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**A sustainable view
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The study of the Lagos context

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ABSTRACT

Researchers have been writing on entrepreneurial ecosystems (EE) for years, but it is only recently that the issue of sustainability has acquired traction. Although research has begun, the link between EE and sustainability has not been thoroughly investigated.

My research seeks to aid in the characterization and identification of such ecosystems by attempting to establish their primary characteristics as well as the metrics for assessing their level of sustainability. To avoid misinterpretation, it is helpful to establish how the term "sustainable" will be understood from the start. Sustainable is not seen as a simple commercial practice intended at boosting the image of the ecosystem's participants, but rather refers to real efforts that support local development in economic, environmental, and social ways.

As a result, the link between EE and the Sustainable Development Goals (SDGs) is examined in this research. My research will concentrate on Lagos, an expanding and dynamic reality in a developing country like Nigeria. It is therefore designed to juxtapose a timely subject like sustainability with an essential topic like entrepreneurial ecosystems, while also verifying concretely the influence they make on lesser-known realities throughout the world.

The following is how the paper is organised. The first section attempts, with the assistance of literature, to define what a sustainable EE (SEE) is. The second seeks to suggest a feasible method for better identifying a SEE and what influences it. The third and final component deepens the study of Lagos by attempting to apply the principles introduced in the previous sections.

INTRODUCTION

After having read more than several scientific documents, I found that research on the sustainability of the entrepreneurial ecosystems is a topic that is gaining interest among the community of researchers.

However, since it is a new argument that is increasing in importance only in the last few years, it is still missing a theory. This paper tries to answer the following research questions:

- How can a sustainable entrepreneurial ecosystem (SEE) be defined?
- What are the factors influencing it?
- What are the criteria for determining its level of sustainability?

Numerous experimenters have concentrated on defining and relating what are the characteristics of sustainable entrepreneurship, which is a form of business that focuses on furnishing profitable and societal value through ecologically or socially salutary technologies. It seeks to strike a balance between profitable, ecological, and social sustainability, and can be defined as the discovery, creation, and exploitation of openings to produce unborn goods and services that sustain the natural and/ or collaborative terrain while also furnishing development gain for others. According to some authors, it entails the realisation of sustainable inventions aimed at the mass request and furnishing benefits to the lesser part of society, and it's distinguished as innovative, request-acquainted, and personality driven (Stefan Schaltegger and Marcus Wagner, 2011; Shepherd, D.A., and Patzelt, H. 2011; Patzelt, H., and Shepherd, D.A. 2011; DiVito, L., and Bohnsack, R. 2017).

SEE literature, on the other hand, is confined but growing in interest. Cohen (2006) described the sustainable entrepreneurial ecosystem as a network of players in an original geographic community committed to sustainable growth through the support and stimulant of new sustainable businesses. His analysis suggests that SEEs may bear a particular form of support and commerce among players to serve.

Bischoff and Volkmann (2018) stimulated by Cohen defined a SEE as "a connected and uniting group of stakeholders furnishing sustainability-focused support to entrepreneurs in order to foster entrepreneurial conditioning that contemporaneously address the profitable, ecological, and social confines of sustainability and thereby contribute to the metamorphosis to a sustainable indigenous frugality".

These are some of the ways in which scholars have tried to explain the elaboration of entrepreneurial ecosystems throughout the world. In order to understand the differences between the two types of entrepreneurial ecosystems, Kaufmann Foundation defines a traditional entrepreneurial ecosystem as "a network of people supporting entrepreneurs, and the culture of trust and collaboration that allows them to interact successfully. The speed at which gift, information and coffers move through the ecosystem can affect entrepreneurs at each stage in the lifecycle".

The compass and explanation for profit-driven points, as well as the provocation and station of the actors, easily distinguish the two types of ecosystems and the enterprises inside them.

As preliminarily said, SEEs crop when there are entrepreneurs that watch not just about the area but also about the community. They aren't just driven by income. I emphasise "just" because it's critical to flash back that in order to identify a sustainable entrepreneur, it isn't necessary to ignore the traditional drive for profit that distinguishes them.

Still, SEE isn't solely the result of enterprises with socio-environmental pretensions. Other rudiments are impacting its growth. According to Di Vito and Ingen Housz, four factors impact SEEs actors' sustainability exposure, mindfulness of sustainable possibilities and resource mobilisation, cooperative sustainability invention, and commerce for sustainable goods. The engagement of sustainable entrepreneurs with their surroundings is critical to their success.

In this composition, I want to introduce the Sustainable Development Goals (SDGs) to the content. Because of the SDGs, sustainable entrepreneurs have had instigative prospects to have an influence on society and the terrain since 2015. The United Nations approved the SDGs as a worldwide call to action to guarantee that by 2030, all people enjoy peace and substance. Indeed, the SDGs represent a road chart for sustainable commercial entrepreneurship, including both profit- driven and social- benefit centred inventions (Akku et al., 2022).

At the launch of 2022, a United Nations peak in Dubai concentrated on entrepreneurship and invention, as well as investment in post-pandemic recovery, as vehicles for achieving the SDGs. Ahmed Belhouli, UAE's Minister of State for Entrepreneurship and SMEs told the event that the UAE has spent vastly in the healthcare system over the last two times, which has not only enabled SMEs to serve but has also helped to increase tourism in the nation.

"Ease of doing business is abecedarian for the large part of the SMEs entrepreneurs. Without the confidence and support of the governments, they won't be suitable to survive" he said.

"We've learnt snappily that this is far more important than direct fiscal support. I've had regular meetings with the entrepreneurs, and I constantly hear them asking me, not for backing, not for finance, but for access to requests and access to big multi-national companies."

The forum, as well as Dr. Ahmed's statements, help to punctuate the close link that exists between sustainable entrepreneurship and the SDGs. His reflections are supported by the exploration, which establishes that the long- term viability of sustainable enterprise is dependent, to a lesser extent, on the support entered and maintained by both the community and the state (Moya-Clemente et al., 2020). Therefore, what actually counts is whether the ecosystem will survive, and if it'll survive over time, what kind of support it'll bear. In other words, the SEE's adaptability is an essential point.

Adaptability is the capability to recover fleetly from adversity. When applied to entrepreneurial ecosystems, this notion becomes "the degree to which an entrepreneurial ecosystem can continuously recover from and acclimatize to exogenous shocks and endogenous pressures" (Cadenasso et al., 2006).

According to Philip T. Roundy et al. (2017), the adaptability of an ecosystem is given by the combination of two factors: diversity and coherence.

Diversity is the degree to which an EE contains a broader representation of actors, business models, and associations. Coherence is the degree of association between the factors of an EE, which causes them to coalesce into a connected group (i.e., the ecosystem). Coherence creates the structure that gives form to an EE.

So, both the diversity inside the SEE and the coherence of connections and connections among all the actors involved increases its adaptability, hence the capability to survive through time and extremity.

To back up this work with actual research rather than just a theoretical foundation, I assess the degree of sustainability of Lagos, one of Africa's and the world's main entrepreneurial ecosystems. Figure 1 shows that Lagos is one of the EEs with the largest percentage of sustainability firms, despite its low GDP (Tiba S. et al., 2021).

Lagos has the finest start-up environment in Africa, according to StartupBlink's 2019 Global Start-up Ecosystem Rankings study, which analyses startup ecosystems in 1,000 cities and 100 countries. Nairobi and Cape Town are the next best.

In more recent times, the startup ecosystem is estimated at \$9 billion in 2022. This was revealed in the 382-page Global Startup Ecosystem Report 2022, which also revealed that Lagos received \$529 million in early-stage investment from 2019 to 2021, compared to the global average of \$687 million. Between 2017 and 2021, the state received \$1.8 billion in Venture Capital (VC) financing. It takes between 6.3 and 9.4 years for a startup to exit the stage as a startup, compared to the global average of 9.4 years.

Fig.1 Lagos compared to other entrepreneurial ecosystems (source: “Sustainability startups and where to find them: Investigating the share of sustainability startups across entrepreneurial ecosystems and the causal drivers of differences”, Tiba S. et al.)

Ecosystem	Share sustainable enterprises	Share Women Founders	Environmental Performance Index (EPI)	Share of population religious	Early Stage Funding per Startup (USD k)	GDP/capita (USD k)	Social Expenditure (share of GDP)
BANGALORE	10,2%	10,0%	53,58	100%	229	5,2	1,5%
BARCELONA	7,7%	14,0%	88,91	67%	223	31,7	24,6%
ESTONIA	6,1%	16,0%	88,59	29%	272	17,7	17,4%
HELSINKI	7,4%	8,0%	90,68	75%	358	55,0	30,8%
MELBOURNE	10,7%	18,0%	87,22	69%	157	53,8	19,1%
NEWZEALAND	6,5%	21,0%	88,00	58%	301	39,8	19,5%
SEOUL	5,0%	16,0%	70,61	54%	174	26,5	10,4%
HOUSTON	14,3%	21,0%	84,72	64%	110	80,8	19,3%
LAGOS	11,5%	14,0%	58,27	100%	77,8	3,6	0,3%
MONTREAL	5,0%	12,0%	85,06	85%	123	38,0	17,2%
ATLANTA	10,6%	17,0%	84,72	66%	367	58,0	19,3%
NYC	8,4%	19,0%	84,72	61%	568	65,0	19,3%

Lagos is situated in the southwest Nigeria and with a population of nearly 21 million is Nigerian most populous city. Lagos is usually regarded as the economic heart of this state, as it handles about 80% of the nation’s imports¹.

Numerous sustainability start-ups, such as Wecyclers, have popped up to address Nigeria's massive trash problem. The Co-Creation Hub, Nigeria's foremost technological hub and early-stage incubator, is focusing on sustainable business concepts. This sustainability emphasis is also evident in Lagos' investment environment, which includes a high number of foundations and NGOs that focus on sustainable business models rather than traditional ones. (Tiba S. et al., 2020). In addition, universities are attempting to educate the next generation toward a more sustainable worldview. Lagos Business School, for example, has a sustainability centre. The centre brings together sustainability theory and practise, develops leadership skills, and fosters constructive debate and collaboration among industry, government, civil society, and academia to identify answers to important sustainability concerns.

Unfortunately, Nigeria still confronts difficulties. The biggest issue is its insufficient infrastructure, which results in intermittent electricity and a bad internet connection.

Through this study I want to find a way to measure how sustainable the entrepreneurial ecosystem is and try to define some parameters, which could be useful for further research on this topic. The remainder of this paper is structured as follows. Chapter 1 introduces the theoretical background of the study. In particular it explores the literature on the SEEs and how have been defined so far. Chapter 2 and Chapter 3 answer the research question “which are the factors influencing the degree of sustainability?”. Indeed, first I provide details on the existing relation between SDGs and SEEs. Then, I analyse the actors and factors of the SEE and how they interact with each other. Chapter 4 investigates the modes in which a SEE could be or become resilient. Finally, in Chapter 5, I propose the study of the Lagos entrepreneurial ecosystem, suggesting one way to define the sustainability levels of the ecosystem and its actors.

¹ Aspen Network of Development Entrepreneurs, Lagos Entrepreneurial Ecosystem snapshot, 2017

1. OVERVIEW ON SUSTAINABLE ENTREPRENEURIAL ECOSYSTEMS

To a greater extent, a sustainable entrepreneurial ecosystem is a system of interconnected factors that support and enable entrepreneurship and innovation in a way that is environmentally, socially, and economically sustainable. This includes things like access to capital, education and training programs, mentorship and networking opportunities, and supportive policies and regulations. Sustainable entrepreneurial ecosystems are important because they can drive economic development and create jobs, while also addressing social and environmental challenges. They can also foster creativity and innovation, which can lead to the development of new products and services that can improve people's lives and address global challenges. To create a sustainable entrepreneurial ecosystem, it is important to consider the needs of all stakeholders, including entrepreneurs, investors, employees, customers, and the local community. This often involves collaboration between government, the private sector, and civil society organizations. It may also involve the adoption of sustainable business practices, such as those that minimize environmental impacts and promote social responsibility.

Overall, a sustainable entrepreneurial ecosystem is a dynamic and multifaceted system that requires ongoing efforts to support and sustain entrepreneurship and innovation in a way that benefits everyone.

The external environment and the SEE are still understudied despite the growing interest in the number of sustainable entrepreneurial endeavours (Bischoff, 2018).

In fact, based on what is known from the literature on the SEE, the majority of research has concentrated either on defining sustainable entrepreneurship or on closely examining and analysing the different actors that make up the SEE.

Two factors support concentrating research on SEEs, according to Volkmann and Fichter (*Sustainable Entrepreneurial Ecosystems: An Emerging Field of Research*, 2021):

- Carelessness to the sustainability dimension implies that businesses are ignoring their obligations to society and the environment
- Little focus on the role of sustainable entrepreneurs in the entrepreneurial ecosystem.

A third reason - analysed later in this paper – is how the ecosystems can promote and contribute to the Sustainable Development Goals (SDGs).

The first argument is also mirrored in the paper by Pankov et al. (2021), where the authors claim that this purported lack of interest in sustainability runs the risk of overshadowing the efforts that many actors are doing to align themselves with this issue and contribute to sustainable development.

The fact that only a few articles give a definition of sustainability applied to the SEE seems to confirm the doubts of Pankov et al. and Volkmann & Fichter.

Sustainability, according to O'Shea et al. (2021), is “*the primacy of purpose-driven action, intentions, and interest among ecosystem actors. Sustainability as purposefully contributing to societal well-being and environmental regeneration, while being financially sound*”.

The term “*sustainability*” has been used to refer to a wide range of concepts over the years, and its meaning has evolved over time. In general, sustainability refers to the ability to maintain or preserve something over the long term. This can include the ability to maintain or preserve natural resources, the environment, or social systems.

The concept of sustainability has its roots in the field of environmental science, where it was initially used to describe the ability of natural systems to maintain their balance and function over time. In this context, sustainability refers to the capacity of an ecosystem to support and maintain life, and to regenerate and renew itself after periods of disturbance or resource depletion.

In recent decades, the concept of sustainability has been expanded to encompass a broader range of issues, including economic, social, and cultural dimensions. Today, sustainability is often understood in the context of the "triple bottom line" (TBL), which refers to the need to balance economic, social, and environmental considerations in order to achieve long-term sustainability. As such, the meaning of "*sustainability*" has come to encompass a wide range of issues related to the long-term well-being of people, communities, and the planet. It is often used to describe efforts to achieve a more equitable, inclusive, and resilient future, in which the needs of current and future generations are met in a way that does not compromise the health and integrity of the natural systems upon which we all depend.

Understanding this idea allows to define the SEE appropriately. As highlighted by Cohen (2006), a SEE is defined as

"An interconnected group of actors in a local geographic community committed to sustainable development through the support and facilitation of new sustainable ventures"

while a traditional entrepreneurial ecosystem without any reference to sustainability is defined as

"The interconnected set of entrepreneurial stakeholders in a regional entrepreneurial environment that fosters engagement in entrepreneurship to contribute to a prosperous regional economy".

Bischoff & Volkmann (2018) too provided a definition of SEE, which is merely an adaptation of Cohen's definition but adapted according to the more recent available knowledge on the theme:

"An interconnected and collaborating group of stakeholders providing sustainability-focused support to entrepreneurs in order to foster entrepreneurial activities that simultaneously address the economic, ecological, and social dimensions of sustainability and thereby contribute to the transformation to a sustainable regional economy".

This most recent definition, which draws on more data than Cohen did when he developed it, is more thorough since it considers the likelihood of accomplishing TBL-compliant goals.

The next paragraph aims to review the main existing literature on the SEE (summed up in appendix A). The contribution of this literature to the field of research will be evaluated in order to determine the current state of knowledge and what gaps the authors tried to fill.

Overall, the next paragraph provides a comprehensive overview of the literature and demonstrates the significant contribution this literature has made to the field of research.

I will aim to construct a journey that begins with the early phases of a SEE, continues with an analysis of various ecosystem components, and ends with some general concerns. This path will have no connection with the year the article was published.

1.1 Literature contribution

O'Shea et al.'s article "*The buzz before business: a design science study of a sustainable entrepreneurial ecosystem*" explores the concept of entrepreneurial ecosystems and their role in fostering sustainable business growth. However, the authors focused on an emerging SEE (Helsinki, Finland) in their research. Indeed, their main research question was how opportunities co-evolve within an emergent SEE.

The authors applied a design-wisdom approach that helps understand actors' cooperative sensemaking in designing and structuring ecosystem features and connections. The results they attained allowed them to state that "the SEE can be seen as a design artifact which evolves by ecosystem actors inclusively engaging in new adventure creativity and developing occasion confidence".

Authors' conclusions derived from an innovative nano cellulosic material. Their approach was based on a generative technology, which is a technology that has the potential to create unprompted change and an astounding number of applications.

They developed the notion that ecosystems are communities in which entrepreneurs, opportunities, and the ecosystem co-evolve from an eccentric perspective on opportunities. There are two significant consequences to this assertion. The first is the keyword "opportunity," which is frequently used to refer to an early-stage, subjective, and unverified concept that may evolve significantly throughout the course of the process and become more and more objectified. This idea of opportunity serves as the foundation for the concept of *opportunity confidence*. It describes how an actor assesses an opportunity that appeals to them. It often takes place on an individual level, although it can also result from social contact. The second is "co-evolution," which states that early opportunities lead to opportunity confidence and new venture development. This will have an impact on the SEE, which in turn will have an impact on the entrepreneurs themselves and their capacity to recognise, create, and take advantage of new opportunities.

During their research period, lasted three years, they found three opportunity co-evolution phases within the SEE:

1. Co-intuiting: is described as the initial cooperative efforts that aid in the development of hazy concepts regarding technological, creative, and economical potential. In any case, players need to isolate themselves in order to develop original thoughts;
2. Co-interpreting: is the process of mutually understanding possible ideas and discovering opportunities with a high chance of success;
3. Co-integrating: is the process of mutually determining if an idea is ready for implementation and outlining potential future paths.

However, without some fundamental enablers, the co-evolution process also fails when the three phases do not occur. These enablers identified by the authors in creating a SEE are:

1. Shared sustainability intention
2. (Positive) emotional climate

The shared sustainability intention serves as the foundation – or cornerstone – for the creation of the SEE and the process of generating opportunity confidence. The emotional climate increases shared goals and symbolises specific characteristics and behaviours in the emerging ecosystem to combine creative freedom to develop new enterprise ideas and opportunity confidence. It must be a "positive" environment for the actors to produce new sustainable innovations.

This is the first step away from attempting to understand an already stable SEE and toward a road that travels back in time. In truth, the question "does it work?" is frequently asked, but only rarely is an attempt made to identify the stages of growth of a SEE, i.e., how it comes into being and what components must be considered for it to become effective.

On the other hand, the factors that comprise the SEE are broadly discussed. In reality, several research has been conducted to determine what the key components of a sustainable ecosystem are and how they differ from the traditional one.

As we can see from the comparison of Cohen's two definitions, the SEE appears to require a different configuration than the classical EE. This argument is repeated in the essay by Di Vito and Ingen-Housz (2021), who believe that a SEE necessitates a unique set of institutions and actors. According to the research, a SEE is distinguished from an EE in the following ways:

- Sustainability orientation of actors
- Recognition of sustainable opportunities and resource mobilization
- Collaborative innovation of sustainability opportunities
- Markets for sustainable products and services

Cohen (2006) is frequently quoted in the literature since he appears to be among the first to propose research on the SEE and its actors. He recognises seven components: informal network, formal network, university, government, professional and support services, capital services, and talent pool. Following him, Isenberg (2010) and Spiegel (2017) attempted to do the same, identifying 6 domains and 3 categories of SEE components, respectively.

For Cohen, the informal network is more significant than the formal network since it is made up of friends and family who are more likely to understand and support a sustainable entrepreneur. The formal network, on the other hand, can be a barrier since individuals associated may be hesitant to follow the entrepreneur due to a probable lack of knowledge in the sustainability domain. This was the biggest difference the author saw while attempting to apply typical EE components to a SEE. Figure 2 depicts the remaining components.

Pankov et al.'s work on contextual factors provides additional support. The authors first define the contextual factors as the elements and attributes of the environment that influence the effectiveness of entrepreneurship, which is both enabled and constrained by its context. Then, they individuate two different types of contextual factors: factors that enhance sustainable activities and factors that restrict sustainable activities.

Their perspective differs from Cohen's study, but it is nonetheless critical in understanding potential limits/barriers to SEE development, as well as providing their viewpoint on which variables could drive the formation of sustainable activities.

Figure 3 summarises the findings. The writers conducted their research in the sphere of the sharing economy. A form of economic paradigm in which individuals and organisations can share access to goods and services rather than owning them altogether is referred to as the sharing economy. This can be accomplished through numerous platforms or networks that allow resource sharing, such as Airbnb (for lodging), Uber (for transportation), or TaskRabbit (for odd jobs and errands).

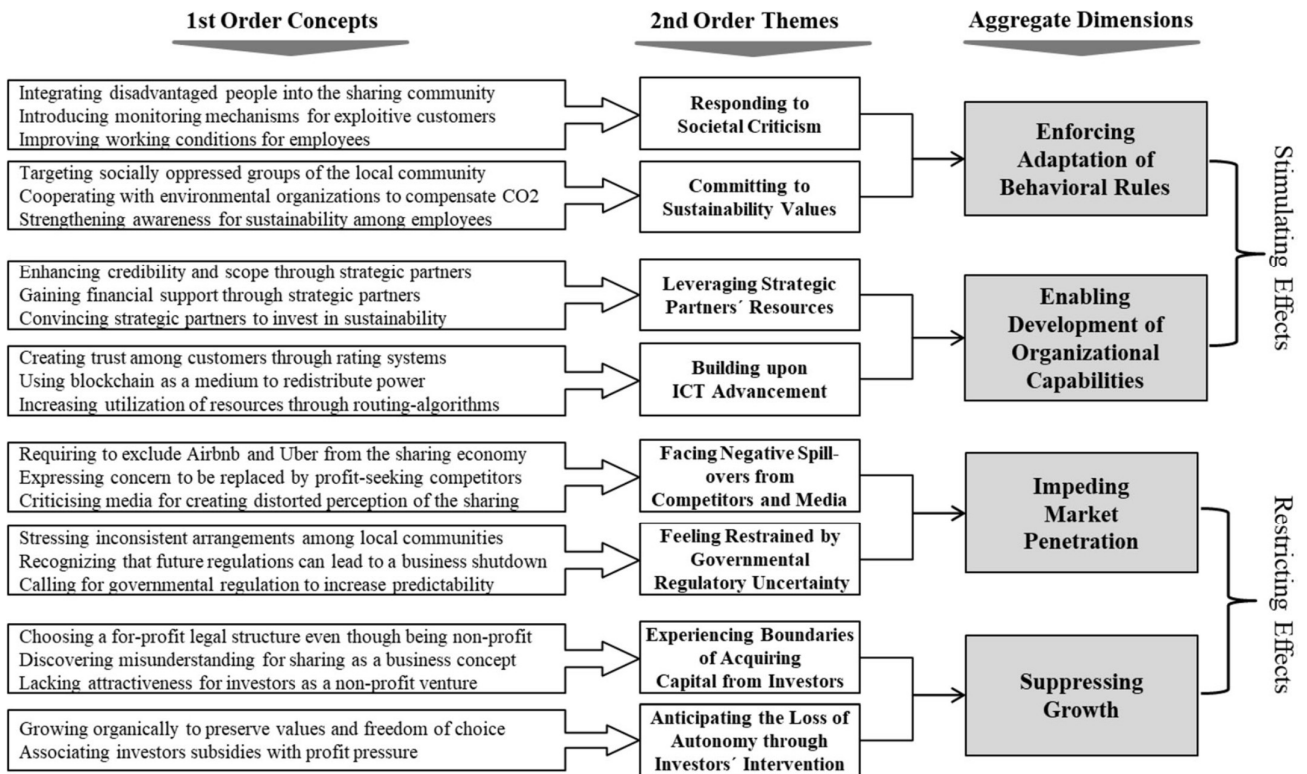
Individuals in the sharing economy might create income by renting or giving their unused assets (such as a spare bedroom, a car, or a skill set) to others on a temporary basis. Because it allows for resource sharing without the requirement for ownership, this model can be more cost-effective and convenient for both the provider and the consumer.

With the emergence of internet platforms and apps that make it simple for individuals to interact and swap products and services, the sharing economy has evolved dramatically in recent years. It has also been influenced by changes in consumer attitudes and tastes, with many individuals preferring more flexible and sustainable resource use options. However, the sharing economy has been met with criticism and regulatory obstacles since it has the potential to disrupt existing business structures and raise concerns about issues like safety, security, and fairness.

