sc) program at the NTNU School of Entrepreneurship, at the Norwegian University of Science and Technology (NTNU). The thesis itself is an assignment in the course TIØ4945. The aim of this master's thesis is to investigate entrepreneurial support organisations such as hubs and incubators, and discover how they adapt to meet the needs of entrepreneurs in Sub-Saharan Africa, specifically Kenya and Ghana.

The author,

Maria Helene Welle Kalkvik

August 15th, 2021

Abstract

Over the last years, there has been a dramatic increase in startups in developing areas in the world. Researchers are looking at entrepreneurship as a tool to reduce poverty, unemployment, and increase social welfare and economic development. Africa is now considered one of the next great emerging markets. Inspired by the well known Silicon Valley in the United States, several countries are trying to adopt the same entrepreneurial ecosystem through providing co-working spaces, incubators, accelerators, hubs, mentoring, maker spaces and more. These entrepreneurial support organisations, or ESO's, are rapidly increasing across the African continent. Several of these ESO's are global organisations that have decided to enter the African market in order to support entrepreneurs. The author formulated three research questions in order to gain insight into the current challenges entrepreneurs and these ESO's are facing in Sub-Saharan Africa, the organisational models of ESO's and how they have adapted to meet the needs of local entrepreneurs.

RQ1: What are the barriers to innovation that inhibits ESO's from helping entrepreneurs scale their businesses?

RQ2: How do global ESO's adapt their programs to local context?

RQ3: How do ESO's currently operating on the African continent feel about the changing ecosystem and increase of ESO's?

In order to answer the research questions, a qualitative approach with multiple case studies has been conducted. The author interviewed three ESO's currently operating in Kenya and Ghana. An analysis of the interviews was conducted and tied to existing literature.

The findings confirmed existing literature in documenting the challenges that entrepreneurs face, which in turn affects the ESO's ability to assist them in launching and growing their companies. The findings provide new insight into how founders and CEOs of ESO's view the rapid increase of these intermediaries, as well as providing examples of how the organisations adapted to fit local context. The author suggests that further studies should be conducted to better understand how global ESO's can succeed in transitioning into the African entrepreneurial ecosystem and facilitate entrepreneurs to decrease the currently high failure rate of new ventures.

Sammendrag

I løpet av de siste årene har det vært en dramatisk økning av oppstartsbedrifter i utviklingsland over hele verden. Forskere ser på entreprenørskap som et verktøy for å redusere fattigdom, arbeidsløshet, øke sosial velferd og økonomisk utvikling. Afrika blir nå sett på som en av de neste store nye markedsmulighetene. Inspirert av den velkjente Silicon Valley i USA, forsøker flere land å adoptere det samme entreprenørielle økosystemet gjennom å tilby "co-working" lokaler, inkubatorer, akseleratorer, hubs, mentorprogrammer, "makerspaces" og mer. Antallet av entreprenørielle støtte-organisasjonene eller ESOer, har økt raskt over hele det afrikanske kontinentet. Flere av disse ESOene er globale organisasjoner som har bestemt seg for å gå inn i det Afrikanske markedet for å støtte entreprenører. Forfatteren har her formulert tre forskningsspørsmål for å få innsikt i de nåværende utfordringene entreprenører og ESOer står ovenfor i Sub-Sahara Afrika, i tillegg til organisasjonsmodellene til ESOene og hvordan de har tilpasset seg behovene til de lokale entreprenørene.

FS1: Hva er innovasjon-barrierene som hindrer ESOer fra å hjelpe entreprenører skalere selskapene sine?

FS2: Hvordan tilpasser ESOer sine programmer til lokal kontekst?

FS3: Hva tenker ESOer som opererer på det Afrikanske kontinentet i dag, om det entreprenørielle økosystemet i endring, og økningen av andre ESOer?

For å svare på disse forskningsspørsmålene har en kvalitativ tilnærming med flere casestudier blitt utført. Forfatteren har intervjuet tre ESOer som for øyeblikket opererer i Kenya og Ghana. En analyse av intervjuene ble gjennomført, hvor funnene ble sammenlignet med eksisterende litteratur.

Funnene bekreftet eksisterende litteratur ved å dokumentere utfordringene som entreprenører møter, og som igjen påvirker ESOer sin evne til å assistere de i å lansere og skalere selskapene sine. Funnene gir ny innsikt i hvordan grunnleggere og CEOer av ESOer ser på det økende antallet ESOer i økosystemet, i tillegg til å gi eksempler på hvordan organisasjonene har tilpasset seg lokal kontekst. Forfatteren anbefaler at videre studier blir utført for å bedre forstå hvordan globale ESOer kan lykkes med å gå inn i det Afrikanske entreprenørielle økosystemet, og fasilitere entreprenører for å redusere den nåværende høye forekomsten av mislykkede oppstartsselskaper.

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1. Introduction

The drastic increase in African startups has given rise to several hubs, accelerators, incubators and co-creation spaces, all across the continent. Silicon Valley has been a source of inspiration for entrepreneurs all over the world, and has resulted in people attempting to create their own versions of Silicon Valley incubators and hubs. There has been an increase in recent years of these organisations in Africa, and several major technology hubs have emerged in different parts of the continent. Inspired by Silicon Valley, they have also taken on similar names such as Silicon Cape in Cape Town, South Africa, Silicon Savannah in Nairobi, Kenya, and the Silicon Lagoon in Lagos, Nigeria. Despite the increase of hubs and incubators, success and longevity in new ventures are rare, and they rarely realize any profit. The main reasons responsible are usually limited access to capital markets, poor infrastructure, and weak regulatory environments (Aksoy et al., 2019). The popularity of these entrepreneurial support organisations, or ESO's, has sparked academic interest, but there is still much we do not know about entrepreneurship in this context.

1.1 Why are organisations supporting entrepreneurs relevant?

Entrepreneurship is viewed as a tool to reduce unemployment, increase economic growth and to improve socio-economic issues (Friederici, 2018). Giving people knowledge and training in entrepreneurship, for instance through a hub, has been seen to encourage economic growth, self-employment, as well as strengthening existing small businesses. Tech hubs are currently leading the way in creating innovative solutions, especially for those at the bottom of the pyramid. ESO's create economic and social value through job creation, stimulating the entrepreneurial ecosystem and improving quality of life through technology. (Atiase, V.Y., Kolade, O., Liedong, T. A., (2020).

In 2011, AfriLabs, a network of African technology hubs was founded. At the time the members included five incubators in four countries, and by 2016 the number of active hubs on the continent grew to 314, and half are located in five countries; South Africa, Kenya, Nigeria, Egypt and Morocco (de Beer et al, 2017). These new technology hubs are important for the people living here, as it represents an opportunity for entrepreneurship and involvement in new solutions to socio-economic problems.

1.1.1 What does barriers to innovation mean in this context?

The problems and challenges faced by businesses in African countries are very different from the challenges that businesses face in the western world, such as Europe or North-America. Small and medium enterprises (SMEs) in Africa struggle with a lack of financial resources, lack of management experience, poor location, laws and regulation, general economic conditions, poor infrastructure, corruption, low demand for products and services and poverty (Okpara & Wynn, 2007). The failure rate for SMEs in South Africa is one of the highest in the world, at 75% (Muriithi, 2017).

It is important to understand how the context affects entrepreneurial action and outcomes. Infrastructure and reduced access to transportation services can inhibit entrepreneurs from attending meetings and events. Local investors will often prefer to invest in traditional ways, for instance in real estate, instead of in new companies. This contributes to the challenge of funding for entrepreneurs, and the lack of seed capital and angel investors. (de Beer et al., 2017). The context helps us to understand when, how and why entrepreneurship happens, and who becomes involved (Welter, 2011).

1.2 Lack in current literature

There is a lack of literature on entrepreneurial support organisations (ESO's), in terms of what they offer entrepreneurs and startups, and how they are able to adapt their programs to fit the needs of entrepreneurs in a challenging context. The current literature has some quantitative data that describes the increase of startup companies and ESO's across the African continent, but the literature of what people operating in the space actually think of this increase is very limited.

1.3 Purpose of the study

This master's thesis seeks out to understand how different organisations supporting entrepreneurs operate. In order to better understand these organisations it's important to gain

insight into the entrepreneurial ecosystem in the African continent, and how it differs from European or North-American ecosystems in terms of availability of funding, resources, competence, talent and infrastructure. The challenges faced by entrepreneurs are different, and there are different barriers to innovation for ESO's and entrepreneurs.

In order to fulfill the purpose and reach a better understanding of the subject, the study has been segmented into three research questions (RQs). These are formed to cover the most important aspects of entrepreneurial support organizations (ESO's).

RQ1: What are the barriers to innovation that inhibits ESO's from helping entrepreneurs scale their businesses?

RQ2: How do global ESO's adapt their programs to local context?

RQ3: How do ESO's currently operating on the African continent feel about the changing ecosystem and increase of ESO's?

