

empower

Dakar | Saint-Louis | Ziguinchor | Thiès | Bambey

Senegal : a blueprint for francophone West Africa

*the Startup Friendliness Index | an overview of Senegal | can startups lead Senegal out of informality?
| the role of universities as incubators in Senegal and West Africa | financing startups in Senegal and
West Africa | comparing Thiès and Bambey | the growing importance of micro-financial institutions
(MFI's) | foreign influence and the role of expatriates and the African diaspora*

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enpact works
to empower
entrepreneurs
globally



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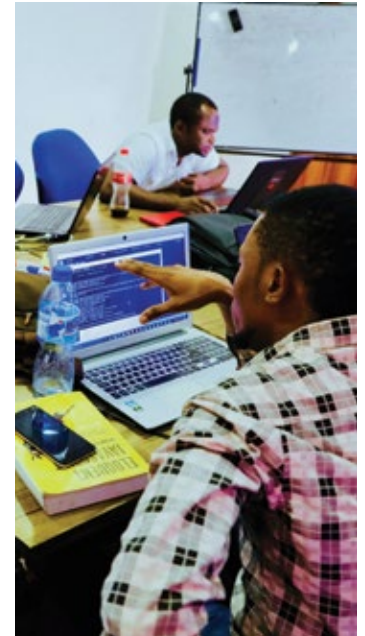
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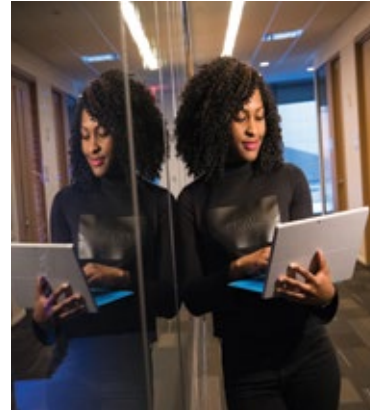
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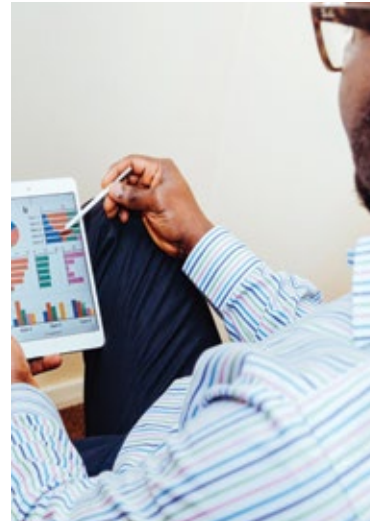
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introduction



By Joelle Sow

*Joelle Sow is the
Secretary General of
SenStartup*

Around the world, startups are a vital part of economic development and growth. Senegalese startups are no exception to this rule. In my time working to support, sustain, and grow an entrepreneurial culture in Dakar, I have witnessed the untapped potential of startups first-hand. Their ability to respond with innovative solutions to the multiple socio-economic needs of Senegal is unrivaled.

I have had the opportunity to live and work in many francophone startup ecosystems including France, Côte d'Ivoire, Cameroon, Guinea Conakry, and finally my home country of Senegal. In France, I founded my own startup; in several West African countries, I was able to observe and invest in the local startup ecosystems. It is because of these experiences that I learned to see startups as a fountain of innovation and creativity. Especially in a country such as Senegal, startups provide innovative ideas and solutions for specific endemic problems. In this way, they promote much needed inventions for their country. It was for this reason that my passion for startup ecosystems was kindled. It didn't take long until it became my mission to make Senegal better through empowering entrepreneurs.

Senegal has been a rewarding place to work with startups. We Senegalese have a vibrant entrepreneurial spirit. Furthermore, our country has a growing infrastructure to support startups through new policies and law, public-private partnerships, and a general practice of excellence. As a major hub and center for francophone West Africa, many in the Senegalese ecosystem aim to not only grow locally, but regionally, in order to serve the wider West African community. Already, this gives us Senegalese the advantage to always think bigger, to always look to the future.

I see Senegal as a natural birthplace for innovation tailored to our own needs. This is why my organization, SenStartup, offers specific services and training sessions for entrepreneurs. We aim to not only offer generalized support, but to spread crucial information and enable more entrepreneurs to enter sectors such as FinTech, GreenTech, spatial mapping, recycling, sanitation and telemedicine, all of which we see as growth areas in the near future.

Of course, building a startup in Senegal does not come without its own set of challenges. Finance is, as is common in many African economies, the continual plague of the

using entrepreneurship to innovate in Senegal

startup ecosystem — always there, always a challenge. Access to secure financing is a major impediment regarding the full development of Senegalese startups. But we also face challenges with informality, a true knowledge of the Senegalese market size, and a lacking culture of market research and business development. The domestic market is rarely studied to understand the consumer or to understand product-market fit. There is also no sufficient and consistent effort to track performance indicators. These types of knowledge and best practices are the way forward as they can address the challenges that stem from a lack of formality. The Senegalese startup culture deserves to be better known by its peers.

At the same time, we should not resolve to follow only occidental practices without critical thought or innovation. In order to be successful, we need to create methodologies that suit our African values and way of life. Things that work in France may not necessarily work here. And that is why we need visionary entrepreneurs who develop and shape our future.

Clearly, there is still more work to do. That is why research and writing about the Senegalese startup ecosystem is

needed. With more information, there is more power. The world must see the innovation, ingenuity and potential of the Senegalese ecosystem. Resolutely open and capable of going beyond our national, sub-regional or continental geographic spaces, we affirm a strong will to continue to build our country and to transform it in depth.

introduction



By Jan Lachenmayer

*Jan Lachenmayer is the
Managing Director of
enpact.*

In my time working with entrepreneurs around the world, I've been fascinated by how universal their mindset is. No matter where they are in the world, entrepreneurs have more in common with each other than with their fellow citizens. Their background, culture, or socialization matter little; they share the entrepreneurial mindset.

The entrepreneurial mindset is that of a problem solver. An entrepreneur is someone who sees a problem and takes it upon themselves to create a solution. They are not just business owners, but innovators and drivers of positive change. So, it stands to reason that if you want to bring positive change to society — if you want to create hope, optimism, jobs, growth and prosperity — you should aim to empower those with high potential and support them to become successful. What empowers entrepreneurs most is not money, but access to knowledge and international networks. This is what we realized working with entrepreneurs over many years.

Since 2013, enpact e.V. has been working with thousands of entrepreneurs in emerging economies. Our mission is to empower entrepreneurs to drive positive change,

create innovative solutions and foster prosperity in their respective world regions.

From mentoring programs to delegation trips, accelerator programs to founder scholarships, we strive to create arenas that build networks of trust and exchange. Our programs are designed to put people first. We focus not only on developing their business or their capital growth, but the person themselves. In this way, even if their first venture does not succeed, the entrepreneur remains changed and a lifelong learner.

Many entrepreneurs in the regions we are active in are brilliant and motivated, but they are confined to their local communities and expertise. By creating programs embedded in their ecosystems, enpact gives them access to an international network of experienced mentors and experts. We aim to empower them in becoming successful.

As it often happens, you first begin by helping the individual entrepreneurs; then you begin to understand patterns and wonder how you can impact the environment

leveraging the power of entrepreneurship to change the world

to enhance the likelihood that other entrepreneurs will become successful. This is why we started to take a systematic approach, looking into the framework conditions for entrepreneurship to flourish or hinder — what we call an entrepreneurial ecosystem.

enpact's Data and Research team was founded to build an understanding of what makes a strong entrepreneurial ecosystem. The core of Data and Research's offering is its ability to quantify the strengths and weaknesses of an entrepreneurial ecosystem and compare one to the other in spite of geographical differences. By understanding the ecosystem, down to specific indicators and policies that affect people in real-time, enpact can lend support to decision makers at all levels: policy makers, businesses, individuals, and organisations. Most importantly, it can give recommendations and provide action points for improvement.

The data can describe an ecosystem, but the Data and Research team also works to bring those data points to life. In qualitative analysis, research, and storytelling, enpact works to build connections between regions,

nations, and people. In sharing insights and highlighting change makers, enpact works to share insights for learning and growth. This is why we have called our publication, “empower”. It is through bold and specific insights, stories, and perspectives that we can empower all of you to make a difference in your community.



introduction to the report

enpact's Data & Research division began with the vision that, equipped with the right data and analysis, we could understand what factors contribute to a startup ecosystem and from there give informed insights to improve, strengthen, or alter it. And so we compiled that data, and before us stood a mountain of decimals and digits that somehow stood as a viewpoint to a global network of entrepreneurs, investors and policymakers. But we still needed to find a way to communicate the value of what we created.

When I sought to create the concept of this report, I wanted to show our audience why our data could be valuable to them. Here at enpact, we truly find the SFI fascinating; a few minutes scrolling through the columns of digits and I find myself asking questions: What policies have constrained the workforce in Singapore to give it a score of 44.87? How can Mexico City and Jakarta have such similar SFI scores (44.2 and 45.5) and yet their ecosystems are markedly different in their lived experiences? What contributes to those differences and in what ways are they the same? Can one solution work for both places or do we need to be more creative and holistic in the solutions we propose?

All of these questions are ones our reporting attempts to answer. What exactly makes an ecosystem operate the way it does? As Jan mentioned earlier, though ecosystems may differ in their geography and culture, entrepreneurs around the globe have a remarkable amount in common. This is why the SFI normalizes its score, to compare two unlike places and mark them on the same scale. In this way, one ecosystem can be informed by another.

our data helps empower entrepreneurs globally

In this report, you will find that we not only worked to bring our SFI to life but also to elevate voices of direct stakeholders in the ecosystems we analyze. Through interviews and guest articles, investors, entrepreneurs, corporations, and government entities speak on why they are excited about their respective ecosystems and, even more importantly, why they are eager to bring more connections to it to show the amount of energy and innovation that is developing. Their contributions paint a picture of what the startup culture is like, where future trends may be, and what opportunities there are to get involved at any level.

Our hope is simply to demystify, make connections, and highlight stories, innovation, and insights that might propel the ecosystems forward. By understanding in frank terms the strengths, weaknesses, and opportunities, we can learn from other ecosystem builders and propose policies, solutions, and perspectives that create real change and empower change-makers.

How to read this report

After a brief introduction to the Startup Friendliness Index, its 6 domains and 17 subdomains, methodology, and how to interpret it, we will dive right into a regional overview,

not limited Senegal but also other relevant regional startup hubs. We will provide an overview of Senegal at the national level, including an evaluation of the policies and investments, before we look at each city —Dakar, Saint-Louis, Ziguinchor, Thiès and Bambey — individually.

After some cross-sectional comparisons between Senegal and other startup hubs (Cairo, Nairobi, and Accra), you will then find our conclusions and recommendations. Each subdomain is provided with a description and some important information about how to interpret it. The full SFI data for each city is always available on our website as well, www.enpact.org/data-research.

We hope you leave this report feeling informed, inspired and, most of all, ready to take action.

Sincerely,



Heather Dannyelle Thompson

Editor

Manager of Data & Research for enpact



enpact's work to empower Senegalese startups



By Wail Daoud

*Wail is a Senior
Manager at enpact.*

At enpact, we work to empower entrepreneurs through a suite of programs and partnerships. Our work in Senegal is no exception. In partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit's (GIZ) programs for "Women and Energy Senegal", enpact launched two capacity building programs: the Program Designers' Lab (PDL) and Train the Mentor (TTM).

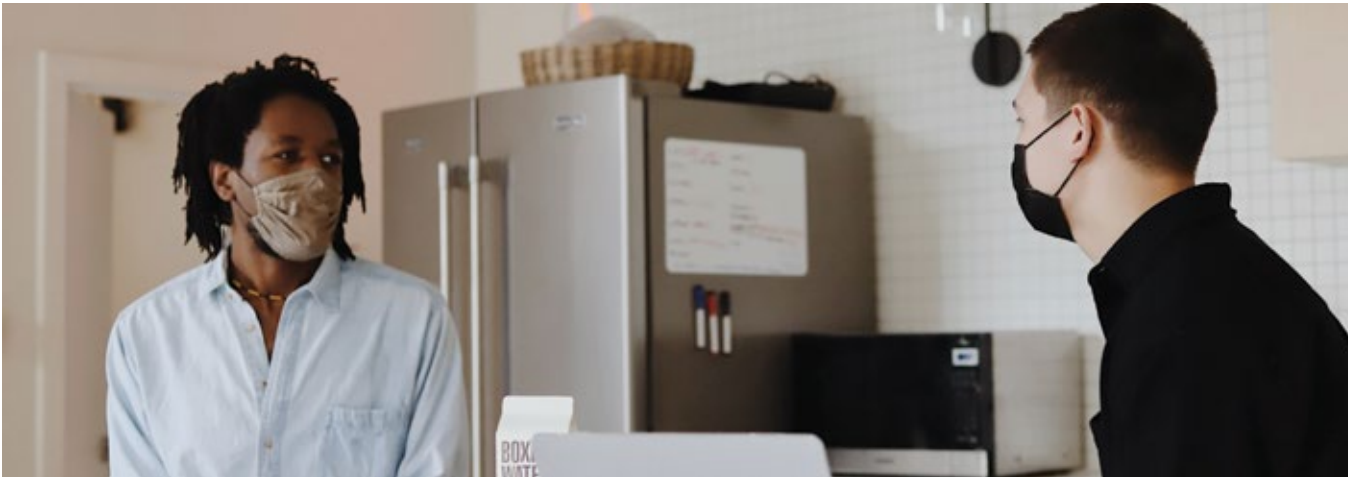
The PDL's primary goal is to foster connections within the chosen ecosystem. By doing this we aid people and institutions to support their entrepreneurial ecosystem by developing innovative programs that serve their communities. So far, we have worked with four institutions and university incubators in Senegal: École Polytechnique de Thiès (EPT), Gaston Berger University (UGB), Alioune Diop University of Bambey (UADB), and Assane Seck University of Ziguinchor (UASZ).

Over the course of more than a year, ending in October 2021, we supported these institutions in designing and preparing implementation plans for project ideas to

promote women's entrepreneurship and strengthen their roles in the entrepreneurial ecosystem. By applying "Design Thinking", participants discovered new methodologies and working practices as well as concretized their project ideas with the support of professional mentors and experts throughout the program.

In order to provide greater support to the participants, we trained experts from the renewable energy sector and consultants from the general business sector as mentors in our Train the Mentor (TTM) program. As a result of this 'train-the-trainer', 12 people received a multi-month training focused on the values, techniques and practices of mentoring as advocated by enpact. An important outcome of the training was the creation of a community of mentors who will promote mentoring in Senegal.

Finally, through our partnership with SenStartup we have been able to create better visibility of the entrepreneurial dynamics in Senegal. Our aim is to pool



our experiences and develop our respective missions of startup support and ecosystem integration. Through this strategic collaboration, we will be able to provide more comprehensive support services for startups in Senegal. The collaboration comprises three key aspects: providing comprehensive ecosystem data for entrepreneurs, investors and policy makers, organizing training events and workshops for early-stage startups in Senegal, and leveraging enpact's international network with SenStartup's community in Senegal to build strategic cross-border collaborations and address key challenges in the ecosystem.

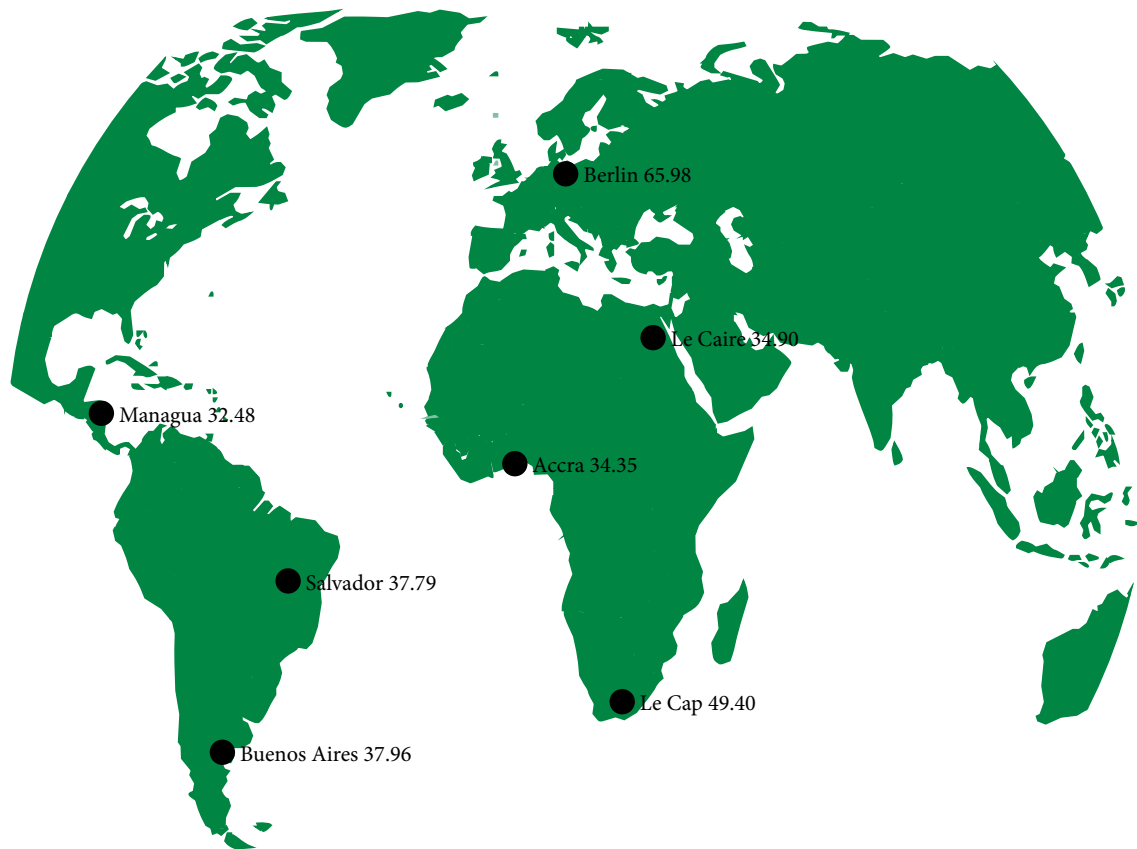
This publication serves to meet that first key aspect: to analyze the ecosystems of the major cities in Senegal. We are looking forward to working together to further develop the startup ecosystem in Senegal.