Fig.2 Application of ecosystem components to a SEE (source: Cohen, 2006)

System component	Definition/applicability to traditional systems	Application to sustainable entrepreneurial ecosystem (SEE)
Informal network	Represents the entrepreneur's friends, families, colleagues and informal relations with similar companies (Neck <i>et al.</i> , 2004; Birley, 1985).	The same members of an informal network can assist (or hinder) an entrepreneur in pursuit of sustainable innovations. Sustainable entrepreneurs sometimes face more barriers from the formal network so the importance of the informal may be even greater.
Formal network	Is a diverse group of actors in an economic community such as a research university, government, professional and support services, capital sources, talent and large corporations (Neck <i>et al.</i> , 2004; Birley, 1985).	Members of the formal network often cause challenges for sustainable entrepreneurs due to lack of understanding/expertise in sustainability. Formal network actors are addressed individually below.
University	Research universities can have a significant impact on the evolution of an ecosystem through primary research and education of skilled workers (Bruno and Tybjee, 1982; Neck <i>et al.</i> , 2004).	Research universities can create and disseminate knowledge regarding sustainability and even developing and commercializing technologies, prior impacts of unsustainable behaviour and raising awareness in the community at large, particularly through leading by example.
Government	Federal, regional and local governments foster or hinder the development of entrepreneurial ecosystems through tax rates and incentives, subsidies and grants and eliminating the bureaucratic 'red tape' (Siegel <i>et al.</i> , 2003).	Governments can play a significant role in fostering an SEE through policies that encourage or mandate more sustainable behaviour on the part of consumers and firms. Much innovation can actually be compelled through proper policy application (e.g. mandating reduced vehicle emissions).
Professional and support services	Entrepreneurial support services include entrepreneurial tax and legal support, consultants, and firms in the supply chain (Neck <i>et al.</i> , 2004).	To support the SEE, a variety of specialty advisers who understand and value sustainability principles should be present to overcome barriers from traditional advisers who do not understand the challenges faced by these ventures (Schick <i>et al.</i> , 2002).
Capital services	Access to start-up capital such as venture capital or angel investors for new ventures is of critical importance in the development of entrepreneurial ecosystems (Prevezer, 2001; Neck <i>et al.</i> , 2004).	Sustainable ventures are also dependent upon access to start-up capital, and often have challenges finding investors who understand their businesses and share their values (Schick <i>et al.</i> , 2002). Specialized 'green investors' are needed.
Talent pool	Access to a large number of qualified employees is critical for the success of an entrepreneurial ecosystem (Neck <i>et al.</i> , 2004).	Access to qualified employees with knowledge and values relating to sustainability would be helpful. Employees looking for sustainable innovations are also necessary.

Fig.3 Contextual factors enhancing and restricting sustainable entrepreneurial activities (source: Pankov et al., 2021)



Their research validates and expands the understanding that sustainable businesses develop and evolve under special competitive settings because they seek sustainable business goals rather than profit-oriented ones. It is also in line with the existing literature in confirming that a SEE could thrive only if it presents a certain sustainable knowledge and orientation of the actors towards sustainability.

With regard to actors' orientation, there are studies that attempt to understand the contribution they can make inside a SEE. I've chosen two pieces that examine the role of stakeholders (Bischoff, 2021; Bischoff and Volkmann 2018) and one that examines the function of university business incubators (UBIs) as examples (Theodoraki, 2018).

Stakeholder support for sustainable entrepreneurship - a framework of sustainable entrepreneurial ecosystems (Bischoff and Volkmann, 2018), it is a research paper that aims to understand how stakeholders can support sustainable entrepreneurship. The paper introduces a framework for analysing sustainable entrepreneurial ecosystems, which are defined as "the sum of the diverse stakeholders and the interactions among them that influence the sustainability of entrepreneurial firms."

Stakeholders, according to the report, play a key role in the development and success of sustainable entrepreneurship. Customers, employees, shareholders, suppliers, regulators, and local communities are among the stakeholders. Each of these categories has various motives, expectations, and interests, which must be taken into account when devising methods to foster sustainable entrepreneurship.

The article addresses the various ways in which stakeholders may promote sustainable entrepreneurship, including financial and non-financial resources, information and skills, networking

and collaboration, and advocacy and lobbying. It also covers the role of governments in fostering favourable conditions for sustainable entrepreneurship through policies, legislation, and funding. The authors suggest a "sustainable entrepreneurial ecosystem" paradigm for understanding the role of stakeholders in fostering sustainable entrepreneurship.

The framework consists of four main components:

1. Enabling conditions: These are the underlying conditions that support the development and growth of sustainable entrepreneurial ventures, such as access to financing, regulatory frameworks, and supportive infrastructure.
2. Entrepreneurial actors: These are the individuals and organizations that engage in sustainable entrepreneurship, including entrepreneurs, social innovators, and corporate innovators.
3. Stakeholders: These are the individuals, organizations, and groups that are affected by or have an interest in sustainable entrepreneurship, including customers, employees, investors, and community members.
4. Sustainability outcomes: These are the environmental, social, and economic impacts of sustainable entrepreneurship, including the positive and negative effects on society and the environment.

The authors contend that all four of these components are interrelated and impact one another, and that a successful SEE involves everyone's active engagement and support.

Overall, the article contends that a holistic approach, comprising the active participation and collaboration of numerous stakeholders, is required to encourage sustainable entrepreneurship. Stakeholders can collaborate to develop SEEs that encourage the long-term viability and sustainability of entrepreneurial companies.

Bischoff (2021) proposes yet another study on the role of stakeholders in a SEE. The purpose of this article is to discuss the impact of stakeholder cooperation and support, as well as the influence of culture on entrepreneurship and sustainability consciousness.

The findings emphasize the significance of a region's entrepreneurial culture, as well as a combination of "tailored" support and collaboration, in developing strong SEEs.

The third article is *A social capital approach to the development of sustainable entrepreneurial ecosystems: an explorative study*. It is a research paper written by Theodoraki et al. that explores the role of social capital in the development of SEE by focusing on the UBIs.

Social capital refers to the networks, norms, and trust within and between organizations and communities that facilitate cooperation and coordination. It is often considered a key factor in the development and success of entrepreneurial ecosystems. Indeed, the social capital theory's central claim is that network links enable access to resources.

The study likely involved researching the ways in which social capital contributes to the development of SEE and how SEE can be designed and supported to foster social capital. In particular, their analysis suggests that all three social capital dimensions are relevant to the effective functioning and sustainability of the university-based entrepreneurial ecosystem: addressing the structural dimension improves access to resources; addressing the cognitive dimension strengthens relationships among ecosystem members; investing in the relational dimension improves complementarity and trust as the ecosystem evolves. As a result, the combination of these dimensions may contribute to the long-term viability of the university-based entrepreneurial environment and may define the role of UBI as a key contributor to performance and sustainability.

1.2 Key takeaways and future indications

Following this summary of the current state of the literature on SEEs, I would like to close with some general thoughts in this final paragraph of the first chapter.

According to what I have learned, a SEE can be effective if all people, organisations, companies, and institutions inside it collaborate with the common objective of fostering sustainable innovation. Without ignoring profit, sustainability has been defined to embrace not just the environmental but also the social domain. However, without the proper backing, sustainable entrepreneurs will be unable to fulfil their sustainable development objectives.

Bischoff (2021) also provides six possibilities on the impression of the strength of an SEE in his article, which can capture everything mentioned so far:

1. There are differences regarding the perceived strength of SEEs among regions. They can differ depending on the location, climate, and culture. Furthermore, the importance of sustainability varies by location, which may influence a SEE's perception.
2. There are differences regarding the perceived strength of the SEE among entrepreneurs and other entrepreneurial stakeholders. It is vital for success to pay attention to stakeholder interests and secure both support and resources. However, stakeholders' perspectives on SEE may differ.
3. Strong perceived stakeholder support is positively correlated with the perceived strength of a SEE. When focused on sustainability, stakeholder support encourages entrepreneurial activities that embrace sustainability.
4. Strong perceived stakeholder collaboration is positively correlated with the perceived strength of a SEE.
5. Strong perceived awareness for entrepreneurship is positively correlated with the perceived strength of a SEE.
6. Strong perceived awareness for sustainability is positively correlated with the perceived strength of a SEE.

To conclude this chapter, I'd like to offer one final definition of SEE that may be disruptive.

Following the events of the Covid-19 pandemic, Cannice et al. (2022) realised that an ecosystem cannot be defined solely by geographical or, more broadly, physical bounds.

The Covid-19 pandemic has had significant impacts on businesses and entrepreneurial ecosystems around the world. These impacts have varied depending on the specific industries and sectors involved, the resilience and adaptability of the businesses involved, and the policy responses of governments and other stakeholders.

In general, the Covid-19 pandemic has posed significant challenges to SEEs. Many businesses within these ecosystems have struggled to survive in the face of economic downturns, supply chain disruptions, and changes in consumer behaviour. Some businesses have been forced to pivot or adapt their operations to meet new challenges, while others have gone bankrupt or had to close. At the same time, the Covid-19 pandemic has also presented opportunities for innovation and resilience within SEE. Many businesses within these ecosystems have found creative ways to adapt to the changing circumstances, such as by developing new products or services, transitioning to online or remote operations, or collaborating with other organizations.

Following these considerations, I added a sustainability focus to the authors' definition of the entrepreneurial ecosystem as "a set of organisations that through localized and digitally distributed and coordinated activities, develop innovative *sustainable* products and services".

This definition, which I defined as disruptive, may allow applications to regions not typically associated with a potential of creating a SEE due to lack of localized resources.

In the next chapter I analyse the relation between SDGs and SEEs providing a brief introduction on SDGs and then focusing on some of those goals mostly related to entrepreneurial activities.

2. THE RELATIONSHIP BETWEEN SUSTAINABLE DEVELOPMENT GOALS AND ENTREPRENEURIAL ECOSYSTEMS

The 2030 docket for Sustainable Development, espoused by all United Nations Member States in 2015, provides a participated design for peace and substance for people and the earth, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are a critical call for action by all countries- developed and developing- in a global cooperation. They fete that ending poverty and other losses must go hand-in-hand with strategies that ameliorate health and education, reduce inequality, and goad profitable growth – all while diving climate change and working to save our abysses and timbers.

The SDGs make on decades of work by countries and the UN, including the UN Department of Economic and Social Affairs:

- In June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries espoused Agenda 21, a comprehensive plan of action to make a global cooperation for sustainable development to ameliorate mortal lives and cover the terrain.
- Member States unanimously espoused the Millennium Declaration at the Millennium Summit in September 2000 at UN Headquarters in New York. The Summit led to the elaboration of eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015.
- The Johannesburg Declaration on Sustainable Development and the Plan of perpetration, espoused at the World Summit on Sustainable Development in South Africa in 2002, reaffirmed the global community's commitments to poverty eradication and the terrain, and erected on Agenda 21 and the Millennium Declaration by including further emphasis on multinational hook-ups.
- At the United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil, in June 2012, Member States espoused the outgrowth document “The Future We Want” in which they decided, inter alia, to launch a process to develop a set of SDGs to make upon the MDGs and to establish the UN High- position Political Forum on Sustainable Development. The Rio 20 outgrowth also contained other measures for enforcing sustainable development, including authorizations for unborn programmes of work in development backing, small islet developing countries and further.
- In 2013, the General Assembly set up a 30-member Open Working Group to develop an offer on the SDGs.
- In January 2015, the General Assembly began the concession process on the post-2015 development docket. The process crowned in the posterior relinquishment of the 2030 docket for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.
- 2015 was a corner time for multilateralism and transnational policy shaping, with the relinquishment of several major agreements:
 - Sendai Framework for Disaster Risk Reduction (March 2015)

- Addis Ababa Action Agenda on Financing for Development (July 2015)
- Transforming our world, the 2030 docket for Sustainable Development with its 17 SDGs was espoused at the UN Sustainable Development Summit in New York in September 2015.
- Paris Agreement on Climate Change (December 2015)
- Now, the periodic High-position Political Forum on Sustainable Development serves as the central UN platform for the follow-up and review of the SDGs.

At the moment, the Division for Sustainable Development Goals (DSDG) in the United Nations Department of Economic and Social Affairs (UNDESA) provides substantial support and capacity-structure for the SDGs and their affiliated thematic issues, including water, energy, climate, abysse, urbanization, transport, wisdom and technology, the Global Sustainable Development Report (GSDR), hook-ups and small islet Developing States. DSDG plays a crucial part in the evaluation of UN system wide perpetration of the 2030 docket and on advocacy and outreach conditioning relating to the SDGs. In order to make the 2030 Agenda a reality, broad power of the SDGs must restate into a strong commitment by all stakeholders to apply the global pretensions. DSDG aims to help grease this engagement.

Then below are listed the 17 SDGs:

1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation, and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice, and strong institutions
17. Partnerships for the goals

2.1 Sustainable Development Goals and sustainable entrepreneurship

In recent years we have seen an increasing interest in research over entrepreneurship and its link with SDGs. Today, it is possible to distinguish various types of entrepreneurs focusing on sustainability as proposed by Akku and Çalıyurt in figure 4 (2022).

Fig.4 Entrepreneurship types focusing on sustainability

Entrepreneurship Types
Environmental entrepreneurship
Eco entrepreneurship
Climate entrepreneurship
Biosphere entrepreneurship
Policy entrepreneurship
Institutional entrepreneurship
Sustainable entrepreneurship

In particular, while the types of entrepreneurs going from environmental to institutional focus on unique aspects of the enormous sphere of sustainability, the latter one – sustainable entrepreneurship – focuses on the whole theme. It covers all the aspects that the United Nations declare as really important in achieving the objectives fixed in the SDGs.

As stated by the authors, sustainable entrepreneurship is based on the triple-bottom-line (TBL), which consists of environmental, social, and economic aspects in the long term.

The TBL is a business concept that asserts firms should measure their social and environmental impact – in addition to their financial performance – rather than solely focusing on generating profit, or the standard “bottom line”².

Since entrepreneurs adopted this philosophy in doing business, they helped to reduce, or even eliminate, some environmental and social problems.

Entrepreneurship role in the effective achievement of the UN Sustainable Development Goals by 2030 is crucial as main driver of economic development. Companies around the world of all size and sector, are called upon to make an important contribution through new responsible business models, investments, innovation, technological development and cultivating healthy relationships with stakeholders. The key element of business is exactly innovation. This means that companies can and should try to create a link between innovation – of product, service, or process – and sustainability which scope is to develop new sustainable solutions in line with SDGs.

The private sector would benefit by pursuing sustainable development goals. For example, companies would be able to identify new business opportunities, strengthen relationships, stabilize markets by promoting transparent financial markets, and identify, manage, and monitor risks.

Some of the main relationships between SDGs and sustainable entrepreneurship are discussed in the next paragraphs.

2.1.1 SDG 6: Clean water and sanitation

SDG6 focuses on ensuring access to water and sanitation for all. Billions of people will lack access to drinking water, sanitation, and hygiene in 2030 unless progress quadruples, according to the UN. Right now, more than 733 million people live in countries with high and critical levels of water stress.

Sustainable entrepreneurs but also researchers are looking forward to developing new technologies. Some studies – for example the one of Patzelt and Shepherd (2011) - develop eco-innovations that transform contaminated water into drinking water using cheap technologies.

² <https://online.hbs.edu/blog/post/what-is-the-triple-bottom-line>

Indeed, an effort underway is a range of innovative, low-cost technologies called SMART (Simple, Market-based, Affordable, Repairable Technologies). Examples are manual drilling, locally produced hand pumps, tube groundwater recharge to store rainwater in the ground, household water filters, and others³. In this article, the authors propose six ideas to reach the objectives of Goal 6: Household Water Treatment and Safe storage (HWTS), increase functionality of communal rural water supply, reduce cost of new communal rural water supply, improve existing and make new family wells, make similar subsidies a human right, and wash centres in each country.

Cargill is one business that has committed to supporting SDG 6. Cargill is a multinational company with its headquarters in the USA. Their purpose is to nourish the world in a safe, responsible, and sustainable way. They combine their experience with new technologies and insights to serve as a trusted partner for food, agriculture, financial and industrial customers.

In 2018, Cargill employees erected 155 rainwater collection systems in Mexico, 143 in homes, and 12 in schools, with assistance from a partner group named Isla Urbana. Each system gathers rooftop rainwater, cleans it, stores it, and connects to indoor plumbing. Additionally, it helps keep the city from flooding. Over 3,000 people have benefited from these projects since 2015, which were finished by 11 work brigades with the help of 196 Cargill volunteers who gave nearly 1600 hours of their time. Cargill has contributed more than \$211,000 to the project's implementation, which is a crucial component of the business's strategy for corporate social responsibility in support of regional communities.

2.1.1.2 SDG 7: Affordable and clean energy

SDG7 focuses on ensuring access to affordable, reliable, sustainable, and modern energy for all even if progress in electrification has slowed due to the challenge of reaching those hardest to reach. Based on the current trend, in 2030 the number of people without electricity will be around 679 million. Renewable energy has increased in the last 10 years (2010-2020) where renewable capacity per capita has increased by 57.6% but least developed countries remained behind. Also, here there are opportunities for those who want to contribute. Valuer⁴ is a matching tool that assists organisations in finding startups that can help them innovate. Every month it publishes one SDG Forecast report that demonstrates how large organizations can emerge with a specific UN SDG by collaborating with startups. Some examples of sustainable affordable and clean startups are AutoGrid (a startup from the US that utilizes the knowledge of world-class software architects, engineers, data scientists and energy experts to apply in-depth energy analytics to help solve the world's most pressing energy concerns), Bluewave-AI (utilizes the power of AI to provide clean and smart energy solutions aiming to help companies transition to the use of renewable energy sources) or Sierra Energy (their process converts household trash, hazardous waste, tires, medical waste, construction and demolition materials into safe and responsible energy).

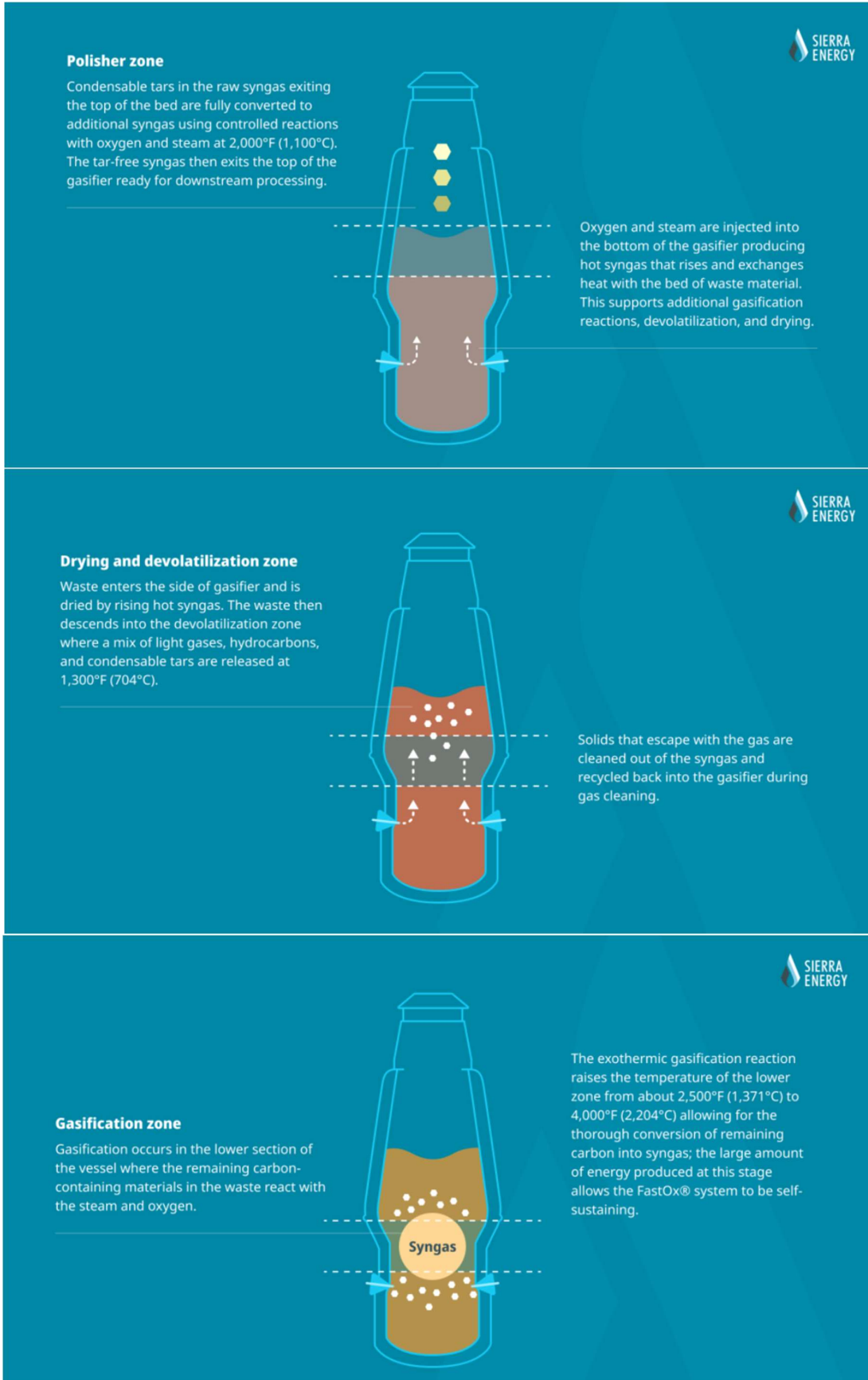
Sierra Energy is situated in the United States, and thanks to its technology, it has been highlighted in publications of note, including Forbes, The Wall Street Journal, and networks like CNBC and TedX.

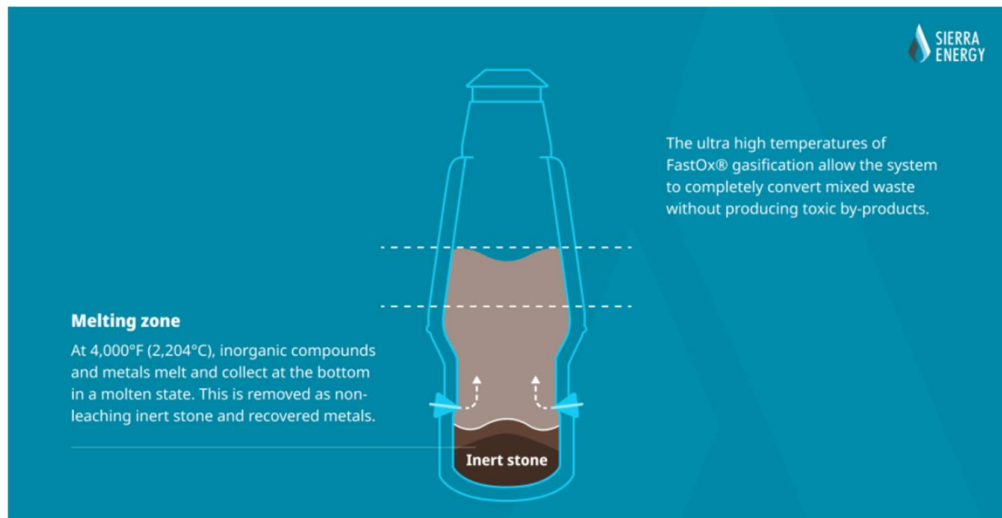
The FastOx Gasification technique is their major tool. FastOx gasification breaks down trash at the molecular level by using heat, steam, and oxygen. Organic materials turn into energy-dense syngas. Inorganics melt into non-leaching stone and metals. Waste is converted into particle and tar-free syngas that may be converted into high-value end products. There is no waste by-products created. In figure 5 is explained how it works.

³ 6 practical ideas to reach Sustainable Development Goal 6 (SDG6): Water (engineeringforchange.org)

⁴https://www.valuer.ai/?_gl=1*1tbj22d*_ga*MTk4NDU1OTg5NC4xNjY4Njc0ODQ3*_ga_8H7TY5F1FZ*MTY2ODY3NDg0Ni4xLjEuMTY2ODY3NjM0NS4yMC4wLjA.

Fig.5 FastOx Gasification process





At the end of this process, Sierra Energy is able to obtain the following end-products:

- Electricity: Gas turbines and generator sets can both be run on syngas. Electricity is produced using clean syngas, which has fewer specific emissions than even natural gas.
- Hydrogen: is produced via pressure swing adsorption separation and water gas shift, and it can be injected into a pipeline or used in a hydrogen fuel cell.
- Methanol: is typically produced from syngas that comes from fossil fuels. FastOx gasification now allows waste to serve as the syngas source.
- RNG (Renewable Natural Gas): There are a number of commercial methanation methods that can turn waste syngas into renewable natural gas.
- Ammonia: uses the Haber-Bosch process to create syngas and is the main component of chemical fertilisers.

2.1.3 SDG 8: Decent work and economic growth

SDG8 focuses on promoting sustained, inclusive, and sustainable profitable growth, full and productive employment, and decent work for all. Unfortunately, global profitable recovery is hampered by new swells of Covid-19, rising affectation, political query and least but not least the Ukraine extremity. As frequently happens, indeed if some data are growing – as worker productivity – least developed countries aren't suitable to keep up. As Schaltegger et al. (2018) reflect, some possible sustainable entrepreneurship systems in order to achieve these SDGs are to offer jobs with good working conditions and fair hires.