1.4 Contribution

With the data collected in the study, the author's goal is to provide a deeper understanding of entrepreneurial support organisations (ESO's) and the challenges in the entrepreneurial ecosystems in Kenya and Ghana. Furthermore, the author aims to add to the existing literature by providing examples on how ESO's adapt their model to local settings. Another significant addition is the subjective opinions of experienced CEOs and founders in the African entrepreneurial ecosystem on the topic of the rapid increase of ESO's on the continent.

2. Research methodology

In order to answer the research questions in this study, a qualitative research and case studies was determined to be the best approach by the author. This method will contribute to provide insight into the thoughts and experiences of people who are working in ESO's in African countries. A qualitative research methodology makes it easier to capture the individuals' subjective opinions on the topic, as they can freely express themselves in their own words. It

provides a large amount of detail from a few actors, and may reveal new and unique facets of certain issues that can add value to the existing literature on the subject (Dalland, 2007).

This method of research that has been conducted in this study can be explained as an iterative process divided into steps (Yin, 2014). Step one entails planning the research project and the case study design. This was done by the author in the fall of 2020, to prepare for this thesis. A plan was set on how to solve the chosen research questions, and a guideline for data collection and interview guides were created. After these necessary preparations, the interviews were scheduled and conducted according to the guidelines, and the data from the interviews were stored and transcribed. The next step was to analyze the data through a case analysis, and compare the data from the three cases. The last step of the study was to discuss the findings of the analysis and demonstrate how it answered the predefined research questions. The author has reflected around methodological choices during the study, and focused on how trustworthiness can be maintained throughout the process.

2.1 Research design

The chosen research design by the author is a qualitative method and case study, as there is a limited literature that explores the themes of entrepreneurship hub definitions and organisational models today. A qualitative method will be useful in providing insight into this relatively new field of study, by highlighting subjective opinions and real life experience.

2.1.1 Qualitative research

A qualitative case study was conducted in order to answer the research questions. This approach will provide a high level of details from a selected number of relevant individuals who are currently leading entrepreneurial support organisations in Kenya and Ghana. Interviews give the opportunity for the interviewees to share subjective experiences, opinions and thoughts that are relevant to this study.

2.1.2 Case study

Through a qualitative case study methodology, the author will gain detailed information from highly relevant people who have founded, and currently run different ESO's. Their subjective experiences and knowledge about startup ecosystems and local challenges will contribute greatly to a deeper understanding into the context of the needed entrepreneurial support in challenging areas.

2.1.3 Multiple case study

There are substantial analytical benefits from having two or more cases (Yin, 2007). Due to this, the author has chosen a multiple case study to compare three different ESO's. Furthermore, multiple cases also allow for the inclusion of different perspectives based on gender, age, experience and much more. However, there are no ideal number of cases (Eisenhardt, 1989). A recommended range is set to be between 4 and 10 cases in a multiple case study, but it is not a requirement. The author here has chosen to focus on three cases that were selected due to the founders and CEOs long experience, credibility and relevance in the areas they operate in.
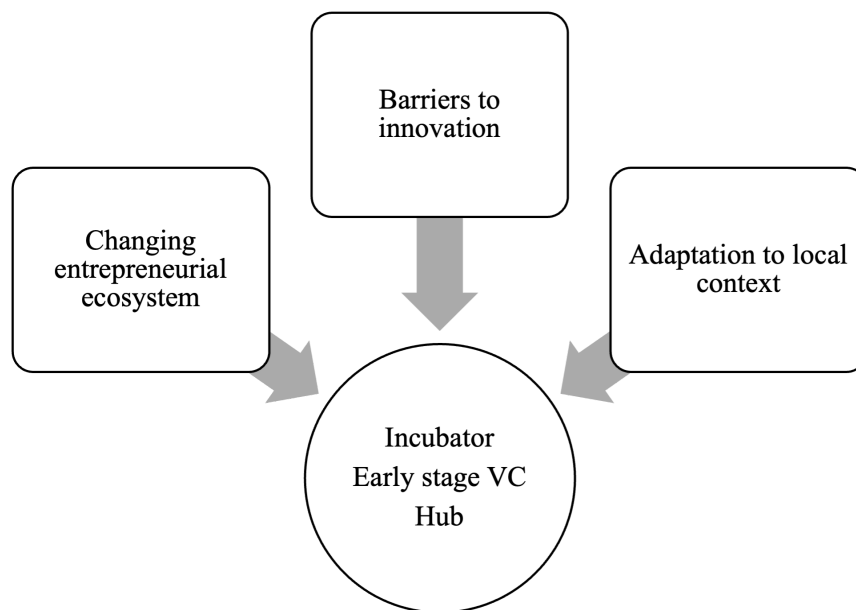
Figure 2.1.3 An illustration of the focus in the case study research, in which the author examined the impact of the changing entrepreneurial ecosystem (RQ3), how the organisations adapt to local context (RQ2) and which barriers to innovation affects entrepreneurs and ESO's in these areas (RQ1)

2.2 Data Acquisition

The main source of data was provided through interviews with CEO's, founders and partners of Entrepreneurship Support Organisations. Empirical data will be used to correct or comment on any existing theoretical frameworks or models and provide new insight. Interviews are considered one of the most important sources of data collection in case studies,

since it centers around human actions or affairs (Yin, 2014). Furthermore, they provide an opportunity to examine people's unique perspectives on the chosen subject.

All of the cases were conducted consecutively within a short time frame of 6 weeks. The author was selective on who would be most relevant to interview from the different organisations, and chose the founders and CEOs who had the most experience and overview in the entrepreneurial ecosystem in that specific location.

2.2.1 Selection of interview subjects

The interview subjects were, as mentioned, selected based on their knowledge and experience in ESO's, making it a strategic selection of subjects (Dalland, 2012). In order to provide different viewpoints and insights, the author chose to interview two men, and two women, to avoid a one sided perspective due to gender.

Due to the COVID-19 pandemic, it was a challenge to get in contact with relevant people to interview for the study. During the height of the pandemic, a lot of people were not able to go to work, so it was a time consuming process to get in contact with relevant people, and scheduling an interview.

2.2.2 Data gathering

Since the author was unable to travel due to the COVID-19 pandemic, and perform the interviews in person, they were conducted through a video conference platform called Zoom. The software Zoom allows for recordings of meetings, both audio and video, and will generate and save the recordings once the meeting has ended. The audio recordings allowed the author to get a word for word transcript of the interview. The author believes that having an accurate transcript and being able to precisely convey the interviewees opinions is important for the credibility of the study. The interview subjects should feel that the case studies and analysis accurately reflects their statements. However, it is worth noting that some parts of the audio recording contained background noise or interference that made it difficult to hear the interviewees' voices. These occurrences are noted in the transcript, and any statement with an unintelligible noise was removed from the case studies, so that the author will not misinterpret or guess what the shared statement or opinion was.

2.2.3 Data storage

In accordance with the current general data protection act, all participants gave their consent for the recording of the interviews. All video and audio recordings, as well as the transcript was stored on a secure personal server with two-factor authentication that only the author had access to. All data collected has been anonymized for the purposes of this study. The participants have also been informed that the thesis, once approved, will be published in NTNU's own digital archives, NTNU Open. All participants were sent a copy of the submitted thesis for approval, and they were all informed that all the data collected in the study will be deleted from the server once the thesis is approved.

2.2.4 Literature Acquisition

The literature on the topic of entrepreneurial support organisations in Sub-Saharan Africa was limited. The author attempted to specifically find literature on the subject on how global entrepreneurial support organisations can adapt their model and their programs for entrepreneurs to fit in a new, and perhaps challenging context. Due to this, the author has chosen to include some gray literature, such as statistics from The World Bank and GSMA.

The chosen method for finding relevant literature for this review was a systematic screening and mapping process. According to Petersen et al. (2008), the systematic search process has five steps: (1) defining the research questions, (2) conducting the search, (3) screening the articles, (4) keywording, (5) retrieving data and mapping process.

A search was conducted in the scientific databases Web of Science and Scopus, which resulted in 725 articles to screen. Web of Science is an extensive database for academic literature, and is viewed as having a high degree of credibility and academic quality. The search engine allows for specific filtration based on keywords, inclusion and exclusion criteria. To look up articles recommended by others, or found in the list of citations from another relevant article, Google Scholar was used.

2.2.5 Interviews

The author conducted interviews with a duration of approximately one hour per interview subject. The interviews were conducted in a semi-structured approach that allowed for follow-up questions to particularly relevant or interesting answers (Bryman, 2008). The author was aware of the importance of asking non-leading and open questions, and reviewed the interview guide in advance to make sure the questions were non-directional. Interviews are considered an important source for qualitative studies (Mullen et al., 2009). These in-depth qualitative interviews are a great way to obtain case study evidence (Yin, 2014).

Open questions are essential, as they create opportunities for personal reflection around a topic. The participants were only interviewed once, and the questions revolved around their knowledge and insight into the African innovation ecosystem, as well as their organisational structure, local adaptation of the organisation, and the main barriers to innovation and scaling startup companies.