**We are looking forward to
working together to further
develop the startup ecosystem
in Senegal.**



**the
startup
friendliness
index**

the SFI measures how well a city supports entrepreneurship

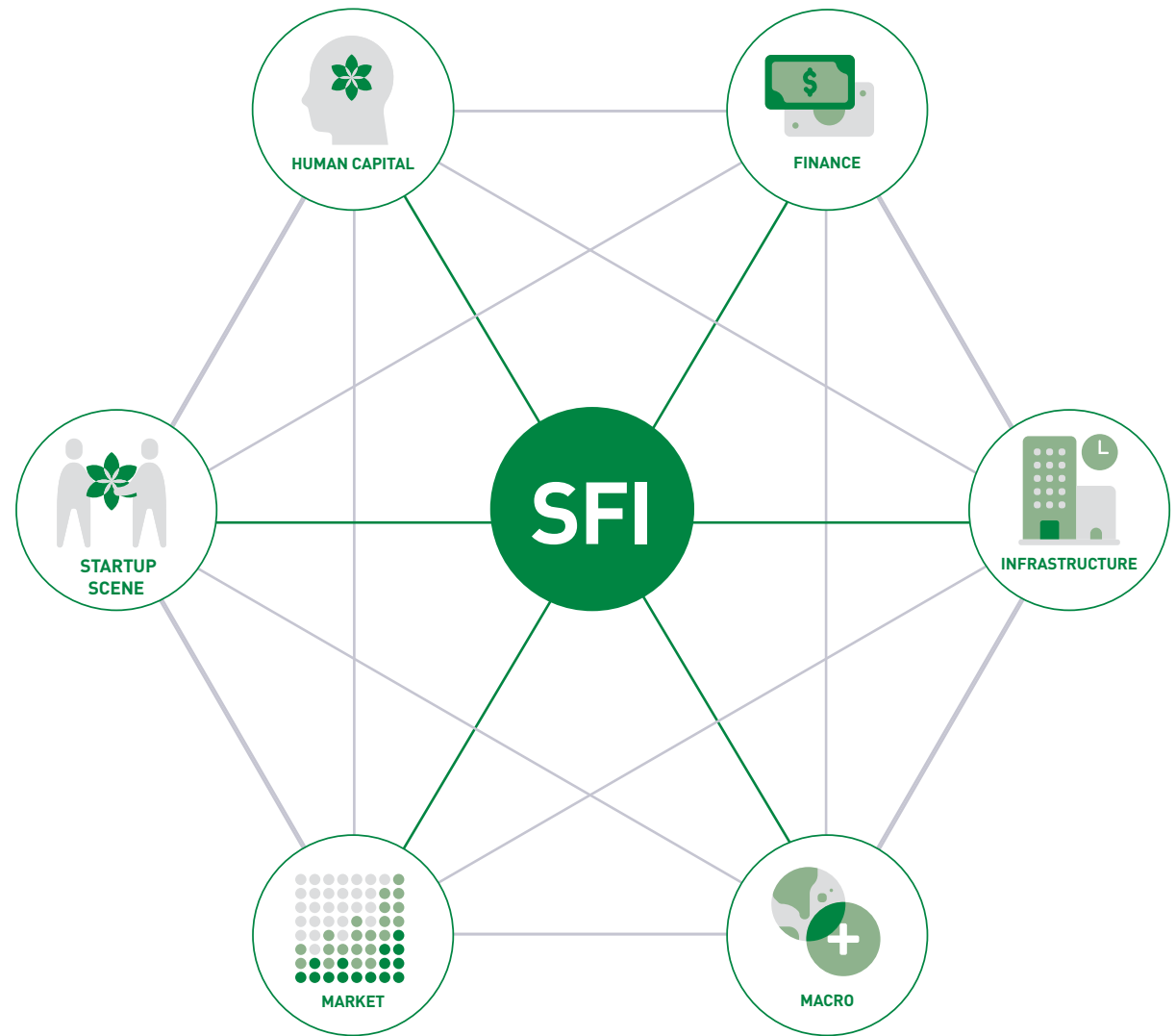


what is the Startup Friendliness Index?

The SFI consists of six major domains. In the field of entrepreneurship, startup ecosystems play an important role. A startup ecosystem is formed by **entrepreneurs**, **startups** in their various stages, and numerous other entities such as universities, **investors**, **accelerators**, co-working spaces, legal and financial service providers, and government agencies. Through the complex interaction of these players, a startup ecosystem has the capacity to empower entrepreneurs to develop new ideas and bring **innovation** to the market.

The composition and maturity level of startup ecosystems are essential components of the success rate for entrepreneurs and new enterprises. By understanding the **strengths and weaknesses** of a startup ecosystem, as well as the cultural context it finds itself in, enpact can offer **targeted solutions** and recommendations to policy makers on strengthening and growing startup ecosystems of their cities.

To achieve this, enpact has developed the Startup Friendliness Index, or SFI. We've designed the SFI to **quantitatively compare ecosystems** across the globe using objective measures of development and maturation.



how does the SFI work?

Each domain is vital for entrepreneurs and no city can support a startup culture without all six elements.

At the city level we measure:

Human Capital measures the quality of and access to educated or talented people to fill the workforce of a startup, to start their own enterprise, or a startup's ability to pay for the right talent. This domain also analyzes the inclusiveness of a city, as the more economic opportunity there is for women and minorities to participate in the economy, the easier it is to find talent.

Access to **Finance** is crucial for the equity and advancement of any startup scene. It is the first hurdle any viable business must face, the pre-requisite for successful exits and the best way to inject more money and attention into an ecosystem.

The liveliness of the **Startup Scene** — from the number of hubs to facilitate connections, to the number of events and startups in a city, to the entrepreneurial culture of an ecosystem, each can play a role in encouraging entrepreneurs to dive in and to grow.

The **Infrastructure** of a given city is often a challenge for emerging economies. In the worst scenarios, this means that roads are unpaved or dangerous, internet access is spotty, and people experience shortages to water or electricity that makes it hard to get by, let alone start a business.

On the country level we measure:

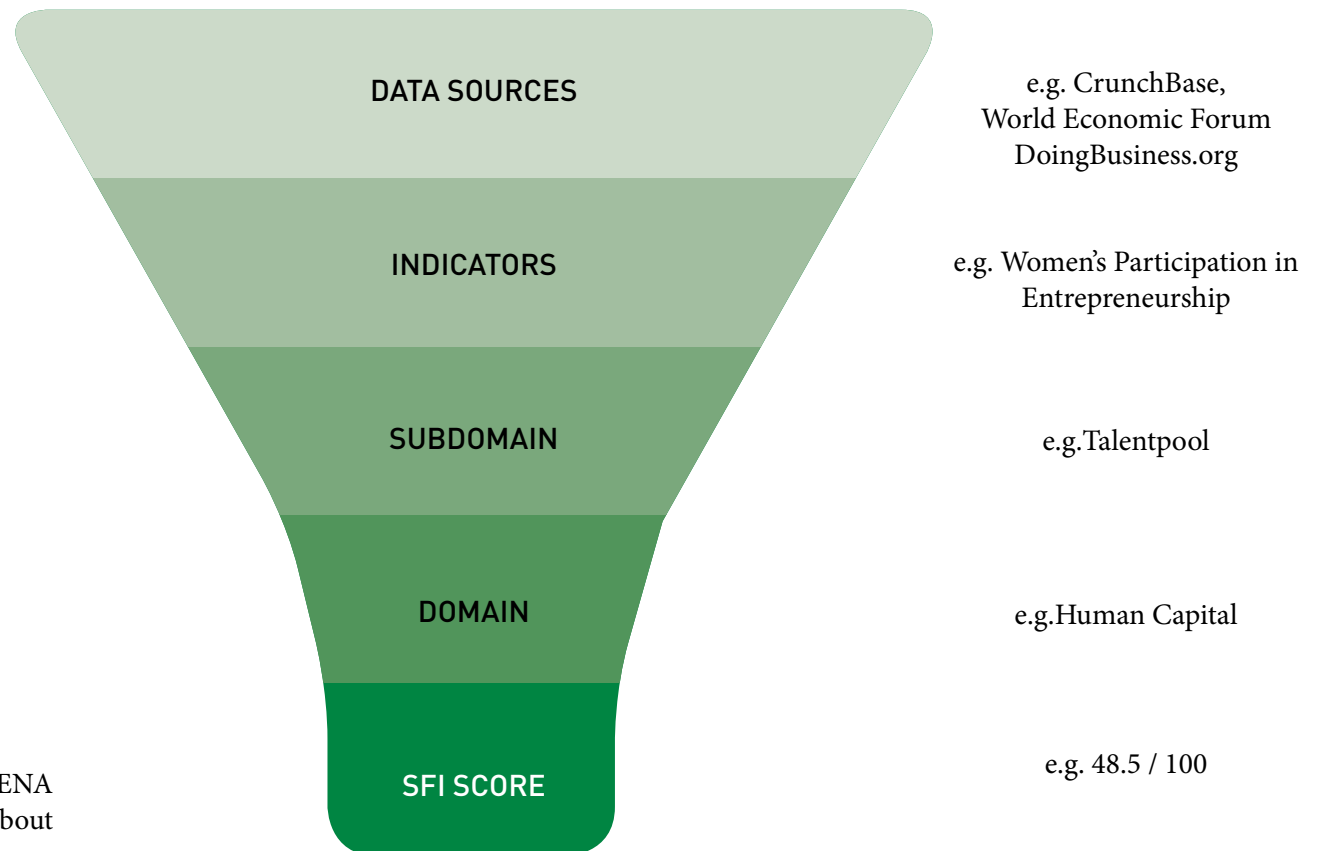
The political and legal context of a country, as well as crime and corruption, are measured in the **Macro** domain.

Lastly, the connectedness and performance of an economy's **Market** play a role in a startup's ability to expand both regionally and globally. This domain also looks at how well developed the digital market is, vital for startups whose business models rely on a digitally connected economy.

the SFI scores cities holistically, emphasizing interconnectedness

how to read the SFI

how the final score is calculated



In this context, this means that Cairo ranks 10th in the MENA region and 45th globally for Human Capital. This score is about average in our index.

the SFI compiles normalized indicators into one objective score, regardless of location or culture

Three tips you should know to read our report:

1

There are 91 indicators, divided into 6 domains and 17 subdomains.

Each city receives a score for each indicator. The indicators are then aggregated into a domain score and a final SFI score.

2

The data for the indicators are collected from reputable primary and secondary sources such as the World Bank or World Economic Forum.

3

Each indicator is normalized on a scale from 0 to 100. The best performing city for a single indicator is given a score of 100 *in terms of what is good for startups*.

For example, a score such as the Pollution Index, Singapore has a score of 100, meaning it is best city in this indicator, or the least pollution.

Another example, the Minimum Wage Indicator, awards the highest score to the city with the lowest minimum wage in the index. This is because while high wages are better for workers, they create a barrier for startups to sustain a talented workforce, especially in early phases.

In this report, you will see an SFI Target feature. This symbolizes an instant where one of our indicators is applicable. For instance:

“... the city’s **trade** makes
it a desirable place to incorporate.”



Trade openness:
68.34

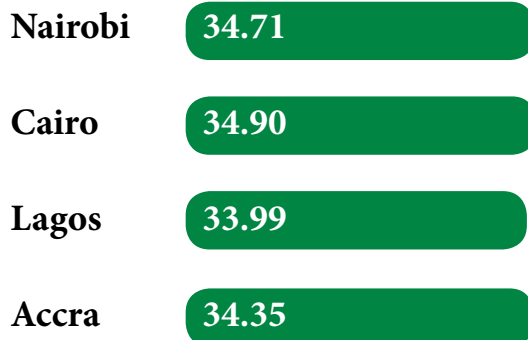
This indicates the city’s score in our index. For more information, you can turn to our appendix, where the SFI for each city is listed in its entirety.



**startup hubs
of west africa**

regional overview

By Tanyi Franç Martial

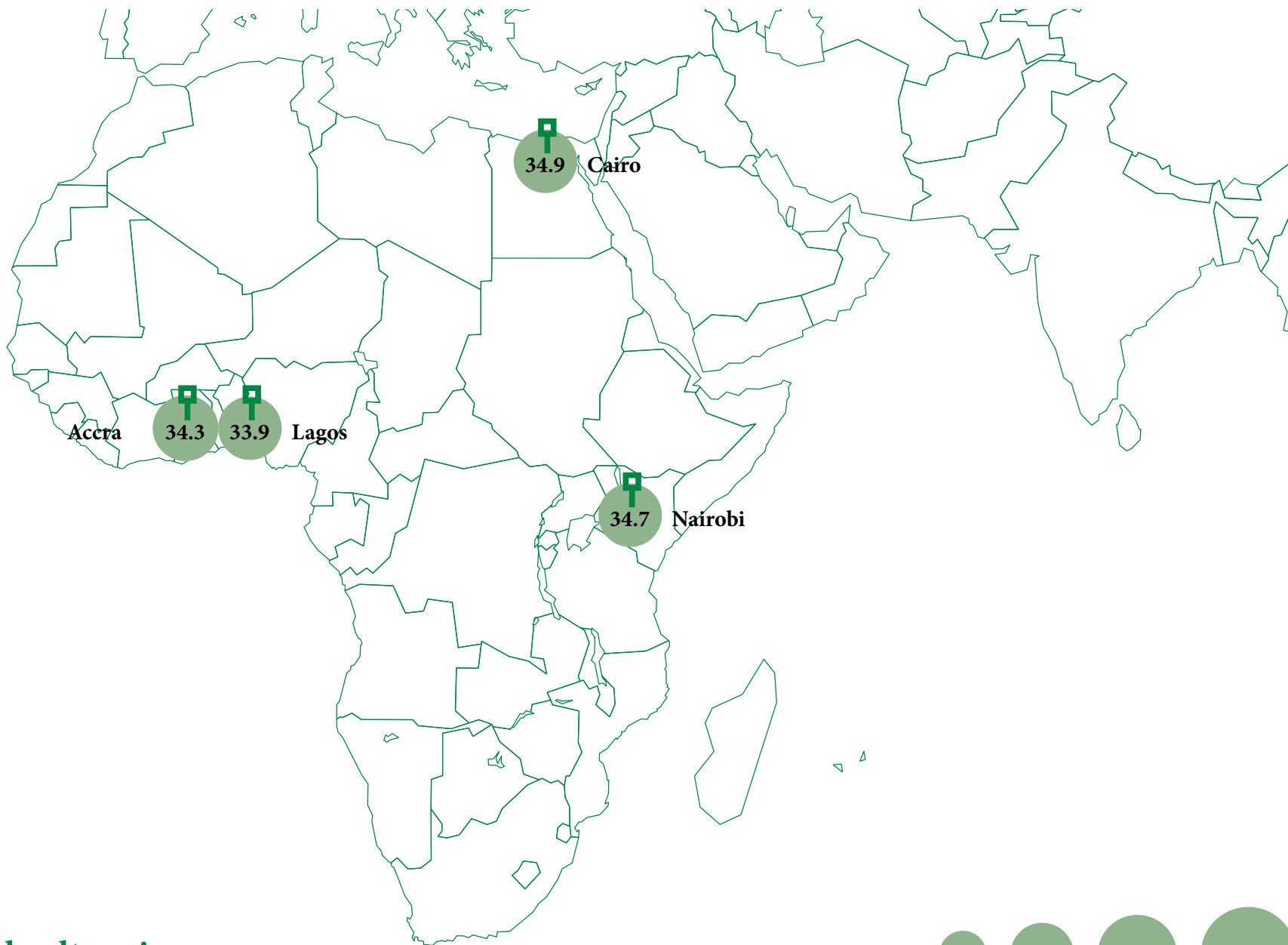


Entrepreneurship in West Africa is alive and well. The biggest strength of many West African startup ecosystems is their entrepreneurially driven culture. Our SFI corroborates this as it shows countries like Ghana, Nigeria and Senegal achieving scores of 67.08, 74.79, and 78.31 on the *Entrepreneurial Culture* subdomain. Impressively, they rank better in this subdomain compared to several Asian countries, which already have a strong startup ecosystem such as Indonesia (53.46) and Singapore (49.99). Noting the power and prevalence of such an entrepreneurial culture, governments in the region have responded with policies that are aimed at creating a dynamic and conducive environment for startup growth. In Ghana, for example, startups account for up to 50% of new jobs. In Nigeria, startups have forged a strong ecosystem and Lagos is sometimes called the “Silicon Valley of Africa” (41).

Of course, government policies in each of these countries differ. In Nigeria, the government empowers startups through the National Information Technology Development Agency (NITDA). Its role is to “develop, regulate and advise on information technology in the country through regulatory standards, guidelines and policies”. Additionally, NITDA is the clearing house for all IT projects and the infrastructural development in the country.

In Ghana, there is a robust network of both public and private institutions supporting entrepreneurship and SMEs. The government helps startups and drives innovation via the National Entrepreneurship and Innovation Program (NEIP). However, it is worth mentioning other networks that collaborate with the NEIP within this common drive for innovation and entrepreneurship like the Ghana Hubs Network, Young Entrepreneurs Chamber, Ghana Startup Network, i4policy, and the Accra Digital Center. Ghana is also following in the footsteps of Senegal as it is currently discussing the enactment of a Startup Act.

Senegal has taken a step further as the Startup Act has been a catalyst for startup growth, becoming the first and only country within the region, and the second in Africa overall, to implement such a framework.

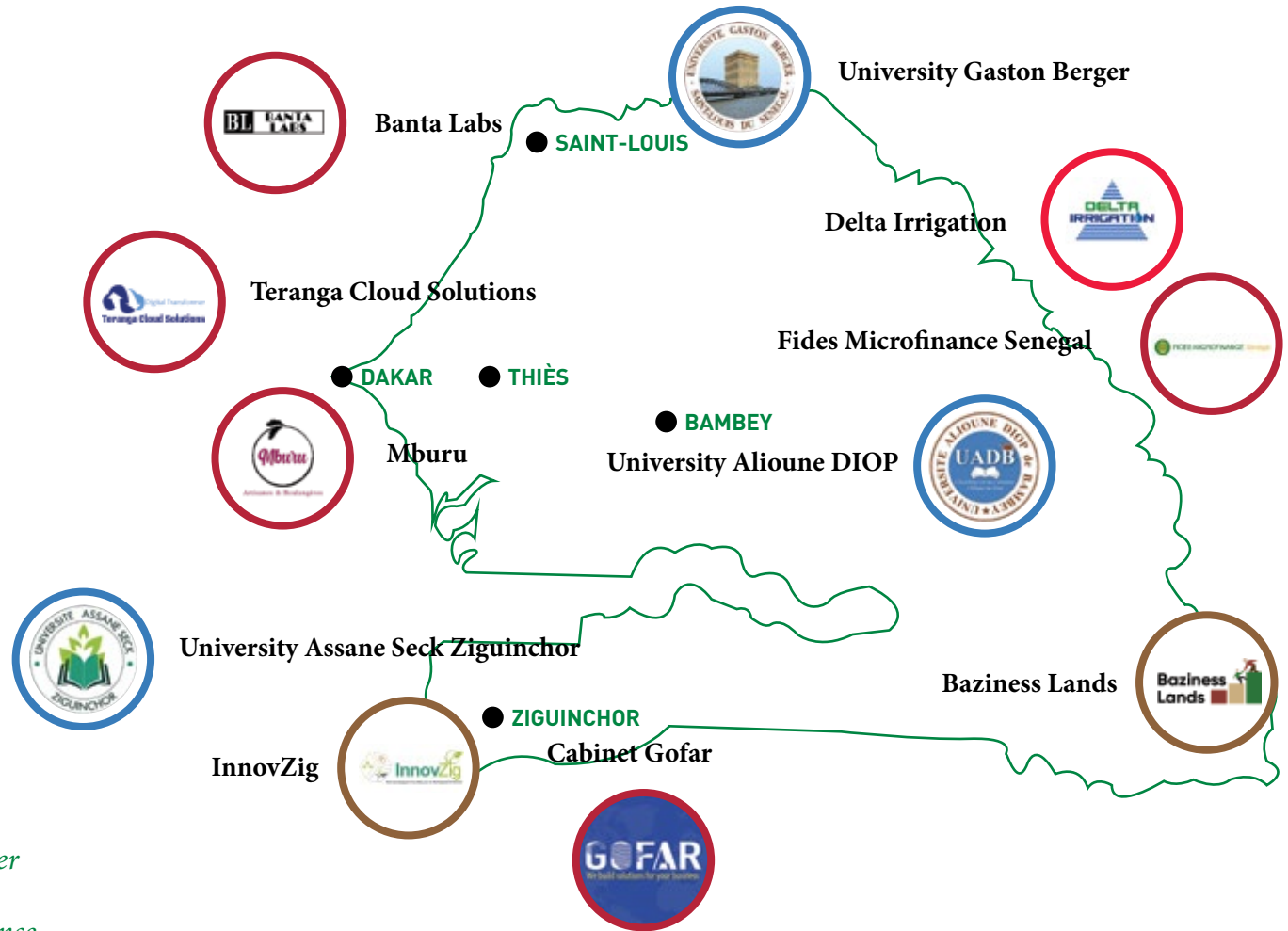


**Entrepreneurial culture in
West Africa is alive and well.**



country overview

By João Castel-Branco



The Startup Act is a legislation that contains a number of frameworks that aim to promote innovation and entrepreneurship in the national economy in accordance with the Senegal emergence plan (Le Plan Senegal Emergent, PSE) and the “Digital Senegal 2025” strategy (Senegal Numérique 2025).