Hitachi's Social Innovation Business aims to develop results that give real benefits to society and produce a safer, smarter, and more sustainable world. Hitachi Video Analytics, an innovative videotape system combined with an artificial intelligence platform, is one illustration. It is formerly being used to turn public areas into smart spaces that help to keep people safe, and there is huge compass to apply the technology in other surroundings. It could be applied in manufactories and artificial areas to help overcrowding or to identify workers operating in high-threat areas.

This is a practical illustration applied from a transnational company but other ideas less practical but still impacting could be offering internship openings, fostering entrepreneurial culture and invest in or tutor youthful entrepreneurs or installing a firm policy against illegal hiring and reclamation practices.

2.1.4 SDG 9: Industry, innovation, and infrastructure

SDG9 focuses on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. The numbers say that higher-technology industries are far more resilient in crisis than their lower-tech counterparts. In addition, small-scale industries lack access to financial support for recovery.

Space technologies play a key role in implementing the targets of Goal 9. In particular, they are useful in infrastructure mapping and monitoring, including maintenance of road infrastructure in rural environments, where the most reliable technology is satellite-based; construction surveying through machine automation; smart mobility, e.g., reduced fuel consumption by smarter planning and monitoring of driving behaviour⁵. ESA (European Space Agency) shows in its website various activities linked to Goal 9. For example, AIR-Portal, an Air Quality Dashboard for European cities, was developed. AIR-Portal uses a custom-designed, local Air Quality Model that combines remote sensing, land use, road, and local monitoring data into air quality forecasts⁶. The forecasts, then, are used to take decisions on how to improve the quality of the air.

Another example is HyBird which uses AI technology to inspect and predict structural weaknesses and failure for industrial assets⁷.

2.1.5 SDG 12: Responsible consumption and production

SDG12 focuses on icing sustainable consumption and product patterns. Too important food is being lost or wasted in every country every day –13,3% of food is lost after harvesting and before reaching retail requests while 17% of total food is wasted at consumer position (UN data).

Developing countries bear a large part of the climate, biodiversity and pollution impacts of resource-ferocious product processes, without reaping their benefits. This situation has been made worse by the impacts of the epidemic. As part of sustainable global epidemic recovery strategies, the perpetration of sustainable consumption and products will maximize the socioeconomic benefits of resource use while minimizing the impacts, as stated in the UN website.

In this specific thing, there are numerous intriguing startups with innovative ideas. One is Nasekomo (Bulgaria) which produces agrarian products like fertilizers from organic waste making agriculture more sustainable.

Another bone is Refurbed (Austria) which recycles electronic waste to produce new electronic products which are 40% cheaper and 100% further environmentally friendly than those made from new accoutrements. Prior to getting as excellent as new, refurbished products go through 40 processes. These 40 ways are summarised in the following four points:

1. Data purifying all data on the device is completely cancelled, and everything is reset to their plant dereliction settings.
2. Relief of harmed components: the devices go through the most thorough specialized examinations, and in the event of problems, the harmed component is changed.
3. External overhaul: the widgets' entire ornamental excrescence is fixed.
4. Put up for trade: the widgets are presently on the request.

2.1.6 SDG 13: Climate action

SDG13 focuses on taking urgent action to combat climate change and its impacts. Nowadays, it is the main topic for all political agendas as we can see with our own eyes the temperature rising carrying dramatic effects such as ice melting – with increase of the sea level – or leading to more

⁵ <https://www.unoosa.org/oosa/en/ourwork/space4sdgs/sdg9.html>

⁶ <https://sdg.esa.int/goals/sdg9-industry-innovation-and-infrastructure>

⁷ <https://www.hybirdtech.com/>

extreme weather. For coastal areas, sea level rise is expected to continue throughout the 21st century, which could lead to more frequent and severe flooding and coastal erosion. Extreme events related to sea level that used to occur once every 100 years could occur annually by the end of this century, scientists warn.

Because of these warnings, some companies are promoting campaigns to tackle climate change. A nice example is given by Asahi Breweries, the biggest Japanese producer of beer and other drinks. In 2019, the challenge of the campaign Lead 2030 was supported by RB for Goal 2; by AstraZeneca for Goal 3; by Deloitte for Goal 4; for Goal 9 by Standard Chartered and many others. In 2020, the challenge was Goal 13 where young innovators were called to find solutions to improve climate resilience of crops; reduce on-farm GHG emissions; support farmers with innovation and improve access to information⁸.

2.1.1.7 SDG 15: Life on land

SDG15 focuses on protecting, restoring, and promoting sustainable use of terrestrial ecosystems, sustainable manage forests, combat desertification, and halt reverse land degradation and halt biodiversity loss. Agricultural growth is responsible for over 90% of worldwide deforestation. Despite overall forest loss, the globe is making strides toward sustainable forest management. Globally, the number of forests under certification systems, the proportion of forests within protected areas, and the proportion of forests under long-term management plans grew between 2010 and 2020 (United Nations).

The sustainable entrepreneurial action is advertised as a possible solution to preserve and recover earth's ecosystems and diminishing/eliminating environmental degradation (Shepherd & Patzelt, 2011).

Thanks to the Global Start Up Heat Map made available by StartUs Insights, it is possible to highlight 5 startups out of 256 that are contributing to protect Life on Land⁹.

1. EcoMatcher: it is a Hong-Kong based startup which provides solutions to organizations that are engaged in planting trees transparently – the lack of transparency makes it difficult for these organizations to retain sponsors. EcoMatcher's app keeps track of each planted tree through a unique code and tags it with GPS coordinates.
2. UBEES: this US-based startup developed a technology to monitor with non-intrusive sensors hives' health. This helps beekeepers to better understand the bees' status, increase profits, and save local biodiversity around food supply chains.
3. Greenback: French startup that through field samples and metadata has been able to create an algorithm. The result of the algorithm is used then to analyse soil biodiversity and its pollution levels compared with international benchmarks.
4. Wildnote: this US startup offers wetland delineation environmental compliance solutions. Its mission is to protect natural resources by automating the manual processes of environmental compliance.
5. OroraTech: this German startup developed a system to detect wildfires using a nanosatellite constellation. Its solution is designed to inform you of the earliest detection of hotspots and allows you to monitor areas at risk of wildfires.

In the next section, I will focus on the relationship between developing countries, the SDGs and sustainable entrepreneurship in order to have a clear scenario and as complete as possible once I talk about the business case, since Nigeria is one of the developing countries.

⁸ <https://www.entrepreneurs.ng/lead-2030-challenge-for-sdg13-supported-by-asahi-application/>

⁹ Discover 5 Top Startups protecting Life on Land | UN SDG #15 (startus-insights.com)

2.2 Developing Countries, SDGs, and Sustainable Entrepreneurship

Often when we talk about the SDGs, we think we are referring to a strategic agenda shared by all countries to reduce inequalities and protect the environment. Every year, rankings are made to assess the performance of countries on the basis of the 17 SDGs. What seems to be overlooked in these rankings are the available financial resources to be invested.

If we leaf through the Sustainable Development Report, we discover that most of the top positions are occupied by what are defined as Developed Countries (see figure 6). Below are the 163 countries grouped according to their development:¹⁰

- **Developed:** Finland, Denmark, Sweden, Norway, Austria, Germany, France, Switzerland, Ireland, Estonia, UK, Czech Republic, Latvia, Slovenia, Spain, Netherlands, Belgium, Japan, Portugal, Hungary, Iceland, Italy, New Zealand, Slovak Republic, South Korea, Canada, Greece, Malta, Luxembourg, Australia, United States, Lithuania, Russian Federation, Israel, Poland, Croatia, Romania, Bulgaria, Cyprus
- **Developing:** Chile, Uruguay, Belarus, Serbia, Ukraine, Cuba, Thailand, Costa Rica, Moldova, Kyrgyz Republic, Georgia, Fiji, Azerbaijan, Vietnam, Brazil, Argentina, Bosnia and Herzegovina, North Macedonia, Albania, Ecuador, Algeria, Suriname, Kazakhstan, Armenia, Maldives, Dominican Republic, Tunisia, Turkey, Malaysia, Barbados, Mexico, Sri Lanka, Colombia, Uzbekistan, Tajikistan, Oman, El Salvador, Jordan, Indonesia, Jamaica, Morocco, UAE, Montenegro, Egypt, Iran, Bolivia, Mauritius, Nicaragua, Paraguay, Qatar, Brunei, Saudi Arabia, Philippines, Lebanon, Belize, Turkmenistan, Singapore, China
- **Least Developed:** Bhutan, Nepal

Fig.6 The SDG Index (Sustainable Development Report, 2022)

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
1	Finland	86.5	42	Bulgaria	74.3	83	Jamaica	69.0	124	Rwanda	59.4
2	Denmark	85.6	43	Cyprus	74.2	84	Morocco	69.0	125	Pakistan	59.3
3	Sweden	85.2	44	Thailand	74.1	85	United Arab Emirates	68.8	126	Senegal	58.7
4	Norway	82.3	45	Russian Federation	74.1	86	Montenegro	68.8	127	Cote d'Ivoire	58.4
5	Austria	82.3	46	Moldova	73.9	87	Egypt, Arab Rep.	68.7	128	Ethiopia	58.0
6	Germany	82.2	47	Costa Rica	73.8	88	Iran, Islamic Rep.	68.6	129	Syrian Arab Republic	57.4
7	France	81.2	48	Kyrgyz Republic	73.7	89	Mauritius	68.4	130	Tanzania	57.4
8	Switzerland	80.8	49	Israel	73.5	90	Bolivia	68.0	131	Zimbabwe	56.8
9	Ireland	80.7	50	Azerbaijan	73.5	91	Paraguay	67.4	132	Mauritania	55.8
10	Estonia	80.6	51	Georgia	73.4	92	Nicaragua	67.1	133	Togo	55.6
11	United Kingdom	80.6	52	Fiji	72.9	93	Brunei Darussalam	67.1	134	Cameroon	55.5
12	Poland	80.5	53	Brazil	72.8	94	Qatar	66.8	135	Lesotho	55.1
13	Czech Republic	80.5	54	Argentina	72.8	95	Philippines	66.6	136	Uganda	54.9
14	Latvia	80.3	55	Vietnam	72.8	96	Saudi Arabia	66.6	137	Eswatini	54.6
15	Slovenia	80.0	56	China	72.4	97	Lebanon	66.3	138	Burkina Faso	54.5
16	Spain	79.9	57	North Macedonia	72.3	98	Nepal	66.2	139	Nigeria	54.2
17	Netherlands	79.9	58	Peru	71.9	99	Turkmenistan	66.1	140	Zambia	54.2
18	Belgium	79.7	59	Bosnia and Herzegovina	71.7	100	Belize	65.7	141	Burundi	54.1
19	Japan	79.6	60	Singapore	71.7	101	Kuwait	64.5	142	Mali	54.1
20	Portugal	79.2	61	Albania	71.6	102	Bahrain	64.3	143	Mozambique	53.6
21	Hungary	79.0	62	Suriname	71.6	103	Myanmar	64.3	144	Papua New Guinea	53.6
22	Iceland	78.9	63	Ecuador	71.5	104	Bangladesh	64.2	145	Malawi	53.3
23	Croatia	78.8	64	Algeria	71.5	105	Panama	64.0	146	Sierra Leone	53.0
24	Slovak Republic	78.7	65	Kazakhstan	71.1	106	Guyana	63.9	147	Afghanistan	52.5
25	Italy	78.3	66	Armenia	71.1	107	Cambodia	63.8	148	Congo, Rep.	52.3
26	New Zealand	78.3	67	Maldives	71.0	108	South Africa	63.7	149	Niger	52.2
27	Korea, Rep.	77.9	68	Dominican Republic	70.8	109	Mongolia	63.5	150	Yemen, Rep.	52.1
28	Chile	77.8	69	Tunisia	70.7	110	Ghana	63.4	151	Haiti	51.9
29	Canada	77.7	70	Bhutan	70.5	111	Lao PDR	63.4	152	Guinea	51.3
30	Romania	77.7	71	Turkey	70.4	112	Honduras	63.1	153	Benin	51.2
31	Uruguay	77.0	72	Malaysia	70.4	113	Gabon	62.8	154	Angola	50.9
32	Greece	76.8	73	Barbados	70.3	114	Namibia	62.7	155	Djibouti	50.3
33	Malta	76.8	74	Mexico	70.2	115	Iraq	62.3	156	Madagascar	50.1
34	Belarus	76.0	75	Colombia	70.1	116	Botswana	61.4	157	Congo, Dem. Rep.	50.0
35	Serbia	75.9	76	Sri Lanka	70.0	117	Guatemala	61.0	158	Liberia	49.9
36	Luxembourg	75.7	77	Uzbekistan	69.9	118	Kenya	61.0	159	Sudan	49.6
37	Ukraine	75.7	78	Tajikistan	69.7	119	Trinidad and Tobago	60.4	160	Somalia	45.6
38	Australia	75.6	79	El Salvador	69.6	120	Venezuela, RB	60.3	161	Chad	41.3
39	Lithuania	75.4	80	Jordan	69.4	121	India	60.3	162	Central African Republic	39.3
40	Cuba	74.7	81	Oman	69.2	122	Gambia, The	60.2	163	South Sudan	39.0
41	United States	74.6	82	Indonesia	69.2	123	Sao Tome and Principe	59.4			

Considering only the top 100 countries, the top positions are mainly occupied by developed countries - 39 in the top 50 (78%). On the other hand, of the 59 developing countries, only 11 are

¹⁰ List Of Developed, Developing And Underdeveloped Countries 2022 - Fatherprada

in the top 50 (22%). The remaining 50 positions are occupied by developing countries with the exception of Bhutan and Nepal that are the first Least Developed Countries to appear.

As I have stated already, Developing Countries miss primarily financial resources to implement the SDGs. However, this is only one of the issues that these countries face.

Political instability usually is one of the major causes of the slow down. It happens that the government that replaces the previous one abandons projects started by the previous one, and not always for the better. In addition, many countries still face wars. While Asia experiences economic growth in the midst of subnational conflicts, Africa's economy has always been affected by violent conflicts due to terrorist groups, tribal wars, and minorities unrest¹¹.

Another major obstacle to development is corruption. In 2018, the UK stopped sending funds to Zambia because as much as \$4.3m - supposed to be used to fight poverty - had disappeared¹². On the other hand, countries that have managed to overcome - at least partially - problems such as conflicts, political instability or corruption face other challenges such as lack of data and of awareness towards the SDGs topics, lack of robust infrastructures and access to energy¹³.

After all these issues these countries face one question arises: is sustainable entrepreneurship even possible?

According to Hobday (2005), sustainable entrepreneurship in these countries is quite complicated. First of all, most entrepreneurs operate in small and underdeveloped markets where the infrastructure to generate innovation is often absent. Second, there are all those disadvantages that I have already listed above. To overcome these adversities and have sustainable entrepreneurship, one needs to overcome technological disadvantages. Sometimes, however, this is not possible either because of the impossibility of even imitating competitors or because of a lack of resources. A further difficulty in achieving a decent level of sustainability is a widespread distrust in the institutions due to the high levels of corruption or the lack of inclination towards innovation as mentioned by Scheel, C. & Pineda, L. (2011).

In recent years, there has been a growth in the trend of sustainable entrepreneurship in developing countries. What they can still do is try to imitate the more developed countries. Certain factors such as facilities, technologies and a thriving economy are aspects that need more time.

With reference to Minh Dao et al. (2022), what they already have at their disposal and certainly require less effort to implement are factors such as the entrepreneurial approach and spirit, social conditions awareness, policies, and support from institutions, as well as the development of a dynamic entrepreneurial ecosystem.

A great effort in this sense is being made by the UN. Since its foundation is struggling to boost innovation but also sustainable and inclusive development. In the last few years, the target of its initiatives are micro, small, and medium-sized enterprises (MSMEs), which produce 50% of global GDP. Indeed, in 2022, it focused its efforts on helping MSMEs overcome the Covid-19 pandemic crisis. In particular, this initiative develops and implements capacity-building tools in developing countries and economies in transition to strengthen their resilience while mitigating the economic and social impact of the crisis.

UNCTAD gives guidance to countries based on the six pillars of its Entrepreneurship Policy Framework, which include entrepreneurship strategy, regulatory environment, education, technology exchange and innovation, access to financing, and awareness and networking¹⁴.

¹¹ SDGs in Developing Countries - The Borgen Project

¹² <https://www.bbc.com/news/world-africa-45560404>

¹³ <https://cose-eu.org/2021/10/11/sustainable-development-in-developing-countries/>

¹⁴ <https://unctad.org/news/bringing-sustainable-entrepreneurship-next-level>

So far, the main focus has been the relationship between the SDGs and entrepreneurship. From the information gathered, it seems possible to pursue goals in line with the TBL - economic, social, and environmental. In fact, depending on the Goal taken into consideration, I was able to come up with several practical examples. Therefore, I can affirm that it is possible to promote sustainable development without having to give up profit.

In the next chapter I will focus on the sustainable entrepreneurial ecosystem, analysing its features and its actors.

3. SUSTAINABLE ENTREPRENEURIAL ECOSYSTEMS

During my research, I had the opportunity to analyse different points of view. What I noticed was that depending on the year of publication, the definition of the SEE given by the author varied, albeit slightly.

In line with what I learnt after studying the role of the SDGs in the entrepreneurship, I believe that the definition that best encapsulates all concepts and aspects is the one of Bischoff and Volkmann, who in turn were inspired by Cohen:

“An interconnected and collaborating group of stakeholders providing sustainability-focused support to entrepreneurs in order to foster entrepreneurial activities that simultaneously address the economic, ecological, and social dimensions of sustainability and thereby contribute to the transformation to a sustainable regional economy”

However, I think it can be implemented further by trying to be even more specific e.g., mentioning the SDGs. In the previous chapter, I mainly focused on the main player in the entrepreneurial ecosystem, namely the company.

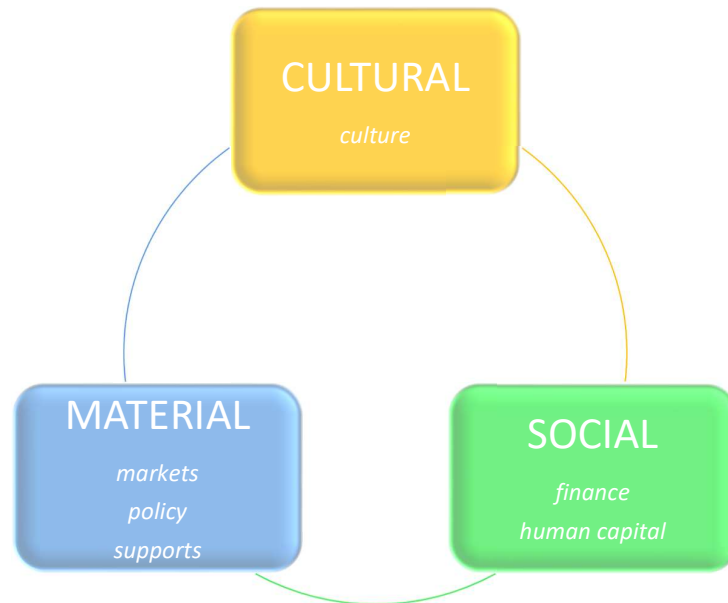
According to Isenberg (2010), an entrepreneurial ecosystem consists of six domains: policy, finance, culture, supports, human capital, and markets.

I use Spigel's classification of the attributes of an entrepreneurial ecosystem (2017) to analyse Isenberg's six domains.

Spigel divides the features of an EE into three areas: cultural, social, and material. Following his definitions exposed in the next paragraphs, in the cultural area falls the domain of Culture; in the social area falls the domains of Human Capital and Finance; in the material area falls the domains of Policy, Supports, and Markets.

This concept is exposed in figure 7.

Fig.7 Combination of Isenberg’s six domains and Spigel’s three areas.



3.1 Cultural factors

“Cultural qualities are a region’s fundamental views and outlooks on entrepreneurship”. Both for Isenberg and Spigel, within this category are enclosed those aspects related to successful stories of entrepreneurs and the cultural attitude of the people in that specific area. Consequently, people’s attitudes towards entrepreneurial practices and norms are influenced by what they believe is correct or sustainable enough.

In one of the 9 points in *“How to start an entrepreneurial revolution”* by Isenberg, reference is made to how the middle class and young people in Chile and Ireland changed their approach and mentality towards entrepreneurship. From being risk-avoid to wanting to take the path of personal success at all costs.

It is therefore important that people within an ecosystem are stimulated by a common belief and motivated to achieve a common goal. It is important to invest in the local community not only based on economic growth, but also by improving living standards, as mentioned by Milica Grujić in her paper *“The strategic role of local community and significance in sustainable entrepreneurial ecosystem development”*.

Another support for entrepreneurial culture is provided by the successful stories of local entrepreneurs and companies. Indeed, as stated by Spigel, examples of successful entrepreneurs within the community provide a central focus for discussing the benefits and possibilities of entrepreneurship and demonstrate that it is a potential career path for students coming out of secondary education. This helps ensure new entrepreneurs and legitimizes the status of risk taking within the region’s culture.

Hence, the more an orientation towards sustainability and the SDGs is widespread in the culture of a given place and the more successful stories related to these topics become available and known, the more it will be possible to increase the sustainable development and its impact in that ecosystem.

Furthermore, local culture that facilitates trust and safety is likely to improve the entrepreneurial ecosystem, in accordance with David B. Audretsch and Maksim Belitski (2016).

3.2 Social factors

“Social characteristics are resources derived from or gained via a region's social networks”.

Isenberg preferred to keep separate Finance and Human Capital, while according to Spigel, the four main features related to the social factors - social networks, investment capital, mentors and dealmakers, and worker talent – include both.

Social networks are probably one of the most important tools for entrepreneurs. If the relationships between participants are based on trust, they can bring valuable resources - both of material nature such as investments and of abstract nature such as knowledge. For reasons of proximity, social networks that are created within the same region are stronger than those that are created with external regions. The main reason is that the proximity of the people involved enables face-to-face encounters.

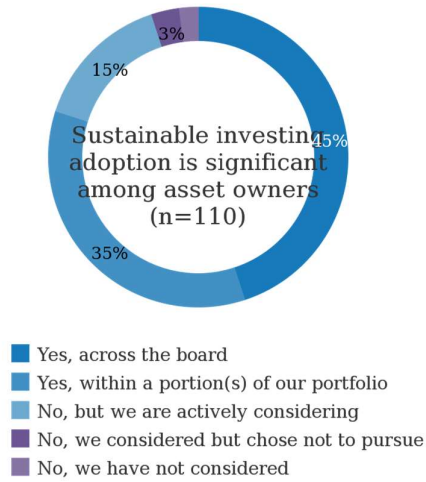
If you are not inside these networks of people, it is difficult for someone who aspires to become an entrepreneur to obtain the needed resources. According to Shi et al. (2018) and their study on the role played by social networks in EE, by belonging to an entrepreneurial community, these future entrepreneurs can develop a reputation of being trustworthy and legitimate so that angel investors and venture capitalists will consider them worthy of investment and collaboration. Even if it could be argued that investment capital is the most important resource for entrepreneurs, what is certain is that it is an extremely valuable resource because whoever provides the capital, also provides experience and knowledge. An angel investor by definition is a high-net-worth individual who provides financial backing for startups and entrepreneurs. In addition to capital, they often act as a mentor offering their advice to get the company they have invested in on the right track.

A phenomenon that is being witnessed due to the explosion of the topic of sustainability in major current affairs is the so-called “sustainable investment”. Some relevant institutions such as the Harvard Business School and Morgan Stanley have provided their views on this.

According to Tim Stobierski's article (*What is sustainable investing?* – Harvard Business School Online, 2022), sustainable investing refers to those practices that allow investors to promote long-term activities that bring both environmental and social benefit whilst achieving a financial return. The risk is not to consider the potential consequences these investments may have on the environmental and social landscape. For this reason, the impact of such investments is usually measured using ESG factors: environmental (impact on the environment), social (impact on society), governance (how the company is managed to achieve positive change). Encouraging businesses to adopt sustainability promotes the existence of purpose-driven firms that make social and environmental impacts that go beyond selling goods or services.

Tim's article has a more theoretical approach in an attempt to define this new investment strategy. On the other hand, Morgan Stanley released an article listing 7 key findings that demonstrate how sustainable investing is gaining popularity among asset owners (*7 insights from asset owners on the rise of sustainable investing*; 2020). The survey showed that, among asset owners, 80% has integrated its portfolio with sustainable investments. The survey has been conducted among 110 asset owners including financial institutions, insurers, and pensions in Asia Pacific, Europe, and North America. Here below are summed up the results (all the graphs are from Morgan Stanley 2020 report).