2.3 Data analysis

Creating usable data from interviews may be just as challenging as conducting the interviews themselves (Dalland, 2012). Since the interviews will be digital, the author will, with the interview subjects' consent, screen record the conversations in order to transcribe the conversation afterwards. This will allow for complete focus on the interview itself, rather than taking notes during the conversation, which could easily become a distraction in the process. The observations and data from non-vocal observations related to the subjects attitude, enthusiasm or the surrounding environment, can be valuable sources of data (Eisenhardt, 1989). However, due to the COVID-pandmic, all interviews need to be conducted digitally, which potentially limits observational data. Furthermore, only one person will conduct the interviews, which could result in information being overlooked or falsely assessed to be irrelevant in regards to answering the research questions. To avoid possible misunderstanding, the transcribed interview was sent to the interview subjects, to rule out potential errors and misinterpretations, if they wanted to review it.

After conducting the interviews, each individual case study was analyzed before proceeding with a cross-case analysis. Afterwards the findings within each of the organizations were compared to current literature.

2.4 Reflections around the chosen methodology

The method has both positive and negative aspects related to answering the chosen research questions. By using a case study research design, the author got an opportunity to shed light on differences in the organisational models of entrepreneurial support organisations.

Using a qualitative method is appropriate when one is interested in subjective opinions and experiences a person has in a certain area. Data gathered from interviews is well suited to provide understanding on how people experience the innovation ecosystem they are in. However, it does not provide objective answers that reflect reality exactly as it is.

When selecting interviews as the primary forms of data creation, one needs to be aware that things may change or divert from the original plan. Some of the selected interview subjects might not want to be interviewed, or do not feel comfortable being recorded. That could limit and reduce the amount and type of data the author wants to gather. Additionally, there is a time constraint on the data collection process, which could also limit the amount of interviews based on availability of interview subjects.

The qualitative research method might create difficulties when it comes to evaluating what the most important findings are, and the relevancy to the specific case (Eisenhardt, 1989). However, this method has advantages in its ability to create new and original theories, providing empirically valid results and giving the ability to test findings by others.

2.4.1 Quality of the study and ethical considerations

In qualitative research, trustworthiness is a central pillar in evaluating the worth of the study. According to Lincoln and Guba (1985), trustworthiness involves four key concepts: credibility, transferability, dependability and conformability. Credibility involves showing confidence in the truth of the data and findings.
In order to have a better understanding of the organisations before conducting the interviews, the researcher gathered information through reading about the organisations on their webpage, articles and in literature.

There is always a risk of some communication error or misunderstanding when conducting interviews. In qualitative research, it is an established challenge in regards to achieving complete neutrality. The author's involvement in the interview process may influence how the interview subjects respond, through specific questions or unconsciously directing the conversation to a desired outcome. The selection of interview questions should be as neutral and closely correlated to the selected research questions as possible. Additionally, the potential agenda by the interview subject also needs to be taken into account (Dalland, 2012). The interviewees might be untruthful in their answers, and could base their answers on how they would prefer to be perceived or to present themselves in a better light. There is almost always bias that needs to be taken into account, based on the interviewees' subjective interpretation. Therefore, the four criteria for trustworthiness, created by Lincoln and Guba (1985), were used when designing interview questions. The four criteria includes:

Credibility: Confidence in the truth of the findings

Transferability: Showing that the findings have applicability in other contexts

Dependability: Demonstrating that the findings are replicable and consistent

Confirmability: A degree of neutrality, or showing how the findings of the study are shaped by the interviewed subjects, and not the bias or interest of the researcher.

This study has credibility by recording all interviews and transcribing them verbatim. Furthermore, all interviewees were sent a copy of the thesis to ensure that the data had been interpreted correctly. All organisations were researched by the author prior to the interviews, to have a foundational understanding of what they do. There is some transferability between the organisations interviewed in the case studies, and similar organisations operating in the same areas. However, the perspectives, experiences and opinions shared in the interview are subjective, and might limit the degree of transferability to organisations operating in other areas in the world and with a different organisational model. The author has identified similar findings across the case studies, thereby strengthening the dependability of the study. Existing literature has been used by the author to check if the findings from the studies are consistent with current research in the field to ensure confirmability.

2.4.2 Limitations

ESO's use inconsistent terminology, which is a challenge for comparative research and finding good metrics for measuring success. There are big differences from one organisation to another in terms of facilities, which services they provide, organizational structure and more. Each organisation can have a unique physical and cultural environment (de Beer et al., 2017). Additionally, the author was inexperienced with case studies, and conducting semi-structured interviews. The author let the interviews flow more naturally, which was positive in terms of getting the participants to freely share their perspectives and opinions, but negative in terms of creating a better basis for comparison and analysis. The author was aware of the risk of bias affecting the interview process, and was therefore conscious of asking open questions and allowing the participants to share their thoughts.

3. Theoretical Framework

Relevant literature is essential for all research projects, and reviews are especially useful when the researcher aims to evaluate existing theory or evidence, or as a basis for building a new model or theory (Snyder, 2019). The literature acquisition for this study aims to contribute to answering the research questions. The rapid growth of these entrepreneurial support organisations (ESO's) has resulted in increasing academic interest, but the work on this new dynamic organisational form, such as entrepreneurship hubs, remains limited (Littlewood, Kiyumbu, 2018).

3.1 The role of entrepreneurial support organisations

Africa is viewed by many as one of the next great emerging market opportunities. The differences and challenges for entrepreneurs vary greatly across the continent, and opportunities are not evenly distributed. The primary drivers of growth have been a rapidly emerging consumer market, increased investment in infrastructure and access to new technology (The World Bank, 2016). More people are now using smartphones, the bandwidth costs have decreased, and the middle class is increasing. This has contributed to boosting the digital transformation across the continent and opened up opportunities for entrepreneurs in online retail, software creators and digital service providers. (Aksoy et al., 2019).

"Rural areas should no longer be understood as only places of development problems and subordinated to urban areas, but that they also have significant opportunities, which should be continuously nurtured, in order to achieve desired impacts. A wise and carefully adapted land management system that enables sustainable development and the focus on social innovation aspects are core to make use of these potentials."

Dax and Copus, 2016

Emerging economies have the opportunity to become early adopters of new innovative paradigms, create new manufacturing systems and challenge global competitors with locally developed products and services. A good example is China's shift in recent years from being a manufacturing-intensive ("Made in China") economy, to a more innovation driven ("Designed in China") economy. That clearly illustrates the possibility for developing regions and emerging economies (de Falco, 2019).

Hub organisations, and other new ESO's, are the new or contemporary startup launching mechanism. They give new entrepreneurs and ventures a physical space to work, and provide support and services until the company gains maturity. Their services include makerspaces, fabrication labs, co-working spaces and more (Du Boucher, 2016). Hubs were modeled after Silicon Valley, and there are currently new startup tech hubs popping up across the global ecosystem.

3.2 Barriers to innovation and scaling

The problems and challenges faced by businesses in African countries are very different from the challenges that businesses face in the western world, such as in Europe. Small and medium enterprises (SMEs) in Africa struggle with a lack of financial resources, lack of management experience, poor location, laws and regulation, general economic conditions, poor infrastructure, corruption, low demand for products and services and poverty (Okpara & Wynn, 2007). The failure rate for SMEs in South Africa is one of the highest in the world, at 75% (Muriithi, 2017). Furthermore, In 2014, GSMA did a survey of more than 230 startups

in Kenya, which revealed that at least seventy percent of the startups in the country are not earning enough to maintain their business and living expenses for a small team (de Beer et al., 2017).

Entrepreneurs and software developers in Nairobi and other African cities operate under difficult infrastructural and economic constraints. Poor traffic conditions and limited access to public transport services can inhibit getting to meetings and events on time. Additionally, fast internet connections and office space can be challenging to find or very expensive. Entrepreneurs in these areas often have limited personal funds, and venture projects are usually started with only a few hundred dollars, not thousands of pounds or dollars like many ventures in the western world (Friederici, 2019). One of the biggest challenges for African entrepreneurs is the lack of seed capital and angel investors. Local investors often prefer traditional investments in real estate, some local investors do not invest because they do not understand the technology, and international investors can often fail to understand the local situation (de Beer et al., 2017).

One of the greatest challenges for ESO owners or managers, and ESO occupiers is forming productive networks. Therefore, steps should not only be taken to improve internal communication and flow of knowledge, but also external to other ESO's and co-working spaces. Diversity of viewpoint and experience is an important success factor when harvesting innovative ideas (Kovács and Zoltán, 2017).

In order to create better conditions and opportunities for entrepreneurs in the future, several conditions should be met. This includes investments in infrastructure and supportive regulatory and legislative systems that allow for new business models to be tested. The former permanent secretary for information and communication for the government of Kenya, Bitange Ndemo, gave his reasons for why startups fail in Africa. In his opinion there was 1) a lack of an enabling policy environment, 2) a disconnect between the research community and the emerging tech developers, 3) a failure to grasp the problem before embarking on development of new applications, 4) a serious lack of confidence that

sometimes leads to the surrendering of a novel business idea to foreign venture capitalists and 5) general leadership issues (Ndemo, 2014). It is therefore important that African Governments make conscious efforts in creating enabling policies (David-West, Umukoro and Onuoha, 2018).