Our SFI analyzes the startup ecosystems of 57 cities globally and compares them to each other. By relying on a wide variety of data sources and placing cities on a comparative scale, we can compare apples to oranges. Regardless of regional, national or local differences, we can assign a total score to understand how the ecosystems compare and what insights we may learn from each one. From there, our analysts dig deeper to understand why each city has received its score and what the motivating factors of each ecosystem are.

We will dive deeper into this pattern in this issue of *empower*.

QUICK FACTS

Population: +16 million

Size: 196,722 km²

GDP: 24.91 billion USD

Dakar 35.75

Saint-Louis 34.17

Ziguinchor 34.90

Thiès 33.16

Bambey 34.52



SFI overview of Senegal

By Tanyi Franç Martial

In the context of an economy dominated by the informal sector, high youth unemployment and a growing population, being an entrepreneur and running a startup is generally commendable in Senegal as it provides a platform for dynamic and passionate young talent to solve problems faced by society.

The main drivers of Senegal's startup scene include the entrepreneurial culture, its political climate, its strategic positioning in the subregion and in francophone Africa, an active but informal "buddy system" and ambitious ecosystem builders, government support and investment (local and international), as well as policy innovation towards startups.

To help us understand the holistic picture of Senegal as a startup ecosystem, we interviewed Joelle Sow, the General Secretary of SenStartup, Fatou Kamara, the Head of Innovation and Student Professional Insertion at Université Gaston Berger (UGB), Coumba Diop, Head of the operational office of the university business unit at Alioune Diop University in Bambey, and Ahmadou Seck, founder of the startup Insuris.

Our SFI shows a relatively encouraging unemployment rate of 7% from World Bank data, giving the country an average score of 75.63 for *Unemployment*. However, most of the employed work in the informal sector economy as more than 90% of businesses are informal

in Senegal (27). Youth unemployment and professional insertion is a big problem as well. Fatou Kamara, head of innovation and student insertion at UGB, estimates that each year between 200,000 to 300,000 young Senegalese enter the labor market. Compounding the situation, she adds that the education market does not always prepare students for the job market. In Senegal, she states that young people often complete training programs which are "not adequate to the job market, don't have the necessary information about opportunities and are limited in their vision". Regional data from the ANSD (Agence Nationale de Statistique et de la Démographie) suggests the unemployment rate is closer to 20% (8). Kamara asserts that "there are not enough companies to employ everyone, so the alternative is entrepreneurship. So it is important to accompany young people to not only become entrepreneurs but also creators of job opportunities for other people".

While high unemployment is a real challenge, Senegalese youth have responded by embracing entrepreneurial culture. Senegal receives a score of 78.31 in our *Entrepreneurial Culture* domain, which is more than above average and even higher than Singapore, the leading country on the global index, which scores 49.99. Senegal scores as high as 100.00 with regards to *Fear of Failure*, as 66.60% of the population intend to be entrepreneurs while 68.95% consider *Entrepreneurship as a Career*. These values are the highest score in our index. There is

According to Forbes, Senegal has about 15 hubs (60). This is impressive within West Africa, however it still lags behind other countries such as Cote d'Ivoire, which has 22 hubs, or South Africa with over 78 hubs and a score of 26.15 on our SFI index for Hubs, while Dakar stands at 13.07.

no lack of risk engagement or initiative in Senegal when it comes to starting the entrepreneurial journey.

Despite these positive views on entrepreneurship and the entrepreneurial culture, they aren't enough to sustain the general startup ecosystem. The country's infrastructure problems and the lack of funding have been continuously identified as the major constraints to startups and businesses. This explains why more than 50% of businesses in Senegal identify funding access as a major constraint, giving it a score of 46.69 in Dakar, 28.23 in Saint-Louis, and 16.83 in Bambey. Ahmadou Seck, an entrepreneur and mobile developer, confirms how a lack of funding for his startup Insuris became a barrier to growth. Lack of funds caused his project to be delayed by several months, putting his startup journey on stand-by. Seck identified financial constraints and a lack of mentorship for startups as the main stumbling blocks. To him, the best way to overcome this obstacle is to submit several funding applications. He submitted applications to early-stage incubators and accelerators, such as Orange and DER, however due to the highly competitive landscape and the large number of applications, he has yet to access support.



Fatou Kamara is the lead of Innovation and Professional Placement of students at the Université Gaston Berger (UGB).

With the exception of Dakar and Ziguinchor, Senegalese cities score below average for *Startup Scene* (less than 27.37). With a growing number of hubs and spaces designed to help entrepreneurs to thrive, the scene is developing; however, it is not keeping pace with the sheer amount of entrepreneurial activities. Growth is expected to occur in the ecosystem with a mix of investment, innovation, patents, products and services. According to Forbes, Senegal has about 15 hubs (60). This is impressive within West Africa, however it still lags behind other countries such as Cote d'Ivoire, which has 22 hubs, or South Africa with over 78 hubs and a score of





26.15 on our SFI index for *Hubs*, while Dakar stands at 13.07. There is also a limited penetration of incubators and accelerators in the interior cities like Bambey and Ziguinchor. Besides the university incubator in Ziguinchor, none other exists. According to Coumba Diop, most startups, incubators and big companies are concentrated in Dakar, in turn making it difficult for a real ecosystem to develop in smaller cities.

Despite having many educational institutions, Senegal performs poorly in the *University Score* in our SFI, receiving a score of zero. No Senegalese university is listed in the global rankings. Joelle Sow adds that universities are strongly focused on theory, don't teach problem-solving skills and are more or less a copy of the French colonial university system. Sow insists, however, that "the trend in the future will see universities having a much bigger role in the ecosystem", not only as producers of human capital but as capacity builders, enabling incubator and accelerator programs for students at university levels.

Sow expanded on the importance of design thinking in schools in order for youth to have exposure to the entrepreneurial mindset at an early age.

Despite receiving a 0.00 in *University Score*, it's important to note that Senegal has managed to attract French foreign universities who have launched campuses in the country to provide quality education comparable to that received in France. Such examples include the Montpellier Business School and Kedge which are amongst the Top 20 French business schools.

Additionally, other instruments have been used by public and private institutes to boost tertiary education. Orange Senegal, a technology park in Dakar, has run startup training programs via its Orange Digital Center, which offers training programs free of charge. According to inputs from World University Rankings and the World Bank, very few students are registered in universities and tertiary institutions. As an example, in Dakar, which has a more developed ecosystem of universities and training

centers, only 19 students are enrolled in universities out of every 1,000 people. This is very low on the SFI as it reflects a 4.85 for *University Students* score. Fatou Kamara helps us understand this situation; "there are students who are being sent to Koranic schools and as a result don't go to the French-oriented schooling system and universities". The existence of Islamic cultural schools like Koranic schools are at times preferred by parents to "secular education". Joelle Sow also shares this view as she highlights the fact that Senegal has a low rate of literacy. A study from 2017, conducted by indexmundi, shows a national literacy rate of only 51%, with women making up just 31% of that figure(39). This lack of education is also reflected in the fact that more than 90% of all startups are owned by men.

Looking at the country's labor market, we encounter a better situation. Senegalese cities score above 70 in the labor market on the SFI. This can be explained by the fact that the government has put policies in place that enable the easy set up of a company. Additionally, less than 5%

The ecosystem is very favorable for women participation and emancipation, although “it would be great to have more brave women in the ecosystem”.



of Senegalese firms see labor regulations as a constraint to business, leading to an SFI score on *Labor Constraint* of 94.93 in Senegal, as a general example. Sow explains how government policies have fostered the creation of startups within the context of the 2019 Startup Act, which eased regulations and created a favorable framework for startups. However, she also explained that there is a general tendency for women to shy away from entrepreneurial duties. Sow thinks this may be a cultural phenomenon as women have responsibilities at home and some may not want to choose between their private life and taking responsibility in a startup business. She adds that the ecosystem is very favorable for women participation and emancipation, although “it would be great to have more brave women in the ecosystem”. In her ecosystem, out of 100 startups there are only about 2 or 3 female founders.

Infrastructure has continually been one of the main concerns for Senegal over recent years. This is reflected in SFI scores, with Senegalese cities receiving a score of 45.00 in the *Infrastructure* domain, which is below the

average global score. However, most countries in Sub-Saharan Africa find themselves in this range. Ghana for instance scores 41.14, while Kenya scores 45.83. Generally, this implies that infrastructure still very much needs to be developed and improved upon.

Other indicators such as *Internet Costs*, *Internet Access* and *Download/Upload Speed* come into play for the *ICT* subdomain of *Infrastructure*. In Senegal, we witness an inverse relationship with cost and quality. Normally with higher prices, you expect to receive the best quality. Well, exceptionally for Senegal, the mobile internet cost is very high (about \$68 /month) and the quality is very low. Internet access is actually a considerable cost for startups. Most cities in Senegal score between 27 and 34 on the SFI, which is below the global average ICT score of 42.95. Sow adds that “although considerable work has been done by the Senegalese government to improve circulation by the provision of roads that enable people to move faster between cities, there is still a lot to be done with regards to infrastructural development”. She added that the provision of investment in fiber internet

would be beneficial, especially to tech startups.

Besides ICT needs, pollution has been a major threat to the ecosystem and the entire economy. Most cities are getting more industrialized, and activities ranging from agriculture, energy, mining and refining, vehicle emissions, and waste burning are all major environmental hazards. Two major causes of the high levels of pollution in Senegal are typically identified. The first is related to natural pollution from wind and dust blown from the Sahara during the dry season (known as the harmattan winds or harmattan season). The second is the pollution from industry and fuel, especially in the context of a growing population where cars and buses frequent the road in increasing numbers. These hazards affect both businesses and startups but also have a negative impact on the population and human capital. Research has shown that the number of childhood asthma cases at one of the city’s biggest hospitals had recently jumped. It is estimated that a third of the population has some kind of lung ailment. In part due to these factors, the country’s SFI *Pollution* score is one of the lowest, 9.39.



*Ahmadou Seck is the
found of the startup
Insuris in Dakar.*

In the Macro-Political context, Senegal has enjoyed relative political stability since its independence in 1960. The country has never seen a coup-d'état or civil war, rare for the subregion. Despite being classified as a “hybrid regime” in the democracy index, the political stability gives SMEs and startups a conducive environment for expansion and also creates a favorable ecosystem for foreign investments. This is also reflected in the SFI score as Senegal has a *(Political) Stability* score of 61.94. Globally, only a few cities score above Senegalese cities,

for example Berlin (75.42) and Singapore (100). This is also the case for the democracy level, which stands at 62.73 in the SFI. Despite all the advantages enjoyed by SMEs in Senegal as a result of political stability, companies also have to navigate poor governance and high levels of bribery and corruption, which weigh down the total *Macro* score.

Recently, there have been some encouraging policies that have improved the legal framework. With the government initiative to ease the creation and legalization of startups, a government bureau, BCE (Bureau d'appui à la Création d'Entreprise, or “Bureau for the support and creation of businesses”) was developed. The BCE has helped decrease the waiting time for creating small businesses as well as startups. This bureau permits startups in Senegal to complete the registration process and officially create a business in six days. Only a few countries, like Singapore (2.5 days) and Bangkok (4.5 days) are as efficient with their setup, reflected in the SFI score for Dakar (98.03 for *Business Registration Time*).

“Although considerable work has been done by the Senegalese government to improve circulation by the provision of roads that enable people to move faster between cities, there is still a lot to be done with regards to infrastructural development”

Like most countries in the region, there is a heavy reliance on imports which puts pressure on local firms to compete with low global prices and creates a negative trade balance.



In the *Market* domain, Senegal performs poorly, with most cities averaging 20.00 on the *Market* SFI score. Despite the fact that the country is an important player in the UEMOA (West African Economic and Monetary Union) region, it fails to capitalize on trade openness. Like most countries in the region, there is a heavy reliance on imports which puts pressure on local firms to compete with low global prices and creates a negative trade balance. In the SFI, this translates to a score of 12.60, which is very low, even compared to a similar economy like Ghana, which stands at 42.10 (*Trade Balance*).

Additionally, the startup scene suffers from its scores in the *Market* domain. In particular, Senegal performs poorly on the *Logistic Performance Index* (just 13.33). The biggest downturn in their market score is the poor *Digital Market*, scoring just 14.33 (one of the lowest on a global level).

Due to a high percentage of informal businesses (especially those in smaller towns and in rural areas), there is no special necessity to open bank accounts. Our SFI shows that online shopping users stand at a mere 3% of the total population based on data from the World Bank on *Mobile Penetration*, thereby giving



them a score of 2.43. However, more regional sources show that that may not be the whole story. According to a recent study conducted by the country's Bureau for Telecommunications (ARTP), Senegal has a mobile penetration rate of more than 110% (57). Additionally, Sow corroborates this finding: "mobile penetration is easily above 100%. It's very rare to meet someone in Dakar who does not have a phone". Likely, sources such as DakarStartup have a much more realistic view of the situation. Sow adds that despite this advantage of Senegal transitioning towards mobile, online stores don't provide a lot of e-payment options like the local

According to *Le Quotidien*, only about 120,000 bank accounts exist for a population of 17 million people.

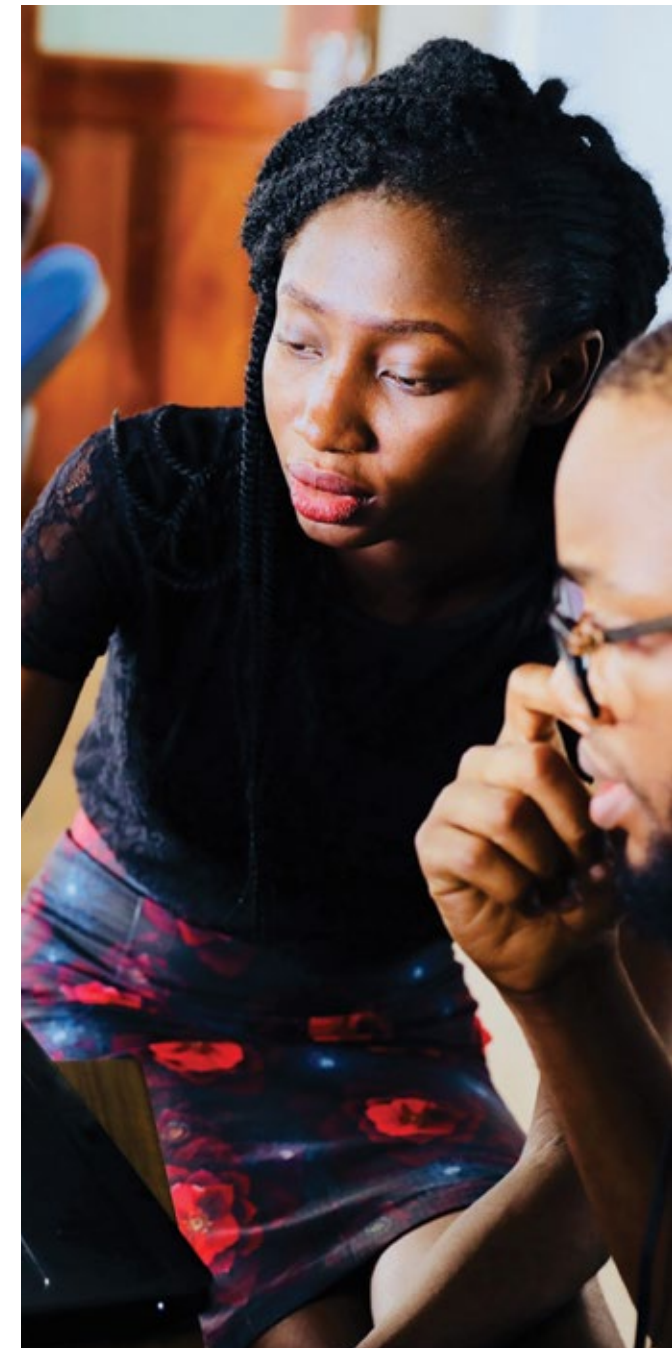
“Orange Money” (Orange Money, O.M. is the Orange group’s money transfer and mobile payment service, offered in most African countries). At this point it becomes difficult for users to buy online. The narrative is that startups have begun capitalizing on this opportunity and many FinTech startups are now proposing online payment services.

It is important to note that in Senegal, just like the rest of Sub-Saharan Africa, the number of people with bank accounts (financial inclusion) is very low. According to The Global Financial Inclusion Database, the rate of financial inclusion is about 42.3%, with a mobile money account rate of more than 20%. However local sources like SikaFinance estimate the real rate of access to banking and credit services to be about 20%. Although Senegal performs better than other countries in the region with a global index rate of 39.7%, it still has a lot to do in comparison with Eastern African countries like Kenya that reach a global index rate of 81% and a mobile money account rate of more than 72% (73). Also, according to *le quotidien* only about 120,000 bank accounts exist for a population of 17 million people (47). Digital payment facilitates financial transactions, as they could be done from mobile phones. E-payment and other electronic forms of payment like Orange Money, as well

as alternative e-payment models, could help to improve the financial inclusion of the general population and be a great way to promote e-commerce in Senegal’s move towards a digital economy.

Taking into account all the infrastructural challenges faced by entrepreneurs, the importance of startups to the economy, and the willingness to catalyze digitalization and innovation in the economy, the Senegalese government has drawn up a number of policies to make the ecosystem more competitive. The most popular policy action so far has been the Senegalese Startup Act of 2019. With the introduction of this Startup Act, Senegal became the second country in Africa, the first being Tunisia, to put these frameworks in place for the promotion of startups in the ecosystem.