1. Asset owners are increasingly embracing sustainable investing.



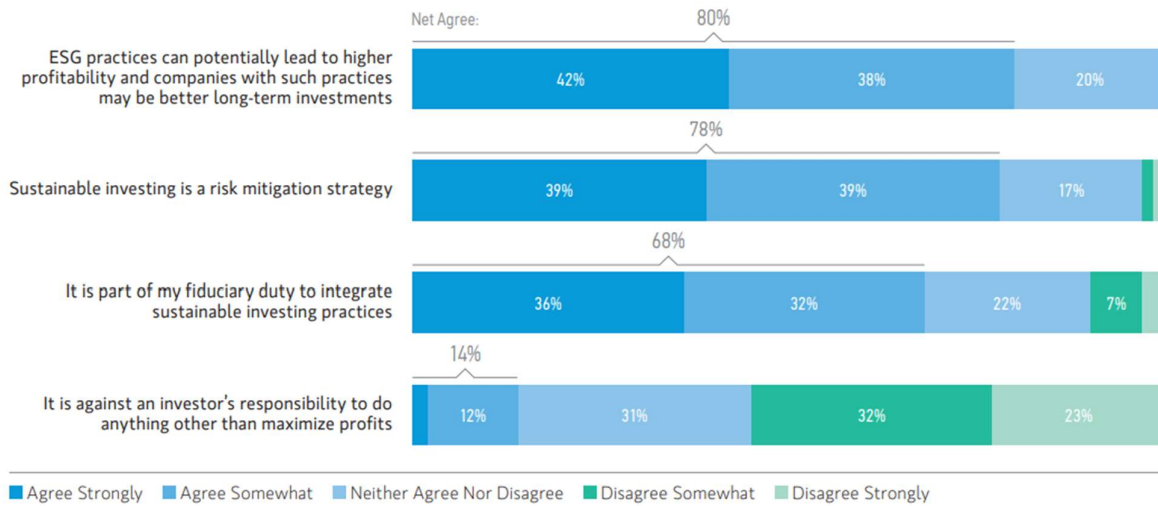
2. Most institutional investors envision a time when they will limit allocations solely to investment managers with a formal sustainable investing approach.



3. Many asset owners have favourable perspectives on ESG investing.

Many asset owners share favorable perspectives on ESG and sustainability

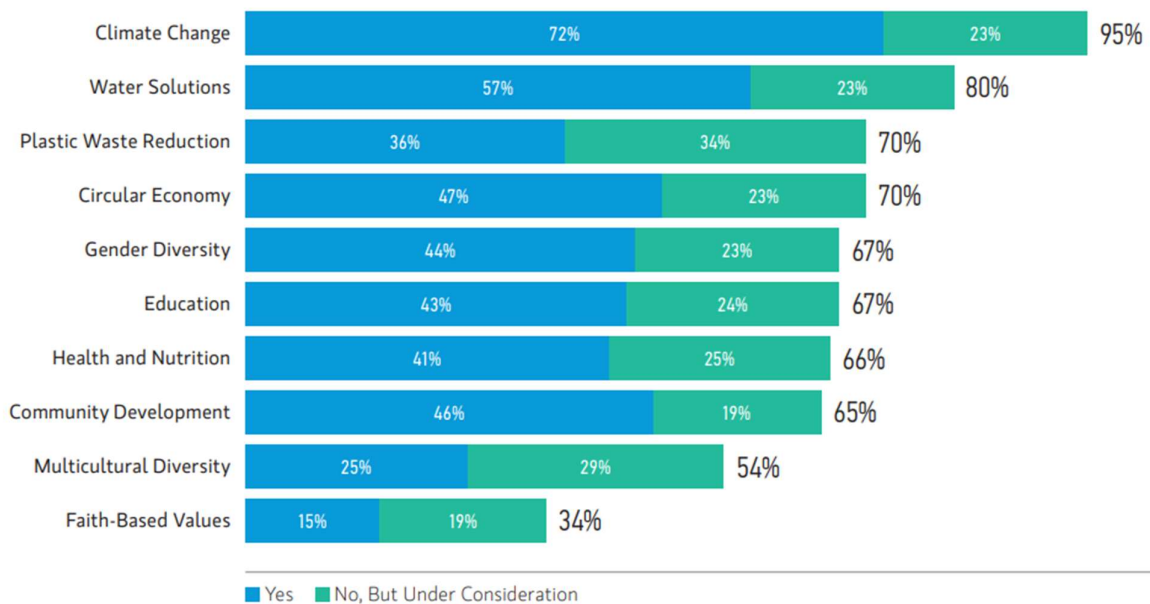
(n=93)



4. Most investors who practice thematic or impact investing seek to address environmental themes.

What matters most to thematic and impact investors?

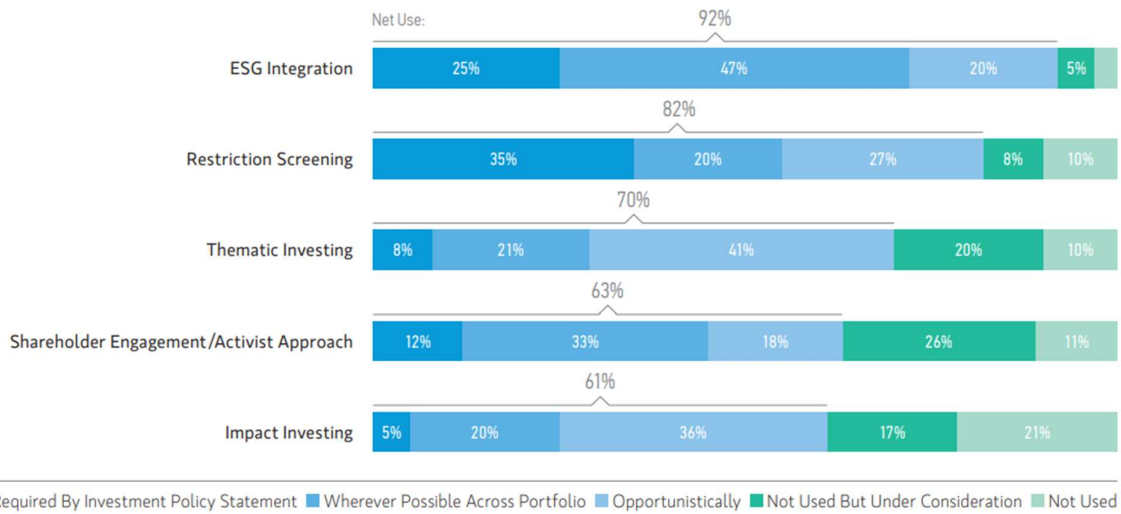
(n=48)



5. ESG integration is the most common approach to sustainable investing.

ESG integration and restriction screening are the most popular sustainable investing approaches

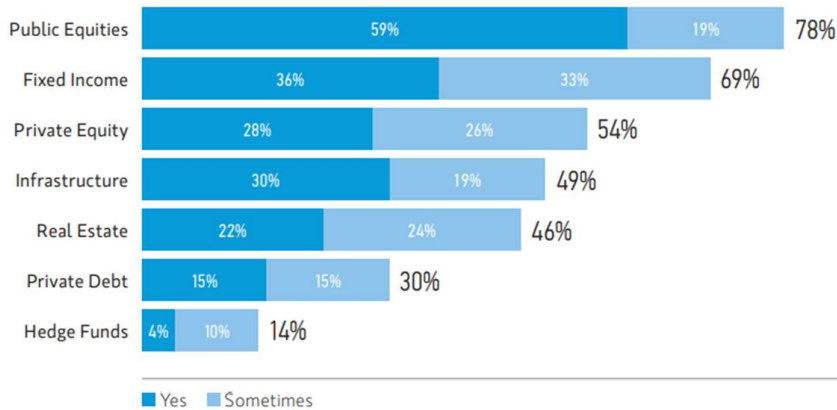
(n=67)



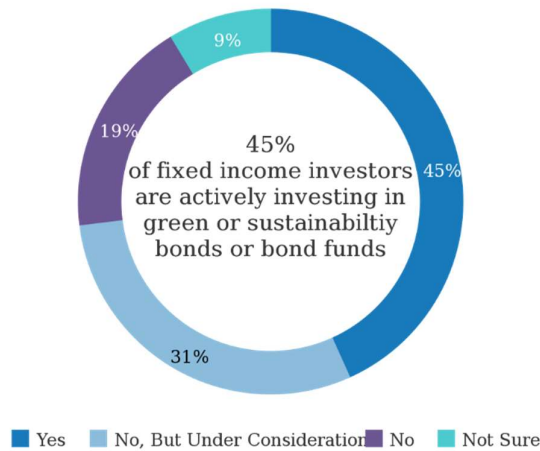
6. Public equities and fixed income are the asset classes where most institutional investors find quality sustainable investing strategies

Asset classes with quality sustainable investing strategies among those currently practicing or considering sustainable investing

(n=77)



7. Nearly half of sustainable investors allocating to fixed income are investing in green or sustainability bonds or bond funds.



We have seen how two of the most important and renowned institutions in their fields – Harvard Business School for education and Morgan Stanley for finance - agree that the practice of sustainable investing is catching on among investors.

On worker talent, Dr. Donatus (2020) explains that talents play a role roughly according to the period considered. There was a time when people needed company organisational power; today this trend has reversed and now companies are those that need people. Similarly, there was a time when machines, capital, brand image and geographical location were highly competitive advantages whereas now what seems to make the difference are talented workers. Talent Management (TM) deals with the selection and management of talent in the company. All activities that fall under TM have the ultimate goal of keeping people in the company for as long as possible so that they can help achieve the operational and strategic goals. Again, according to Dr. Donatus, one solution to make the efforts made by all actors involved in an entrepreneurial ecosystem more efficient is to identify those talents who are able to bring, through their skills, superior benefits to the whole ecosystem. This includes both technical workers as well as experienced managers who can help entrepreneurs as their firms grow and mature. Both entrepreneurs and workers use their social networks to find good matches, adding to the value of dense social networks within a region (Spigel, 2017).

In support of what has been said so far, I report some of the findings made by Steigertahl and Mauer (2021) in their study on Nordic entrepreneurial ecosystems. Their aim was to show how the transformation of potential talent is a key process.

Their study showed that entrepreneurial talent was not a stable factor in an ecosystem but one that can be actively supported and transformed with the right programmes or community building activities. In fact, the existence of programmes aimed at educating people in skills useful to the ecosystem can support the growth and development of the ecosystem itself.

At the core of any business are the people who work for it. Therefore, access to a talent pool of skilled people, willing and able to work in the somewhat chaotic and high-risk environment is equally important (Spigel, 2017).

From what has emerged, it can easily be said that talented workers/entrepreneurs are more than just a factor within the complexity of an EE; they seem to be the element that can shift the balance, steering the ecosystem in one direction rather than another.

What can be deduced from the literature is that talent should not simply be sought but also trained according to the long-term goal one intends to achieve. To do this, it is therefore necessary to see in advance what skills and knowledge are useful in the future so that one can arrive already prepared for change. This is certainly not an easy task, which is why TM plays a particularly delicate role.

In EEs where strong social networks exist for sustainability entrepreneurs, giving them access to investors interested in sustainability start-ups, as well as mentors and talent motivated to work for such start-ups, local sustainability start-ups are likely to flourish (Tiba S. et al.; 2020).

3.3 Material factors

“Material qualities of an ecosystem are those that have a physical presence in the place”. In this area are included what Isenberg defined as Markets, Policy, and Supports. In Spigel’s paper it is specified that the presence of such attributes can be physical such as a university or formalized rules like specific policies or regulated markets. According to him it is possible to attribute to this area factors such as universities, support services and facilities, policy and governance, and open markets.

Following Spigel’s path, universities can provide two types of resources. The first one is linked to the opportunity to develop new innovative products/services. The second one is the ability to educate and train new entrepreneurs, by encouraging its students to take the lead.

Based on the article *University-linked programmes for sustainable entrepreneurship and regional development: how and with what impact?* (Wagner et al.; 2021), I support the idea that, in addition to the classical roles of teaching and research played by the university, a third one should be added: sustainable economic and regional development.

Today, universities play a crucial role in the formation of SEE. They support knowledge spillovers (e.g., incubators) and promote sustainable development by influencing personal characteristics of entrepreneurs such as their sustainable orientation or SMEs and startups in the development of new sustainable technologies.

The aim of their study, conducted at three German universities, was to identify how and with what impact university programmes are able to influence the development of an SEE. The results show that SEEs are positively influenced by university programmes with a focus on sustainable development. Moreover, they can help to improve them by choosing the suitable pathways and the best moment in which to intervene, depending on the specific regional conditions.

Apostoloupoulos et al. (2019) also agree in seeing the role of the university as an engine that can drive an entrepreneurial ecosystem towards sustainable development, with the exception that in their conception of entrepreneurial universities there is a clear reference to the adoption of the SDGs.

I am inclined to agree with the authors because they believe that to have a SEE is necessary to improve and include in the universities all the three spheres of sustainability: economy, environment, and society.

The second area of interest involves support services and facilities or infrastructure.

Support services refer to the services provided by lawyers, accountants, banks but also technical experts with the aim of advising both early-stage and more mature and structured companies.

These organisations are also defined as Entrepreneur Support Organisations (ESOs). According to a report published by Scaling Frontier Innovation (*The role of and value of Entrepreneur Support Organizations in strengthening Entrepreneurial Ecosystems*, 2021), an ESO is broadly defined as

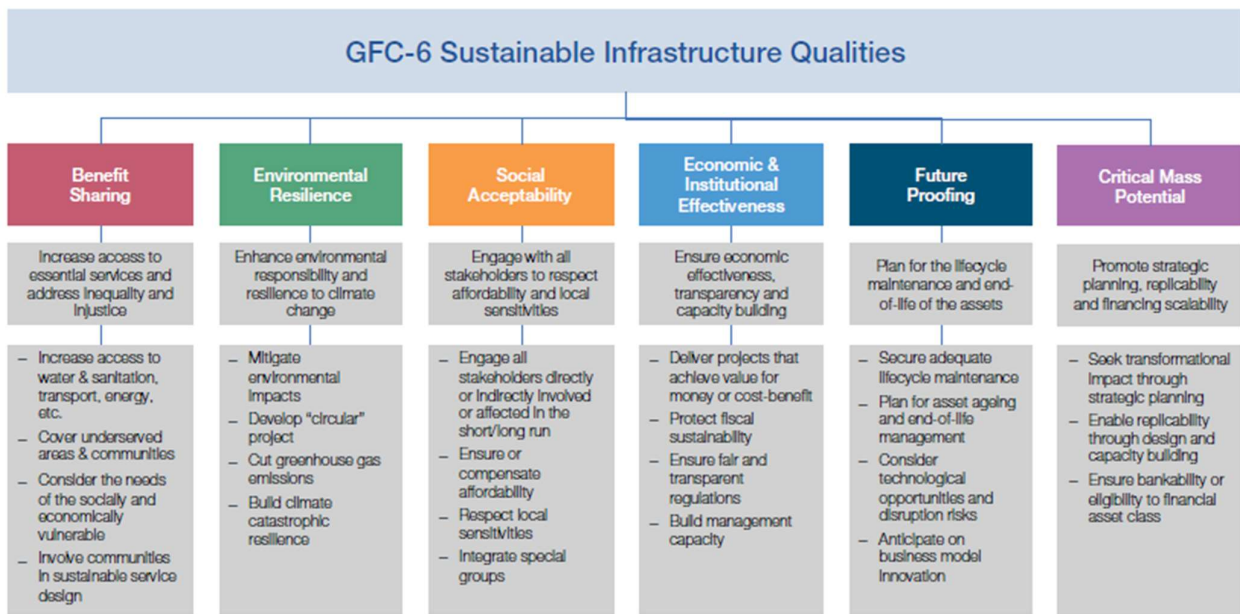
an entity that provides products and services designed and delivered to support entrepreneurs. They may vary in their purpose (profit or non-profit) or in the way they raise funds (fee-for-service model or donations and government support). However, they are united by an ultimate goal, which is to increase the establishment, growth, or sustainability of (sustainable) entrepreneurial ventures. To do so, it is necessary to constantly adapt to the changes dictated by the market in which one operates.

In addition to providing their services, over time they have specialised in connecting the various actors to each other, thus facilitating networking.

As with ESOs, the same applies to infrastructure and utilities. In fact, access to energy and the Internet in combination with adequate infrastructure allows them to perform their duties in the best possible way. A reference point on this topic is still represented by “Six Qualities of Sustainable Infrastructure”, the joint document drawn up at the end of the last Global Future Council on Infrastructure of the World Economic Forum held in Dubai (2020). The six topics mentioned are: sharing the benefits, climate resilience, inclusive infrastructure, economic and institutional effectiveness, future-proofing, and strategic planning.

The following graph sums up the features of each quality.

Fig.8 The six qualities of sustainable infrastructure.



Source: GFC

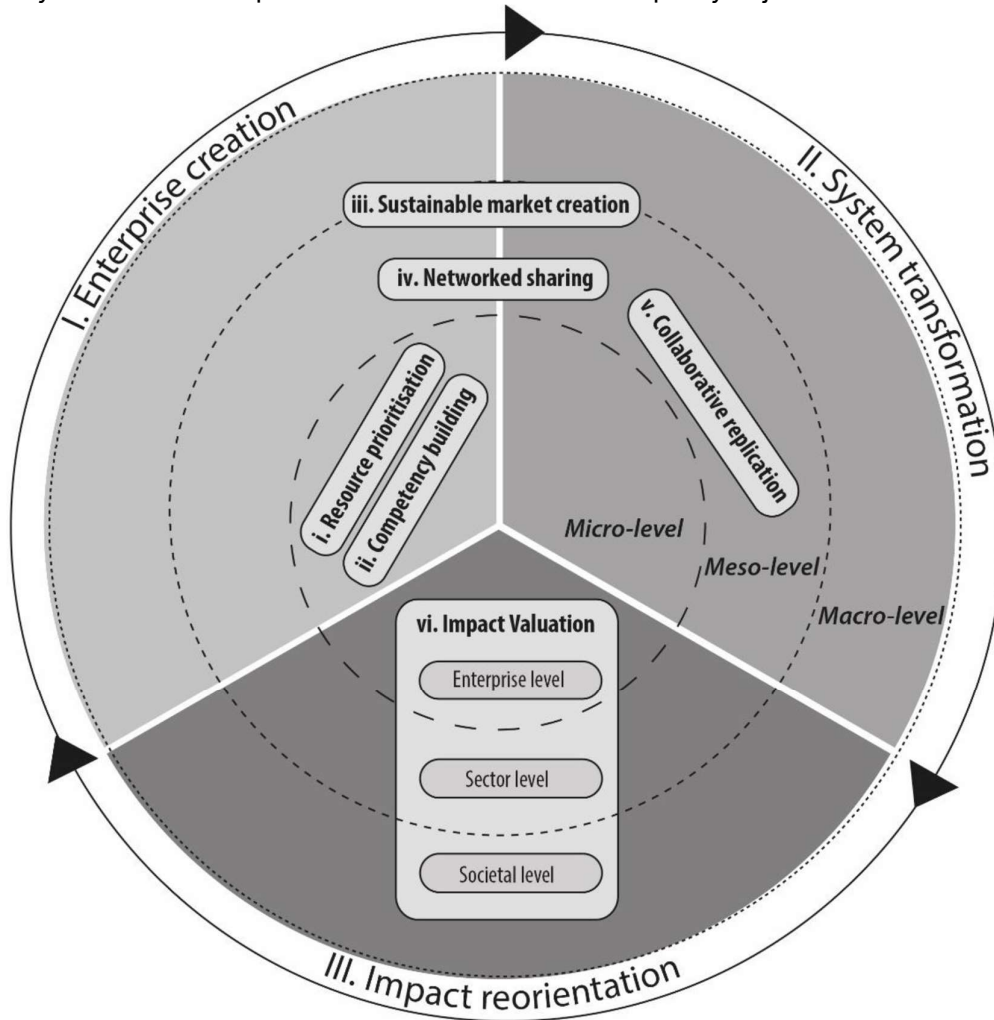
The third aspect to consider is the policy framework. This aspect lays the foundations for the creation and development of SEE. Even if they are less material in the sense that they do not have a physical location, policies materialize through government rules and regulations. They have a direct impact in the life of the ecosystem because they could encourage the innovation process and help all actors involved to thrive or could place barriers that discourage the investments.

What policymakers should ask is how policies can create more conducive conditions to sustainable entrepreneurial ecosystems, as claimed by Watson et al. (2022). In giving their contribution to the issue, the authors identified six possible policy mechanisms which could help in addressing three interconnected policy objectives: enterprise creation, system transformation, impact reorientation.

The six mechanisms are the following:

1. Resource prioritization: policies that aim to finance and distribute resources intelligently to aid sustainable development
2. Competency building: policies that provide the knowledge and skills necessary for the creation of sustainable products and services
3. Sustainable market creation: policies that seek to create opportunities through demand formation
4. Networked sharing: policies that aim to facilitate the dissemination of knowledge and inspire sustainable initiatives among actors
5. Collaborative replication: policies that wish to push others to copy sustainable innovations with the idea of creating a chain reaction by improving the sustainability of the ecosystem itself
6. Impact valuation: policies whose objective is to assess the impact on economic, environmental, and social aspects.

Fig.9 Policy mechanisms' impact in the three interconnected policy objectives



The final aspect to consider among the material factors is the openness of the market in which actors are involved.

According to Tiba S. (2020), market openness but also the possibility to exploit and explore opportunities play a key role in the development of a dynamic EE.

Having carefully read the article by Muñoz and Cohen (*Towards a social-ecological understanding of sustainable venturing*, 2017), I agree with the authors in introducing the topic of synchronicity between entrepreneurial ventures and the aspects of TBL. Synchronicity in SEE considers entrepreneurial rhythms and the rhythms of economies, social groups, and nature.

Muñoz and Cohen define it as “the degree of temporal connectedness between an enterprise and the social and biophysical cycles for in which the venture is embedded”. According to them, synchronicity - which includes all types of social and economic actors and entities - manifests itself through intentionality, leading to “meaningful coincidences”. Indeed, environmental, and social issues are the starting point for a sustainable entrepreneurial action, as they provide opportunities to be seized and explored.

This characteristic appears to be of little depth even though it proves to be of some relevance.

Opportunities arise from market failures and thus from a combination of different elements that at that specific moment in time, when taken together, allow a glimpse of where there is room for improvement. The pressure exerted in recent years by an ever-increasing need to pay attention to sustainability creates different types of market failure by uncovering opportunities for all actors involved (Hall et al., *Sustainable Development and entrepreneurship: past contributions and future directions*, 2010).

According to Hockerts and Wüstenhagen (2010), there are two main players: new entrants and incumbents. New entrants (or “Emerging Davids”) are more likely to pursue sustainability-related opportunities. Incumbents (or “Greening Goliaths”) have a harder time advancing, but once they do, their impact on the market is substantial as their presence is more entrenched. This interplay between new entrants and incumbents allows both to evolve, giving rise to new rules and forcing the whole environment, both internal and external, to adapt if it wants to survive.

There can be various motivations for players to evolve, but Parrish (2010) identifies two in particular: opportunity-driven and sustainability-driven. The first is a purely profit-driven motivation, where sustainability issues are seen as opportunities that can increase revenues. The second sees sustainability as the primary objective, regardless of whether the action taken turns out to be profitable or not.

3.4 Interaction among cultural, social, and material factors

The previously mentioned factors - cultural, social, and material - should not be analysed individually but together, as this is the only way to achieve SEE. If one of them is not aligned with the others, the link between them is broken and their success is jeopardised, slowing down sustainable development.

From what I have learnt so far, it is not enough, for example, to have a community inclined to buy sustainable products/services if the companies or institutions do not have the necessary resources to offer them; it is equally not enough to have companies with qualified personnel and an entrepreneur who feels it is right to make a contribution to development if the institutions in charge do not provide the right regulations or incentives to facilitate this.

Under these conditions, it is not possible to have an SEE because actors do not recognise sustainability challenges as such.

Consequently, in an environment where all factors have the optimal characteristics to make the SEE work and, to quote Muñoz and Cohen, are synchronised whilst reinforcing each other, it becomes feasible to support sustainable development by addressing the challenges of the SDGs.

In the following chapter, I will look at another crucial feature of ecosystems: resilience. First, I will define resilience and its different interpretations. Second, I will look at what the literature has to say regarding classic EEs. Finally, using the literature and some of the points raised thus far, I will apply the idea of resilience to the SEEs.

4. BUILDING RESILIENCE IN SUSTAINABLE ENTREPRENEURIAL ECOSYSTEMS

4.1 The concept of resilience

[rěsĩľo], rěsĩľis, resĩľui, rěsĩľĩre

Resilience has a Latin origin: the verb *resilire* is formed by the addition of the prefix re- to the verb *salire* “to leap, to make leaps, to gush”, with the immediate meaning of “to leap back, to return quickly, suddenly, to bounce back, to rebound”.

Nowadays, the way we define it changes slightly, although reading the definitions offered in the Treccani dictionary, one realises that the underlying meaning remains unchanged.

In the field of materials, it is understood as the resistance to breakage caused by stress; in the field of textiles, it is understood as the ability to resume its original state after being deformed; in psychology, on the other hand, resilience is the ability to recover and react after trauma or difficulty. These have recently been joined by the fields of ecology and economics.