3.3 Organisational model and metrics for success

Technology hubs, incubators and accelerators show numerous enabling effects in building an entrepreneurial ecosystem in challenging areas and resource scare contexts. These organisations can be vital to launching startups, especially technology based startups (David-West, Umukoro and Onuoha, 2018). On the African continent there are at least 314 active hubs, and the number is steadily increasing, but around half of all tech hubs are concentrated in just five countries - South Africa, Kenya, Nigeria, Egypt and Morocco (GSMA, 2016). These hubs are in large part composed of incubators and accelerators, who facilitate access to three key resources: skills, funding and network (David-West, Umukoro and Onuoha, 2018). There is often a lot of overlap between the organisational models of ESO's. So much so that the descriptors 'hubs', 'incubators' and 'accelerators' are used synonymously by some authors (Hansen et al., 2000).

Hubs, for instance, are not necessarily big organisations, they are often small with a relatively simple structure. It usually consists of a Wi-Fi-connected space with desks and meeting rooms, and their activities will mainly be centered around training and mentorship, networking events, presentations and small innovation competitions such as hackathons (Friederici, 2019). In Africa, hubs have been promoted as an opportunity for grassroot digital entrepreneurs, and in some areas they have come to be seen as one of the main sources of locally developed software applications. Although hubs can be small in size, proponents think they are more than just a space to work. Their agendas often have grand visions such as; aspiring to foster collaboration, openness, community, creativity and diversity, improving conditions in ecosystems of innovation and entrepreneurship and achieving a positive social impact, to mention some. They also want to be a place to connect, not just for entrepreneurs, but for government representatives, investors, experts, non-governmental organizations (NGOs) and more.

An ESO is often deemed to be a physical place to connect different people who are important to an entrepreneurial ecosystem. This includes experts from the industry, students or researchers in academia, investors, companies, NGOs, government representatives and entrepreneurs. An organisation like this often consists of coworking spaces or office spaces with access to WiFi, meeting rooms and areas to hold events such as competitions, presentations, networking, training, mentoring and more.

3.4 Adaptation to local context

Bacq and Janssen (2011) found that among the different dimensions that could affect social enterprises, the characteristics of the environment, being the context in which the venture operated, has received little attention (Rivera-Santos et al., 2015). Characteristics of the environment are important as it affects the startups in the ecosystem. Gaining a better understanding of how the environment affects different dimensions of enterprises could be essential. Contextual dimensions influence entrepreneurship in Sub-Saharan Africa, as the continent has several challenges connected to poverty, corruption, infrastructure and a large informal economy. It is worth noting that there are variations between the countries in the continent. However, 26 countries have ranked among the poorest 30 countries in the world, 14 countries have ranked amongst the 30 most corrupt, and 23 countries were ranked among the worst countries to do business in in the world, out of 30 (Rivera-Santos et al., 2015).

The entrepreneurs in challenging areas deal with struggles that entrepreneurs in the western world simply do not. In developed countries, infrastructure, access to WiFi or public transport are not generally inhibiting entrepreneurs from pursuing their goals, but they can be challenging and expensive factors for entrepreneurs in African cities. As mentioned in this thesis, entrepreneurs in these areas face challenges such as low levels of education, limited access to funding, poverty, low market demand for products and services, lack of management experience, and legislation that supports entrepreneurs and SMEs in their respective countries. Infrastructure is one of the biggest inhibitors of innovation in these areas, and by providing entrepreneurs with a place to meet, and potential connection to markets in the western world, they might have a better chance at success. Entrepreneurs in the western world usually do not have to work to change legislation in their country for their ventures to succeed, they have better access to funding and generally do not worry about infrastructure or access to the internet, since it is readily available and often free, so hubs in

these countries do not have to worry about these issues and do not have to use their resources trying to solve these problems. It is important for ESO's to firstly understand the local context, so that they are able to adapt to it, and better meet the needs of entrepreneurs.

4. Case studies

In this chapter, the case studies from three entrepreneurial support organisations will be presented. The basis of comparison between these three organisations is good, as they operate somewhat similarly. The incubator will be presented first, followed by the early stage VC, and finally the Hub-organization.

Table 4.1 Overview of the organisations from the case studies

	Incubator	**Early stage VC**	**Hub**
Founded	2001	2017	2005
Locations	4 locations, 3 countries	15 locations, 11 countries	100 locations, over 50 countries
Offers mentoring	Yes	Yes	Yes
Physical space to meet and collaborate	Yes	Yes	Yes
Early-stage funding for entrepreneurs	Yes	Yes	Yes

4.1 Case 1: Incubator

The incubator was started in the early 2000s, and is one of the oldest incubators in South-Asia. In the past 20 years, the organisation has provided mentoring and funding for over 300 entrepreneurs. The organisation has developed their own model for incubation and their own tools to help entrepreneurs successfully launch their businesses, based on their long experience with innovation.

The organisation strongly believes in market-based models to reduce poverty, and specializes in helping social enterprises. Their primary focus areas are innovation in healthcare, agriculture and climate action, which aligns well with the global SDGs.

Five years ago the organisation established a new branch in Kenya, Africa. The founder was a Kenyan engineer who had worked for the organisation in South-Asia. The incubation program in Kenya follows the incubation model created by the organisation, but was adapted to local context.

Barriers to innovation for ESO's

According to the CEO, there is truth in the saying "Necessity is the mother of innovation", and there is no shortage of problems to be solved on the African continent. One big hindrance is access to capital for the local founders. The local founders sometimes lack an international network that allows them to easily access funding. Experienced founders from other countries in Europe or North-America are able to come and raise money much faster due to their connection and closer capital proximity. Capital comes from the west, and if a founder has a network in the westernsworld they have the necessary proximity to raise money. A local founder who has never left the country does not have the same ability to raise money from the west.

It is a challenge in the early stage as well, according to the CEO. This is what we call the pioneer gap, he explained. When one tries to raise between USD 50 000- 10 000 and up to a million, it is difficult to find investors or grants for those sums. There are small grants available, which are usually between USD 10 000-20 000. So founders are able to get some funding starting out, but will struggle to get the next round of funding. This limits the ability for startups to grow and mature enough to be ready for seed funding and larger investments of over USD 1 million.

During COVID, it became apparent that hardware innovation is more challenging. There were close to no companies that could create solutions and technologies in the field of healthcare. Almost all medical technology is imported, according to the CEO. It is difficult to order parts for prototyping, so many will often improvise and use car parts, or similar solutions. The incubator is currently working on building a hardware innovation ecosystem by collaboration with both academia and industry.

Other countries, such as India, have already gone through the fast tech innovation wave. The talent from academia was able to get good jobs due to large companies outsourcing IT-jobs to the Indian market. They were able to build their skills, start companies, make money, make good exits, and they are now able to both fund and mentor the next generation of entrepreneurs. In Kenya, we are still in the fast wave of building scalable startups. That means that the maturity of the ecosystems are two worlds apart. It is improving, and Kenya is currently ahead of other African countries when it comes to innovation ecosystems. When you are reading about funding raised in Africa, it tends to be concentrated in three countries; Kenya, Nigeria and South-Africa, and additionally some in Ghana and Uganda. There are 54 countries, so there are many emerging ecosystems that no one is looking at or talking about.

Local adaptations

There are a few adaptations that need to be made, according to the CEO. In Kenya, they have introduced master classes, where experts are brought in to train entrepreneurs. This is something that is not included in the original incubation model. However, the basics are the same. The incubation reports will look similar from Kenya and South-Asia, he says. The same metrics are used to assess the entrepreneurs and startups, and the risk assessment is also the same. There is a bit of standardization, and due diligence is conducted in a similar fashion, he explained.

Organisational model and metrics

The organisational model of the incubator is focused on what they call a "triple helix approach". Academia needs to create more problem solvers, instead of just job seekers, and the industry needs to recruit talent. In Kenya, many engineers will take other jobs, and fewer engineers get "absorbed" into the industry. Both academia, industry and ESO's need to come together. The CEO would like to see academia change their curriculum and the teaching pedagogy to ensure that they are creating real inventors and problem solvers.

The CEO gives an example from a different country in the automotive industry. If the country has a large industry with several car manufacturers, then engineering talent will be absorbed by the ecosystems. There are enough jobs for engineering. In Kenya, engineers will often end up taking a banking job or a course in accounting, according to him. This is a challenge for startups when they are trying to look for engineering talent.

When it comes to metrics to measure success, the incubator evaluates jobs created, access (how many new customers or beneficiaries have access to these innovations), revenue growth and funding raised. These are the main four, he explained. When it comes to risk assessment, the team is examined to evaluate if the risk will decrease when they are incubated. Will the business model risk reduce over time? Will they become more investable over time? Is there a likely exit for them and a good exit potential? These metrics are continuously measured to make sure that progress is achieved.