To take a closer look at the government’s efforts to boost entrepreneurship in the economy, our next section, policies in motion, examines the most prominent pieces of legislation.



policies in motion

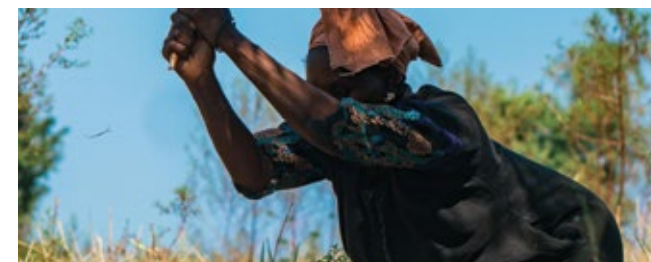
To encourage entrepreneurship, SMEs and startups, a mix of recent policies has served as a platform for growth in various sectors of the economy. Interestingly, both numerous government policies as well as international development agencies and other international funding organizations have had an impact. While some of these policies were directly targeting startup growth, others aimed for more women inclusion, empowering micro-financial institutions, upgrading skills, mentoring, as well as legal support.



Senegalese Startup Act (Création et promotion de la startup -loi 2020-01)

(Loi relative à la création et à la promotion de la Startup au Sénégal | Ministère de l'Économie Numérique et des Télécommunications (numerique.gouv.sn))

The legislation, a landmark of its kind for the continent, contains a number of frameworks that aim to promote innovation and entrepreneurship in the national economy in accordance with the Senegal emergence plan (Le Plan Senegal Emergent, PSE) and the “Digital Senegal 2025” strategy (Senegal Numérique 2025). Concretely, the Startup Act creates a specific support and framework for startups, as well as a suitable legal regime for the registration and labeling of Senegalese startups. It also creates a resource center dedicated to startups, and a package of incentive measures like low taxation for startups, access to mentorship, free training, and other growth measures.

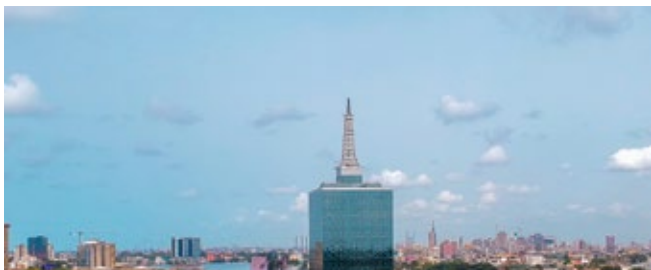


Creation of DER/FJ and BCE

The DER/FJ (La Délégation Générale à l'Entreprenariat Rapide des Femmes et des Jeunes), BCE (Bureau des Création d'entreprise or Bureau of Company Creation in English) and other state created organizations for startups, entrepreneurship, mentorship, funding, and women inclusion.

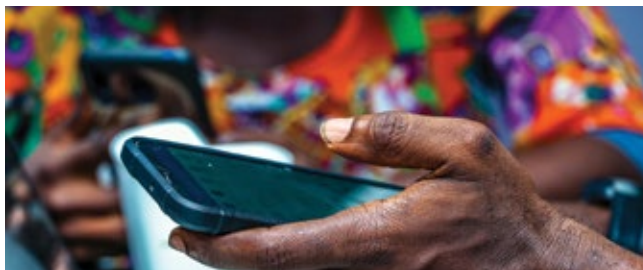
The DER/FJ is a fund of 30 billion FCFA (\$50 million USD) launched by the President of Senegal to catalyze entrepreneurship throughout the country (32). It targets both youth up to an age of 40 as well as all women 18 years and older. Additionally, the fund plays the role of an ecosystem builder. Not only a project funding source, the D-HUB is a program to build the ecosystem and boost entrepreneurship and innovation in Senegal (20) .

Initially announced in September 2017 and formally launched in April 2018, the fund offers several main types of entrepreneur financing and support, such as incubation funding and training programs for young entrepreneurs and women, and equity financing and low-interest loans.



BCE

This bureau is responsible for facilitating the creation and registration of startups and SMEs in Senegal. They cover enterprises from a varied number of sectors, ranging from tourism, agriculture, ICT, to fintech. They don't only limit their services to Senegalese entrepreneurs but also help facilitate the integration of foreign investors and entrepreneurs. Registration typically takes 1 to 2 days.



Promoting the competitiveness and growth of small and medium-sized enterprises and capacity development in the microfinance sector

Initiated by the GIZ (The German Agency for International Cooperation) and executed by the Ministry of Economics and Finance between 2006 to 2015, the project's key objective was to enable SMEs to become competitive and be able to operate in an environment that is conducive to growth through the availability of effective advisory services and an efficient microfinance sector.

The program has helped almost 3,500 SMEs improve their productivity and competitiveness. Furthermore, 38% of participating enterprises increased their turnover and 34% increased their profit (28)



Project for support to skills development and youth entrepreneurship in Growth sectors (PDCGEJ)

This policy was co-financed through a loan from the African Development Bank and the Senegalese government with the goal to promote growth and employment by improving the quality of the workforce, competitiveness of local businesses, and youth entrepreneurship in several growth sectors. The policy aims to foster the support of 250 local businesses and startups in energy (gas, solar, agribusiness), train more than 20,000 youths, of which at least 50% should be women in energy related fields/trades, provide skill training to more than 40,000 youths in their life project, facilitate the integration of 35,000 youths, and incubate more than 3000 youths and women - generating more than 700 startups and offering at least 1000 jobs (3).

Through the government's implementation of the above policies, there have been visible boosts to the startup scene, business registration period, financial support, youth and women entrepreneurship, and the general legal framework. Despite some general national efforts in policy implementation, it can be felt that some cities have a set of specific policies for specific needs. Dakar for instance has a better Startup Scene and Finance of 32.28 and 22.46 respectively, ranking higher than other cities like Saint-Louis for instance (28.25 and 17.85). This is due to a larger number of hubs, accelerators, and technoparks in Dakar than in any other city. Saint-Louis has focused on Human Capital and Utilities scoring 54.62 and 68.46 respectively. Thiès has implemented strong policies to strengthen its industrial hub and provide clean and efficient energy, scoring 97.22 on Electricity Outages specifically and 67.61 on Utilities.

On the other hand, foreign aid from international organizations like the African Development Bank and GIZ have focused on improving microfinance and empowering local youth and women entrepreneurs, local SMEs and startups with training, incubation programs and professional insertion.

While all these efforts continue to make an impact, the country could use some new policies to both reduce the level of pollution and improve its Human Capital, for example through educational reforms.

investment in senegalese startups

by João Castel-Branco

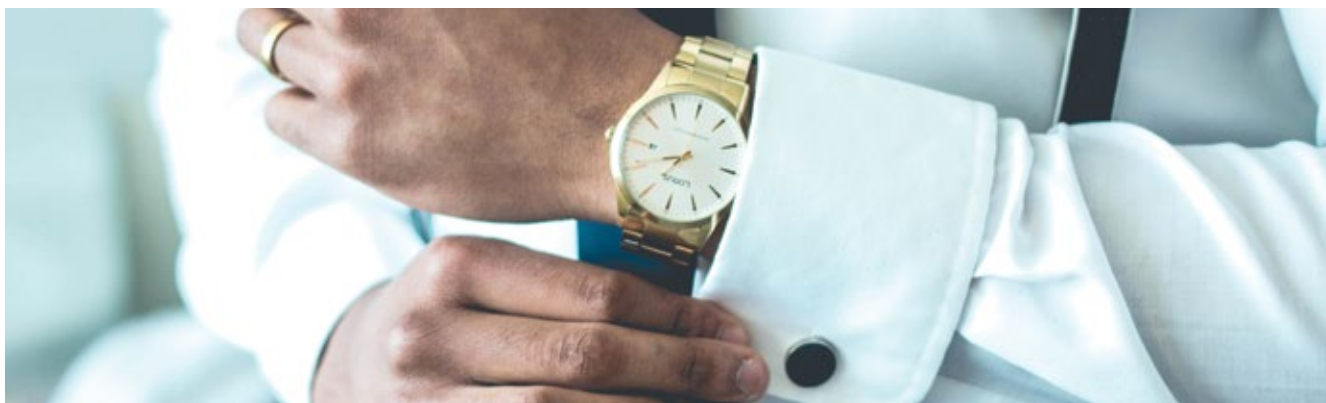
The Senegalese startup ecosystem is increasingly becoming attractive for investors. Similar to its neighbors and established African startup hubs such as Kenya or Egypt, Senegal has high levels of political stability and law enforcement. These features are crucial for long-term investment allocation decisions. The current Foreign Direct Investment (FDI) net inflow shows exactly that. Despite only having around 8% of the Nigerian population, Senegal's FDI net inflow is almost 40% of the Nigerian, indicating that Senegal is more attractive (relative to its size) than Nigeria. Per capita, compared to Egypt, Cameroon, Ghana, Nigeria and Kenya, Senegal ranks only behind Ghana. Of course, startups are vital for this performance. Among the group of Senegal's top 10 startups - Oolu, Paps, Mburu, Baobab+, PEG Africa, Talent2Africa, Wave Mobile Money, CAIF, ShopMeAway and Axxend — there are currently 26 listed investment rounds.

With the exception of Senegalese investors WIC Capital and Teranga Capital investing in Mburu and CAIF respectively, these rounds were almost exclusively led by foreign investors. The foreign investments stem mainly from the United States (8), France (7), and Mauritius (4).

They represent both a direct and indirect international influence regarding innovation and entrepreneurship. French international company Orange is one of the main institutions supporting entrepreneurship in Senegal. The company's Orange Digital Center, opened in October 2019 in Dakar, focuses on digital transformation, promotion of digital inclusion, innovation, entrepreneurship and to support the local digital ecosystem. Additionally, Orange has the role of an investor with Orange Ventures, which invests in tech companies in Africa and the Middle East. Despite no significant investments in Senegalese startups yet, the presence of Orange represents an opportunity for entrepreneurs.

Regarding government investments into entrepreneurship, the overall Senegalese situation is improving. In recent years, there has been a clear prioritization in stimulating the economy through innovation, education and as a result entrepreneurship.

Starting in the research and development sector, Senegal ranks above average compared to those countries mentioned above regarding the investment in percentage of Gross Domestic Product. Regarding education, Senegal



has still a slightly lower tertiary education enrollment than other countries, however, it is progressing at the highest pace. Not to be overlooked is the creation of Bambey University with its high quality infrastructure. This example shows that Senegal is investing in entrepreneurship, both directly and indirectly. These are types of investments that will produce results in the mid- to long-term but show an increase of priority in developing a highly skilled workforce.

But there is even more happening in Senegal. Created in early 2018, The Délégation de l'Entrepreneuriat Rapide (DER) has the goal of boosting the startup ecosystem and mitigating the lack of incubators and accelerators. In November of the same year, they launched their first batch. \$2 million USD were distributed to 40 businesses through various types of investments (equity, debt and convertible notes). Amounts ranging from 10k to 100k USD were invested into businesses across all economic sectors (health, e-commerce, FinTech, logistics, agri-food, etc). This first edition had such great results that DER affirmed to triple the budget for another round focused on the digital economy.

Additionally, there is a science hub park in construction to be completed in the beginning of 2023. It is located in Diamniadio (35 km from Dakar) and has spaces dedicated for both the public and private sectors including private companies, incubators, teaching and research centres and a Tier III data centre. It is an investment of 70 million euros, of which 61 million is financed by the African Development Bank and 9 million from the Government of Senegal.

Senegal still has a young ecosystem which explains why investments from local startup ecosystem players are still low. There are only a few high level investors and the network of active local investors is still small. While Dakar has some local investors such as the Dakar Network Angels and AFIG Funds, outside of Dakar an investment scene is almost non-existent.

Dakar further benefits from hosting some regional events like the AfricArena West Africa Summit. These events also host francophone Africa-focused investors and are a great opportunity for Senegalese startups to participate in workshops, compete in pitches, and attract investment. Such events are very important

because the benefits of an active startup scene can't be substituted by grants alone. Being surrounded by peers who have already gathered experience and who have built a network in the field provides a lot of value to an entrepreneur that is difficult to measure, but nonetheless vital.

It is therefore important that the startup scene will also spread to other regions of the country besides Dakar as that would benefit Senegalese entrepreneurs tremendously.

Senegal presents good conditions to attract foreign investment: the government is progressively prioritising higher skill production, is investing more in innovative businesses and the internal ecosystem is developing. The direct and indirect forms of investment show positive signs for the Senegalese startup ecosystem to develop and in the future contribute to tackling some of the Senegalese challenges.

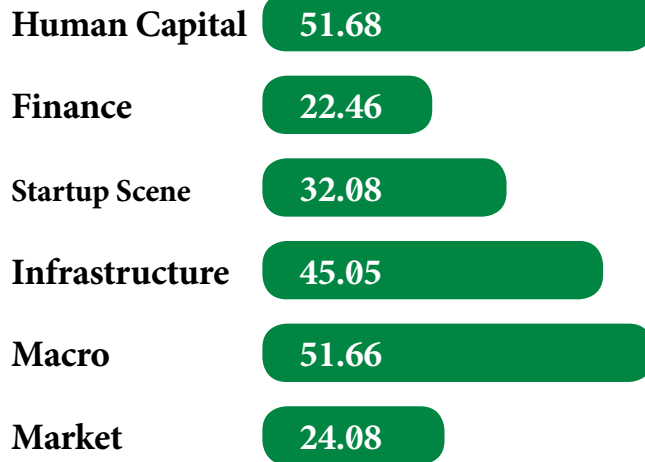
Dakar

QUICK FACTS:

Population: 3.8 million (largest in Senegal, 2020)

**Top industries: Industry and Manufacturing,
Construction and Materials, Tourism**

SFI SCORE : 35.75



To understand how to read the SFI, see page 14

By Tanyi Franç Martial



In our SFI, Dakar earns a score of 35.78 out of 100. While this score is slightly below the global average of 38.07, it is important to understand which factors determine this result as well as the measures Senegal is taking to improve its startup ecosystem.

“We have a country which adopts foreign culture and systems instead of putting forth a system which works better for us and that could be used as a blueprint for other countries in the sub-region.”– Joelle Sow

“The replica of the French educational system in Senegal is too theoretical”. – Joelle Sow

Reforming education for a better human capital development

An excellent example of Dakar’s subtle growth is its education system. While the SFI shows a score of 0 for Universities, a lack of educational institutions or universities in Dakar isn’t the reason. Our SFI tracks the number of universities in an ecosystem that are highly ranked according to the Times Higher Education World University Rankings. While none of Dakar’s universities make this list, the city is a regional hotspot for education, even a fiercely competitive one in the case of private universities. There have been several calls to reform Senegalese education into a more hands-on learning approach including a problem-solving focus. Joelle Sow, General Secretary at SenStartup backs this argument as she confirms that “the replica of the French educational system in Senegal is too theoretical”.

The good news is that participation in tertiary education has been on the rise. Shorter programs have been created via training schools like the Virtual University of Dakar which focuses on concise training programs in artificial intelligence. One successful participant was Ahmadou Seck, who completed practical courses for artificial intelligence and later on participated in various startup events with his startup project called Insuris. Seck pitched Insuris during the MEST Africa challenge in 2020 and was among the finalists.

Private companies such as Orange and other incubators also offer various training programs to entrepreneurs. The DER/FJ (Délégation

d’Entrepreneuriat Rapide pour les Femmes et les Jeunes) provides support, training and assistance to Senegalese youth and women entrepreneurs in order to empower them. By playing the role of an ecosystem builder, they set up a whole hub including coworking spaces, labs, event spaces, incubator, pre-acceleration, acceleration, and training through their renowned D’Hub 2021-2025 program.

Sow, for her part, tries to identify opportunities that should be capitalized on, as she, with SenStartup, has organized various training programs for startups within the ecosystem. SenStartup supports young companies by providing mentoring, networking, promotion and the organization of startup-related events. SenStartup was also one of the major lobbying forces that led to the enactment of the Startup Act in 2019. SenStartup is further known to have created a dedicated space for the growth of startups in the ecosystem, Villa SenStartup; a place that brings together content editors, digital marketing professionals, creatives, developers, startups, project leaders and investors.

With a 17.87 score on *Hubs* and an 11.80 score in the SFI index on Incubators, Dakar is one of the leading cities in Africa with existing hubs. This may seem low but putting into perspective the average score on global cities, Dakar ranks above the averages of 14.93 for *Hubs* and 9.47 for Incubators. One of the strong points of Dakar is the activeness of the local startup ecosystem. In the SFI, Dakar scores 32.08 in the *Startup Scene* domain which is superior to the global average of 23.92. This score is even more impressive when compared to other ecosystems



HUMAN CAPITAL

51.68



FINANCE

22.46



STARTUP SCENE

32.08



INFRASTRUCTURE

45.05



MACRO

51.66



MAREKT

24.08

in Africa, as those generally rank below 30 (except for Tunis at 33.33). This is due to the high number of startups, groups and clusters, networks and the number of equity-funded companies in Dakar. Comparing it to other cities in the region such as Accra, which scores 22.66 in the Startup Scene, signifies that Dakar is a big player. The next goal will be to improve further and compete within the entire African scene. Joelle Sow confirms: “efforts are currently being made by the DER/ FJ and other government agencies to empower tech startups to not only grow nationally but also compete on a bigger scale. This would enable the ecosystem to leave a blueprint of its own so that we could export our model to neighboring countries.”

In an effort to promote a ‘digital city’, an urban hub in which digital services are the main driving force for economic growth, the government has built a substantial number of technology parks within the Dakar ecosystem. It is no surprise that the city has the highest number of parks per inhabitant in Senegal. What’s more, the investment in technology parks and ICT is continual; as part of a national ICT strategy, a new technology park is currently built in Dakar as part of the ‘Digital City’ project. This has been one of the

main reasons for startup growth and expansion within the Dakar ecosystem. However, other smaller towns in the country don't receive the same support yet.

Foreign influence and the role of expats and the African diaspora is considerable in Dakar

Foreign influence is very visible in Dakar, however, it remains a two-sided blade. The country still struggles with its colonial heritage from France in terms of culture, education and also government. “We have a country which adopts foreign culture and systems instead of putting forth a system which works better for us and that could be used as a blueprint for other countries in the sub-region,” says Joelle Sow. However, on the plus side, a lot of foreign companies and investors are now contributing to the ecosystem.

Besides foreign influence, notable government activity relating to investments can be perceived, with the Senegalese SFI performance in grants funded at 1.71 (although relatively small, but existent). In Dakar, the telecom giant Orange supports the ecosystem with

tertiary training through its Orange Academy for free. Foreign incubators and accelerators equally support the ecosystem. Last but not least, expats and foreign-educated Senegalese who are coming back to contribute to the economic development and ecosystem of the country play an important role.