Resilience is defined in ecology as “the pace at which a community (or ecological system) recovers to its initial condition following a shock that has shifted it away from that state; disturbances can be caused by both natural events and human activities. Usually, resilience is directly proportional to the variability of environmental conditions and the frequency of catastrophic events to which a species or set of species has adapted”.

In economics, it seems that resilience gains strength mainly from the declination of the term in psychology, i.e., a strategy not only to get us through a crisis, but also useful in preventing future traumas. In the financial sphere, for example, resilience coincides with the ability to protect oneself with insurance means in order to better withstand unforeseen events.

Perhaps because the Latin verb *resilire* and the adjective *resiliens* were used more frequently in French and especially in English, the phrase made the transition from the specialized and scientific sphere to general usage. Indeed, historical literary occurrences in English, as well as an early presence in newspapers, are abundant and stem from the strong Anglo-Saxon heritage of scientific popularization. Resilience first appears in the New York Independent in 1893 in the psychological sense of “spirit of adaptation”: “*The resilience and the elasticity of spirit which I had even ten years ago*”. Resilience has evolved into a generic term that can be used in any context by accentuating this connotation of adaptation.

4.2 Resilience applied to the Entrepreneurial Ecosystems

There is a dearth of publications and studies on the topic in the EE literature when it comes to the application of the word. This appears to be because the juxtaposition only occurred recently, and the subject has not yet been thoroughly investigated.

However, studies conducted so far (Roundy P.T. et al. (2017), Cannice et al. (2022), Iacobucci et al. (2021), Mack et al. (2016), Ryan et al. (2021), IECD (2015)) support the idea that the only way for an EE to survive external shocks is through cooperation between the various players involved.

According to a 2015 webinar by the International Economic Development Council (IECD), Buckle (1995) made an early attempt to define the idea of resilience in EE. According to Buckle, it is the capacity to bounce back effectively following a setback or damage. The ability to access resources (mainly financial), knowledge, and services, to handle the stress and emotions brought on by "disasters," and to manage one's own affairs appear to be the major characteristics.

This formulation already assumes that an EE may recover and hence just considers how it can recover, leaving out the idea of shock resistance. Due to this, the emphasis is primarily on the following stage and attempts to address how to go back to the pre-crisis state. Notably, it makes no mention of whether it is feasible to revert to the initial state, as we have seen with materials, or whether we are instead confronted with a new post-crisis equilibrium.

The authors start with Buckle's definition and ask how to lessen the effects of unanticipated unfavourable events and create a resilient EE.

The solution to the first question is to understand what resources the local community can provide and how they contribute to the overall system's sustainability. They specifically identify those resources that can foster innovation within the ecosystem such as institutions, universities, and public or private laboratories. Indeed, spinoffs from these are more likely to stay in the community and where there is a strong EE, continuing the development process.

As a result, the community is empowered and becomes more and more resilient. A resilient community is one that takes intentional action to enhance the personal and collective capacity of its citizens and institutions to respond and influence the course of economic, environmental, and social change. A community, on the other hand, cannot survive (a disaster) unless its businesses do. According to the authors, very small and young firms – those with fewer than 20 employees – create jobs at nearly twice the rate of larger firms. As a result, communities should target these young, innovative firms in their hedging strategies for sustainability and resilience.

Regarding the second question – how to create a resilient EE – the authors give some indications. The main steps to follow are:

1. Identify and leverage innovation resources
2. Identify and address gaps in entrepreneurial development
3. Offer diverse tools to meet entrepreneurial needs at each stage
4. Identify and use champions (successful entrepreneurs) as models or mentors
5. Attract investments

In summary, the authors propose identifying gaps in EE and finding a way to fill them by creating community networks that connect those who have resources with those who need them.

The importance of the community within the EE is also reflected in the article by Iacobucci and Perugini (2021). Their research focuses on the resilience of EEs and the local economy in Italian provinces. Indeed, they argue that without firms and *individual* dynamism, there is a reduction in the ability to react and respond to external shocks (emphasis added). As a result, the economy will find it more difficult to adapt and re-establish (a new) equilibrium.

Dynamism can be fueled by the creation of new jobs, for example, which stimulate competition and innovation, but this requires the cooperation of both public and private organisations. Another similarity between the two articles is the idea that SMEs are critical in building a resilient EE because their number is significantly higher than that of larger companies, as shown in the graph in figure 10 and 11 (respectively from OECD and Statista). However, as previously stated, other factors such as institutions, infrastructure, and networks have an impact on how and to what extent an EE can respond. The connections that exist between the cultural, material, and social factors are critical in determining the success of the entire ecosystem.

Fig.10 Enterprises by business size

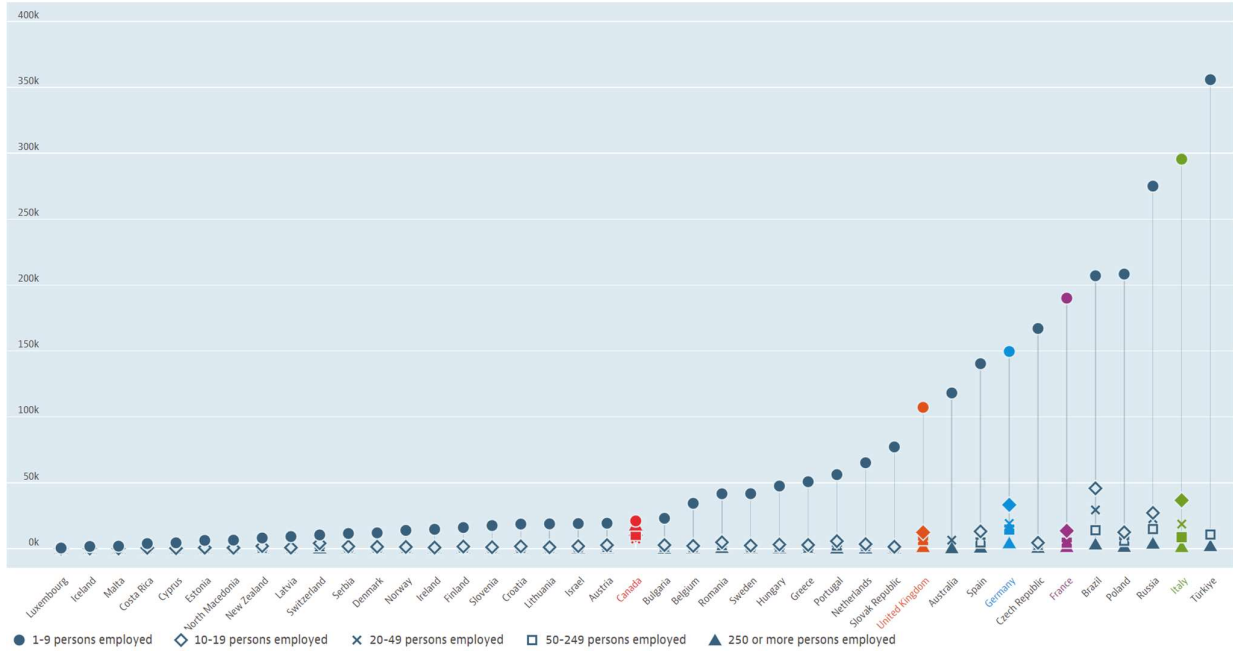
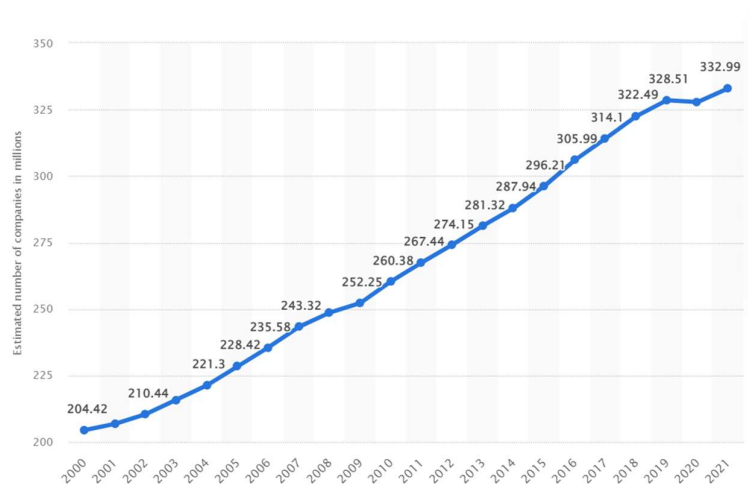


Fig.11 Estimated number of SMEs worldwide from 2000 to 2021



The authors also contribute by providing new perspectives on resilience. According to their interpretation, the term has two dimensions:

1. *Resistance* to external shocks
2. Speed of *recovery* after the shock

From these two dimensions, a new nuance in the meaning of resilience emerges, to be used when referring to EE: adaptive resilience. If an EE's economy is adaptively resilient, it can change its component elements in response to shocks without losing its ability to distribute resources efficiently.

However, there are references in the literature to the role of larger companies, such as multinational enterprises (MNEs). The article, "*The role of MNEs in the genesis and growth of a resilient entrepreneurial ecosystem*" (Ryan et al.;2021), examines the impact that MNEs have on a region, specifically, what the consequences of establishing one of these companies are on an area where no EE previously existed and how it can contribute to making it resilient.

The authors' mechanism appears to present a series of events that, directly or indirectly, cause a chain reaction, similar to dominoes falling. The parallel is straightforward. Assume that the composition of the tiles forms our ecosystem, which is still in its infancy (the elements for the formation of an EE are missing). The MNE is the hand that starts the chain reaction in this case. Nothing else needs to be done now, just like in dominoes. The process has begun, and the only thing left to do is carefully follow the sequence of events.

Indeed, the establishment of an MNE in a region can increase spillovers due to ongoing research and development and the importation of new and advanced technologies. The area begins to attract the attention of both the public and private sectors (governments, institutions, etc.), which provide incentives and investments to continue implementing the area's development. Indirectly, priceless resources are created, such as knowledge and experience, which serve as the foundation for future entrepreneurs. The formation of entrepreneurial minds gives rise to new realities that are inspired by MNE-imported technologies or have nothing to do with them at all.

It is also true that these new ventures are frequently founded by former employees of MNEs who primarily worked in R&D and saw market opportunities to be capitalised on. Working within an MNE provided them with international contacts that allowed them to expand their business. Their contribution is not limited to the establishment of new businesses. When these business owners decide it is time to sell their company, they rarely leave the scene. They remain within the newly formed EE, encouraging its continued growth by serving as role models, mentors, and/or investors (or founding other companies).

According to the authors' interviews, once the EE is consolidated, even if the MNE decides to leave, the EE can survive because over time, such diversity has been created among the players, allowing it to be independent, flexible, and thus resilient.

This last phrase highlights one important word: diversity. When Markowitz used it to illustrate his portfolio theory in 1952, the word acquired a favourable connotation. Similar to how it does in EEs, variety lessens the impact of potential shocks. The diversity of an EE is dependent on the variety of participants (investors, customers, entrepreneurs), the type of firm (startup, mature), and supporting organisations, as examined in the previous chapter. This is made more acute by the application of experimental techniques (Lean Startup, Design Thinking, Agile), which result in novelty and therefore boost variety (Roundy, 2017).

The Lean Startup methodology was developed to establish a viable business in the face of significant uncertainty. The goal is to provide a good or service that the market has already demonstrated that it wants, rather than having to wait for demand to be generated after it is

released. This is made possible by using a strategy focused on information gathering and ongoing improvement.

The basis of the Design Thinking technique, an innovation strategy, is the capacity to resolve complicated issues through creative vision and management.

The Agile method splits a project into multiple phases and manages the project via these phases. Continuous improvement at every stage and ongoing collaboration with stakeholders are required. Teams cycle through a process of planning, carrying out, and assessing once the job starts. It's critical to maintain communication between team members and project stakeholders.

Roundy's research reveals that the most resilient EEs are those that have variation within them, which brings him to his first significant discovery: EEs are heterogeneous.

The degree of association between the elements (of an EE) is characterised as the second factor that must be taken into consideration. The greater this relationship, the more the elements condense into a connected group, forming the EE structure. The idea that the participants are not separate from one another but rather work together is stressed once more.

Shared aims and goals, entrepreneur-introduced innovations, and the adoption of the same principles, beliefs, and logics appear to be the resources that can raise the level of coherence. The primary responsibility of support organisations is to develop and improve these elements. In fact, as mentioned by Mack & Mayer (2016), as the EE develops, the significance and relative strength of components vary, as do the policies required to maintain these systems through time.

This logic leads to the second important conclusion: anything that makes an EE's components more closely related will make it more coherent.

According to Roundy, the robustness of ecosystems depends on striking a balance between these two forces—diversity and coherence—which reinforce one another. The unusual relationship obtained appears to be consistent with what has been said so far as it considers every point raised, from the diversity seen in the EE to the connection between cultural, material, and social variables.

The conversation has so far largely been on a theoretical level. An actual example of an EE adjusting to deal with an unforeseen occurrence, like the Covid-19 pandemic, is provided in the article "*A shock to the system: entrepreneurial ecosystem resilience and adaptability in a worldwide pandemic*" (Cannice et al., 2022).

The authors, as well as others, have observed a significant rise in remote work, which has prompted questions about its potential effects: positive because it forces businesses to restructure themselves by altering their strategies and business models, or negative because it may have an adverse effect on performance and profit. Despite the fact that there is still no conclusive solution, it has been seen that organisations who have chosen to restructure their structure now have a structure that is far more adaptable. As we have seen, flexibility plays a crucial role in boosting productivity and resilience. Additionally, businesses, institutions, and all other actors who have assessed their methods of operation in order to adapt have come to the realisation that it is imperative to pay closer attention to both the demands of the market and the uncertainties of the macroenvironment.

The EE of San Francisco was the main subject of the authors' study. The San Francisco Bay Area adapted to remote working, enabling it to connect with workers with specific skills in remote regions. What was accomplished was the achievement of the same objectives with more solutions to maximise outcomes while unwittingly enhancing the ecosystem's resilience.

4.3 Resilience in Sustainable Entrepreneurial Ecosystems

Despite its paucity, the literature has made clear recommendations for the steps an EE should take to strengthen its resilience. Because there is still no written procedure that guarantees success, I use the word "should." Every ecosystem differs due to the various ways in which its components interact with one another as they attempt to adapt to the conditions imposed by the local external environment and derive the most benefits from them, as also supported by Isenberg (2010). The same holds true when looking at an SEE. In actuality, the dynamics are the same. What motivates the elements of the ecosystem to interact with one another changes, as we have seen in earlier chapters.

In an attempt to gather significant information, we outline a possible path that a SEE could take to prepare for potential external shocks.

From the previous paragraph, the following crucial ideas from the literature can be emphasised:

- Community
- SMEs
- MNEs
- Connection among players and factors
- Diversity
- Coherence
- Digitally localized resources
- Adaptive resilience
- Public and private institutions

The community, SMEs, MNEs, and the resources available through remote working are the building blocks for a sustainable entrepreneurial revolution.

To facilitate the development of a culture that is not only profit-driven but also supports sustainable development, laws and regulations must be developed by both private and public institutions, which is linked to facilitating the implementation of the SDGs.

When there is a culture of initiative and the appropriate policies are in place, new realities can emerge that in turn promote diversity within the SEE.

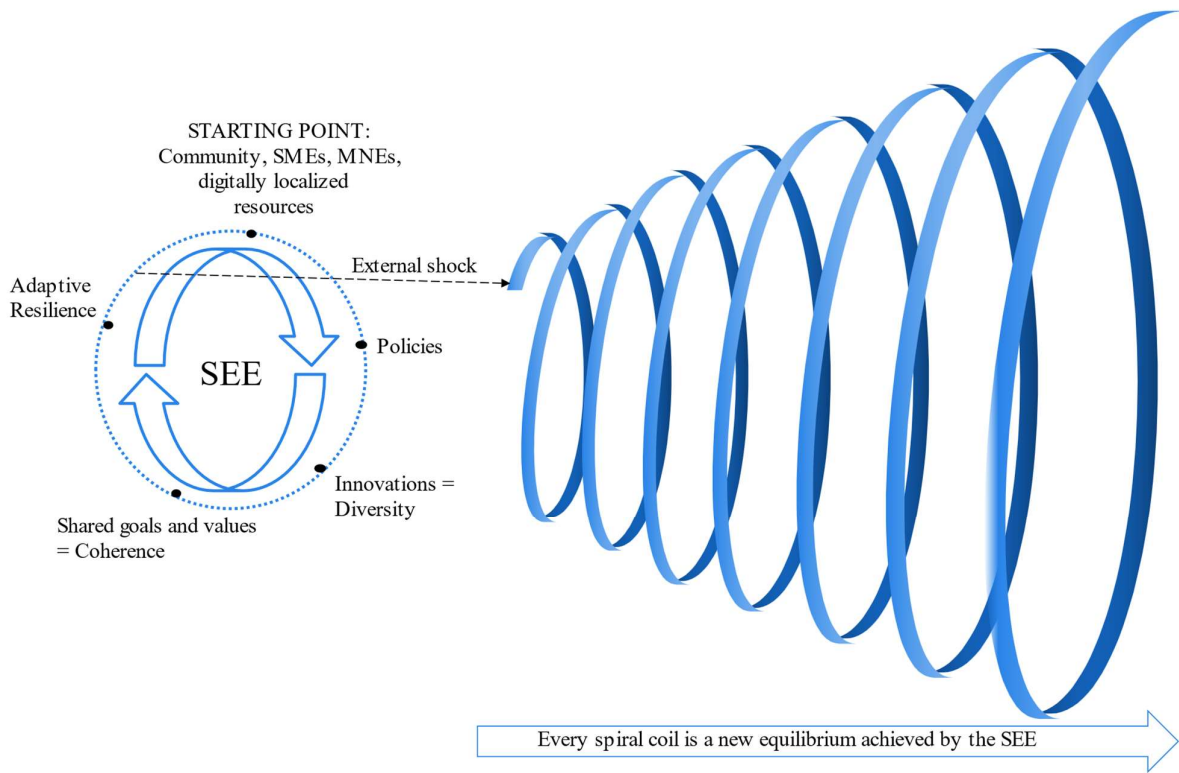
Coherence will also be extremely high because all actors have a shared objective as well as similar values and ideals.

It is technically possible to state that the SEE possesses all the necessary components to be classified as resilient. In fact, paying attention to the SDGs enables businesses to effectively monitor market demands as well as anticipate potential shocks and respond in a timely manner. Last but not least, constant external environment adaption necessitates regular reorganisations, which can only be accomplished effectively if one has a flexible structure that permits adjustments "on the fly."

In actuality, the ecosystem is capable of finding a new equilibrium during external shocks. I rediscovered a German word that Hegel loved, *Aufhebung*, to help make the idea more understandable. Hegel likes to use this word because it expresses two meanings that are mutually exclusive in a single phrase. The first is to "remove", whereas the second is to "keep". The second moment in the dialectical movement of the Absolute negates the first moment, while also preserving it as a crucial component in the process's development. Today, the word *Aufhebung* can be translated as "overcoming," a term that also preserves the idea of an upward elevation in the process, contained in the German prefix *auf-* (up), because of the double meaning of negation, which simultaneously removes and preserves the previous moment.

This idea is summarised in the diagram in figure 12.

Fig.12 Potential path to resilience for sustainable entrepreneurial ecosystems using Hegel's spiral.



In the next chapter, I introduce the tool I developed to help understand the sustainability of the entrepreneurial ecosystem which is based on the information gathered during my research.

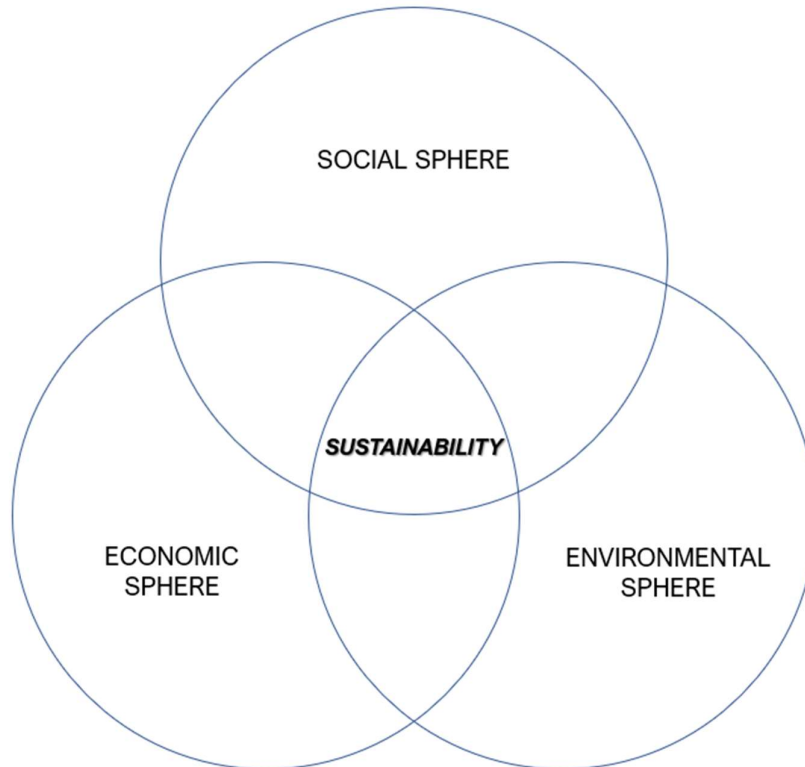
5. METHODOLOGY

This chapter describes the approach used to investigate the long-term viability of Lagos' entrepreneurial ecosystem and thereby address the third research question.

Given the difficulties in obtaining valid information, a qualitative analysis was chosen over a quantitative one for the study.

As shown in figure 13, TBL defines the notion of sustainability visually rather than theoretically. The junction of the three "spheres" creates sustainability in a wide sense.

Fig.13 Graphic representation of the Triple-Bottom-Line (TBL).



The SEE may be included in this new set since it has all of the common components of the three spheres. Based on this premise, I created a table to serve as a guide in the study of the Lagos ecosystem, which contains all of the elements studied - cultural, material, and social factors. It should be noted that the social parameters outlined in Table 1 do not apply to the social realm of TBL.

Table 1 Entrepreneurial ecosystem sustainability research guide.

TRIPLE BOTTOM LINE (social, environmental, economic)				
<i>SEE factors</i>	<i>Sub-factors</i>	<i>Components</i>	<i>Sustainability orientation</i>	
CULTURAL FACTORS	Successful stories		Presence of successful stories of local sustainable entrepreneurs & companies linked to the SDGs	
	Entrepreneurial culture		Involvement of the local community in business activities related to the SDGs	
MATERIAL FACTORS	Markets	Startups	Presence of startups with sustainable development ideas	
		SMEs	Contribution from small and medium-sized enterprises but also from multinationals to sustainable development	
		MNCs		
	Policies		Norms that promote sustainable development	
	Support services	Universities		Research and programmes aimed at raising awareness of the role of the SDGs; Programmes aimed at training new young entrepreneurs
		Infrastructure		Sustainable qualities of infrastructure
		Accelerators/Incubators		Presence of accelerators & incubators to support the growth of startups addressing challenges to the sustainable development
Entrepreneur support organisations (ESOs)		ESOs providing support to entrepreneurs to foster, nurture, and promote innovative and sustainable ideas		
SOCIAL FACTORS	Social network	Investors	Presence of investors or networks of investors with a propensity for sustainable investments	
		Mentors	Supporting future entrepreneurs through the “distribution” of experience-based knowledge	
	Human Capital		Human capital with skills useful to sustain a sustainable development	

The table is laid out as follows. The components successful stories and entrepreneurial culture were recognised as cultural determinants. The components markets, policies, and supports were recognised as material determinants. Markets are further subdivided into startups, SMEs, and multinational corporations (MNCs). Supports are further classified as universities, infrastructure, accelerators/incubators, and ESOs. Social networks - which were further subdivided into investors and mentors - and human capital were found as components of social variables.

The last column contains indicators that should be interpreted as guidance for undertaking more in-depth research on the sustainability of the Lagos entrepreneurial ecosystem.

The table intends to consolidate information on SEEs as well as the influence of the SDGs on developing and defining these ecosystems. As a result, the SDGs are included in the advice whenever possible.

This project's data was gathered via researching institutional and governmental websites, as well as papers from reputable periodicals. This assured that the data gathered was precise and dependable, and that it could be relied on to offer a thorough overview of the subject at hand.