One of the goals of the incubator is to build a hardware innovation ecosystem. The incubator would like to collaborate with academia, industry and other players to start building a thriving ecosystem. It has been done in other countries, he explained. A biodesign program took research and engineering fellows, brought them together and gave them the support needed to build hardware innovations, and at the end of the program they tried to fund the inventions. The incubator is attempting to build a similar program there in Kenya, together with universities and other partners.

Rapid increase in entrepreneurial support organisation across the continent
The CEO explained previously that South-Asia, India more specifically, has already gone through a fast tech wave. "The more the merrier", he said. There will be some differentiation between these different organisations. Those who are not differentiated will fizzle out.

The incubator has created a standardized playbook based on 20 years of incubation experience. This playbook can be shared with other incubators, and furthermore, the incubator is willing to partner with any other incubator. A sort of "incubator of incubators", he explained. The incubator will share the playbook as well as templates, methodology and provide coaching to other incubators. Their incubation model tends to deliver, according to the CEO. The incubator has only given about 1 USD million in funding since they started, across the different enterprises, but they have gone on to unlock over USD 17 million in funding, just in the last five years. That demonstrated that the current incubation model is working well, and is also why they are open to hold and help other incubators as well. The CEO does not think they are oversought, and believes they do not have enough incubators compared to other parts of the world. Other ecosystems like Israel and Sweden have more incubators compared to African countries. Having a lot of new entrepreneurial support organisations is not a bad thing. We are still catching up, he explained.

4.2 Case 2: Early stage VC

The early stage VC-company is the youngest of the three organisations. Although it was just founded in 2017, they are currently operating at 15 locations in 10 countries. One of these locations is in Kenya.

The organisation focuses on finding the right people and connecting them together. They evaluate and provide mentorship on their business model, and connect them with their global network, before investing in the newly founded companies.

Barriers to innovation

Infrastructure, hard-ware innovation specific challenges, payment solutions,
The main barriers, according to the CEO, comes down to;

1. Infrastructure (cell phones, electricity and how easily you can move around)
2. Policies (If you are not allowed to operate, then you are doomed
3. Talent (Do you have the right talent, numbers and quality)

The CEO believes that if you have these three things, you are good to go. These are the overarching challenges, and mostly everything else will fall under one of these three categories. Access to finance will of course also be another challenge, and the general innovation ecosystem. Will it be possible to get a loan from the bank? Do you have access to private investors? How easy is it to get a loan or an investment? Is loaning from friends, family or crowdfunding an option? These are important questions to consider.

According to one of the partners in the organisation, there are so many problems to be solved in the region, and that makes this area very exciting and promising. One of the challenges being a tech investor, like the early stage VC firm is, is that things quickly become very complex in regards to the value chain. She explains that if a startup is developing a technology, and the supply chain is not working, people often end up becoming an end-to-end provider for something, rather than just solving one smaller problem, which is often easier for startups with limited means. There are many issues to be solved, but they are often so complex and integrated that it becomes difficult to choose one concrete problem to solve, since so many other problems and challenges are tied together.

Of course, you do not have to invent everything yourself, she says. When we are innovating with our startups we often look at innovation happening in other places that might not have taken hold in this market. We will then evaluate if the market would be mature for this new technology. In the western world we often focus on "what will be the next big thing", while here we focus more on "what is the market ready and mature for at this time".

Scaling businesses here is very challenging. In Europe there are many different countries, but the consumer behavior across the continent is quite similar, and the infrastructure is similar. For instance, most Europeans have a Visa-card. If you launch your company in Oslo, London or Berlin, you could have the same payment system, and it is easier to find a payment solution that works across the continent. If you were to launch an online portal here, you would have to set up several different payment solutions for different countries, and additionally, the language barrier is also a factor. The infrastructure will vary from country to country here, so there are big differences in the level of maturation in the different markets. That makes it more challenging to launch and scale tech startups, she explained. Furthermore, the target market is also often smaller when it comes to new tech innovations. Often it will be the middle class and upper middle class that you are targeting, and even though the countries are large and have a large population, the market quickly becomes too small, and you are dependent on being able to scale your business to other countries. Because of these challenges tied to infrastructure, a lot of adaptation is required to go pan-African. We see this challenge in our tech startups, and how difficult it is to acquire enough users and customers to make the business profitable. These are barriers that we do not often encounter so much, or to this extent, in Europe.

Organisational model and metrics
According to the leader and partner of the early stage VC, their model is not the easiest, and not something anyone can do. It is possible to only download a few models from the internet if you're starting an incubator, such as the business model canvas and how to pitch. The same applies to an accelerator. Oftentimes they will use a very generic model that is widely available. The early stage VC operates differently, and has a more demanding model, according to the CEO.

The CEO revealed that they will get thousands of applicants for their programs, but that only a few will be accepted. In Kenya, over 2000 applications were sent in, and only 30 founders were accepted. The CEO shared that the founders they accept have around 10 years of working experience, they have previously built businesses, and some have had businesses that made over a million dollars in revenue per year. According to the CEO, this is not your typical young entrepreneurs, but seasoned entrepreneurs with exceptional experience. For instance the people you can find at senior level positions at companies like Google, Microsoft and Tesla.

According to the CEO, they do not teach them anything. The chosen founders may have been running a bank for over twenty years, so it is not natural to teach or educate them about the banking industry. However, you need to add as much value as possible. The organisation does this through their network. Their network consists of over 400 industry experts that the founders have access to, and they are all quite exceptional people, according to the CEO. Some of the experts in the network have exited a billion dollar business before, she said.

It really helps that I have been in the startup ecosystem in Kenya for 7 years, and that I'm therefore able to direct the founders to people they otherwise wouldn't have access to, she said. She believes that team members in this organisation need to show founders that they are excellent at what they do, and that it is a worthwhile program to attend. Additionally, every participant in the program has an equal chance to get USD 100 000, which is quite rare for these programs for entrepreneurs. Most of these ESO's claim that they are preparing the founders to be investor ready, while we are saying to the founders that we are your investors, and we are working with you to get you to the point where we can give you money, she explained. This is quite special, as not many investors do this. The CEO says that they do not like to be categorized as an incubator or an accelerator. They are a VC firm, with a model that could be similar to an incubator or accelerator, according to her. She explained that they do their due diligence from day one, and find out which people can be brought together, based on the applications. They are present when the teams are formed, and they view and analyze team dynamics to see who is good at problem solving, who is good at technology etc.

Ultimately everyone gets a chance to pitch, and they have the opportunity to invest in all the founders or none. We are not an NGO, she explained. We have private investor's money, so it

is important that the money is put to good use. The CEO expressed that she wishes to see more conscious investments and investors on the African continent.

The partner explained which metrics they use for their organisation and their participating entrepreneurs and founders. One thing that is important to them is getting a high net-promoter score, meaning how likely it is that people would recommend the program to people they know. They also receive weekly feedback from all participants, and they use the feedback to actively improve the program. After they have invested in the startups, there are different metrics they use to evaluate the companies. How fast is the organisation able to help startups acquire new funding, and are they able to attract good investors after they have finished the program. They do a valuation of the startups according to what is correct based on where the startup is in its journey, and evaluate how long runway they have in relation to how fast they are burning capital, how fast they are growing and level of income. They also set up specific metrics based on each company and industry. The KPIs will vary based on what type of startup it is. A startup producing a product will have different metrics compared to a startup making an e-commerce platform. The early stage VC will tailor the metrics to each company and follow up on them to increase their chances of success.

Local adaptations

The CEO believes that it is important to make sure that the parallels exist when an entrepreneurship support organisation decides to expand to Kenya, or other African countries. One key factor is making sure you have the right kind of talent. For instance, a Finnish incubator for PhD-students in machine learning and AI can't necessarily be transferred to Ethiopia. Would you have the same kind of talent in this country? Would you have the same number of people? Will the incubator operate sustainably in regards to the chosen market? Talent is core, according to the CEO.

Furthermore, it is highlighted how important leadership is, and to ensure that they have the right experience and knowledge. One should also take into account the intentions and possible commercial interests of a leader. What are they looking to get out of leading an incubator? Do they have the right qualifications? Have they previously run a business? Have they led a team before? The CEO listed several questions. She continued explaining that if the incubator is for AI and machine learning, and the market has no interest in that, then you will flop. One needs to be aware of what the country needs, what kind of talent is available

and if there is a market for that specific industry or technology. Observe the current ecosystem and investigate if it is ready to support these new ideas. If there is no need for the technology, then you are developing something that no one wants.

Policies is another challenge, according to the CEO. This is beyond the hub, incubator or other ESO. She goes on to explain that they attempted to launch their VC firm in another African country, but they were unable to obtain a license to operate as a VC. The model would therefore not work in that country, and they had to launch in a different country. She emphasizes how important it is to be aware of current laws and regulations for ESO's in the country they want to operate in. If your ESO states that they will launch a business every two months, do the policies support that? If it takes more than two months to obtain a business license and get the needed paperwork to launch a company, then the model would not be realistic. She advises to investigate the infrastructure that would be required to have a fully functional and operational ESO in that specific country, such as internet and electricity, and to learn what the current policies are before you try to fight the system.