Moreover, the role of the diaspora who support their families back home with remittances, most of which are reinvested into small- and medium-sized businesses, should not be neglected. According to data from the World Bank, remittances accounted for more than 10% of the country's GDP, while FDI was only about 4% of the GDP scoring a 5 out of 100 on the SFI performance for FDI(72).

Policies towards boosting FDI and Tourism

Because of its “open visa” policy whereby visitors receive a visa in Senegal upon arrival (depending on their country of origin, visitors may not need a visa for up to 90 days), it is comparably easy to enter Senegal. Adding to that, Senegalese citizens are often connected



*Joelle Sow is the
General Secretary at
SenStartup.*

with others from within the sub-region, especially from neighboring countries like Gambia, Mali, Mauritania etc. All these factors contribute to foreigners from these countries being welcomed for business and vice-versa.

Joelle Sow also asserts that SenStartup has policies with government-based institute DER in Dakar to collect considerable and reliable data that may in turn be used by foreign investors who may consider investing in Dakar. Dakar is generally the first city for foreign investments as it has the highest concentration of foreign startups and SMEs in the country. It is no surprise that the country's FDI has considerably increased over the years. Sources from the World Bank show a massive increase from \$272 million USD in 2010 to \$983 million USD in 2019. The same source also shows an increase from 1% to 4% of FDI as part of the Senegalese GDP (72). This shows how important it is for foreign companies to settle in the country.

In addition to the country's foreign investment policies, Dakar also relies on tourism, as the industry generates 12,000 jobs directly and 18,000 jobs indirectly. 95% of business tourism and events in the country are concentrated in the city of Dakar (29). Senegal on a national level counts on tourism to stimulate growth and reduce poverty. Despite

highlights

highlight 1

Dakar is a growing startup hub in Africa

Dakar is gradually becoming a tech hub in the region. With government policies boosting the growth of startups, incubators and other investment funds, Dakar's tech scene is noticeably growing. The goal is to create 35,000 new jobs in tech by 2025 (25).

highlight 2

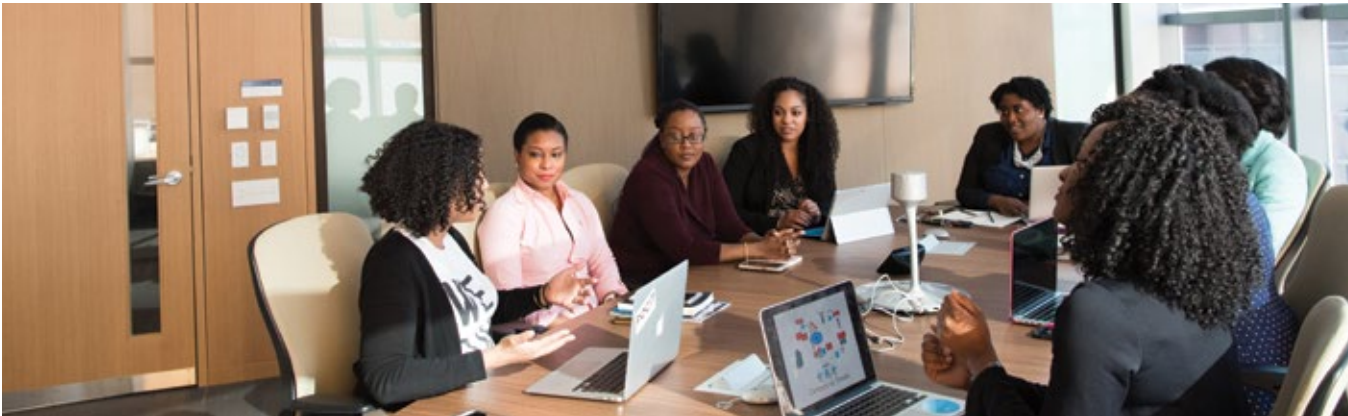
Migrant acceptance policy coupled with attracting FDI contributes to local growth

Senegal's favorable immigration policies have boosted foreign investment and foreign inflow resulting in a positive impact on Dakar's ecosystem. Dakar scores 88 out of 100 with respect to migrant acceptance, with survey respondents showing a score of 7.17 out of 9 in acceptance.

highlight 3

Rapid procedures for startup registration and ecosystem restructuring

The Senegalese Startup Act has facilitated a speedy *Business Registration* process for startups. As seen in our SFI, startups can register their business completely within just 6 days, giving Dakar a score of 98 out of 100. Dakar's strong ecosystem setup and structure benefits entrepreneurs within the system as shown in their *Startup Scene* score of 32.08.



the effects of the pandemic, tourism still plays a role as a driving force of economic development with the three most important economic features of generation of income, employment and foreign exchange earnings.

Dakar is growing as a startup scene

Dakar's strength stems primarily from its growing *Startup Scene*, where it scores 32.08 out of 100. Dakar has been home to an increasing number of coworking spaces and technology parks. Important for Dakar as well as the other cities in Senegal is the continuous government effort to maintain economic and political stability within the country. This contributes to a *Macro* score of 51.66 thanks to political stability and fast registration processes for startups. Adding to that, Dakar's strategic position as a future giant startup hub in francophone Africa is a favorable position for the growing startup ecosystem. Finally, and not to be overlooked, Dakar is a very entrepreneurial city; it ranks highly in *Entrepreneurial Culture* with a score of 78 out of 100, showing that would-be entrepreneurs are not shy to take up the task.

However, there are some genuine setbacks in this ecosystem, and just as seen above, finance is one of the perennial obstacles. One of the ways for startups to get financed is through calls for applications for long-term or short-term projects. These projects may require startup inventions and input. Banks may need startups for system/software upgrades or to modernize their business activities and services. It is very common that banks work with fintechs to get this output. Of course, only very few startups are selected in these projects as Ahmadou Seck highlights the fact that “during calls for applications just a few startups are actually selected as there are too many startups who apply for these offers”. Ahmadou Seck also proposes that “as a startup, you need to apply to multiple offers at the same time before you can finally get an offer”.

A highlight of the startup scene is the collaboration between the government and the private sector to empower startups. Ahmadou Seck confirms that “the government often collaborates with bankers in order to connect them with startups”. Furthermore, while there has been a boom of public investment and participation,

our index shows there is room for improvement in governance and infrastructure, as well as increasing trade and presence on the world stage.

During calls for applications just a few startups are actually selected as there are too many startups who apply for these offers.

highlight 4

Access to finance remains the ultimate problem

According to the World Bank, 49% of businesses in Senegal identify funding as the ultimate constraint for their business. Dakar scores a 47 on *Financial Constraint*. The city is not known for its VC Culture as there are only a limited number of investors. Therefore, Dakar closes in on the VC and PE score with just a 1 out of 100. This can be partially attributed to cultural reasons as the same is true for several other French-speaking African countries.

highlight 5

High concentration of big companies

Dakar has a higher concentration of foreign companies and a better diversity of start-ups than other cities in Senegal. It is the standard for the branches of most institutions to be based there. This could explain why Dakar is home to 50% of Senegal's urban population, has 80% of all Senegalese registered firms, and contributes 65% of the country's GDP (56).



how francophone african countries rely on university incubators in comparison to anglophone african countries

By Tanyi Franç Martial

One of the major indicators of a strong startup ecosystem is the number of incubators. They are important because they help startups and entrepreneurs to develop their businesses by providing them with a full range of services including financing, training and capacity building, and office spaces. Mostly initiated by for-profit venture capital investors, entrepreneur/tech philanthropists, successful businessmen, and sometimes government programs, we also witness an increasing number of incubators which are part of university entrepreneurship programs. These university incubators (*incubateurs de l'éducation supérieure*) support registered university students who are potential entrepreneurs. These students benefit from training in product design and design thinking, elementary programming classes, entrepreneurship training and leadership development, personal development, website design — in short, a wide range of skills and classes, which might not be available in a regular incubator.

University incubators train potential startup founders when they are still in the ideation stage. Of course, these incubators also help in refining students' ideas, provide mentorship, assist in startup registration at no cost (patents or licenses), as well as offer funding support, promotion, hackathons, and the opportunity to connect with like-minded people.

It is, therefore, no surprise that university incubators are gaining ground and are developing into an active part of the wider African startup scene. At times, they even sponsor other incubators within the ecosystem as a part of their community development goals.

Looking at Africa as a whole, we observe that English-speaking African countries rank the highest regarding the number of incubators on the SFI. Good examples are Cape Town and Johannesburg, scoring 23.97 and 34.94 respectively. However, there is often an inverse correlation with respect to the entrepreneurial culture in the city. In the current context, African universities play a major role in the development of startups as they



act as ecosystem builders. Some general differences exist between English-speaking university incubators and French-speaking universities. Incubators in English-speaking countries like the Stellenbosch University's incubator "LaunchLab" (South Africa) and CD4Lab incubator at the University of Nairobi (Kenya) support their local startup ecosystems by producing research, knowledge and talents that are influenced by the needs of society. However, compared to French-African countries, the entrepreneurial culture is rarely achieving a high ranking in these countries. A great illustration of this can be seen in the SFI domain comparison between South African cities and Senegalese cities. While South Africa has an Entrepreneurial Culture SFI score of 43.66, Senegal scores 78.31. This results in a significantly lower enrollment in these South African incubators, compared to incubators at Senegalese universities. At the same time, the government creates supplementary incubators that have the status of both university and state-sponsored incubators that will meet the needs of young entrepreneurs.

As mentioned before, French-speaking African countries mostly adopted the French university system. This results in francophone African countries relying more

on university incubators than their English-speaking counterparts. The French education system is filled with state universities, private tertiary institutions and business schools which have a particular reputation for business and entrepreneurship. These business schools like HEC, EMlyon, Montpellier Business School, and Kedge are not only ranked among the best in the world but also have renowned incubator programs. Unsurprisingly, business school incubators have also been initiated in most French-speaking African countries, as is the case in Senegal, Cote D'ivoire and Cameroon. Taking bilingual Cameroon as a case study, we see that at the two state English-speaking universities (University of Buea & University of Bamenda) there are no incubators and a very limited focus towards entrepreneurship. However, at the French-speaking university of ENS Yaoundé (extension of the University of Yaoundé) there is an incubator called "The Technipole Sup Valor".

Despite these fundamental differences, we should not underestimate the number of university incubators that exist in English-speaking countries. However, from our observation, they are relatively new and blend into the already existing startup hubs.

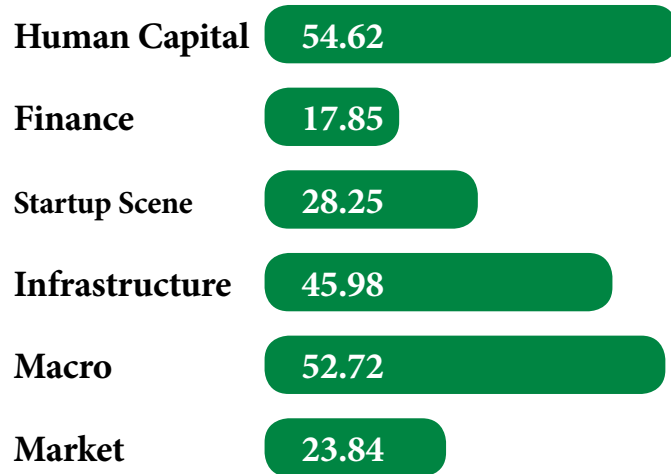
Saint-Louis

QUICK FACTS:

Population: 1,124,454 (2020)

Top industry: Cultural Heritage, Tourism, Agriculture, Fishing

SFI SCORE : 34.17



To understand how to read the SFI, see page 14

By Tanyi Franç Martial



Saint-Louis is a very important city for Senegal — not just because of the growing pace of entrepreneurship or startups developing in the area, but especially because of its cultural heritage. Sometimes called the Venice of Africa, the *Île de Saint-Louis* has been a UNESCO World Heritage Site since 2000.

The role of universities is to promote skill acquisition as well as personal development, leadership skills, and other skills that allow young people to integrate easily into the ecosystem.— Fatou Kamara



Fatou Kamara is the Head of Innovation and Professional Insertion of Students at the Université Gaston Berger (UGB).

Saint-Louis' economic activities are largely dominated by primary sector production including fishing, agriculture and agribusiness. Saint-Louis scores 34.17 on the SFI, slightly lower than Dakar, which can be attributed to various factors. The significantly higher human capital pool and the fact that, as an agri-hub, Saint-Louis has a lower concentration of companies as well as a limited number of tech-inclined startups results in a score of 0.3 on the SFI for *Startups*. *Sources* of finance are even more scarce in the city as it scores the lowest for *Finance* compared to other Senegalese cities (17.85). However, the ecosystem can be commended for having a strong coworking culture as it tops the list for the availability of *Coworking Spaces* in the country scoring 25 on the SFI.

The growing importance of microfinance institutions (MFIs)

A lack of funding is one of the major constraints in this ecosystem as seen on the SFI (*Funding Constraint* 28.23) with more than 66% of businesses in Saint-Louis identifying the problem. This constraint is persistent because of the difficulty in getting loans from banks. Even when they are available, they generally come at high interest rates. For that reason, cooperatives and micro-financial institutions, as well as Islamic financial institutions are beginning to be more important in the ecosystem, as they are geared towards startups and SMEs. These institutions are developing into a major source of capital access. This can clearly be seen in the SFI performance for Finance with Saint-Louis scoring 32 for *SME Loan Access*.

On a macro level, MFIs are comparably easy to set up as they benefit from several funding options and other advantages like tax reductions when compared to higher institutions. According to the IMF, 234 MFIs exist in Senegal, a growth trend witnessed throughout developing countries (38). A comparison can be drawn to Indonesia, where according to the International Food Policy Research Institute about 688 MFIs operate (46). This implies that MFIs can be one solution for funding startups.

A comparison of Startup Micro-financing in developing countries and developed countries

On a more global level, we observe that MFI offerings to startups in developed countries are different in comparison to Sub-Saharan African countries. We note a specialized type of financial offering growing into a fin-hub. Singapore for instance, the highest ranked country on the SFI, has about 850 capital market service licensees, and 191 insurance companies. The city state has established itself as a financial services hub in Asia (62). The scene is even more interesting in Berlin where there is a thriving and well-developed FinTech hub, with a blend of world-renowned startups spanning areas like finance, cryptocurrencies, insurtech, lending and savings. According to an Ernst and Young report, there are more than 2,500 active startups in Berlin that raised a total of \$4.5bn in venture capital funding in 2019 (17).



HUMAN CAPITAL

54.62



FINANCE

17.85



STARTUP SCENE

28.25



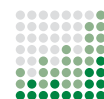
INFRASTRUCTURE

45.98



MACRO

52.72



MARKET

23.84

The role of universities in keeping young talents

Having the highest score for *Human Capital* performance in Senegal with 54.62 (compared to the biggest city Dakar scoring 51.68), Saint-Louis benefits from bright and skilled minds. However, with a limited *Workforce Constraint* scoring 92.09 and a qualitative skilled workforce scoring 94.55 (Skilled Workers), there may be an exodus of high-skill workers to bigger cities like Dakar or even abroad. Our findings suggest that some youths may be forced to leave, especially when they face unemployment or don't have the training that is needed in the area.

Fatou Kamara insists that Saint-Louis is not only a tourist destination, but also a very "cultural and agriculture driven town". As a matter of fact, in her scope of work, Fatou has identified more than 200 companies in Saint-Louis while mapping out the ecosystem, which are all linked to agriculture, tourism and a few on internet and communication. With a lack of opportunities, labor could move to other areas such as Dakar where employees can expect higher average salaries (\$553.80 in Dakar compared to \$254.31 in Saint-Louis).

The startup ecosystem of Saint-Louis is characterized by more job demand than job availability. Fatou gives an example: "some companies within the ecosystem posted a job vacancy and within the space of 24 hours, they had 1000 applicants". It also looks like a good number of companies may not have the financial resources to hire new employees despite the fact that they need labor. Fatou refers to this as "silent request" as she explains "a young entrepreneur may not have the financial backing to employ new labor, although he or she needs it. As a result, we often find entrepreneurs having multiple

roles at the same time". In this regard, Fatou thinks the university has a role to play in supporting young entrepreneurs. She says that "the university's role is to enable the acquisition of skills like personal development, leadership and other skills that will enable young people to integrate themselves easily into the ecosystem". This will help keep young talent in the country so they can develop their communities rather than going to bigger cities or even abroad.

The university is not alone in its struggle to keep the local youth in the ecosystem. To help, the government has initiated funding for startups and SMEs who can't afford to hire employees. The government in turn pays these additional workers when hired. Fatou also describes the central role of the university in this initiative: "the university incubator has been assigned to make a mapping of all youth skills and match them to those of businesses in need of these profiles". This will be a great opportunity for young students to gather knowledge and experience.

A young entrepreneur may not have the financial backing to employ new labor, although he or she needs it. As a result, we often find entrepreneurs having multiple roles at the same time. – Fatou Kamara

highlights

highlight 1

Great human capital pool

With a score of 54.62, Saint-Louis ranks strongly on *Human Capital* in comparison to other cities in the country (Dakar, 51.68) which can be attributed to the high number of students in the city. Saint-Louis boasts 71 students per thousand people creating a big talent pool (*Talentpool* score of 37.55, in comparison to 28.44 in Dakar). Graduates from Saint-Louis university result in a *Skilled Labor* score of 94.55 on the SFI.

highlight 2

Limited number of women in the ecosystem

Women, although playing an important role in agriculture and farming, are mostly absent from the startup ecosystem in Saint-Louis. As corroborated by Fatou, women are very active in the business set up, but mostly at the production level. As a result, the number of female business owners in Saint-Louis is the lowest in Senegal, as clearly indicated in the SFI performance with 13.70 in *Women Entrepreneurs*.



highlight 3

Relatively strong coworking culture

As identified earlier, Saint-Louis' coworking culture is strong and one of the highlights of the ecosystem. Not only is it readily accessible but it is also very affordable. Our data shows the cost of only \$47.9 per month resulting in a score 87 on the SFI for Coworking Cost (compared to Dakar with a cost of \$138 reaching a score of 58). All in all, Saint-Louis scores 25 on the SFI for Coworking Spaces. A reason for this strong culture can be attributed to the efforts of ecosystem builders and developers like Jakkolabs and Bantalounge.

highlight 4

Reduced living costs, affordable living standards and reduced costs for entrepreneurs

Compared to Dakar, Saint-Louis has affordable living conditions which constitutes an advantage not just for investors and businesses, but also for households. The quality of *Utilities* like water are very high, scoring 100 on the SFI. Equally, the global *Cost of Living* ranks at 94, the highest score among the studied Senegalese cities.

highlight 5

Strategic position as a blueprint for growth

Due to Saint-Louis' status as a UNESCO World Heritage Site, the government has focused on having state institutions present in the city to help boost the ecosystem. Institutions like *la Chambre de commerce de Saint-Louis* (the Saint-Louis Chamber of Commerce), DER, FONJEP (*Fonds de Coopération de la Jeunesse et de L'Education populaire* or People's Education and Youth Cooperative Fund in English) are all present in Saint-Louis. It is, therefore, no surprise that Saint-Louis has the highest Macro performance on the SFI in Senegal at 52.72.