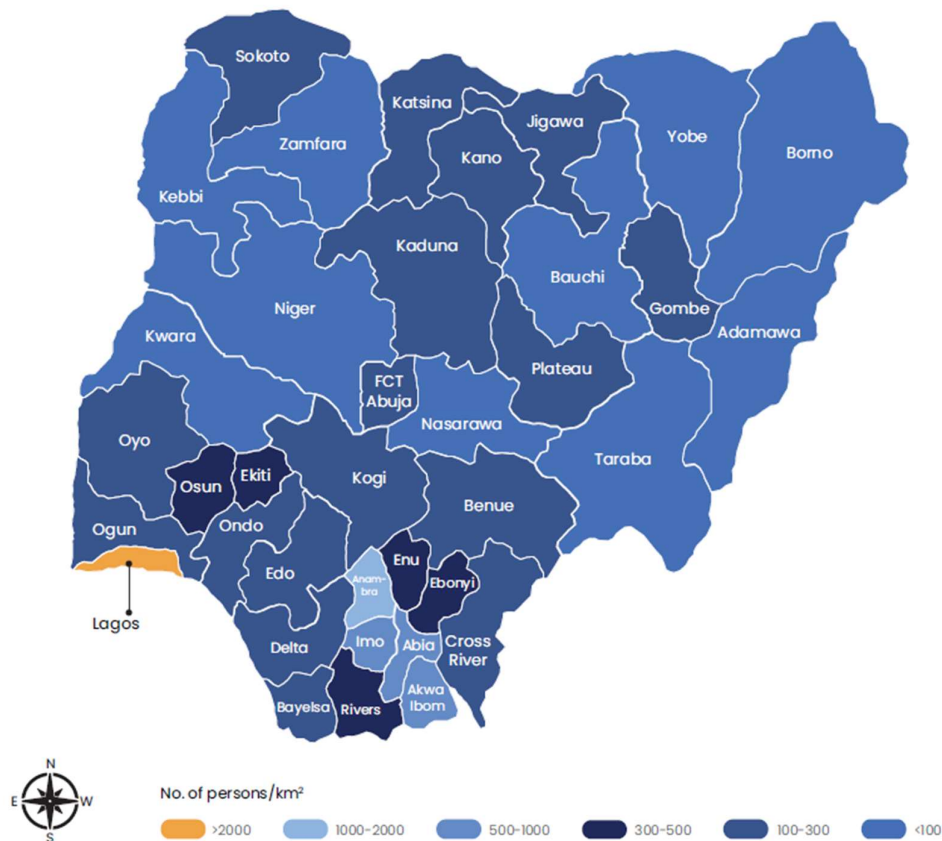
During data collection, the websites visited provided a lot of material on the issue, including reports and figures from government ministries, as well as current research from reliable periodicals publications. This enabled the collecting of both primary and secondary data, resulting in a more thorough and in-depth understanding of the issue.

6. STUDY OF THE LAGOS CONTEXT

6.1 Overview of Lagos

Nigeria's capital and one of the most populated cities in Africa is Lagos. It serves as the seat of government for Lagos State and is situated on the Atlantic coast in the southwest of the nation. One of the most populated urban areas in the world, the metropolis has a population of about 21 million people. Lagos is projected to surpass 32 million by 2052. This will primarily be due to the continuous migration from other states and African countries as Lagos emerges as the land of possibilities. In contrast though, Lagos accounts for the smallest landmass area amongst all 36 states in Nigeria (3,500 km², 0.4% of total Nigerian landmass area), as shown in figure 14.

Fig.14 Lagos dimensions compared to the number of people per km² (source: *The Lagos State Development Plan 2052*)



With a broad and expanding economy that includes sectors like finance, telecommunications, and manufacturing, Lagos is a significant economic centre in Nigeria. With a sizable port and a big airport, the city is also a major trade hub.

With a population that has more than doubled during the 1990s, Lagos has rapidly urbanised in recent decades. Infrastructure and service issues have resulted from this, and the city has grappled with problems like traffic congestion, pollution, and inadequate housing. Lagos nevertheless continues to play a significant role as a hub of economic and cultural activity in Nigeria and the surrounding area, despite these difficulties. Today, Lagos is home to the strategically positioned Apapa port, one of Africa's largest and the continent's fourth busiest port. The coastal location

strategically positions Lagos to lead international trade by serving as a gateway to Nigeria and the West African region. Indeed, 75% of Nigeria's imports pass through Lagos ports. In addition, 50% of cargo movements in the North and Central African subregion pass its borders. Furthermore, Lagos boasts the Murtala Muhammad International Airport, the busiest airport in Nigeria. Over 80% of international traffic routes through Lagos and more than 30% of domestic flights pass through Lagos' Murtala Muhammad Airport.

In the next paragraphs, I provide some additional information regarding demographics, economic development, health, education, infrastructure, and governance to better understand the context.

6.1.1 Demographics

Multitudinous demographic studies have been conducted on Lagos, the most vibrant megacity in Nigeria, covering motifs including population number, age distribution, and ethnical and religious diversity. Yoruba is also considerably spoken in the megacity, which has a different population from a range of ethnical, religious, and social backgrounds. English is the sanctioned language of the megacity. Lagos is famed for its vibrant culture, wide range of art, music, and culinary immolations, as well as for its quick urbanisation and densely populated neighbourhoods. With a median age of 18 and a high fertility rate of 5.5 children per woman, the megacity has a primarily youthful population.

NBC news in November 2022, released a videotape establishing Lagos, arguing that as the world hit 8 billion people, this megacity keeps growing. I report an extract from the videotape and the interviews are in the excursus (Appendix B).

Some of the studies on the demographics of Lagos have included the Nigerian Census, which is conducted by the National Population Commission and provides information on the size, composition, and distribution of Nigeria's population, as well as the Lagos State Population and Housing Census, which is conducted by the Lagos State Government and provides detailed information on the state's population, casing, and socioeconomic characteristics.

The 2023 Census will be Nigeria's first Digital Census and will change how the Census is being conducted in Nigeria before now. This approach started with the discrimination of recitation areas covering the entire territorial space of Nigeria using mobile handheld device and geographic information systems (GIS) and satellite imageries to produce the digital charts. The digital frame produced is a major tool for the planning of mortal and material resources for the Census.

A population and Housing Census (PHC) is of great applicability to the profitable, political, and socio-artistic planning of a country. Reliable and detailed data on the size, structure, distribution, and socio-profitable and demographic characteristics of a country's population is needed for policy intervention and monitoring of development pretensions. The 2023 tale will be digital thus adding the delicacy of data.¹⁵

6.1.2 Economic Development

Lagos is Nigeria's main economic centre. Lagos has undergone tremendous economic expansion in recent years, fueled in part by a construction boom and a surge in foreign investment. The city features a sizable informal sector, which includes street vendors, small companies, and homeless people. The informal sector contributes significantly to the city's economy, yet it may also be a source of economic insecurity.

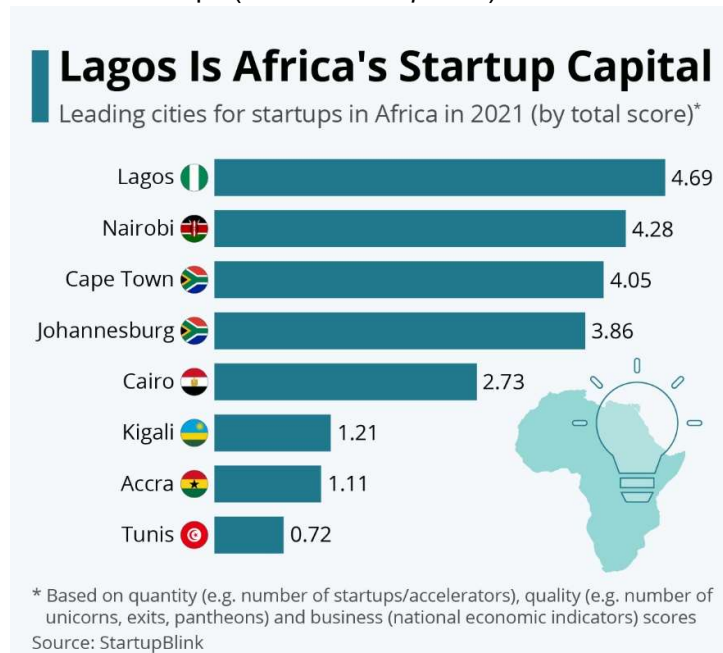
¹⁵ <https://nationalpopulation.gov.ng/2023-census.html>

Lagos has a broad economy, including significant industries such as manufacturing, finance, and telecommunications. A number of universities and research organisations are also located in the city, which contributes to its economic development.

Lagos is a fast-urbanising metropolis with a rapidly growing population in recent years. As a result of this fast urbanisation, the city has faced a variety of infrastructural, housing, and basic services such as power and water issues.

When it comes to attractiveness for startups, Lagos leads the ranking of African cities according to data by StartupBlink. The Nigerian capital managed to outperform its direct competitors Nairobi, Cape Town, and Johannesburg in 2021, as you can see in figure 15.

Fig.15 African Cities rank for startups (source: StartupBlink)



With the aim of keep growing, the Lagos State Government released the “Lagos State Development Plan 2052”. The Lagos State Development Plan (LSDP) 2052 is a 30-year development plan that outlines Lagos State's overall orientation from 2022 to 2052. It establishes an overall strategy framework and offers direction for the state's development endeavours. The anchor objective of the Lagos State Development Plan 2052 is to accelerate economic development over the next 30 years by creating high-value and high-volume jobs at scale. Lagos is an economic powerhouse and a leading hub not just in Nigeria, but in Africa. By unlocking opportunities and attracting investments, Lagos State will achieve its full potential across multiple key sectors.

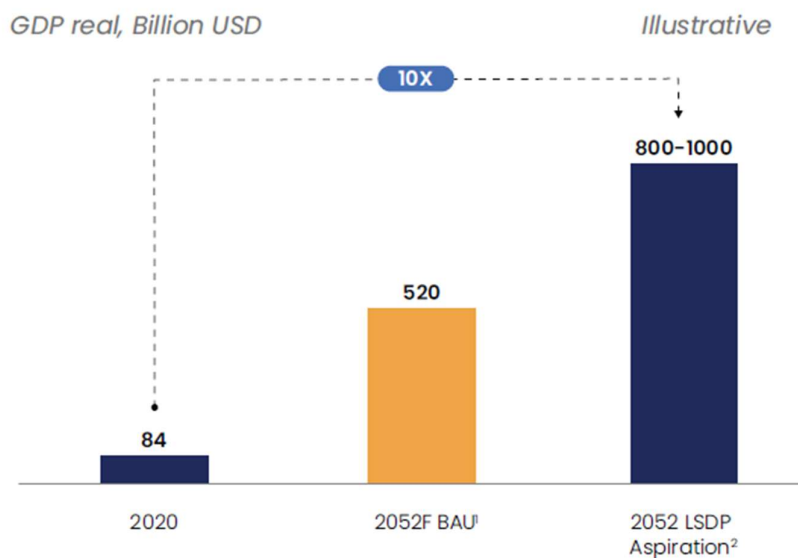
The initiatives vary in different areas but can be summarised in 4 strategic dimensions:

- **Thriving economy:** a robust, healthy, and growing economy with adequate jobs and strategic investments to sustain the growth. There are 162 initiatives in this dimension.
- **Human Centric city:** Every Lagosian will have access to affordable and world-class education, healthcare, and social services. There are 76 initiatives in this dimension.
- **Modern infrastructure:** reliable and sufficient infrastructure that meets the needs of a 21st century city. There are 92 initiatives in this dimension.
- **Effective governance:** a supportive and enabling environment that creates opportunities for all Lagosian. There are 117 initiatives in this dimension.

Each dimension has its own goals which in turn are linked to specific SDGs. For example, the focus area “Wholesale and Retail Trade” in the “Thriving Economy” dimension is linked to the SDGs 1,5,8,9,10,11.

To effectively keep track of these ambitious goals, the Plan foresees some metrics such as GDP real and per capita, Human Development Index, liveability, response time for government services, and internal generated revenues as share of GDP. The main aspiration of Lagos is to become in 30 years Africa's model mega city, as well as a global economic and financial hub, but needs to accelerate economic growth 10x, as shown in figure 16.

Fig.16 Economic growth needed to become Africa’s model mega city (source: *The Lagos State Development Plan 2052*)



The strategy involves five key guiding principles and Table 2 outlines the main objectives of each key principle.

Table 2 The 5 key guiding principles.

PRINCIPLE	MAIN IDEA
Inclusive and Equitable	Equitable access by all income groups, religious affiliations, people living with disabilities, etc., and promote gender equality
Environment and Sustainability	A net positive impact on the environment, consider climate risk, natural resource management and pay attention to Lagos’ low-lying topography
Additionality	Lagos State will generate value-add through synergies and forward/backward integration

Private sector participation	Identify and engage private sector players in the planning and implementation process using best practices learned from benchmark cities
Alignment to global trends	African Continental Free Trade Area (AfCFTA), Economic Community of West African States (ECOWAS) trade agreement, Trade Related Investment Measures (TRIM), Trade Related Aspect of Intellectual Property Rights (TRIPS), General Agreement on Trade in Services (GATS)

6.1.3 Urbanization

Lagos has witnessed tremendous urbanisation in recent decades, and studies on the effects of this process on the city's social, economic, and physical infrastructure have been conducted. The shortage of cheap housing is one of the major issues of urbanisation in Lagos. As the population has risen, the demand for housing has outstripped the availability, resulting in the formation of "slums," or informal communities lacking basic facilities such as electricity and running water. The city's high levels of inequality are also connected to a shortage of affordable homes.

Other problems associated with development in Lagos include traffic congestion, pollution, and inadequate infrastructure. To solve these concerns, municipal officials have launched a variety of projects, including the construction of new infrastructure, such as roads and bridges, and the growth of public transit.

Overall, the city's officials are attempting to alleviate the negative effects of growing urbanisation while supporting economic growth and enhancing the quality of life for its citizens. However, the policies and regulatory framework of Lagos State seem to be contradictory to their vision of Lagos as "an African model megacity and a global economic and financial hub that is safe, secure, functional and productive, with a view to achieving poverty alleviation and sustainable development" (O. Ayodeji Olajide et al., 2018). The authors explore the present struggle between urban development policies and the livelihoods of the urban poor. Housing, serviced land, infrastructure, and urban services, as well as livelihood prospects, have not kept pace with population increase. The need for sustainable urban development has become essential to development discourse in recent years, and it is gaining traction in international development. There is a reasonable consensus that urban growth must be sustainable and inclusive in order to increase wellbeing and contribute to poverty eradication. Sustainable urban development provides a balance of environmental, economic, and social issues, whereas inclusive urban development means that different groups in society, regardless of socioeconomic status, can meet their livelihood demands.

Sustainable urban growth relies heavily on urban planning. In reality, urban planning is about building areas that are socially, economically, and environmentally viable, as well as providing enough land for housing in acceptable locations that is connected to the amenities that people require. However, as proven by the implementation of the new traffic law - a prohibition on motorbikes as a mode of public transportation in Lagos - the operators were harassed and their means of livelihood were confiscated, exacerbating urban mobility issues.

According to this study, a policy framework that ensures inclusive urban development and considers the livelihood realities of the poor majority is a vital component in lowering poverty and solving the demand for urban modernity. Indeed, Lagos to achieve its dream – model megacity – needs to change way of doing things, because with these policies is just creating a temporary

solution which will result in further problems in the future due to the increasing difficulties faced by the urban poor.

6.1.4 Health

Lagos, like many other cities in underdeveloped nations, suffers a variety of health-related difficulties. Many individuals, particularly those living in low-income neighbourhoods or in informal settlements, have restricted access to healthcare. Health infrastructure is frequently insufficient to satisfy the demands of the population, and skilled healthcare personnel are in limited supply. Furthermore, Lagos is vulnerable to a variety of health problems, including infectious illnesses, pollution, and environmental dangers. The city has a high illness load, including malaria, HIV/AIDS, and TB, as well as high rates of noncommunicable diseases including diabetes and hypertension. The Lagos government has adopted a variety of steps to enhance the health of its citizens, such as expanding access to healthcare and strengthening the healthcare system. However, more has to be done to solve the city's health system's difficulties and enhance the health of its citizens. The state government was deeply concerned about local and national statistics on mother and child mortality and morbidity rates. One approach to accomplish this is to develop Maternal Child Centers (MCCs). These are specialised healthcare facilities for mothers and children with the goal of bringing maternity and child health care closer to people by lowering travel time and raising quality care to the greatest feasible standard. The concept behind the MCCs was based on the belief that these interventions would have a good influence on the health indices of mothers and children, who account for a sizable proportion of clients seen at public health facilities. The administration has finished and commissioned four MCCs in the last two years. The Centers are outfitted with cutting-edge medical and other amenities to improve access to quality health care for women and children. Over 31,000 people have used the Center's various maternal and childcare programmes to date. Clearly, the formulation and implementation of the MCC project as a critical policy in addressing the issue of health infrastructure in decreasing maternity and child mortality has resulted in some improvements in reversing the unfavourable trend of unacceptable maternal and child mortality (The Guardian, *Lagos MCC and access to healthcare*, 2022).

6.1.5 Education

Lagos has a big and diversified educational system, and research on numerous areas of education in the city have been conducted, including access to school, educational quality, and educational results. Education is critical to the growth of any civilization, and Lagos, Nigeria's largest metropolis, is home to a significant number of schools and educational institutions. However, the quality of education in Lagos varies greatly, and many students, particularly those from low-income households, lack access to a good education. The Lagos administration has adopted a number of steps to strengthen the city's education system, including expanding access to basic and secondary education and developing vocational training programmes. However, the Lagos education system suffers a number of obstacles, including a lack of skilled instructors, insufficient facilities and resources, and high levels of poverty, which can make it difficult for students to attend school.

Overall, education is a critical aspect in the growth of Lagos and the well-being of its citizens, and much work has to be done to strengthen the school system and guarantee that all children have access to excellent education.

The annual budget for the State Ministry of Education has been larger in the last three years than the overall budget of several states in the country. The Ministry of Education received N133.5 billion in 2020, N146.9 billion in 2021, and N173.5 billion in 2022.

According to the Commissioner for Education, Mrs. Folasade Adefisayo, N23.62 billion has been spent on public school infrastructure improvement in the last three years. Critical investment in the sector is intended at ensuring that students in public schools receive a high-quality education in a safe and welcoming environment. The government has announced a set of technology-driven modular learning spaces, which introduces an innovation to the architecture of a modern classroom, in order to sustain the sector's rate of development (The Guardian, *Exciting times for education in Lagos*, 2022).

6.1.6 Infrastructure

Lagos is a significant metropolis with a huge and expanding population, and studies on the city's infrastructure, including roads, transit systems, and utilities, have been conducted.

Lagos has extensive infrastructure, which includes highways, bridges, airports, and a big port. However, the city's infrastructure has failed to keep up with the city's fast population development and urbanisation in recent years. As a result, Lagos has a variety of infrastructural issues, such as traffic congestion, insufficient public transit, and a shortage of affordable housing.

Some studies, such as the one conducted on smart infrastructure (Oluwole Soyinka et al., 2016), aim to find a solution. In this article, two districts in Lagos are examined (Ikeja and Eti-Osa).

Smart infrastructure initiatives have been identified as relevant for achieving sustainable development in the study areas through smart interventions in inhabitants' socioeconomic status, the environment, building uses, and basic utilities and services.

The term "infrastructure" refers to a network of interconnected basic facilities and services that offer a suitable environment for human habitation. A city's infrastructure, instead, is a network of interconnected utilities, basic amenities, and services, ranging from the smallest units of the community (houses) to the major municipal structures and buildings that provide services such as electricity, sewage and wastewater, and water supply.

Smart infrastructure is an integrated network of essential facilities and services with efficient land use patterns, transportation networks, and coordinated information technology devices.

The examination of environmental conditions, buildings, and infrastructural development in the study areas demonstrated that smart infrastructures are appropriate as sustainable development techniques, as follows:

- The smart infrastructure in the study region can be implemented by creating designs that indicate spot clearance locations for redevelopment and smart infrastructure integration.
- Land use development that accommodates smart infrastructures and community facilities, as well as its integration within Lagos' existing built-up regions, should be promoted.
- Smart infrastructure in the research region can be achieved by developing a coordinated, effective socioeconomic transportation system that accommodates the mobility, safety, comfort, and convenience of all residents, including dependent and impaired persons.
- The creation of smart infrastructure in the study regions can be accomplished by upgrading non-motorized transportation facilities, promoting pedestrian and bicycling facilities, and establishing sidewalk bike sheds. These enhancements may include, but are not limited to, trees, sunshades, benches, and pedestrian-oriented lighting.
- Using the technology database, encourage neighbourhood and city designs that support a variety of transit options, infrastructure developments, and suitable housing circumstances.
- The development of smart power supply choices is critical for the implementation of smart infrastructure in Lagos and should be supported. The emphasis should not be solely on hydroelectric electricity, but also on other choices such as fossil fuels, nuclear energy, and

renewable energy like biomass, geothermal, solar energy, and wind energy, which should be examined and implemented with smart concepts in Lagos.

According to the report, smart growth is a design philosophy that is ideal for sustainable development that improves interrelated infrastructural and residential development of the Lagos metropolitan with the help of adequate technology assistance. The government of Lagos has implemented a number of initiatives to improve the city's infrastructure, including the expansion of roads and the development of public transportation systems. The city is also home to a number of major construction projects, such as the Eko Atlantic City development, which is intended to address some of the infrastructure challenges faced by the city. Eko Atlantic City is a planned city being developed on the Atlantic coast of Lagos. The city is being built on reclaimed land and is intended to provide a modern, business-friendly environment for both domestic and international investors. The development of Eko Atlantic City is being led by the Eko Atlantic Development Company, which is working in partnership with the Lagos State government and other private sector partners. The city is expected to house over 250,000 residents and provide employment for over 1 million people when it is completed. Eko Atlantic City is being built to address the problem of coastal erosion in Lagos which is at risk of flooding due to rising sea levels and the erosion of the coastline. The development of Eko Atlantic City is intended to provide a modern, sustainable city that is able to withstand the impacts of climate change and protect the Lagos mainland from flooding. It is also intended to provide a new business and financial centre for Nigeria and the wider region, as well as a new home for residents of Lagos. Third, it intends to relieve population growth pressure on Lagos.

6.1.7 Governance

Lagos is the capital of Lagos State, one of Nigeria's 36 states. The executive governor is chosen by public vote, as is the legislature, which consists of a state assembly and a house of assembly. The state government is in charge of delivering public services and conducting development projects in the state.

Lagos' government has been the topic of criticism and controversy. In the past, the state has encountered challenges connected to corruption and mishandling of public finances, prompting calls for reform to increase the government's openness and accountability.

Overall, Lagos' administration is vital to the city's prosperity and the well-being of its citizens. Effective governance is critical for tackling the city's difficulties and encouraging economic development and social advancement. For this reason, a chapter has been dedicated to "The Lagos State Development Plan 2052". Despite the efforts made so far, there is still ample room for Lagos to improve organisation and process efficiency, especially around e-governance and digital ways of working. This will significantly rebuild the trust of citizens as they would experience improvements, particularly in the government's response time to citizens' requests.

Lagos will also have to significantly increase Internally Generated Revenues (IGR) to finance operational and capital expenditures to see the 2052 Vision come to life. This would include expanding the tax bracket to increase revenues from PAYE taxes as well as growing other revenue streams drastically. An example of such a move would be increasing service charges and land-use charges. In addition to increasing government revenues, Lagos must attract FDI flows and distribution to targeted sectors of the economy. This would require significant improvements in the ease of doing business in the state as well as targeted initiatives to attract investment to the prioritised economic sectors. To ensure Lagos State will have a supportive and enabling environment that creates opportunities for Lagosian, three focus areas have been defined for the LSDP 2052:

- Digital transformation of government: Lagos will rank within the top 20 emerging market cities on the Local E-Governance index with an average response time to citizens of <1 week;
- Revenue diversification: Increase Internally Generated Revenues (IGR) to ~5% of GDP with PAYE tax contributing <40% of total IGR in line with peer cities;
- Investment attraction: Attract capital investment flows to the priority sectors in line with leading peer cities (i.e., ~5% of GDP).

6.2 Lagos Sustainable Entrepreneurial Ecosystem

After studying the setting in which Lagos is placed, this part examines its ecosystem, using the indicators suggested in Table 1. The study intends to give information on ecosystem sustainability by contextualising the SEE components found throughout the research to Lagos State.

6.2.1 Cultural Factors

Despite the numerous challenges that Lagos has in enhancing its residents' quality of life, its community is entrepreneurial. Indeed, according to Lagos Global, Lagos State provides an atmosphere suitable to economic growth. Almost 60% of industrial investments in Nigeria are directed toward Lagos State, and 90% of Nigerian enterprises have decided to put their headquarters in Lagos. Lagos was also ranked fifth best in the world for efforts to foster entrepreneurial culture in the 2015 Youthful Cities Index, with other African cities following far behind. The Youthful Cities Index gathers data from 55 cities throughout the world and assesses 22 areas that influence a city's youth, ranging from education and jobs to music and nightlife. Entrepreneurship is one of the metrics evaluated, and it assesses the extent to which a city encourages an entrepreneurial culture.

The widespread use of the Internet and mobile technologies (70%) has paved the way for young entrepreneurs. In addition, it was the city with the greatest degree of early-stage entrepreneurial activity.