The partner in the early stage VC firm states that she believes it is demanding to figure out what it takes to have a true impact for startups and entrepreneurs in the country you are operating in. One truly needs a lot of competence to understand the different industries the startups are operating in, either by yourself or by a network that can provide the needed knowledge and expertise. Her opinion is that several accelerators and other ESO's are too general in their approach. She compared it to a standard classroom approach, where there are presentations, lectures and workshops focused on generic things that are important to think about before launching a company. She is uncertain if this approach is the most effective in giving the startups what they need to succeed.

The operational things we adjust in the program are quite easy to do, according to the partner. We mainly think about how large the startup and investor ecosystem is, she explained. It is difficult for their model to succeed unless two specific things are present; enough people who want to start something and have experience, and investors who are willing to fund these early phase startups. Other African markets might not have the necessary maturation in the markets for their model to function well there, according to the partner. Nigeria, Kenya, South-Africa and possibly Egypt would be mature enough ecosystems for this organisation. If we are creating a lot of companies, and not enough people are willing to invest in them, it is a

challenge. If we have investors but not enough entrepreneurs who want to start something, that is also a challenge.

According to the CEO, starting an ESO became an easy way to make money for a lot of people. She shared that there are no clear qualifications needed to start an ESO. Someone can say that they would like to start an incubator, create jobs and support entrepreneurs, and by using big words and boast about how they will find and recruit the best talent to their programs, they can easily become an incubator. There is no criteria to qualify you to become a leader of an incubator or accelerator. According to her, supporting entrepreneurs is the cool new thing, and money is pouring into the continent for this purpose. Everyone wants to associate themselves one way or another with silicon valley, but there are zero similarities here.

4.3 Case 3: Global Hub Organisation

The global hub organisation has been around for the last 8 years, and are primarily working with three or four communities of entrepreneurs, social entrepreneurs and creatives. Their work, as explained by the CEO, revolves around providing global knowledge, investing in companies, and providing access for partnership and growth opportunities for these companies. They primarily work with large foundations, international development agencies and corporate partners that are interested in employment, entrepreneurship and new opportunities.

The CEO for the branch in Ghana leads mostly on strategy, partnerships and parts of execution of the programs.

Barriers to innovation for ESO's

According to the CEO there are very homogenous issues across the continent, but also very unique issues in specific places. For instance, the market in Sudan will have completely different challenges compared to Accra in Ghana. A country that has been under sanctions for a long time, is not well connected to the global financial ecosystem and has questionable democratic credentials. This means a lot of people have to operate with fear, which is very different compared to a truly free society like Accra, hence why the challenges we are dealing with are different.

The homogenous challenges we are all facing is tied to infrastructure, the CEO explains. It is impossible to "out-innovate" your infrastructure, regardless of how talented the people are. If the entire country is running on 10 MBPS internet, that is what you have to deal with, so it is impossible to build a product or service that requires 100 MBPS. Furthermore, both connectivity and energy are challenging in some areas, which results in unstable electricity and internet connection. There are varying degrees of complexity depending on which market one is operating in. On the lower side of the complexity scale are places like Ghana, where one has a fair balance of good connectivity and good power connection. On the other end of the scale, there are places like Sudan, where both connectivity and energy can generally be unstable and insufficient. Somewhere close to the extreme end is also Nigeria, where you will sometimes have great connectivity but terrible energy, so it varies a lot. Generally, infrastructure is a challenge in varying degrees, and some markets have better insight into this than others. Ghana for instance has been lucky to have had deep investments by companies such as Google, who have built fiber optics cables that go right from undersea cables and into new markets, which is a game changer. There is significantly more bandwidth in markets like ours, and more service providers on the front end, doing wholesale and retail services.

Another challenge tied to connectivity is scaling. Due to the varying degrees of connectivity, people are building platforms, services and solutions here, and are unable to scale quickly into new markets and regions at the pace they want to, the CEO explains. If you hit a plateau really quickly, you are unable to get to the next level because the infrastructure doesn't allow it, and you also don't have the investment to go out on your own and do it.

Another challenge is talent. We are a venture support organisation, so our work is to help people grow. The local founders here are competing with giants when it comes to talent, and who do you think will win, he asks. If Facebook is hiring in Accra, and a startup is hiring in Accra, and the talent is limited - who wins? Great ideas don't scale quickly because they don't always find the right talent. The talent is highly competitive, and the really good ones know their market value as well, he says.

He said that they are working with ventures that are operating in a highly competitive talent market, and they need to prove that they are able to recruit the talent in order to raise money. A bit of a "chicken and egg" situation, he explained. Great talent is needed to give confidence to investors, but you need money to get great talent. This is one of the challenges we deal

with as an institution, he said. Human capital is one of the biggest issues across the board for all institutions, whether it is intermediaries such as us, or ventures that we work with. Nothing gets done without enough money, he stated.

Organisational model and metrics

This hub organisation is described by the CEO as a unique blend of franchise meets UN. It's a global entity managed by a european based entity on behalf of all founders. All hubs are autonomous local entities that are bound by a global vision and a network of support, more specifically venture support, across the world. It is a single ethos as a unit, and we collectively decide on the vision. All founders have a singular vote so that they can vote on all motions, and everyone has to get behind what the majority has agreed upon.

To establish a new hub in the organisation, it is necessary to get approval from existing founders. The process of becoming a verified hub in this organisation can take between six to eighteen months, and involves going through multiple levels of assessment. At every level of the process, the network is keenly involved through a mix of feasibility studies and mentoring of local teams to facilitate them in the process of starting a hub.

There are mainly two ways a hub forms; either an existing institution transforms into a hub through an application process, or founders doing local work will go straight to the process of getting a license to become a hub in this global organisation.

The growth of intermediaries such as this one is very dependent on how many types of investors you have early on, according to the CEO. If the ecosystem can not attract those types of investors, it is a challenge. It means that you can not experiment and understand what your product market fit can be very quickly. Our organisation was lucky to have those experimental partners and investors early on, but he has seen other organisations like theirs who have not had the same level of flexibility in terms of the partners that they are acquiring.

The best form of funding is when you have a blend of investments from various sources. National development money is good for de-risking private capital. When private capital enters into a new market and sees that there is available grant money, they can assume that entrepreneurs can use grant money to experiment and make mistakes before they launch commercially. Investors generally do not want their money to go towards early stage

experimentation. Grant money is well suited for that purpose. However, right after the experimentation phase is over, commercial money should be able to be ready to line up and take advantage of the learning the startup has done and make them ready to move their commercial model forwards. Further down the line, corporate money is great since it is often "smart money". Corporate money often comes with skills, knowledge and market insight. When you have national development money, smart money from corporate and private investors, you are winning.

The organisation works with several different types of companies. They have really early stage entrepreneurs who are only at the idea stage, but really want to develop their idea and start a business. What the organisation tends to do for them is run them through specific programs where they get a small grant at the end. Mainly national development money that the organisation has received will go towards giving these small grants of five to ten thousand dollars to early stage entrepreneurs. The organisation also offers a sector specific program, focusing for instance on the healthcare industry, or a sector agnostic program which is not specifically tied to an industry.

The CEO explained that there is no real definition for the type of organisation they are at the moment, and they have stopped pigeonholing themselves into the definition as an incubator or hub. Their vision extends past what is typically defined as a hub. The organisation has several buildings in the city where they have a large community and different activities. Everything from maker spaces to housing. It is very much decentralized and it is a community, according to the CEO. They have invested in hardware, infrastructure, construction in the neighborhood and laying fiber cables. He shared that the building he was currently sitting in is solar powered. It is a fairly expensive vision that goes beyond a standard intermediary hub, according to him.

Local adaptations
The local adaptations happen naturally, according to the CEO. The founders are primarily local people who are solving local issues. They are tapping into the global knowledge, talent and money from the organisation and the network. The network enables them to solve the problems they are working on locally. The founders are deeply embedded in the local ecosystem, he explains.

There is really no question of adapting. We are very much local from day one. What needs to be done is to adapt the global learning and global knowledge that the founders get from the network, and how to contextualize that in the education itself.

Another way the network has managed to find local relevance is to sometimes engineer teams together. There is something called the seed program, in the organisation. If a market is identified that the organisation believes has potential, and it has no founders present to make hubs, then we go out of our way to find appropriate teams that could build hubs in those markets. We try to see a new market and find local talent there that can build new hubs, and add to the organisation and the network. By finding the right people in these markets, the hub immediately digs local roots, since we only find people that are experienced in that ecosystem and are already doing similar work. Then we work with them to grow.