Ziguinchor

QUICK FACTS:

Population: 337,000 (2011)

Top industry: Agriculture, Local trade

SFI SCORE : 34.90

Human Capital 52.22

Finance 19.18

Startup Scene 34.44

Infrastructure 44.41

Macro 51.62

Market 22.86

To understand how to read the SFI, see page 14

By Tanyi Franç Martial



As a city with a large number of companies in the agribusiness industry, Ziguinchor is playing an important role in Senegal due to its contributions to agriculture and horticulture. Most of the entrepreneurs in this ecosystem are deeply involved in the production of nuts, vegetables, and fruits.

With a dominant economic activity geared towards primary resources, Ziguinchor has been recognized as a strong agri-hub in Senegal.



Ziguinchor scores 34.90 on the global SFI index. This ecosystem capitalizes on its relatively strong agri-sector performance, including innovation and women empowerment in agriculture rather than on tech startups. The city also benefits from its strategic position as it finds itself close to Gambia, Guinea-Bissau and Guinea-Conakry. This lends numerous advantages to the local farming entrepreneurs who export some of their goods to neighboring countries.

The agribusiness industry in Ziguinchor

With a dominant economic activity geared towards primary resources, Ziguinchor has been recognized as a strong agri-hub in Senegal. Local players have started building up the startup scene with specific institutions that help agriculture-inclined startups to grow in terms of funding and development.

The city also lies in a very strategic position as it is a border town to neighboring Guinea. With upcoming projects like a new fishing port, there is a strong incentive to drive economic growth in the region considering other trading and export opportunities in the context of regional integration. Upon completion of the ongoing projects, the SFI scores on the Infrastructure domain is projected to increase from its current level of 44.41.

Despite the low participation of women as seen by the SFI indicator score of 37.16, current trends show an increase in women-owned businesses. For example, a Maurice Dasylva study in 2019 shows that women make up about 62% of urban herders (43). This may be a great opportunity for women to start owning businesses, although it may still be at a subsistence level.

Research shows that the agribusiness industry in Ziguinchor faces 3 major threats (43)



HUMAN CAPITAL

52.22



FINANCE

19.18



STARTUP SCENE

34.44



INFRASTRUCTURE

44.41



MACRO

51.62



MARKET

22.86

1. *Conflicts between farmers and breeders.* At times, animals stumble upon cash crops and cause destruction. This creates losses for farmers and subsequently conflict between farmers and breeders. This is very common due to the lack of dedicated space for grazing livestock.
 2. The second conflict is tied to the first one — *land insecurity*. Since most breeders don't have a designated space, it is common for some of them to live nomadically, moving from place to place in order to feed their herds. Consequently, livestock can become a nuisance to automobile traffic, incite accidents, and create offputting odors.
 3. The final challenge is the presence of pests *which directly affects the production output of cash crops*. According to a study by Maurice Dasylyva in 2019, around 42% of goats, poultry and pigs suffer from recurring epidemics (43). This is often attributed to ill-equipped farmers, which facilitates the proliferation of diseases like swine flu.
- The recent development projects, economic growth, and strategic position can be seen as an opportunity for agri-producers to invest and expand their business to neighboring countries.

highlights

highlight 1

Proximity to foreign markets

Ziguinchor is located near several neighboring countries in the region. Despite its low SFI score on Trade Connectedness of 7.97, the city has a very strategic position that makes it an important hub in terms of commerce and trade with foreign markets.

highlight 2

Very active startup scene within the ecosystem

The ecosystem of Ziguinchor has a score of 25 in the Hubs categories due to the many incubators that exist on the local level, especially for entrepreneurs in the field of agriculture. Additionally, there are several institutions that allow SMEs and institutes (public or private) to exchange thoughts and ideas such as the chamber of commerce for industry and agriculture of Ziguinchor.





highlight 3

Limited funding sources for SMEs

The ecosystem is equally in need of financing, especially regarding small- and medium-sized enterprises. Just like in most of the country, it remains very difficult for entrepreneurs to get financed in Ziguinchor where the SFI score for Finance is 19.18.

highlight 4

Inter-connected city

Ziguinchor is a highly connected city as it is not only a border town and pathway between countries in the sub-region (Gambia, Guinea, etc.) but it is also a transit point to move from city to city. This is clearly visible on the SFI as it performs better than land-locked cities such as Bambey bearing a score of 7.97 (6 for Bambey) in our subdomain of Connectedness, a measure of trade openness, tourism, and logistic performance.

can startups lead Senegal out of informality?

*By Heather
Dannyle
Thompson*

The definition of informal work is straightforward: economic activity that is not tracked or registered by a government and thus exists outside of tax and regulation practices. Typically, we think of manual or domestic labor, taxi driving or street vendors as informal workers.

In the context of understanding informal economic work and how to overcome it, it is important to keep its intricacies and benefits as well as its drawbacks in mind. It is tempting to think of informal work as antiquated or even criminal but it is neither. For most of the world, informal work is an opportunity for paid work when formal work is unavailable. Care work, largely informal for nearly the entire globe, powers economies but is almost always discounted. All global economies have a sizable amount of informality, albeit with significant disparities not only by region or country, but indeed within countries amongst persons with differing backgrounds (gender or sexual identity, race or ethnicity, migration status, age, or income status) (45).

Nonetheless, the extent to which informality remains an obstacle to economic development in emerging economies is clear. Far from lacking a labor force, Sub-Saharan Africa has the highest average rate of labor force participation at 70.9 percent, above the global average of 63.5 percent. Estimates of non-agricultural informal work in the continent place the regional average at 66% of total employment. In countries where sex-desegregated data exists, a clear gap between men and women exist, with women having an informal rate of 74% compared with 61% for men, likely not accounting entirely for the extent of child and home care they undertake. For youth in the region, the extent of informality is also startling: nearly 8 in 10 fall under informal employment (37).

While Senegal offers many regional advantages in terms of stability and economic growth, it is still

"It is tempting to think of informal work as antiquated or even criminal but it is neither. For most of the world, informal work is an opportunity for paid work when formal work is unavailable".

struggling with the informality of its economy. The demand for work is out of step with the supply — the rate of demand is twice that of the supply and young people make up half of the population. According to a 2018 ILO report, 97% of enterprises in Senegal are informal (27).

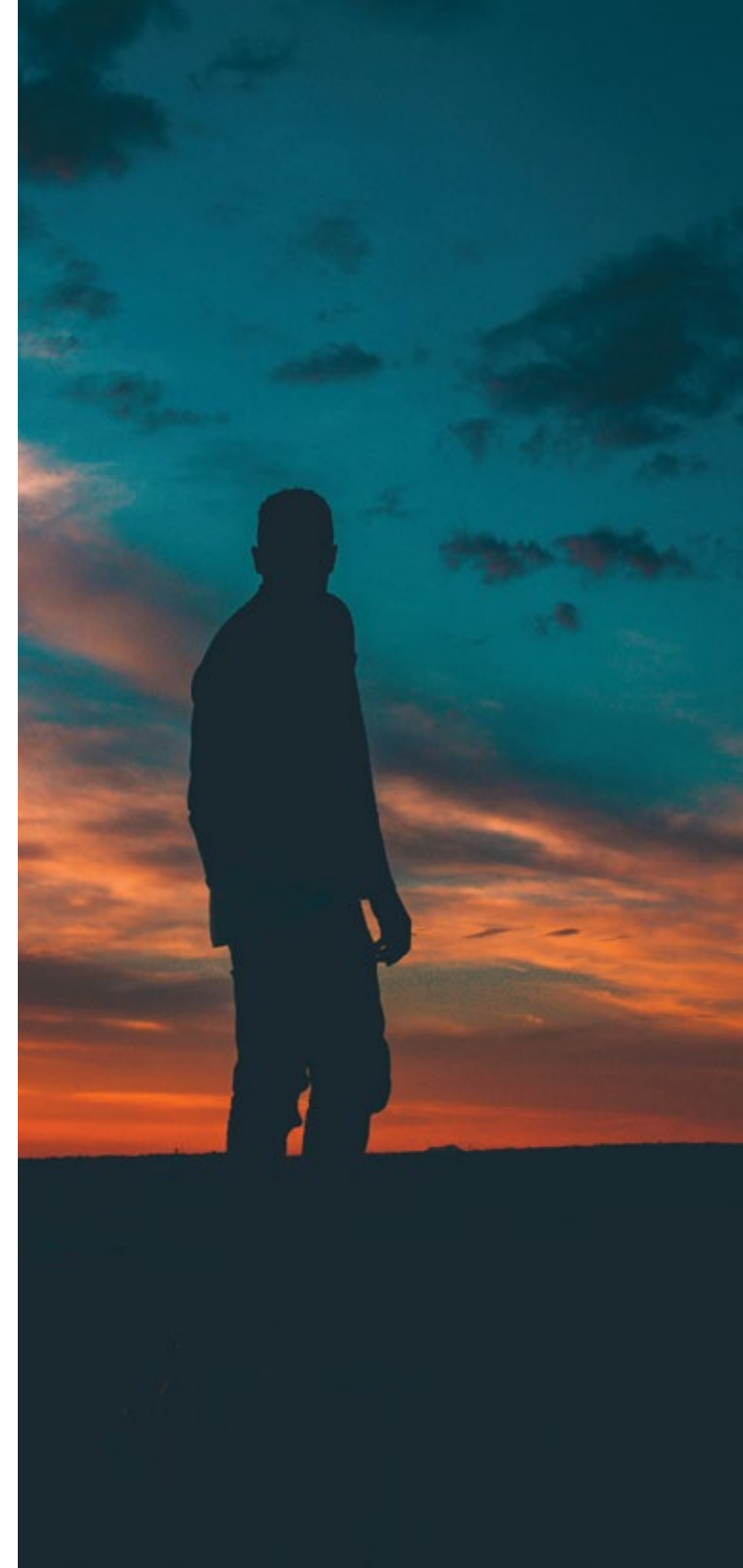
Besides the obvious drawbacks of a rampant informal economy such as a lack of legal protection for workers or social protections in the absence of pension, unemployment, healthcare, etc., informality also weakens the ability to govern and develop. Without formal businesses to add to the tax base, there is a significantly lower amount of resources to combat recessions, greater risk of poverty, less development, and weaker investment (61, 71). In particular, informality can put off investors to invest in startups and SMEs in the region with formal structures. These disadvantages can also make governments and economies less resilient to crises, of which the COVID-19 pandemic is certainly an apt example.

Economists agree that there is no one-size fits all solution for large informal economies. To address it,

holistic methods have to be sustained over decades to reduce inequalities and informality through the 'market' (71). Improvements to education, access to the judicial system, updates to fiscal policy, and innovations in the labor market are all necessary to target informality. The heft of the work is one reason that informality remains an enduring challenge.

But not all is lost and surprising innovations can kick-start the journey to a more formalized economy. A great regional example of targeted public policy to address informality comes from Morocco. Beginning in 1988, Morocco started targeting informality in its economy. From hovering around 40% initially, by 2018 the country reduced the level of informality to less than 30% of the economy (13, 23). Experts conclude that an array of economic, financial, and institutional reforms in place since the early 2000s are responsible for the drop.

These changes include policies aimed to foster entrepreneurship in the country. The 2015 Law No. 114-13's primary purpose was to combat unemployment in Morocco by encouraging entrepreneurship (13). The law



made registration as an entrepreneur a one-step process, allowed work from home, included a free dissolution process, and a generous tax rate. Many advocates believe that these types of policies can do a lot to encourage businesses to formalize and give a greater visibility to the benefits of owning your own business.

While an important part of the solution, however, we cannot rely on public policy alone to address informality. Startups themselves can directly combat informality by bringing more people into the formal economy. FinTech businesses in Jakarta, for example, are bringing more of Indonesia's massive, and largely financially unincluded population into formal banking by making it easier to send money digitally even without a formal bank account. Other startups target informality more directly. One great example from Pakistan is H&O Services, a startup that literally operates by doing the hard, grass-roots work of finding locals who work informally in small towns and positively approach them to register for their online service. H&O Services is a head-hunting platform that serves as a win-win-win for workers, employers, and the state. The startup relies on cultural structures to find and attract laborers by calling on village chieftains to help in recruitment and add legitimacy to their efforts. Prospective employees are interviewed and given a profile, including video interviews. They are also informed about the benefits of entering the formal market such as state benefits including pensions and health insurance (31). Employers benefit from a readily available database of talent with verified skills. And, of course, the state benefits from bringing citizens into the formal economy. Clearly, there is a lot of space for startups to move in and aid their states in the work of developing the economy. Senegal is no different. Like many other economies in its position, its youth rely on informal work as a source of employment. This, plus the current rise of startups

means that the time is ripe for partnerships between the government and the private sector to bring more Senegalese citizens into the formal economy to jointly profit from an improved health and wealth.

"While an important part of the solution, however, we cannot rely on public policy alone to address informality. Startups themselves can directly combat informality by bringing more people into the formal economy".



comparing Thiès and Bambey

By Tanyi Franç Martial

QUICK FACTS:

Population: 2,213,000 (Thiès) (2020)
and 299,000 (Bambey) (2011)

Top Industries: Industry and Agriculture,
Transportation, Textiles

When I see that there is finally an incubator, built, operational, and ready to run, then my work is done here.

In the following article we will do a point-by-point comparison of two cities in Senegal: Thiès and Bambey. We chose to highlight these cities because, in spite of their nascent startup growth prospects, they have a considerable industrial and agricultural sector.

While having a good reputation as an innovative agricultural and horticultural hub, Thiès is a small town with a limited number of startups. Thiès scores 33.16 on the SFI, mainly due to its poor *Human Capital* performance ranking at 49.71, poor *Talentpool* at 20.96, mediocre *Finance* set up at 23.92 and poor *Market Index* at 20.62. It is worth mentioning that Thiès performs the worst among all Senegalese cities based on our global SFI index, however, it performs relatively well compared to other cities in the MENA region.

Nonetheless, Thiès is an important town in Senegal. It is known as an industrial hub and transportation hub, for its massive livestock and local tapestry, and also as a dissident town and a city that spearheaded the pre-independence labor movement that helped shape the current day Senegalese labor unions.

Bambey is a small town that despite only being a fraction of Thiès' size shares many characteristics with the larger city. Bambey's higher score of 33 on the SFI can be attributed to a better *Human Capital* at 52, a better qualified *Talentpool* scoring 28 and a higher number of university students per inhabitant at 32 per thousand.

THIÈS	INDICATOR	BAMBEY
20.77	FINANCE	16.73
49.42	Seed and Pre-Seed Funding	0.00
49.71	Human Capital	52.38
90.45	Workforce Constraint	88.44
14.73	Skilled Workers	56.55
0.00	Skilled Workers	8.27
26.48	STARTUP SCENE	26.10
4.51	Coworking Space	0.00
0.02	Total startups	0.00
46.04	INFRASTRUCTURE	46.35
97.22	Electrical Outages	93.05
2.45	Internet Speed upload	5.59
51.18	MACRO	50.23
85.15	Crime as a Constraint	82.04
16.92	Informality as a Constraint	36.48
100	Bribery Depth	91.39
20.62	MARKET	22.28
68.70	Gini Index	65.80
30.02	Capacity Utilization	70.01
5.00	Sister Cities	0.00

Thiès' emergence as an energy hub for Senegal

With a massive rural exodus and "uncontrolled urbanization" in Dakar, the country's capital witnessed a saturation that acted as a hindrance to its growth and development in recent years. With that in mind, the local government has been trying to improve the living conditions of its 3 million inhabitants and contain its demographic growth. The ultimate strategy used in achieving this was to relocate both people and economic activities to the nearby city of Thiès.

As such, the city became attractive for executives wishing to resettle, those who wanted another place to retire and even private companies who wished to relocate or open new plants and offices. Within a few years, Thiès grew from a population of 283,000 in 2006 to one million in 2020 (8).

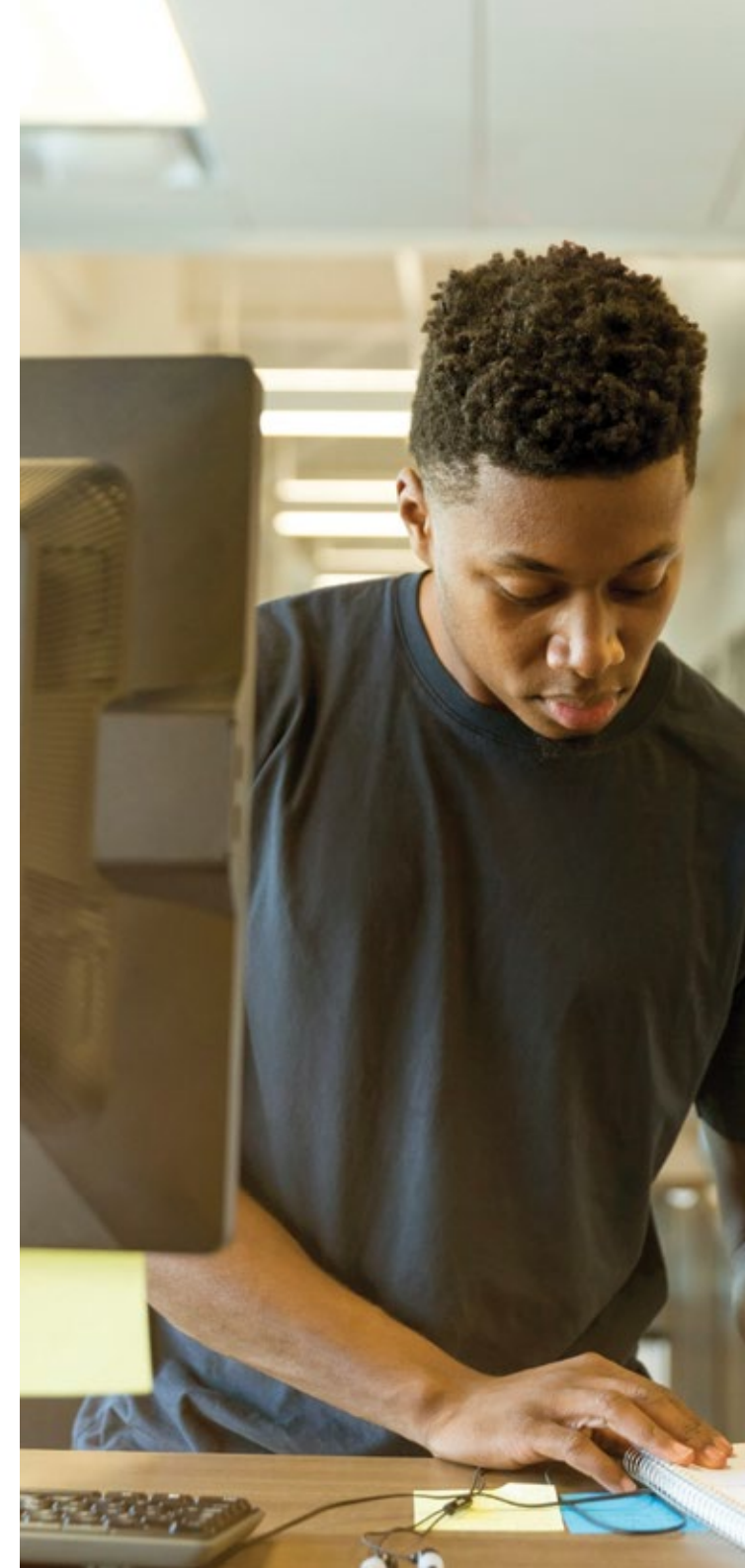
With this rapid rate of urbanization, Thiès developed into the most important industrial hub of the country. A diverse number of industries have moved to Thiès, including mining, the cement industry, farming, energy, and others. Major international corporations have also settled in Thiès. A good example is Nigerian company Dangote, which relocated to Thiès in 2014, and is one of Africa's biggest producers of cement.