Another fascinating piece of information comes from a report published in 2018 by Endeavor Insights. The findings are based on over 2,000 technology entrepreneurs interviewed in six African and Asian locations, as well as secondary data on over 5,000 tech founders and their firms. Data on over 500 investment firms and local entrepreneurial assistance organisations was also obtained. Lagos, Nairobi, Kampala, Dar Es Salaam, Bangalore, and Dhaka are among the cities. Lagos' technological entrepreneurial community is more productive than the other African cities studied in this study. It has created about 9,500 jobs, and its enterprises have garnered venture capital financing comparable to those of comparable cities as Nairobi. At the time the data for this study was gathered, 18 firms in Lagos had 100 or more employees – nearly 2% of all enterprises. This is amazing, but when compared to prominent developing market software communities like Bangalore, it is evident that Lagos' tech entrepreneurs can be much more prolific.

The disparity is mostly owing to the divergent trajectories that the two cities took to achieve their current form, as seen in Figure 17.

Fig.17 Bangalore and Lagos path comparison (source: *Endeavor Insight*).

Example 1: Bangalore	Example 2: Lagos
Development of off-shore sector with corporate and local, entrepreneurial firms	~10-year history, with early presence of B2C (e-commerce and travel) and B2B software development companies
Significant numbers of "boomerang" entrepreneurs (repatriated founders)	Significant numbers of "home grown" entrepreneurs
Involvement of top global venture capital firms	Involvement of regional & local venture capital firms, impact funds and DFIs
Relatively low participation in accelerators/incubators	Relatively high participation in accelerators/incubators
One of the most productive urban tech centers in emerging markets	Large proportion of new support programs aiming to catalyze growth

This means that entrepreneurship communities are not predestined to follow a single development path. The Lagos community is also aware that following the SDGs may help it accomplish long-term development goals, improving prospects not only for people but also for the ecosystem. It is also aware of the wide share of young people. For this reason, it has been instituted by the government, the Lagos SDGs Youth Alliance. The Lagos SDGs Youth Alliance mobilises youth from diverse communities and higher institutions in order to utilise their aggregate immense power in order to achieve the greatest coordinated youth contribution to the SDGs. The Lagos SDGs Youth Alliance is designed to inspire and engage people and youth-led associations/organizations to take quantifiable action toward the effective achievement of the SDGs in Lagos state through active engagements, skills/knowledge transfer. Members come from a variety of communities, university institutions, and organisations. We also collaborate with celebrities, notable development practitioners, and youth-led organisations including AIESEC, Enactus, Ashoka, JCI, DEAN Initiative, Nigeria Youth SDGs Network, and SDSN Youth.

The organization's three primary goals are as follows:

- Inspire young people to become agents of change in their communities and campus to achieve the Sustainable Development Goals (SDGs).
- Connect youth in Lagos state to synergise knowledge, resources take the lead in shaping the present and improving the future.
- Empower young people with the values, the knowledge, and the skills to act.

Along with Lagos SDGs Youth Alliance, it has also been instituted Lagos SDG and Investment. It is an institution which provides useful information regarding the top 10 investment sectors (environment, health, agriculture, housing, transportation, tourism and culture, ICT, power and infrastructure, oil and gas, education) besides insights on investment opportunities for investors or potential entrepreneurs who want to fill the gaps.

Speaking of entrepreneurs, I would like to mention one of the richest entrepreneurs in Nigeria. Anthony Onyemaechi Elumelu (born 22 March 1963) is a Nigerian philanthropist and economist. He is the founder of The Tony Elumelu Foundation and the chairman of Heirs Holdings and Transcorp. Elumelu was selected to Time's list of the 100 most important people in the world in 2020. In particular, I propose the case of Heirs Holdings.

Heirs Holdings is a Nigerian conglomerate with holdings in the electricity, oil and gas, real estate, financial services, and healthcare industries. Tony Elumelu created the firm in 2010 and it is located in Lagos, Nigeria. The organisation has a portfolio of interests in numerous enterprises across

Nigeria and Africa. The company is motivated by “Africapitalism”, Elumelu's view that the private sector is the primary facilitator of economic and social wealth development in Africa.

They invest for the long term, providing strategic capital, industry knowledge, a track record of business turnaround success, and operational excellence to the firms in which they invest.

Through the Tony Elumelu Foundation Entrepreneurship Programme, the charitable foundation catalyses entrepreneurship, advocacy, and research across Africa.

What is intriguing and should act as a guide for many other entrepreneurs or aspiring entrepreneurs, is the explicit mention of the contribution to the SDGs in the official website. The aims of his venture are influencing the lives of one million Africans and as an organisation, achieving net-zero emissions by 2050, keeping global warming well below 2°C and in line with the Sustainable Development Goals. His sustainability strategy is based on the duty to future generations as he carries out company's goal to improve lives and transform Africa. Through his venture, he will continue to seek opportunities to apply best practices in business operations, with a focus on addressing tomorrow's sustainability concerns. The economic, environmental, and social strategic priorities are as follows:

- Products and Services – how businesses incorporate sustainability into everything they do. Heirs Holdings chose two targets to accomplish this mission, which are efficiency in residential and general waste collection and turning by-product to raw materials. The first target wants to reduce materials going to landfill and increase the diversion rate for recyclables, preparation for reuse or composting. The second one aims to implement measures to promote resource diversion and stimulate environmental synergies.
- People, Facilities, and Infrastructure – how operations ensure that the activities embed sustainability into day-to-day practices. Also, this point aims to address two targets: combating climate change and caring for the environment; creating inclusive employment opportunities.
- Outreach and education - how to demonstrate accountability by assembling and collaborating with all stakeholders to achieve a common goal. This third point is probably the most important one since it mentions the SDGs: *“In alignment with SDGs 1, 4, 5 and 8, contribute to sustainable development in our host communities by including people at the bottom of the economic pyramid (BoP) in our value chain”*.

The Lagos Bike Share, a bike-sharing system that attempts to relieve traffic congestion and air pollution in the city, is a second example. The system, which allows users to hire bikes from one site and return them to another, is intended to be economical and accessible to a wide spectrum of individuals. The Lagos Bike Share is a bike-sharing system that the Lagos State Government inaugurated in 2018 in collaboration with the World Bank and the private business AWA Bike (Vanguard News, 2021). Adetayo Bamiduro and Femi Oyediran, two Nigerian entrepreneurs, launched the firm with the goal of providing an economical and convenient transportation alternative for Lagosians. They are both young Nigerian entrepreneurs who founded the firm in 2017 with the goal of offering an economical and accessible transportation option. They both have an entrepreneurial history and began the enterprise with the goal of making a beneficial influence on society.

The program's purpose is to encourage sustainable mobility choices in the city while also reducing traffic congestion and air pollution. The bike-sharing system has about 1,000 bicycles that may be hired at numerous points across the city, including bus stops, train stations, and ferry ports. Users can use a smartphone app or a smart card to hire a bike and return it to any of the approved bike-sharing stations.

To guarantee their safety, the bikes are outfitted with GPS monitoring and other security measures. The system is intended to be economical and accessible to a wide spectrum of users, with rental choices available on a daily and weekly basis. The initiative also employs local citizens as bike mechanics and operators, while simultaneously encouraging healthy living and lowering the carbon imprint. The bike-sharing system is still in its early stages, but it has garnered positive feedback from users and is considered as a promising step toward boosting sustainable mobility in Lagos. Successful stories like Elumelu's and AWA Bike's must be shared so that others may be motivated to investigate and capitalise on possibilities that will help to the sustainable progress of Lagos.

6.2.2 Material factors

According to my research, in this section it is possible to include startups as well as MNCs but also the policy framework and support institutions and organisations such as universities and accelerators. In particular, the category of “material factors” has been divided into three sub-factors: markets, policies, and support services, as shown in table 1. The sub-factors “markets” and “support services” have been divided one more time to better analysed their components. More specifically, “markets” includes startups, SMEs, and MNCs, whilst “support services” includes universities, accelerators/incubators, ESOs, and infrastructure.

"When you step into Lagos, you can touch the entrepreneurial energy. The environment represents a nation where people are driven to prosper. This resilience coupled with the attractiveness of Nigeria's market has catapulted the city to becoming the top startup city in Africa." This is the thought of Damilola Teidi-Ayoola, Director of Startup Support, Co-creation Hub about Lagos. According to Startup Genome, Lagos is the second African ecosystem in Talent & Experience and the first African ecosystem in funding and performance.

Even if Lagos has a robust Fintech industry, numerous startups focusing on other sustainable challenges have sprung up. A clear example is Wecyclers. Wecyclers is a social venture that employs a novel business model to solve the issue of solid waste management in Nigeria, particularly in low-income neighbourhoods. Their business plan is comprised on the following main components:

- **Collection:** Wecyclers collects recyclable rubbish from low-income families using a fleet of cargo bicycles. They also provide participation incentives, such as redeemable points for every kilogramme of rubbish collected, which may be swapped for home products or cash.
- **Sorting and Processing:** The debris collected is then sorted and processed at Wecyclers' recycling plant to separate recyclable items including plastic, glass, and aluminium.
- **Sales and marketing:** After the materials have been sorted and processed, they are sold to manufacturers and other end-users such as plastic makers and packaging firms.
- **Education and Outreach:** Wecyclers also focuses on education and outreach, collaborating with schools and other groups to promote awareness about the value of recycling and trash management.

The business model of Wecyclers is to create a sustainable solution to the waste management problem in Nigeria, providing an incentive for households to separate and recycle their waste, creating jobs and reducing environmental pollution. Wecyclers creates economic value from waste by turning it into a resource, by providing a sustainable source of raw materials for manufacturers, thus contributing to the circular economy, and somehow solving one of the major socio-environmental problems common to almost every African country. Indeed, the global trash trade

exacerbates environmental injustice, hierarchy, and exploitation along class and race lines on a worldwide scale, because those who experience the negative consequences are vulnerable groups who did not generate the waste (Zero Waste Europe, 2022).

Overall, there is a high level of awareness of local prospects for the formation of sustainable initiatives, owing to success stories of such companies and the frequency of social-environmental concerns (Tiba S., 2020) such as the one just described.

When taking into consideration the SMEs environment, most of the challenges afflicting Lagos SMEs are government-driven, other basic difficulties are due to the firms themselves. For example, any business that has a problem satisfying its own customers, employs people who are not committed to the work that they do, and is led by managers who appear inefficient in their duties is doomed to fail, given that such problems are already exacerbated by the Nigerian government's apparent lack of adequate commitment to small and medium-sized businesses.

As a result, companies must be active in order to combine their own efforts with whatever government offers in order to be successful (Siyanbola T., 2020).

The sustainability of SMEs in Lagos can be difficult, as the city is notorious for having a difficult business climate. Poor infrastructure, high operational expenses, and bureaucratic red tape are among the problems. Furthermore, the problem of insufficient finance impacts SMEs, since they have restricted access to cash and financing. Despite these obstacles, many SMEs have found methods to stay in business by innovating and adapting to local market circumstances.

However, certain steps are being implemented in Lagos to increase the sustainability of SMEs. For example, the Nigerian government has adopted various policies and programmes targeted at supporting and developing SMEs, such as the Micro, Small, and Medium Enterprises Development Fund, which gives cash and other assistance to SMEs. There are also private sector efforts, such as incubators and accelerators, that give mentorship and resources to assist SMEs in growing and becoming more sustainable.

Local groups, non-governmental organisations, and social enterprises are also trying to encourage sustainable business practices for SMEs. They provide sustainable business training, assistance, and advocacy, as well as connect SMEs to financial sources. An example of such difficulties faced by SMEs, is the story of Ada Osakwe and her venture Nuli Lounge. Ada Osakwe's company growth in Nigeria was difficult, but she fought - and still does - the discrimination she faced as a female entrepreneur in the early days. Osakwe transformed Nuli Lounge from a single-brand company to a multi-category, multi-brand beverage behemoth. On September 1, 2016, Osakwe was celebrating the culmination of a journey that had lasted nearly four years. Her juice firm had just opened its first flagship store in the trendy district of Ikoyi, Lagos, and the young female "agripreneur" was the talk of the town for her creative approach to supporting local farmers through local procurement of raw ingredients. Nuli Lounge was founded as a result of a series of minor investments in two firms as an angel investor. The firm now has ten outlets across Nigeria, with plans to expand its product offering to include indigenous coffee. Her products are also available at all major retail shops, including Spar and Shoprite. Her ambition is to utilise her position to combat the injustice she experienced as a female entrepreneur in the early days of her firm when her first shop was demolished due to the failure to pay taxes, according to authority (Forbes Africa, 2020).

Her initiative was driven by the fact that the continent's leaders were spending \$40 billion each year to import food products that could have been cultivated on local soils. Through her venture she is contributing to promote the SDGs (2,5,8,10).

On the other hand, multinational company sustainability in Lagos can vary widely depending on the firm and the industry in which it works. However, when it comes to sustainability, MNCs face the same issues as SMEs, such as poor infrastructure, high operating expenses, and bureaucratic red

tape. Furthermore, global corporations operating in Lagos are subject to Nigerian rules and legislation that control their activities, including environmental laws, labour laws, and anti-corruption laws. Nevertheless, many MNCs are taking initiatives to enhance their sustainability and become more responsible corporate citizens. Implementing environmental management systems, increasing energy efficiency, and investing in renewable energy are examples of these approaches. Some of them are also attempting to increase social sustainability by investing in the local community, giving chances for training and development for local employees, and encouraging ethical business practices.

Overall, while MNCs operating in Lagos have sustainability issues, there are also encouraging examples of corporations taking measures to enhance their sustainability and contribute to the local economy and community. In earlier chapters, I emphasised the importance of MNCs in supporting and sustaining the establishment of a sustainable entrepreneurial ecosystem. Unilever is one of the main MNCs that stands out for its commitment to supporting sustainable development via the implementation of the SDGs.

Unilever Nigeria predicted a 35% increase in turnover in 2021, growing from 52 billion Nigerian naira in 2020 to 70.5 billion (€108 million to €145 million).

Gross profit increased 84%, rising from 11.1 billion Nigerian naira in 2020 to 20.4 billion in 2021 (from €23 million to €42 million). Unilever Nigeria focused on reinvesting in brands and aligning with Unilever's global strategy of competitive, consistent, profitable, and responsible growth throughout 2021, in addition to investing in employees to develop a pool of future-fit talent and implementing rigorous cost-cutting plans to fuel growth. It also established a new cooperation this year to produce sorbitol, a major component in Closeup and Pepsodent toothpaste, using sustainably produced cassava starch rather than maize. They will utilise locally grown cassava instead of imported maize to make Closeup's and Pepsodent formula, creating thousands of jobs for manufacturing workers, agronomists, back-office support personnel, and farmers (Unilever, 2023).

As I previously said, Unilever is helping the SEE of Lagos by implementing their business strategies with SDGs. The Compass is the Unilever group's strategy for being a force for good through purpose and innovation. Through the Compass, the company has set ambitious pledges to sustainable development. Its commitments are organised around ten core areas: climate action; protecting and regenerating nature; creating a waste-free world; positive nutrition; health and wellbeing; equity, diversity, and inclusion; raising living standards; investing in the future of work; respect for human rights; and being responsible business. These areas of action account for direct efforts toward 11 of the United Nations SDGs, namely goals 1, 2, 3, 5, 6, 8, 12, 13, 15, 16, and 17 - and indirectly toward all 17.













Regarding Goals 3 and 8, in 2021 Unilever improved many programmes and activities as part of the dedication and efforts to assure employee welfare and their productivity. 12 Health and Wellness Learning Sessions were organised as part of the weekly Safety, Health, and Environment presentations, covering matters ranging from breast cancer to Covid 19 safety. A week-long campaign was organised to educate staff about the tools and skills needed to maintain their mental health in honour of World Mental Health Day. To commemorate World Aids Day, free HIV testing and counselling were provided to employees for a week, and to commemorate World Diabetes Day, free diabetes screening was provided to employees for a week. Similarly, International Women's Day was marked with a "Unmute" campaign to break the silence on domestic violence, which had grown considerably throughout the world during the Covid-19 pandemic's lockdown phase. Furthermore, through its Mental Health and Employee Assistance Program, efforts were implemented to encourage the use of mental health services, such as local, HMO, and workplace choices.

Regarding Goal 4, there is a premium placed on staff development and ongoing training at Unilever. A training platform is available where workers from around the world can engage on projects and with teams, thus acquiring new skills, exploring potential job transfers, or offering extra capacity to teams in need. This platform was utilized by 36.3% of personnel in 2021. Such personnel are essential not only for achieving strategic objectives, but also for maintaining market leadership. The global mobility programme guarantees that employees may obtain experience and exposure in other Unilever subsidiaries and use their knowledge and skills in new markets. Since 2015, 103 workers have taken on positions in foreign countries through this programme, with eight personnel currently on assignment outside of Nigeria.

Unilever pays attention also to the education of employees' children. The firm pays for the secondary school education of qualifying children and wards of its blue-collar employees through the Unilever Nigeria Plc Scholarship Scheme. These children and wards must pass an aptitude examination administered by the West African Examination Council (WAEC) in order to be eligible for the plan, which covers their secondary school tuition for six years. The plan, which was impacted by the pandemic in 2020, was implemented in 2021, expanding the cohort of applicants allowed. In 2021, 98 students were accepted into the programme, whilst since its launch, more than 1,000 people have benefited.

These are some examples of the Compass program of Unilever. These and the remaining initiatives are listed in figure 18.

Fig.18 The Compass program's initiatives.

INITIATIVE	DESCRIPTION	CONTRIBUTION TO SDGS
Employee Health and Wellbeing	Activities to enhanced the health and wellbeing of employees both at work and outside	 
Human Capacity Development	Programs to sustain employees in acquiring new skills	
Unilever Scholarship	Unilever pays for the secondary school education of eligible children	
Covid-19 Response	Numerous actions to facilitate vaccination and tests	
Climate Action Commitments	Committed to halving the environmental footprint of the production and consumer use of our products	
Waste Collection and Recycling	Collaboration and support to Wecyclers	 
2021 Employee driven Plastic Collection Campaign	Campaign to collect and recycle plastic waste	  
The Shakti Rural Women Empowerment Initiative	It is a women empowerment initiative which adopts a door-to-door sales model that employs local women.	
Pepsodent World Oral Health Day (WOHD) Activation	Collaboration with Pepsodent to educate on oral hygiene.	
Partnership for Development	Partnership with organisations such as UNICEF or acting as sponsor to workshop such as Global Compact Network Nigeria Women ESG Investment Workshop.	

In order for new businesses to thrive or existing firms to continue on their path of growth and support for sustainable development, rules, laws, and regulations that allow them to adopt projects targeted at attaining the UN's 2030 Agenda goals are required.

In an effort to harmonise the State's development project (T.H.E.M.E.S.) with the Global Development Agenda, the Office of the Sustainable Development Goals and Investment (Lagos Global) was established. In order to carry out SDG-related projects in the State and in all Local Government and Local Council Development Areas, the Office must entice partnerships and investments. Lagos Global is also tasked with the duty of tracking and evaluating the results and effects of all initiatives related to the SDGs in coordination with other pertinent governmental agencies. Through the Volunteer Corp structure, it will also encourage partnerships between the private, civil, and development sectors. The Office will help to reinforce Lagos State's status as Nigeria's financial and commercial hub.

There is a section labelled "Investment Incentives" on the Lagos Global internet portal. This section describes the numerous incentives made accessible by Lagos State to parties active in internal ecosystem linkages. There is information available on three types of incentives: Trade Incentives and Tax, Sectorial Incentives, and Other General Incentives.

The Lagos State administration has implemented a variety of fiscal incentives in order to foster a favourable business climate. Import discounts, tax exemptions for exported items, and tax reductions for eligible businesses are among the key incentives. The tax system includes the following taxes: companies income tax (30%), education tax (2%), withholding tax (10%), value added tax (5%), capital gains tax (10%), information technology tax (1%). In addition, only companies having a yearly revenue of more than \$500,000 pay IT taxes.

The Company Income Tax (CIT) rate in Lagos is roughly 30%, which is in line with the average rate for Sub-Saharan African nations. Some countries, however, have a greater CIT rate, while others have a lower rate. For example, the CIT rate in South Africa is 28%, whereas it is 25% in Ghana. In Angola, however, the CIT rate is 35%, while in Senegal, it is 40%. It is crucial to remember that many nations provide tax breaks and exemptions for specific types of businesses and sectors, which can reduce the effective CIT rate even further.

The capital gains tax (CGT) is a tax levied on the profit or gain derived from the sale of a capital asset such as real estate, stocks, or bonds. Individuals and businesses in Lagos pay a 10% capital gains tax. Lagos' capital gains tax rate is comparable to that of other Sub-Saharan African nations, which normally ranges between 10% and 20%. In South Africa, for example, the capital gains tax rate is 18% for individuals and 22.4% for businesses. The capital gains tax rate in Ghana is 10% for individuals and 15% for businesses. The capital gains tax rate in Angola is 10%. The capital gains tax rate in Senegal is 20%.

The second category of incentives focuses on giving incentives in the following sectors: housing, retail, ICT, power, transportation, health, tourism, and environment.

- Housing → Lagos State is prepared to provide these incentives to stimulate home investment: subsidizing PPP (Public Private Partnership) participants' statutory costs; accelerating the issue of land titles to allow investors to receive money more quickly. It also includes zero tax on rental income during pioneer period; when certain requirements are met, it is possible to obtain the pioneer status which is a tax exemption offered to enterprises who participate in promoted activities or manufacture promoted products for a term of 5 or 10 years; capital gains from property sold within 3-5 years are not taxed.
- Retail → Capital gains tax exemption on asset disposals Zero VAT on essential food items
- ICT → WHT on dividends due to an investor in a Venture project firm is reduced by 50%; 100% capital allowance spread over 5 years; capital gains are exempt from taxation if sold within five years

- Power → The Nigeria Gap Fund for PPP provides upfront financing in the form of capital subsidies to cover a portion of the initial capital cost. The incentives also include policies to purchase power producing equipment and exempting it from duty; for five years, you can claim a 20% capital allowance; companies that manufacture transformers, metres, control panels, switch gears, cable, and other electrically related equipment are eligible for a tax break lasting 5-7 years.
- Transportation → The Lagos State administration is eager to join into a PPP agreement for water transportation operations. In addition, there is an initial capital allowance of 30% on vehicle acquisition; taxation of shipping and airline firms is limited to operations carried out in Nigeria; tax breaks of up to seven years are available for shipbuilding, marine repair, and aircraft production and maintenance; VAT exemption on business vehicles and spare components purchased.
- Health → regarding health policies, pharmaceutical companies that formulate and manufacture medications are eligible for the pioneer status incentive. It is foreseen for this sector a tax holiday of 3-5 years. A tax holiday is a period when certain taxes are postponed or decreased.
- Tourism → in the tourism sector all incentives are tax-related and include that hotels will be excused from paying taxes on 25% of their tourism profits in convertible currencies; tax relief for three to five years; duty-free importation of tourism-related equipment; provision of land for tourism development at a reduced cost; soft loans with extensive moratorium periods are available.
- Environment → as for tourism also the environmental sector is provided with tax-related incentives such as rent-free land in free zone zones throughout the development stage; foreign capital investment repatriation with capital appreciation on investment; import duty-free input raw materials.

The third and last category of incentives available on Lagos Global involves the Lekki Free Trade Zone (LFTZ), labour intensive policies, SME incentives, pioneer status incentive, and R&D incentives.

The Lekki Free Zone Development Company (LFZDC) was created in May 2006 as a Joint Venture Partnership under the Nigeria Export Processing Zones Act. The Joint Venture is made up of a consortium of Chinese companies led by China-Africa Lekki Investment Ltd (CALIL) (formerly known as CCECC-Beyond International Investment & Development Co. Ltd) as the majority shareholder, the Lagos State Government (LASG), and Lekki Worldwide Investments Limited (LWIL). LFZDC is the sole organisation authorised by both the Federal Government of Nigeria, through the Nigeria Export Processing Zones Authority (NEPZA), and the Lagos State Government to build, operate, administer, and manage the Lekki Free Zone project's South/West Quadrant.

The Lekki Free Zone project intends to build, operate, and manage a modern free zone in compliance with worldwide best practises by maximising the benefits of Lagos as a major distribution centre in West Africa. Because of their mutual complement and resource compatibility, the project would strengthen Nigeria-China economic cooperation. It would also boost Nigeria's industrial structure and national living standards.

Indeed, the creators of LFTZ envision providing investors with a choice in the most suitable free zone business climate, acknowledged for setting standards of excellence. Whilst their mission is to establish an offshore economic growth zone, attract foreign investments, stimulate export, generate job opportunities, reduce capital flight, and create a one-stop global business centre.

Firms to operate in this zone need a minimum investment of \$500.000. Exemption from all federal, state, and local government taxes, levies, and rates; duty-free import of capital equipment, machinery, raw materials components, and spare parts; freedom from legislative provisions

pertaining to taxes, levies, duties, and foreign exchange regulation; and no import or export licences required in the zone are among the benefits to which a firm has access once accepted. Right now, there are 132 enterprises already established in the zone, with the disposal of a market of 320 people with growing needs. In addition, the LFTZ quadrant has been dubbed as Nigeria's new economic powerhouse by the House of Representatives Committee on Commerce, with \$25 billion in investments (Business Day Nigeria, 2022).