Rapid increase in entrepreneurial support organisation across the continent
Competition is always good, according to the CEO. Only sissies shy away from competition, he jokes. He went on to say that; "If you are building anything noteworthy you want to be challenged". The market will definitely decide if the value you are bringing is relevant. If you are not delivering value to the market, you will not be successful, he says, and adds that he has no problem with new ESO's popping up. He adds that there could be an issue of what the perception is for the average entrepreneur, if the quality of other ESO's are poor. Having competition is good, but the quality of the players are very important, he said. Hopefully everyone is bringing their A-game and it's enjoyable.

Another thing that could be a challenge is that some players are distorting forces in the market, and they change or distort the market in a way that they themselves do not understand. Some players will enter the market with a lot of resources and will quickly choose to go in one specific direction without realizing that they could inhibit other existing players in the market and remove opportunities from them. A lot of heavy lifting has been done in Accra, and some players want to try to take over, and in the process they distort the market. However, the CEO still does not worry about the competition. There can never be enough institutions like ours, he stated. The crisis of youth inactivity is large, and seeing young people with their talents wasted is terrible. There is a need for more institutions to

tackle this problem and get more young Africans engaged. He is never worried about too many players, only the quality of the players in the market.

The CEO states that we have to find ways to create a local ecosystem that is independent of the global capital game, and can thrive on its own. For instance, when there is a global crisis that leads to a recession, it shouldn't hit so hard. They need more local resources and supporting institutions like theirs, according to him. A lot of resources need to be local to make it sustainable long term. At the moment it is a bit shaky due to the fact that so much of the resources are external.

4.4 Summary of the case studies

The main topics discussed in the interviews were surrounding challenges and barriers to innovation for ESO's and the entrepreneurs they support, the organisational model they operate with and the necessary adaptations needed to make the organisation work in an African country. All three cases make it clear that the main challenges they are facing as ESO's are related to infrastructure, talent and funding. Their organisational model and location is different, but they focus on similar things. All the three organisations provide mentorship, knowledge, connections and access to funding for entrepreneurs. Both the CEO of the incubator and the hub organisation agreed that the change in the ecosystem with more ESO's popping up is good. More support for entrepreneurs is needed, but the CEO of the hub had one worry related to the quality of the players in the ecosystem. If other ESO's are not performing well, it can reflect poorly on all intermediaries and support organisations for entrepreneurs. This ties in to the opinions of the early stage VC firm, where both the partner and the CEO believes that the requirements and qualifications to form an ESO is too low. The early stage VC believed that many of these organisations are too generic in their approach, and not effective in adapting to the local context and helping entrepreneurs solve their specific challenges in that area. All the interviewees thought adaptation to local context was important, but they also believed it happens naturally. If you are operating in one location with local founders who have specific local challenges, the organisation adapts to meet those demands. It becomes local by default, as stated by the CEO of the incubator.

5. Analysis of the case studies and discussion

The author will analyze the information collected through the interviews in the three case studies. The analysis will focus on answering the research questions stated in 1.3, namely:

RQ1: What are the barriers to innovation that inhibits ESO's from helping entrepreneurs scale their businesses?

RQ2: How do global ESO's adapt their programs to local context?

RQ3: How do ESO's currently operating on the African continent feel about the changing ecosystem and increase of ESO's?

Furthermore, the analysis will focus on the key concepts from the theoretical framework outlined in chapter 3.

5.1 Main challenges and barriers to innovation for ESO's

The three organisations are quite different, but all describe significant challenges and barriers to innovation for the founders. Those are mainly infrastructure, talent and funding. It is interesting to see that the same challenges are brought up by three different organisations working in different locations and with different approaches. These challenges and barriers to innovation mentioned in the interviews correlated well with existing literature on the topic, as described in chapter 3.2.

All three CEOs and the partner emphasized the importance of infrastructure, and explained how both internet connection and electricity can vary significantly. The CEO of the hub has invested in infrastructure to combat this challenge, both in installing solar power in the buildings they operate in, and laying fiber cables to provide a steady and reliable internet connection.

The interviews also centered around the challenge related to talent and funding. Talent is highly competitive, and it can be difficult for startups to out-compete large tech companies when it comes to hiring. As the CEO of the incubator stated, the talented people in the market usually know their worth as well. It becomes a challenging situation where the startups need funding to attract and hire talent, but it is very difficult to get funding without having talent.

The early stage VC and the incubator both brought up issues tied to hardware innovation, independently, and in different settings. The early stage VC focused on how the supply chain can be unreliable and you might not be able to acquire the products you need to build something new. Instead of just solving one small problem, the startup has to become the whole value chain and tackle several interconnected problems and challenges at once. That is very challenging for a startup with limited means. The incubator focused on the need for hardware innovation during the COVID19 pandemic, and how just prototyping in itself could be a challenge. For efficient prototyping you need suitable materials and products to build and test something new. Using available scrap parts or car parts is a challenging way of doing hardware prototyping. The CEO of the incubator shared how they were too dependent on external resources in this specific case, and that most healthcare technology was imported.

5.1.1 Challenges related to infrastructure

All organisations mention the challenges related to infrastructure that can make it more difficult to prototype, start, grow and scale a new company. This relates to unstable internet, electricity, transportation or import of materials for prototyping and payment solutions.

All of the three ESO's provide a physical place for entrepreneurs to meet, and the hub organisation has even invested in laying fiber cables to provide a fast and reliable internet connection for founders. Investing in infrastructure in this way is not common for ESO's operating in Europe.

5.1.2 Challenges related to talent

Talent is limited and highly competitive, according to several of the interviewees. According to the early stage VC, ESO's need to evaluate if the location they want to establish in, has the right talent and enough talent. The CEO of the incubator adds to how founders are competing for talent with the industry. The incubator is also collaborating with academia to inspire students to become problem solvers rather than just job seekers. He explained how a lot of the talent does not get absorbed into the industry. Engineers have to take on jobs in banking and other sectors due to the limited amount of relevant jobs. Other countries who have gone through the fast tech innovation wave have created startups that have made good exits and can inspire people to believe that starting a company is a real opportunity and possibility. Furthermore, they have experienced founders who are able to mentor the new generation of

entrepreneurs. There have been few exits to speak of in Kenya and Ghana, and perhaps this leads students to believe that starting a company is not a real possibility or a lucrative career option. The author believes the CEO of the incubator is correct in highlighting the importance of collaboration between academia, industry and ESO's.

Another challenge is how startups have to compete for talent with the established tech giants of the world such as Google and Facebook. The CEO of the hub stated how important it is to have the right talent to be able to attract investors, and to gain the confidence of investors. People might prefer to apply for jobs at these large companies over the uncertainty of working in a newly founded company.

5.1.3 Challenges related to funding

Nothing gets done without money, the CEO of the hub stated in the interview. All three organisations have highlighted the importance of access to funding for entrepreneurs. The CEO of the incubator explained the gap in the current access to funding for entrepreneurs. There are small grants available initially, which helps entrepreneurs get started and do the preliminary experimentation to find the right product-market fit and develop their business model. After that, it is challenging to get the next round of funding. There is little money available for the phase after initial experimentation and when a company is ready for large investments of over a million dollars to scale and expand their business.

It was also made clear that proximity and connections to the western world is an important factor to acquire funding. Those founders who have connections to investors there are able to acquire funding faster compared to an entrepreneur who has never left the country.

5.1.4 Local adaptations for the organisation

ESO's will naturally become local, according to both the CEO of the incubator and the hub. When an organisation is operating in one location with local founders solving local problems, the process becomes local by default. However, there are a few changes in the organisational model that happened when the organisation moved into the African market. The incubator is providing master classes to founders in Kenya, which is not something that is being done in the incubators in other countries. Additionally, the partner in the early stage VC firm shared that some of the feedback they have gotten from participants in their programs in Kenya, is to

use more locally relevant examples, or to adapt the curriculum they share more to local context.

5.1.4 The changing entrepreneurial ecosystem

The entrepreneurial ecosystem is changing across the African continent, and ESO's are popping up more than ever. The CEO of the incubator and the hub however, are not worried. Compared to other countries in the western world, they still do not have the same amount of ESO's, and they are much needed intermediaries to support entrepreneurs. Both the incubator and the hub are not worried about competition, but would like to see more organisations contribute to the startup and innovation ecosystems across the continent. The only thing the CEO of the hub is concerned about is the quality of the ESO's. If they are not performing well, then it might reflect badly on other players in the field. The CEO of the incubator however, is convinced that those who do not provide value to entrepreneurs will fizzle out and cease to exist. The early stage VC however, believes there are currently too many players who want to be involved in supporting entrepreneurs and that people without the right knowledge, experience and leadership talent are starting ESO's.

5.2 Analysis and comparison of the case studies

The three organisations are, as previously mentioned, different, but they all have one goal; to help entrepreneurs succeed in launching and scaling their businesses. If one looks at what they provide it seems quite similar.