More importantly, there is a growing renewable energy hub. According to APA News, of the 9 power plants (solar and wind) that supply energy to the country, 6 of them are located within the Thiès region (9). Research shows four factors responsible for Thiès being a champion in renewable energy in Senegal and West Africa:

1. Abundant natural resources (wind and solar irradiation)
2. Ease of logistical parameters and proximity to Dakar
3. The availability of evacuation stations paired with the high voltage line of SENELEC (Senegal's National Electricity Company) that favors cost optimization in the transportation of energy, and high government support and investment into the city of Thiès and its industrial sector.

The involvement of this particular industry is important to Thiès as it contributes to a cleaner and safer energy. This can also be seen on the SFI where Thiès has the best score among Senegalese countries for *Power Outages* with a score of 97.22 (a high score indicates that the city has few problems with power outages).

We can also argue that the high use of renewable energy provides a higher quality of water as study shows that it may help reduce the cost of energy and increase the provision of sustainable water due to its low environmental impact. In this case, Thiès scored 94.44 for *Water Supply Quality*, making it the second best city in Senegal after Saint-Louis which scored 100. This sector is a fundamental boost for Thiès' above average score in the *Utilities* subdomain as it ranks second among Senegalese cities (even better than Dakar) at 67.61. Taking other African cities into consideration, there is still room for improvement when looking at cities like Kumasi scoring 71.41 or Khartoum scoring 79.92 on the *Utilities* subdomain. The main reason for this difference is the poor performance in the *Pollution* index for Senegalese cities, 9.39 as compared to a score of 74.31 in Ghana for example. More should be done to reduce the pollution levels not only in Thiès but also nationwide.



The challenge remains that the University of Bambey is the only state university without an incubator in the country. It is enpact's goal to collaborate with the university to create an incubator to empower student entrepreneurship.

In contrast, Bambey stands out as an agro-hub

As a relatively small city in Senegal, Bambey's economic activity is largely dominated by its agricultural production. In contrast to Thiès, locals from the region of Joubel in general and Bambey in particular have a remarkable culture and are known for their successful business creation skills across the nation. Coumba Diop, Head of Innovation and Youth Insertion at Alioune Diop University, mentions that "one of the things that sets Bambey apart from other Senegalese cities is their national reputation for their business-building skills. There are numerous ventures created in Bambey and oftentimes, they expand to other regions in Senegal".



Coumba Diop is the head of the operational office of the university business unit at Alioune Diop University in Bambey.

Bambey is increasingly emerging as a startup hub, as it has some newly created institutions that center around startup promotion and increasing human capital. Diop laments that, despite progress, "for a long time, Bambey was the only startup town and regional headquarter to not have a university". The local university was only founded in 2007. "The university organizes programs like hackathons, challenges, startup competitions," she mentions, highlighting the importance of having a university to spark startup life. These activities all contribute to the ecosystem in terms of human capital and startup activity.

Most startups in Bambey, however, are more inclined towards the production of primary resources and agriculture. One big reason for that is its proximity to the nearby city of Touba, which is known as a holy city popular with pilgrims. During religious festivals, there is a high demand for food and similar commodities. This puts agricultural entrepreneurs in a favorable position to sell their products as Touba represents a big market as one of the biggest cities in Senegal. The agricultural hub has grown in Bambey as a result of this factor and the main economic activity will likely remain the primary sector in the years to come.

It is worth mentioning that entrepreneurs and SMEs in both towns are beginning to switch to better engineering techniques and are adopting technology to achieve larger scale outputs. This represents an opportunity for innovative startups, such as those that are attracted to events organized by the Chamber of Commerce and Industry (CCIST) in Thiès, for example. The CCIST is a state institution that empowers entrepreneurs and SMEs by organising training sessions in leadership and management, informing the ecosystem about relevant and current opportunities, assisting entrepreneurs in drawing up their business plans, orienting them as well as assistance in obtaining subventions to increase production and output. The CCIST is specialized in assisting entrepreneurs in the specific industries of agriculture, transport and tourism.

On the road to a developed talent pool and labor force

Bambey received one of the highest scores in the country due to the contributions of the students from its *Universities* (SFI score of 8.27). This contributes to the *Skilled Workforce* in the ecosystem as it outperforms Thiès on this level in the SFI (56 versus 14 for Thiès). Coumba Diop also adds that university activities such



as hackathons, competitions (known as 'concours'), awards, prize challenges, and competitions contribute to the skills of the students. However, the challenge remains that the University of Bambey is the only state university without an incubator in the country. It is enpact's goal to collaborate with the university to create an incubator to empower student entrepreneurship.

Difficulty acquiring startup financing

While Thiès ranks in the midrange on the SFI Finance domain, Bambey is the most difficult town to secure financing as a startup in Senegal. Bambey scores 16.73 in the *Finance* domain as compared to Thiès' 20.77. As one of the smallest regions, Bambey doesn't have a large number of companies or financial institutions that could attract investors. Coumba corroborates this, saying "despite the presence of infrastructure and government institutions geared towards supporting entrepreneurship and startups and the resources allocated, there are not as many as those present in bigger towns".

In contrast to other cities where financial support is larger, not much financial support is provided by the state. Coumba confirms that, "more and more missions and responsibilities are added to the university but without substantial funding to support these activities". In that same light, Coumba added that "most cities have branches of banks and other institutions, but Bambey doesn't really have banks [...] the banks are located about 30 km away from us. But we have lots of MFIs in the area".

In Thiès, on the other hand, in addition to government support of the industrial activities, there is additional funding that may come from international corporations. According to Afrique IT News, the USAID (United States Agency for International Development) financed three startups with a total funding of \$9.9 million (5). Within the USAID's West Africa Trade and Investment Hub program, these projects were funded to provide assistance in developing an e-commerce platform, boost capacity of production, and the industrial transformation of agricultural products.

The sector specific startup scene

Thiès, being a pure industrial city, is driven towards agricultural and industrial innovation rather than tech startup activities. In this regard, the city has only a few startups. Thiès scores a 1 in the Hubs indicator as there is only a number of coworking spaces (4.51) to account for. Bambey scores a 0 on this subdomain as most startups still remain informal and are run as family businesses. There is also no record of startup activity in Bambey according to our indicators. However, there are meetups and agro-pastoral shows as well as hackathons organized within the framework of universities. As the only university without an incubator, Coumba shares her long term vision as she mentions “when I see that there is finally an incubator, built, fully operational and inaugurated, then I can leave”.





conclusions

in comparison

baseline factors

*By Tanyi Franç Martial,
Heather Dannyelle Thompson
and João Castel-Branco*

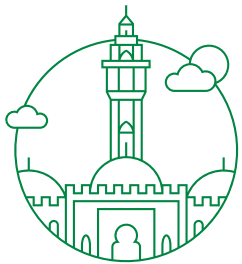
In enpact's Data & Research team, we work on comparing startup ecosystems across different cultures, economic systems, and under different contexts. To this end, we consider several identifiers that we deem necessary to begin to build a startup ecosystem. Primarily, these factors relate to infrastructure and governance, without which simple things like connecting to the internet reliably or protecting property rights hinder the average person's ability to start and maintain a business.

1. Dakar is quite expensive

As the most important city in Senegal, Dakar draws a certain rural exodus in search of better opportunities as well as foreign investors. This results in limited living space and, at times, uncompetitive prices for goods and services, driving up the cost of rents, land, wages, groceries, and hospitality. Ultimately, although Dakar is more expensive than the average African city, it is less expensive than most countries in advanced economies, and it is not among the most expensive cities in Africa.

2. Internet is expensive but not necessarily of high quality

In Senegal, average wages are about \$161 USD per month, with the minimum wage set at \$101.53 USD per month. In this context, the average internet cost of \$68.03 USD per month is extremely expensive considering the standard of living. Coupled with that, although Dakar has a more than average connection, there are several reports that the internet is not very stable.



DAKAR



INTERNET SPEED

44.42 MB



CO-WORKING SPACES

16



CRIMINALITY

81.33



COST OF LIVING

1412 USD



REGULATORY QUALITY

44.36



BRIBERY DEPTH

90.69



CAIRO



INTERNET SPEED

6.25 MB



CO-WORKING SPACES

70



CRIMINALITY

92.50



COST OF LIVING

412 USD



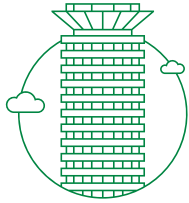
REGULATORY QUALITY

26.38



BRIBERY DEPTH

86.79



NAIROBI



INTERNET SPEED

10.73 MB



CO-WORKING SPACES

55



CRIMINALITY

88.83



COST OF LIVING

523 USD



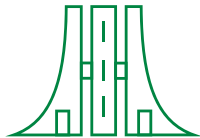
REGULATORY QUALITY

41.49



BRIBERY DEPTH

80.38



ACCRA



INTERNET SPEED

16.15 MB



CO-WORKING SPACES

18



CRIMINALITY

88.26



COST OF LIVING

584 USD



REGULATORY QUALITY

43.65



BRIBERY DEPTH

88.19

3. Dakar's startup scene is still nascent but growing and can serve as the blueprint for francophone Africa

In Dakar, a lot of momentum is building to make the city the next hub of startups. As mentioned previously, Senegal's Startup Act is the first of its kind in West Africa, and Senegal is the only country in the region that has adopted this framework. This has led other countries to start thinking about implementing similar policies. Currently, the question is '*who has adopted this Startup Act?*'. In the future, the main question will be: '*which countries have not yet adopted this type of framework?*'. Ghana is, for example, starting discussions to implement similar support to drive startup growth.

In addition to its Startup Act, Senegalese policy makers have restructured their mentoring and support programs to support numerous types of startups and small businesses. In the place of a single organisation for a specific type of startup such as the DER/FJ, there are also institutions for funding, while others are specialized in trainings, ecosystem building, mentoring, microfinancing, or entrepreneurship with a focus on agri-business. There is also a strong collaboration between public institutions and private ecosystem builders within the ecosystem.

4. Senegalese startups don't let informality get in the way of starting or growing their startup ... but maybe they should

As an economy influenced by a strong entrepreneurship culture, Senegal has a high number of startups and entrepreneurs. Few firms report informality as a constraint. However, most of them stay within the informal sector despite government regulations and policies put in place to facilitate their formality.

While not reported as a significant barrier to startup culture, there are nonetheless issues with a large informal sector. The more formalized economies are, the better governments can govern. Formalized businesses create a stronger tax base that can be reinvested into funding, training and support for startups, not to mention other social programs such as pensions, healthcare, and infrastructure.

However, as previously mentioned, there are noted benefits to the informal sector that may benefit some startups, particularly ones that may not meet the financial threshold to cover tax obligations. It may also lower the psychological barrier to starting an enterprise — where uncertainty in their ability to sustain the business may cause some entrepreneurs to delay registration. This is also beneficial for those who are macro service providers. This method also provides direct employment where formal jobs are limited (a thoroughly documented issue in Senegal) although the gains and benefits are not necessarily considered inside the economy.

in comparaison

differentiators

1

Universities are a vital part of the ecosystem

Despite the partnerships with reputable French universities, there are no full, affordable university programs that allow Senegalese students to receive the same education or title as their French counterparts. On a more positive note, universities play a massive role in the ecosystem as incubators. The reliance on universities as incubators directly funnels talented youth into the startup ecosystem. Investments in universities such as Bambey University are a perfect example of this trend.

*By Tanyi Franç
Martial,
Heather Dannyelle
Thompson and João
Castel-Branco*

While baseline factors are certainly necessary to a startup ecosystem, there is a big gap between meeting a prerequisite and flourishing as a startup ecosystem. For this, we look towards a different set of crucial factors, the differentiators. These factors are named as such because a given ecosystem's performance can set it apart (or, inversely, hold it back) in its attempt to compete with other cities globally.

2

Women participation in the workforce is low compared to Kenya and Ghana but better than in Egypt

The low female participation in the workforce represents an obstacle in as much as that the available human capital is not used. However, there have been positive changes in this area. If more people with high-level skills enter the labor market, more competition and consequently a better overall performance of the economy follows. Perhaps due to the high level of informality, women are not participating in the economy as much as in other countries on the continent. Another likely factor is that the type of professional positions that women occupy tend to be less formal and therefore not represented in the statistics (common throughout all global economies with labor such as caretaking).

In Senegal, around 32% of entrepreneurs are female (58). Despite this percentage being significantly low, relative progress was recorded between 2007 to 2014 which saw the increase in female owned startups from 23% to 32%. To be noted is that women face more challenges than men to be economically included. For example, sons and daughters don't have equal rights to inherit assets from their parents, representing a disadvantage in self-financed entrepreneurship and access to generational wealth for women. To be able to address this downfall of the ecosystem, holistic improvements must be addressed.

Senegal exhibits a remarkable entrepreneurial culture

Senegal has the best overall score in Entrepreneurial Culture among all measured countries - not just in the region, but on our global SFI index. Only less than 16% of Senegalese affirm that they gave up on a business idea due to the fear of failure. More than two thirds of Senegalese have intentions of starting their own business and even more perceive entrepreneurship as a good career path.

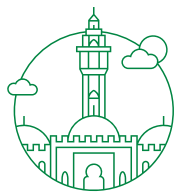
The macro-political context is not generally noted as a problem within the ecosystem, but Senegal still struggles with informality more than other major ecosystems

Due to high registration costs in comparison with other ecosystems, most businesses prefer to stay in the informal sector. This can be witnessed in comparison to Tunisia and Ghana, for example, where Tunis scores 93.43 and Kumasi 75.78, while Dakar scores 64.59 on the Business Registration cost subdomain. Also, research from Brookings and the World Bank shows that most informal firms in Senegal produce on a lower scale and earn too little to reach the tax threshold, which would represent too much of a cost burden to register.

Additionally, it is difficult on the part of the government to set out punitive measures against informal businesses. Studies from the World Bank show that punitive measures like evicting informal vendors are tricky and dangerous as informal businesses directly contribute to “crucial livelihoods to the most vulnerable of the urban poor”. A cautious approach should be taken when dealing with informal businesses, which should focus on formalizing and unleashing the untapped entrepreneurial potential of such economies.

Senegal shows a low logistic performance index

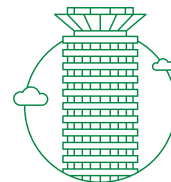
Based on a World Bank Index that considers the conditions of trade logistics (quality and capacity of ports), fees and costs (licenses, export and import fees, trade taxes, etc), and efficiency of trade (quantity, capacity, and time), Senegal performs lower than other countries on the continent. A low logistic performance index decreases the trade competitiveness of an ecosystem and can affect the overall economy by not participating in global trade partnerships and production chains.



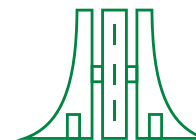
DAKAR



CAIRO



NAIROBI



ACCRA

MIGRANT ACCEPTANCE	88.36	15.98	75.35	82.23
WOMAN PARTICIPATION	37.16	16.88	84.81	84.81
SERIES FUNDING	25.25	12.28	12.78	6.77
SEED FUNDING	8.31	23.91	15.49	13.26
ENTREPRENEURIAL CULTURE	78.31	52.22	41.18	67.08
CORPORATE TAXES	18.18	45.45	18.18	36.36
INFORMALITY AS A CONSTRAINT	38.67	79.40	61.45	66.51
TRADE OPENNESS	12.60	22.07	21.21	37.92
LOGISTIC PERFORMANCE INDEX	13.33	38.67	38.22	27.56



conclusions

Senegal gains its strength from a strong entrepreneurial culture, an established framework for startups, the existence of public-private partnerships and well-utilized incubators at state universities. Senegal's startup ecosystem is, however, plagued by high rates of pollution, a highly informal economy, difficulty in accessing finance and funding, low female participation and high costs of living.

The cornerstone of the Senegalese ecosystem is undoubtedly the Senegalese Startup Act of 2019. Being the first country in West Africa to have initiated these sets of policies, they may act as a blueprint for other countries in the region as a tool for startup growth and general economic development.

Senegal is not one coherent country, but composed of several startup ecosystems. Several of them are featured in our SFI, while each is distinct offering differing strengths and weaknesses:

- Dakar is the city with the highest concentration of startups, SMEs and startup activities. It is the primary hub for the country and the most promising ecosystem.
- Bambey is located in one of the poorest regions of the country but a promising ecosystem is emerging. It has a relatively new university, albeit yet without an incubator.
- Saint-Louis shines as a cultural city with rich heritage from French colonial rule but also coupled with many advantages for investors such as its massive primary industry (agriculture and farming), the low cost of living and the most competitive talent pool of the country.
- Ziguinchor is a town facing rapid urbanization and a high presence of agro-farming activities.
- Finally, Thiès holds steady as the most industrialized city of the country having experienced a rapid growth in recent years.

Although there is much work to be done to build a conducive and resilient startup ecosystem, there is significant progress and a drive towards growth in Senegal. Next, we make some recommendations to get there.



**Senegal gains
its strength
from a strong
entrepreneurial
culture**

recommendations

- 1 Incentives to create a startup:** More should be done to empower microfinance institutions in Senegal as they play an important role in funding startups and SMEs. Incentives like tax cuts and subsidies would entice more would-be entrepreneurs who are in need of financial support to get started.
- 2 More targeted programs for human capital:** the government should consider developing more programs that target technical skills which will improve the general talent pool. At the same time, it should create programs that will improve startup design and methodology. Programs should also target students of lower school ages and should equip them with problem solving skills, entrepreneurship methodology, and leadership skills.
- 3 Address informality:** The high rate of informality is a major problem. At 97%, the highly informal economy is correlated with low productivity, low tax revenues, high poverty rates and income inequality. This is because the informal economy tends to employ lower-skilled and 'less productive' workers. Reducing the informality would mean improving skilled labor and tax revenues as well as boosting productivity. Several ways have been identified by the World Bank and International Labour Organization to reduce informality levels. These include: improving labor market governance and commercial legislation; improving general working conditions; facilitating legal protection, legal literacy and capacity building; promoting decent job creation through Employment Intensive Investment Programmes and promoting access to social financial services.

4 **Encourage a culture of market research and product-market fit** that enables entrepreneurs to have the right market information and knowledge before starting up. This is important because entrepreneurs understand the real challenges faced and what is needed to fix them. With adequate information on hand, they can design products that will be successful in the economy.

5 **Improving the general infrastructure should be a top priority.** The government should foster policies that improve information and communication technologies, as well as utilities and transport in general, thereby making them accessible and affordable.

6 **Addressing pollution** will also be essential not just for the general public health but also for the goal of attracting domestic and foreign talent. Pollution from air and water in Senegal is still a heavy burden to the public as it is related to 19.9% of the death toll and decreases the GDP productivity by 1.4%. The government should consider monitoring rapidly growing industrial sites to limit their emissions, initiate regular water and urban sanitation, improve industry and community/municipal waste management systems, support local CO2 compensation programs, invest in energy-efficient power generation (green energy) and build safe and affordable public transport systems with cycle-friendly networks.



annexe

human capital

the right talent at the right price

A crucial ingredient for startups to thrive is talent. The Human Capital index measures the availability and affordability of local talent. The subdomain *Talentpool* looks at the supply of skilled workers by taking into account the quality of the wider education system and the strength and reach of local universities. In addition, surveys with local businesses consider the level of skilled labor shortages. Overall, cities with a strong education system and conditions to retain skilled workers score well in this sub-domain.

The subdomain *Labor Market* looks at the ease of accessing local talent by taking into account female participation in the workforce, the level of jobseekers and the complexity and stringency of labor regulations. Furthermore, on the affordability side, the subdomain looks at the minimum wage and the average salary for the engine behind many startups, software developers.

The subdomain *Inclusiveness* was designed to understand how much of a city's or country's citizens can participate freely and actively in the economy. While there are numerous reasons to increase the inclusivity of a region, including the moral and human rights implications, higher inclusion in the economy leads to more economic activity.



finance

procuring funding to start and to grow

Financing gives early-stage startups the funding to test innovations during a pre-revenue phase and equips established startups with the resources needed to rapidly grow both regionally and internationally. Without adequate financing, startups may have to cease operations or face being left behind by competing startups.

The finance domain evaluates access to funding by measuring the availability of different funding sources and the systematic factors that impact the wider funding environment.

The *Sources* subdomain takes into account data from startup funding databases to measure the level of funding raised by startups across the spectrum ranging from seed to venture capital. Furthermore, scores on the availability of loans for SMEs are taken into account.

The *System* subdomain evaluates the funding environment by looking at the number of angel investors and VCs in the ecosystem. In addition, the subdomain factors in the proportion of companies reporting funding constraints and data on the availability of loans.



startup scene

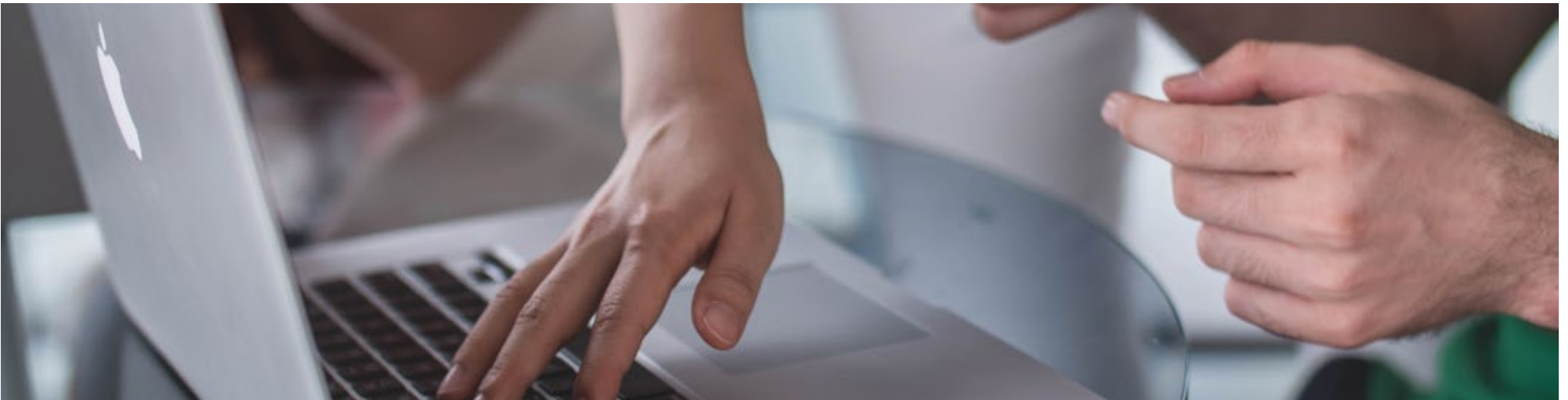
encouraging and propelling entrepreneurs

Entrepreneurs face considerable challenges that often can't be overcome in isolation. It is therefore crucial for entrepreneurs to connect with mentors, peers and potential collaborators. It is also important that entrepreneurs have support closer to home with family, friends and the wider community providing a supportive backdrop to the entrepreneurs efforts.

The *Hubs* subdomain measures the number of accelerators, incubators, co-working spaces and technology parks providing support to startups.

The *Activeness* subdomain measures the number of startups and related events to understand the vibrancy of the startup ecosystem. The more active the ecosystem, the more opportunities there are to network and connect with others in the space.

The *Entrepreneurial Culture* subdomain looks at cultural indices that assess a region's stance and acceptance towards entrepreneurship. The indicators look at attitudes including fear of failure, entrepreneurship as a valid career and uncertainty avoidance.



infrastructure

the basics needed to sustain business

High quality infrastructure helps to reduce friction for startups. The Infrastructure domain is assessed by analysing a city's quality of transportation, electricity, and IT. In particular, there is a focus on the associated costs of accessing these services, and the ease with which they can be accessed.

The *Transport* subdomain takes into account indicators that measure the quality of road, rail, sea and air transport links. This subdomain not only indicates the ease with which a startup can expand domestically and internationally but also to what extent the ecosystem can connect with other ecosystems, for example, is the ecosystem accessible by startup delegations from other cities or countries.

The *Utilities* subdomain looks at both the reliability of basic utilities that entrepreneurs need to be able to conduct their daily lives, e.g. electricity and water supply and also the cost of accessing these utilities. General living costs and working space costs are also considered.

The *ICT* subdomain measures internet availability, speed and cost. This is important for a functioning startup and a healthy digital consumer market.



macro

eliminating barriers through governance

Fair and reliable legal systems, political stability, and low crime are important fundamentals for creating an environment that is conducive to starting a new business. With the wrong conditions, these factors can create obstacles that drain some of a startup's limited resources or even worse, prove to be an insurmountable barrier.

Given the national nature of political and legal systems, these subdomains are composed largely of country-level indicators.

The *Political* subdomain takes into account World Bank and Economist indicators covering political stability and governance. An environment with stability is not only beneficial for the ongoing operations of a startup but also important for attracting investors and key employees.

The *Legal Framework* subdomain takes into account tax levels and the time and cost to register a business. Furthermore, it includes indicators compiled by The World Bank concerning the resolution of contract disputes and insolvencies.

The *Crime* subdomain relies on indicators from several global organizations tracking violent crime, bribery and corruption. Startups are often disruptive in nature and if they operate in a high-crime environment, they might be muscled out by disgruntled incumbents.



market

measuring connection on the global scale

The state of the economy has a direct effect on an entrepreneurs' chances of success. A strong open market with consistent growth provides a tailwind that helps startups to start, receive investment, scale, and reach new markets. .

The *Performance* subdomain considers the size of the economy and how active it is. This is achieved through GDP measures showing the size of the startup's domestic (and initial) market and the wealth of the market's citizens. Economic growth rates are important for sensing the level of optimism about opportunity in an economy while interest rates, if low, provide impetus to invest and take risks.

The *Connectedness* subdomain indicates the startup ecosystem's openness in trade and interaction with other geographies. The indicators track the level of imports, exports, tourism and partnerships with other cities. Furthermore, the digital market penetration indicator assesses the population's openness to using and paying for digital products.

The *Digital Market* subdomain attempts to examine how adapted the population is to online shopping and online payment to goods and services. These indicators are important for any internet based startup, such as e-commerce platforms or for digital banking services. However, low connectivity in the digital market should not automatically be dismissed — oftentimes it can serve as an opportunity for innovation.





about us

enpact empowers entrepreneurs



enpact was founded in 2013 to empower entrepreneurs in an effort to rethink international development support. Spanning numerous countries globally including Egypt, Germany, Spain, Ghana, India, Indonesia, Iraq, Kenya, Mexico, Nicaragua, Peru, Singapore, South Africa, Thailand, Tunisia, United Arab Emirates, and Uzbekistan, and with participants from many more countries, we design programs to connect, educate and inspire entrepreneurs. Our vision is that joining the enpact community is a life changing experience for each participant.

Our past programs include delegation trips to startup ecosystems to foster international networks, an accelerator program known as Program Design Labs (PDLs) to incubate startups, the Empowering Entrepreneurship Initiative, which delivers relief to over 300 startups globally that suffer from the COVID-19 crisis, and many more events, both virtual and in-person to discuss startup ecosystems and forge connections.

At present, enpact's network consists of 2500+ startups, 600+ mentors and experts and 150+ support organisations in 20+ countries. 10000+ jobs have been created as a direct result of enpact's work with startups.

Since its inception, enpact has also analyzed 62 cities that can be compared using our very own methodology: the Startup Friendliness Index (SFI). This data is the foundation of empower, leveraging the SFI into an analysis of ecosystems and how we can work to *empower* them more.

Learn more about how enpact empowers entrepreneurs at www.enpact.org.

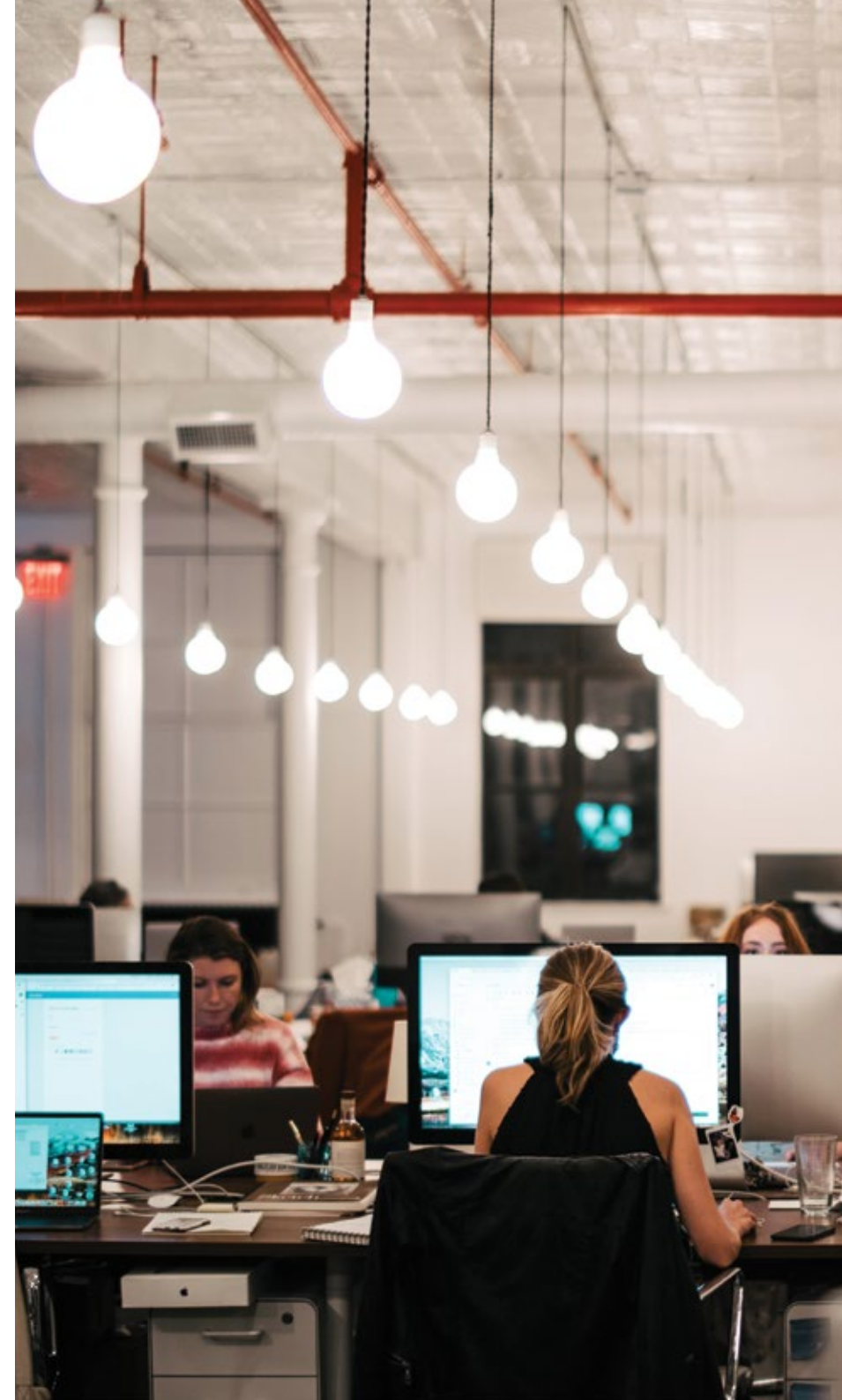
about SenStartup

SenStartup is an association of entrepreneurs and professionals from the Senegalese digital world born from the desire to unite startups around a common project.

Active since 2018, SenStartup is an independent association whose mission is to represent, bring together and strengthen startups in order to create an environment conducive to their emergence. Its mission is to accompany startups and entrepreneurs in the early stages of their development from the ideation phase to the adaptation of the product to the market. Its objective is to push entrepreneurs to strengthen their organizations, their companies and their skills in order to be ready for national or international incubation or to attack the market.

The association aims to promote the startup ecosystem in Senegal through the concerted implementation of mechanisms and punctual actions aimed at making startups flourish in Senegal through a structured program.

www.senstartup.com



acknowledgements

Our entire ethos at enpact revolves around the concept and development of community and networks. We believe nothing worth doing can or should be done alone. In our work to create a global network filled with entrepreneurs, mentors, governmental entities, private interests, investors, and organizational partners, we have found a community ready to support our vision, not the least of which in the creation and execution of this report.

With that in mind, we would like to extend gratitude especially to our partners on this project, the PDL and TTM in partnership with the GIZ and SenStartup. Their commitment to enpact's vision and to the mission to bring visibility to the Senegalese startup ecosystem made this publication possible.

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The *enpact e.V. archives* and its collection of photographers.

Illustrations by Joan Saló with the assistance of Heather Dannyelle Thompson.

A great thank you to our designer Joan Saló who not only helped create the original design of the empower magazine, but continues to support producing new editions.

Thank you, as always, to our enpact family for continued support and willingness to lend expertise to the project, including all the authors who contributed

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Thank you all for your work and support!
Sincerely,



Heather Dannyelle Thompson
Editor and Creator

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sources

INDICATOR NAME	SOURCE
Workforce constraint	Default: World Bank
Skilled workers	Default: World Bank
Universities Score	Default: World University Rankings
University Students	Default: 4icu
Tertiary education	Default: World Bank
R&D Expenditure	Default: World Bank
Labor regulation constraint	Default: World Bank
Minimum Wage	Default: Country Economy
Average Salary	Default: Numbeo
Woman Participation	Default: World Bank
Unemployment rate	Default: International Labour Organization
Migrant acceptance	Default: news gallup
Gender legal equality	Default: World Bank and Doing Business.org
LGBT legal equality	Default: equaldex
Woman entrepreneurship	Default: World Bank
Maternity leave	Default: Own Research
Loans access	Default: World Bank
Seed and pre-seed funded amount	Default: Crunchbase Pro
Series funded amount	Default: Crunchbase Pro

Grants funded amount	Default: Crunchbase Pro
Other type funded amount	Default: Crunchbase Pro
SME loans access	Default: World Bank
Funding Constraint	Default: World Bank
Loans Rejected	Default: World Bank
Collateral Required	Default: World Bank
Total VCs / PEs	Default: Crunchbase Pro
FDIs Net Inflows	Default: World Bank
Total Business Angels	Default: Angel List and CrunchBase
Accelerators	Default: Crunchbase
Incubators	Default: Crunchbase
Coworking Spaces	Default: Coworker
Technology Parks	Default: Unesco
Meetup groups	Default: Meetup
Total Startups	Default: Meetup
High equity 5m	Default: Crunchbase Pro
High equity 1m	Default: Crunchbase Pro
Fear of failure	Default: GEM
Entrepreneurship intentions	Default: GEM
Entrepreneurship as career	Default: GEM
Uncertainty avoidance	Default: Hofstede Insights
Overall Quality	Default: World Economic Forum
Roads Quality	Default: World Economic Forum
Railroad Quality	Default: World Economic Forum
Ports Quality	Default: World Economic Forum
Air Transport Quality	Default: World Economic Forum
Air Transport Capacity	Default: World Economic Forum
Water Supply Quality	Default: World Bank
Electricity Access	Default: World Bank

Electrical Outages	Default: World Bank
Pollution Index	Default: Numbeo
Coworking Space Cost	Default: Coworker
Cost of Living	Default: Numbeo
Electricity Quality	Default: World Economic Forum
Utilities' Cost	Default: Numbeo
Internet cost	Default: Numbeo
Mobile internet cost	Default: Own Research
Mobile subscription cost	Default: Numbeo
Internet speed download	Default: broadband speedchecker
Internet speed upload	Default: https://www.speedtest.net/global-index
Mobile subscriptions	Default: ITU
Stability	Default: World Bank
Effective Governance	Default: World Bank
Regulatory Quality	Default: World Bank
Democracy Level	Default: The Economist Intelligence Unit's Democracy Index
VAT	Default: Doing Business
Corporate Tax	Default: KPMG Corporate income tax tables
Contract Enforcement	Default: Doing Business
Resolving insolvency	Default: Doing Business
Business registration (time)	Default: Doing Business
Business registration (cost)	Default: Doing Business
Violent Crime	Economic Intelligence Unit (EIU) analysts
Crime as a constraint	Default: World Bank
Informality as a constraint	Default: World Bank
Bribery Depth	Default: World Bank
Corruption Perception	Default: Transparency International
Corruption Control	Default: Worldwide Governance Indicators
GDP ppp pc	Default: World Bank

Economy growth	Default: World Bank
Gini index	Default: World Bank
Deposit interest rate	Default: World Bank
Capacity utilization	Default: World Bank
Trade balance	Default: World Bank
Trade openness	Default: World Bank
Tourism	Default: World Bank
Sister cities	Default: http://en.sistercity.info/countries/
Logistic performance index	Default: World Bank
Bank account penetration	Default: World Bank
Smartphone penetration	Default: Newzoo
Internet penetration	Default: ITU
Digital market penetration	Default: World Bank

about enpact

The non-profit association enpact was founded in 2013 with the aim of empowering entrepreneurship in emerging and developing countries. enpact supports founders and startups in Africa, Asia, Latin America, and the Middle East through diverse programs to improve access to international mentor networks and skills needed to be lifelong entrepreneurs. The enpact Data&Research team works to understand the components of a successful startup ecosystem and deliver quantitative analysis and recommendation to ecosystem builders through the Startup Friendliness Index, or SFI.

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