Table 5.2A Overview of the similarities in what the organisations provide for entrepreneurs

	Incubator	**Early stage VC**	**Hub**
Physical space to meet	Yes	Yes	Yes
Mentoring	Yes	Yes	Yes
Provides grants	Yes	Yes	Yes
Provides workspaces	Yes	Yes	Yes
Access to stable internet and electricity	Yes	Yes	Yes
Access to network in the industry or finance	Yes	Yes	Yes

Although they have many similarities, the approaches are a bit different. The early stage VC focuses on bringing experienced founders together and helping them become a functioning team. They are present from the start when the teams are formed and the business idea is born. They emphasize the importance of a global network of industry experts to mentor and guide these entrepreneurs. The organisation will help them become investment ready, and will invest in the companies with their own money.

The incubator accepts founders and startups into their program and coaches them by using a well established incubation playbook. They focus on connecting academia, industry and entrepreneurs together to create synergies. They use an evaluation system to de-risk the business model and the team, and mentor them so that they can become ready for investment. The incubator also provides grants for the entrepreneurs, and have adapted their model to local context by offering master classes to teach entrepreneurs necessary skills to succeed.

The hub is the largest organisation of the three, and provides a wide range of services to entrepreneurs. They help entrepreneurs who believe they have a great idea, and give them grant money to explore and experiment. They provide housing, maker spaces, access to grants, mentorship and more. They also accept startups who are a bit further along, and need help acquiring funding, mentoring and input on their business model or assistance in scaling the business. Finally, they also work with more established startups who have had success in their country, who want to enter the African market. The hub has invested in real estate and infrastructure to provide a stable internet connection and reliable electricity.

Table 5.2B Summary of the three cases and their answers giving in the interviews on barriers to innovation, organisational model, metrics, local adaptations and the changing ecosystem and increase of ESO's

	Incubator	Early stage VC	Hub
Barriers to innovation	Infrastructure Access to funding Talent Hardware innovation Scaling	Infrastructure Access to funding Talent Payment solutions Hardware innovation Scaling	Infrastructure Access to funding Talent Payment solutions Scaling
Organisational model	Incubator Mentoring Network Provides grant	VC that incubates/accelerates companies Mentoring Network Provides investments Engineer teams together	More than a classic hub Incubation / acceleration Housing Maker space Grants Network Invests in real estate and infrastructure Engineer teams together
Metrics	Business model Team / talent Becoming investable Jobs created Access Revenue growth Funding raised	Business model Team / talent Becoming investable Revenue growth Funding raised	Business model Team / talent Becoming investable
Local adaptations	It becomes local by default. Master classes	Researching the ecosystem to find the right talent and risk willing investors. Included more local examples in their program.	It becomes a local ecosystem by default, where founders tap into global knowledge to solve local problems.
Changing ecosystem and increase of ESO's	More ESO's are needed. Competition in this field is good ESO's that are not providing value will fizzle out.	Not enough regulations to ensure quality of the ESO's	More ESO's are needed Competition in this field is good Quality of the competition is important

5.3 Discussion

In this chapter the author will discuss the three cases in relation to the three research questions in this study.

5.3.1 RQ1: What are the barriers to innovation that inhibits ESO's from helping entrepreneurs scale their businesses?

The author believes that existing literature has described and documented several highly relevant challenges. Among new information that the author did not read in the literature is the challenge related to payment systems, competition for talent between founders and large

companies, and hardware prototyping. The main barriers to innovation are infrastructure, talent and access to funding.

5.3.2 RQ2: How do global ESO's adapt their programs to local context?

Based on the data collected through interviews, it seems that the adaptation to local context often happens automatically. There is limited literature on the subject of adapting an ESO to a different country or how to change the organisation to provide value for entrepreneurs in challenging contexts. The leaders of these organisations believe that by working with local founders that are solving local problems, the nature of the programs naturally changes and adapts to focus on challenges in local contexts. The incubator has added master classes to their model in Kenya, which was a new adaptation from their existing model. The early stage VC has also added more local examples in their program, as requested by the participants.

5.3.3 RQ3: How do ESO's currently operating on the African continent feel about the changing ecosystem and increase of ESO's?

The literature has made it clear that the amount of ESO's has been rapidly increasing during the past years. The ecosystem is changing quickly with more and more players entering the market. The three organisations from the case studies have different views on this topic. Both the CEO of the incubator and the CEO of the hub believe that there needs to be more intermediaries and organisations. According to the CEO of the hub organisation, there is a big issue with youth inactivity, and there is a need for organisations like theirs to engage young people and get them involved in creating something. These types of organisations are also necessary to provide much needed support to entrepreneurs trying to launch or grow their businesses. The early stage VC firm however, feels that there are not enough regulations on who can start and run an ESO. This might affect the quality of the players in the ecosystem, something that the CEO of the hub brought up. Competition is good, but the quality of the players is important.

6. Conclusion

The purpose of this thesis was to investigate ESO's and their organisational model and adaptation to local context, as well as to provide some insight into the challenges and barriers that hinder innovation in Kenya and Ghana, respectively. The three case studies have led to some interesting findings that both support and add to existing literature.

The challenges tied to infrastructure, lack of funding, low skill level, and poor legislation, makes it undoubtedly more difficult to succeed as an entrepreneur. ESO's have the potential of providing the necessary support to bridge gaps related to knowledge or mentoring, funding, network and connections to markets, and more. These challenges need to be taken into account in the organisational models of all ESO's to better facilitate the process of venture formation, growth and scaling of the businesses. The incubator, hub and early stage VC have all come from different countries and have made adaptations to their model to better serve the needs of entrepreneurs in Kenya and Ghana. However the local adaptation happens naturally according to the CEOs, as it is local founders working to solve local issues.

The increase of ESO's may be a positive thing for the African innovation ecosystem. There is a need for differentiated organisations that are able to effectively help founders, and inspire young Africans to get engaged and create something. The ESO's that don't provide value will disappear, and the competition between these organisations might benefit entrepreneurs and the innovation ecosystem.

The chosen organisations for the case studies were all well established organisations with several years of experience, and a large network. The founders and CEOs were people with long experience and knowledge about the entrepreneurial ecosystem in the locations they are operating in. The perspectives provided by them in this study has a high degree of credibility, and the author believes it has given a valuable contribution to the literature in this field. The organisations would like to see more intermediaries promoting entrepreneurship and facilitating startups and entrepreneurs across the African continent.

7. Implications for further research

The author believes that the findings in this thesis has been valuable in providing qualitative data on the subject of entrepreneurial support organisations (ESO's), and that the data collected and analyzed in this thesis confirms existing quantitative data in research regarding challenges entrepreneurs face, and barriers to innovation on the African continent.

Since entrepreneurship is widely discussed as a method of reducing poverty, increasing employment rates and creating economic growth, Entrepreneurial Support Organisations (ESO's) should be considered valuable. The lack of definitions and understanding in current literature surrounding hubs, incubators, new venture formation, entrepreneurial psychology and motivation in challenging areas, signals a need for holistic conceptualization and synthesis into a new model or framework to be subjected to further research and studies (Torraco, 2016).

More qualitative and case studies are recommended for future research, to better understand how ESO's operate, what the entrepreneurs need to succeed and to create a framework for analyzing and comparing these organisations and their success in creating new financially sustainable companies. Considering how popular ESO's have become, not only on the African continent, but the rest of the developing world, it could provide valuable insight and knowledge to support entrepreneurs and decrease the failure rate of new ventures.

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Appendix A: Interview guide

Introduction and purpose of the study.

The purpose of this thesis and study is to examine the current barriers to innovation for ESO's in Kenya and Ghana, and gain insight into their organisational model and how they have adapted to suit the needs of entrepreneurs in this new context. This interview will be semi-structured to allow the interviewee to speak freely and not be limited by the questions written by the author. During the interview, follow up questions relevant to the topic might be added. The transcribed interview will reflect any extra questions that might emerge.

RQ1: What are the barriers to innovation that inhibits ESO's from helping entrepreneurs scale their businesses?

RQ2: How do global ESO's adapt their programs to local context?

RQ3: How do ESO's currently operating on the African continent feel about the changing ecosystem and increase of ESO's?

Interview Guide: Founder, CEO and partners of an entrepreneurship support organisation (ESO)

Questions	Relevance
1. Introduction	Frame of reference
2. How did you decide on founding an ESO and what was your motivation?	Frame of reference
3. Did you have any prior experience with entrepreneurship and ESO's	Frame of reference
4. What are the main barriers to innovation in your country?	RQ1
5. How does your organisation take these challenges into account and adapt to the local context?	RQ2
6. Have you received any feedback from participants in the programs?	RQ2

7. Did you discover unforeseen challenges or barriers to innovation that your hub had to adapt to? If so, how?	RQ1/RQ2
8. How has the organisation developed in regards to the services or support offered to entrepreneurs?	RQ1/RQ2
9. How do you evaluate the success of the startups (which criteria). Framework? Metrics?	RQ2
10. . Is it possible to transfer one organisational model of an ESO to another country or continent, or do you think it should be adapted to local context?	RQ3
11. What is your opinion on the current ecosystem of ESO's?	RQ3
12. What is your opinion on the increase of ESO's across the continent?	RQ3
13. Does the increase of ESO's give rise to any challenges tied to attracting partnerships, collaborations or funding for your organisation?	RQ2