The LFTZ investment opportunities involve sectors such as oil & gas, manufacturing, real estate, financial services, hotel & tourism, healthcare (LFTZ official website).

The labour-intensive mode of production policies include tax concessions for all those industries with a high labour/capital ratio. For example, industries with 100 employees obtain a 6% tax concession; with 200 employees a 7% tax concession; and with 1000 employees a 15% tax concession.

With respect to the pioneer status, the Lagos Government decided that industries based in the Federation's economically challenged local government areas would benefit of a five-year tax break.

The financial incentives for research and development include reserves for research and development of up to 10% of earnings as allowable costs. Moreover, tax deductions for up to 120% of R&D costs are available if the activities are carried out in Nigeria and are related to the firm from which the revenue or profit is derived.

The SMEs are entitled to a 10% tax cut for the first five years of operation. Furthermore, dividends from small manufacturing enterprises are tax-free for the first five years of operation.

Another initiative that involves SMEs, but also micro-enterprises is the introduction of a franchise system, which according to Mrs. Hammond (Special Adviser to the Lagos State Government on SDGs and Investment) is an excellent route to growth that can open up new opportunities and markets for many businesses. The Lagos State Government has developed the Lagos MSMES Franchise Framework Initiative as part of its attempts to encourage franchising in Nigeria and achieve the UN SDGs. The initiative will begin with a franchise awareness, process, and structure training for 300 Lagos MSMEs. Tayo Adedugbe, the FRANDIS (Franchisors and Distributors) Forum's founder, stated in his remarks that the initiative's goal is to "encourage the growth of franchising as a viable model for assisting MSMEs in scaling their operations, attracting investment, expanding throughout the state and worldwide, and creating new employment while stimulating and diversifying the economy." The goal of the initiative is to fulfil the SDGs 1,8,9,10.

The Minister outlined the main obstacles impeding franchising's development as a viable business model for MSMEs in Nigeria, saying that they "vary from the absence of established franchise-specific law and regulatory framework, acquiring access to capital, awareness, capacity building and the inefficient enabling environment." Nevertheless, she made a point of saying that "the Federal Government is dedicated to strengthening the business climate in the nation, since franchising permits not just expansion but also an empowerment tool, which may aid start-up businesses and promote Nigeria's Small and Medium Enterprises to bring about growth and sustainable development in the economy." (Premium Times Nigeria, 2022).

Support services' primary function in SEEs is to give entrepreneurs a platform via which they may access the networks, resources, and necessary support for their businesses to succeed. For entrepreneurs to develop their ideas and create profitable enterprises, support services are crucial. Universities, infrastructure, accelerators/incubators, and ESOs are the chosen components of the support services that I will examine. Such assistance may be crucial in assisting business owners in growing their enterprises. These services are crucial for providing entrepreneurs with the tools and direction they need to turn their company ideas into profitable enterprises. Without these services,

company owners would not have access to the networks and resources necessary to grow their companies.

In society, universities hold a special place. Universities have historically been significant forces in driving innovation, economic growth, and societal well-being on a global, national, and local scale with a broad mandate centred on the creation and distribution of information. As a result, universities must play a significant part in achieving the SDGs and in providing small firms and aspiring entrepreneurs a vital support network, therefore fostering a climate that will promote sustainable economic growth. The Lagos SDGs Youth Alliance made available to all a guide for universities, higher education institutions, and the academic sector in which the relationship between educational institutions and SDGs is explored. The guide first explores why academic institutes and SDGs need both to achieve sustainable development. Some of the SDGs specifically mention the higher education and scientific research sectors, although the role of universities is essential to achieving all of the SDGs. The distinctive roles and knowledge of universities are essential for solving all of the linked social, economic, and environmental concerns covered by the SDG agenda. Without this sector, the SDGs may not be realised. Universities' primary responsibilities are:

- Providing information and solutions to support the SDGs' implementation
- Creating current and future SDG implementers
- Embodying the principles of the SDGs through organisational governance, operations, and culture
- Providing cross-sectoral leadership in implementation

On the other hand, the SDGs are an international framework that has gained the support and endorsement of the community, business, government, and other universities. By participating in the SDGs, universities may get a variety of advantages from this wide support. Key advantages include of:

- Demonstrating university impact
- Capturing demand for SDG-related education
- Building new external and internal partnerships
- Accessing new funding streams
- Adopting a comprehensive and globally accepted definition of a responsible and globally aware university

Two concrete examples of such institutions working to promote sustainable development through SDGs are the Centre for Housing and Sustainable Development and Lagos Business School Sustainability Centre.

The University of Lagos' Centre for Housing and Sustainable Development (CHSD), originally the Centre for Housing Studies, was founded to give researchers, housing providers, and policymakers the necessary tools for providing profitable, affordable housing. The Center evaluates existing and developing practice in the housing business, invents innovative methods of housing provision and administration, and supports people in charge of coming up with solutions for managing the housing situation in Nigeria and Africa. Its mission is to be the centre for world-class, transdisciplinary, and multidisciplinary applied research on urbanisation and habitable cities, uniting researchers to initiate, develop, disseminate, and effect change in Africa's cities. The objective includes recruiting active researchers and funders from inside and beyond Africa, across all cadres, to collaborate with partners from academia, the commercial sector, government, and non-governmental organisations to tackle the varied challenges seen in African cities.

The Lagos Business School's sustainability centre is the first of its type in Nigeria. The centre brings together sustainability theory and practice, develops leadership skills, and fosters constructive debate and collaboration among industry, government, civil society, and academia to identify answers to important sustainability concerns. It is dedicated to providing decision-makers and managers with the necessary skills to plan and implement ethical and sustainable business strategies with a positive impact in Nigeria and Africa. The LBS Sustainability Centre focuses on four thematic areas: (1) Sustainable Development & Corporate Sustainability, (2) Responsible Business & Leadership, (3) Non-profit Management & Social Entrepreneurship, and (4) Circular Economy. The Centre's focused knowledge-sharing efforts and strategic partner engagement reach thousands of individuals and organisations throughout Africa and beyond through courses, conferences, industrial projects, and research. With the aid of dedicated team members and fellows, LBS academics, professional facilitators, and important partners, projects and programmes are planned and implemented to enhance sustainability and responsible management in Africa.

According to an article published on SharpSheets at the beginning of 2022, the author listed the top 13 Startup Accelerators & Incubators in Lagos. SharpSheets is composed by a team of investment bankers and finance professionals. It is a portal with a collection of financial and business plan templates for a variety of sectors, including tech startups, small enterprises, and franchises. Before going into deep in each accelerator and incubator, I present all of them:

1. Adaverse
2. ARM Labs
3. Co-Creation Hub
4. Enspire
5. Faster Capital
6. Founder Institute
7. Google For Startups
8. Greenhouse
9. Itanna
10. Startup Grind
11. Startup Wise Guys
12. Startupbootcamp
13. Wennovation Hub

Adaverse is a Cardano Ecosystem Accelerator that brings together entrepreneurs, strategists, and mentors in order to develop the most solid foundation across Africa and Asia. It is a joint project between EMURGO and Everest Ventures Group that provides financing, coaching, and technical infrastructure to blockchain startups in order to expand Web3 solutions globally. It intends to accelerate the growth of chosen projects and the success of entrepreneurs developing on Cardano by collaborating with the most experienced mentors and navigating product development and go-to-market strategy.

The ARM Labs Lagos Techstars Accelerator Program invests in early-stage African fintech and proptech firms. ARM Labs works on Machine Learning, Blockchain, Artificial Intelligence (AI), but also Credit (micro-lending, P2P), Big Data, and other areas. Their programmes last 12 weeks, after which the most successful entrepreneurs get up to \$50,000 in funding from ARM.

Since 2011, CcHUB has aided in the development of a community dedicated to the role of technology in improving Nigeria. CcHUB has learned through experience that there are many

people and organisations interested in using technology to solve local problems, and its objective is to continue to find such people/companies and assist them in bringing their ideas/products to reality. It offers entrepreneurs and startups 3 separate programs:

- Pre-incubation: It is a 6-month programme that assists budding entrepreneurs in developing and launching initial prototypes of their tech-enabled solutions to clearly defined societal challenges. The purpose is to validate the concept and determine product/market fit. The programme includes a \$5,000 financial investment, coaching from the management team, and hands-on assistance from the product development team.
- Incubation: This is a 12-month programme aimed at assisting initiatives with some amount of traction and income in developing businesses that can scale to become global sustainable corporations. During the programme, startups will get up to \$25k in capital, as well as direct access to follow-on funding of up to \$250k from Growth Capital, free office space for the team, free credits for partner goods, business help, and access to a network of partners, among other benefits. Startups are chosen on the basis of different criteria such as a revenue model and a functional product.
- Acceleration: Accelerators are 12-week programmes that assist entrepreneurs fine-tune their products, business models, and procedures in order to position them for long-term success. Accelerators are meant to be flexible and give help depending on the particular needs of the company, with a main focus on product development, financial management, investment preparation, and business modelling. Its accelerators are fast-paced and focused on execution, with a premium on founders applying learnings to their firms in real time.

Enspire is a technology-focused incubation programme for early-stage firms with the goal of developing successful enterprises. Since its inception in 2013, the programme has assisted over 200 entrepreneurs and people in Nigeria's diverse economic sectors. It operates a quarterly ideation programme for a maximum of 20 entrepreneurs, where they are coached, counselled, and guided toward the development of a minimal viable product. The incubation programmes are entirely focused on early-stage firms, particularly those in the ideation stage.

Enspire is one of Abuja Technology Village Free Zone Company's primary efforts (ATV). It aims to drive economic growth and long-term job creation through innovation, entrepreneurship, firm development, and technology commercialization by offering training, mentorship, networking opportunities, and investor access. Enspire includes three types of support:

- Ideate: Ideate is a 3-month rigorous and practical programme with experts, mentors, and coaches aimed at assisting in realising company goals. Enspire accepts into the programme the most potential and inventive people and teams that are disruptive issue solvers. Enspire is also interested in solutions that make use of technology as a major enabler.
- Incubate: A programme created for early-stage startups that have produced or are in the process of constructing a minimal viable product (MVP), have garnered some momentum, and need advice and mentorship in order to expand. The intense 12-week incubation programme includes mentorship, consulting, and coaching, and concludes with a pitch session with angel investors.
- Business clinic: Entrepreneurs and startups can attend monthly seminars. A minor startup difficulty is chosen, and a seasoned facilitator from the hubs network is called upon to discuss it with the entrepreneurs, presenting practical techniques to address these challenges.

Faster Capital is a business accelerator and incubator situated in Lagos, Nigeria. It normally assists by offering employment in exchange for equity. The task might be either technical development or business growth per equity. Faster Capital actually offers two separate programs:

- Tech Cofounder: The startup is assisted in developing an MVP or a prototype, whether it is a mobile app (Android app, iPhone app) or a web app. Faster Capital covers 50% of the required funds and provides a very cost-effective development approach.
- Raise Capital: The pitch deck, business strategy, financial operating model, and startup projections are all improved. Entrepreneurs are also assisted in reaching out to angel investors and venture capitalists through warm introductions. The fundraising planning process is facilitated, which includes deciding how much money to raise and the startup's worth. Negotiations and transaction closings with angel investors and/or venture capitalists are facilitated. Raising capital from angel investors, obtaining funding from Venture capitals in Nigeria, other accelerators/incubators (with whom partnerships are maintained), obtaining a small business loan for Nigerian startups, obtaining small business grants for Nigerian startups, and obtaining funding from government funds and other funding sources are all aided.

Founder Institute is the world's largest startup accelerator, with locations in over 200 cities. The early-stage accelerator provides access to mentorship programmes and networking opportunities for entrepreneurs. Their 4-month accelerator programme in Lagos is also offered electronically, with the possibility of some in-person networking. Founder Institute also helps future entrepreneurs and teams with the support network they require to get momentum. Finally, the entrepreneurs have access to finance opportunities, allowing them to establish and scale their businesses.

The Google for Startups Accelerator Africa is a three-month accelerator programme for Seed to Series A technology startups throughout the African continent.

The accelerator is aimed to provide the best of Google's programmes, products, people, and technology to startups that use machine learning and AI in their business today or plan to in the future. In addition to mentorship and technical project help, the accelerator offers deep dives and seminars on product design, customer acquisition, and leadership development for entrepreneurs, as well as specialised training, media opportunities, and access to Google's network of engineers and experts. Some of the key benefits among the others are three months of equity-free support, mentoring, training on design, marketing, and leadership, or early access to Google's new products and tools.

GreenHouse Capital started as a small programme (known as GIBE) to help new companies. Since then, it has expanded to operate many accelerator programmes each year, including its flagship programme, GreenHouse Lab—first Nigeria's tech accelerator for female-led startups. Its accelerators are created in collaboration with prominent corporations and technology firms, with sessions led by industry professionals. Participating startups have access to training, mentorship, and funding opportunities from GreenHouse and its worldwide investor network.

Itanna is supported by the Honeywell Group as part of its innovation strategy. The Honeywell Group is dedicated to assisting and sponsoring entrepreneurs and companies. In addition, the Honeywell Group will provide mentorship from business experts and entrepreneurs to assist you in developing your company concept. Honeywell Group will use its local and worldwide network, as well as its portfolio businesses, to assist you in scaling up, deploying your products, and gaining access to partners and customers.

If your disruptive technology concept passes their preliminary evaluation, you will be accepted into their 4-month acceleration programme and given \$30,000 to begin your product development project. Furthermore, the company's office has been strategically created in Lagos, Nigeria's Enterprise Factory - here is where Africa's best talent will bring their ideas, vision, skills, and resources to build new business innovations and enhance the local and continental economies.

Startup Grind was founded in 2010. Several events are being held but Startup Grind, on the contrary, is much more than that. Local events, flagship conferences, startup membership, partner membership, student and investor programmes, and online media/content reach over 3.5 million people globally on a daily basis, bringing together like-minded yet diverse individuals to connect, learn, educate, help, develop, and belong. Startup Grind is an international start-up organisation dedicated to educating, inspiring, and connecting entrepreneurs. Their Lagos branch operates an accelerator programme that provides entrepreneurs with a strong support network, as well as opportunities to network and learn from experts in numerous sectors, allowing them to establish and expand their businesses.

Startup Wise Guys, founded ten years ago, is a startup accelerator programme for B2B SaaS enterprises. They have sites all throughout the world, from Eastern Europe to Africa. This programme is designed primarily for English-speaking East and West African early-stage digital B2B SaaS firms with early traction, a strong team, and a focus on one of the following areas: FinTech, AgriTech, EdTech, CleanTech, HealthTech, and RetailTech. Wise Guys SaaS Africa is a 5-month programme that combines online lessons with local and international professionals and mentors. Startups receive capital of up to €65k in exchange for 12% equity, in addition to training sessions and mentorship from 250+ mentors and 500+ alumni.

Startupbootcamp is a global network of tech innovators that assists in the acceleration of early-stage businesses. Their acceleration programme picks ten of the greatest businesses in Lagos and places them in a three-month intensive business acceleration seminar. Typically, each startup team is allocated one mentor from a network of 100+ entrepreneurs, investors, and partners. Founders will also receive \$17,000 in investment and up to \$450,000 in partner services. They focus on various areas, from clean tech and energy to blockchain and cybersecurity. During the 3-month program, startups have the opportunity to connect with leading firms in their industry, obtain tailored mentorship, participate in expert-led sessions and much more. Finally, at the program's conclusion, companies get the opportunity to present their products to over 200 business angels and venture capital firms.

Wenovation Hub, founded in 2010, is another of Lagos' best startup incubators. It is a venture development firm that provides access to incubation, acceleration, investment possibilities, and coaching to very early-stage firms and teams in developing fields. Their four-month incubation programme focuses on social impact industries such as education, agriculture, healthcare, and infrastructure. Startups benefit from free office space in addition to mentorship and knowledge-sharing.

These are just a few of the many accelerators and incubators in the Lagos area. In fact, according to an article published by Tracxn in late 2022, there are 40 accelerators and incubators. Tracxn is a market intelligence and research organisation that works with venture capital companies, corporate innovation teams, and startups. It delivers startup, investor, and industry data, insights, and analytics. Tracxn's platform includes a database of startups and investors, industry studies, and market trends. Tracxn follows companies internationally and

contains information on over 5 million firms in over 60 industries. It provides market analytics to enterprises, venture capitalists, and investment organisations to assist them make data-driven decisions.

Accelerators and incubators are critical for the long-term growth of Lagos' entrepreneurial environment. These organisations provide the resources and guidance required to assist entrepreneurs in bringing their ideas to life, as well as creating a supportive culture in which entrepreneurs may thrive. Incubators and accelerators assist entrepreneurs, startups, and early-stage firms develop and thrive by providing cash, mentorship, and resources. They are also important for the growth of a successful ecosystem since they may supply the crucial infrastructure, skills, and networks that allow a business to grow and expand. They give funding and resources to entrepreneurs and startups in order to help them establish their enterprises. This can include startup financing, grants, loans, or other financial assistance. By facilitating access to cash, entrepreneurs may concentrate on growing their businesses rather than worrying about how to finance their operations. Furthermore, accelerators and incubators give coaching and support to help entrepreneurs develop and implement their ideas. Entrepreneurs may gain a better grasp of their business and the issues they encounter in the marketplace through mentoring and coaching. Accelerators and incubators are very important in creating a supporting ecosystem for entrepreneurs. Startups can benefit from support, assistance, and advice by having access to a network of mentors, resources, and entrepreneurs. This contributes to the development of a collaborative culture, which is vital for the success of any business. Furthermore, they may help businesses interact with prospective clients, partners, investors, and other stakeholders. As a result, entrepreneurs are better able to expand their enterprises and get support, resulting in a more sustainable entrepreneurial environment.

Finally, they may assist entrepreneurs in Lagos develop a friendly and inventive environment. Entrepreneurs might feel inspired to pursue their company ideas and grow their firms if they have access to tools, guidance, and a supportive community. This is critical for every business since it helps to establish a favourable climate for entrepreneurs to flourish.

The third component of the identified support services category are ESOs which have played a critical role in establishing and maintaining a sustainable entrepreneurial environment in Lagos. These organisations have helped entrepreneurs by providing mentorship, business training, access to resources, networking, and other essential services. These organisations have offered entrepreneurs with resources and guidance in areas such as finance, technology, market access, and company development. They have also assisted entrepreneurs in establishing company ideas, finding new clients, and discovering the correct business possibilities. The organisations have also played a significant role in raising awareness and educating people about the many facets of entrepreneurship. They have held workshops and seminars to educate entrepreneurs on many elements of business management and helped them connect with possible partners and investors. They have offered mentorship opportunities as well as information on how to access relevant resources. ESOs have also played an important role in bridging the gap between various stakeholders such as investors, governments, and other entrepreneurs. In addition, they have assisted entrepreneurs with advocacy and policymaking.

Entrepreneurs in Lagos have been able to access resources, build business ideas, and obtain funding thanks to the work of these groups. This has allowed them to expand their businesses and generate new employment. The organisations have also played an important role in fostering an atmosphere conducive to entrepreneurship's success.

Here I provide a list of the most active ESOs in the Lagos ecosystem:

- **Fate Foundation:** Mr. Fola Adeola (Founder & Pioneer Managing Director/Chief Executive Officer, GTBank) created the FATE foundation in 2000 with the help of other top business sector professionals devoted to supporting sustainable entrepreneurship. It was designed to capitalise on Nigerians' strong entrepreneurial culture by offering the business incubation, development, and accelerator assistance needed to fully explore their inventive potential. Its sustainability concept is supported by funding and technical assistance from local and international partners, as well as a robust volunteerism strategy. In its journey to improve the Lagos SEE, the Fate Foundation makes its contribution in achieving the sustainable development goals related to Goals 4, 8, 9.
- **Women in Management, Business, and Public Service:** Women in Management, Business, and Public Service (WIMBIZ) is a non-profit organisation dedicated to boosting and promoting female entrepreneurship success rates as well as the number of women in senior positions in corporate organisations and the public sector. WIMBIZ has inspired, empowered, and fought for more female representation and is a volunteer-based organization, funded largely by donations and contributions by members and partners. Its main objectives include the education for women to achieve their potential and meet work-life balance issues, the sharing of underrepresentation of women in the workplace as a business, social, and gender issue, the provision of a networking platform, the provision of a sustainable support system for mentorship, career and business counselling, and facilitation, and eventually the rise of the number of women covering high positions in corporate organisations.
- **Center for Entrepreneurial Development (CEDL):** The Africa Leadership Forum manages and operates the Center for Entrepreneurial Development Lagos (CEDL), a fully registered and incorporated Non-Governmental Organization (NGO) in Nigeria, to expressly address the phenomenon of rising youth unemployment and its threats to the nation's political stability, social cohesion, and economic growth. The primary goal of CEDL is to foster a new generation of young entrepreneurs who will become net contributors to the national economy. CEDL promotes and develops competent and productive initiatives in the field of small businesses using a person-centred and demand-driven approach. The Center is investing in areas such as sustainable development of business initiatives, enterprises financing and partnering, access to new market opportunities, and capabilities and management development.
- **Institute of Chartered Entrepreneurs Consultants of Nigeria (ICEC):** The Institute for Chartered Entrepreneurship Consultants, Nigeria (ICEC) is an independent professional organisation that focuses on entrepreneurship, with a special emphasis on structured entrepreneurship mentoring, also known as “psycho-entrepreneurship consultancy/mentorship”. The Objectives of the Institute are to encourage self-sufficiency and mutual help in the fight against poverty; to stimulate, expand, distribute, and promote member education and training in the practise of entrepreneurship conducting professional tests resulting to certificate awards as stipulated by the Institute; to define the levels of knowledge and competence required of people wishing to become registered members of the Institute, and to raise those requirements as circumstances require, in order to preserve professional discipline; to emphasise and share such specialised entrepreneurial expertise and experience; to evaluate business prospects and possibilities for people-unemployed graduates, teenagers, women, and established businesses who wish to make a significant influence in the business community; to mobilise individuals and develop them into effective business leaders, wealth creators, and poverty alleviators, by utilising business students

from universities and colleges around the country; to give free, relevant management advice to small businesses, particularly very small businesses; to employ Psycho-Entrepreneurship Analysis - also known as people's psychology (mental and spiritual condition) in order to advise them on relevant job creation abilities to improve; to offer learner support services such as mentoring and coaching; to do research on strategies and initiatives for corporate growth and profitability; individuals (consultants) will be trained in best practises for providing business and entrepreneurship development consulting, coaching, and mentoring services to micro, small, and medium-sized business owners, as well as potential (upcoming) entrepreneurs; to establish and maintain a register of members entitled to practice as Chartered Entrepreneur and a register of institutional members.

- Leap Africa: Ndidi Okonkwo Nwuneli (MFR) founded the LEAP (Leadership, Effectiveness, Accountability, and Professionalism) Africa in 2002 to support values-driven leadership programmes for personal, organisational, and community development. LEAP has pioneered leadership, civics, ethics, governance, and succession training programmes for youth, business owners, civil society, and the public sector since its beginnings. Its initiatives for youth bridge gaps in effective leadership, education, employability, and entrepreneurship, and it awakens people's civic involvement to demand good governance or creatively address social challenges. As a mission-driven company, we understand the importance of young leadership and inclusion in country development and economic creation. Its cutting-edge programmatic thrusts inspire and equip young people, changing their mindset, motivating them to lead ethically and deliver positive change in their communities, while also assisting social entrepreneurs in building systems and structures critical for business sustainability, thereby contributing to livelihoods, social and national development. As Nigeria's leading youth-oriented non-profit, LEAP is focused on two major pillars: making secondary education work for young people and developing talent for the achievement of the Sustainable Development Goals.
- Empretec Nigeria Foundation: Empretec Nigeria Foundation is a private sector initiative of the United Nations Conference on Trade and Development (UNCTAD) with the primary purpose of developing, growing, and supporting Small and Medium Scale Enterprises (SMEs) through training and consulting. In order to solve the socioeconomic difficulties that organisations face, its programmes incorporate the concepts, values, and practises of sustainable development into all aspects of education and learning.
- Enterprise Development Centre: Although not technically an NGO, the Enterprise Development Centre (EDC) is the Pan-Atlantic University's Entrepreneurship Center. The Centre for Enterprise Development Services (EDS) was established in 2003 as a direct response to the lack of professional business development and support services available to small and emerging firms in Nigeria. The centre provides the following programmes: certificate in entrepreneurial management, healthcare management programme, the growth enterprise programme, essential management skills, the transforming Nigerian youth programme, school leadership programme, and social sector management.

The last element to analyse in the supports' category are the infrastructures of the ecosystem. Physical infrastructure, such as upgraded roads, bridges, and other transportation networks, as well as digital infrastructure, such as increased internet access and mobile banking services, have witnessed developments in the Lagos entrepreneurial ecosystem. This has given entrepreneurs access to a bigger market, allowed them to reach new clients, and increased the efficiency of their enterprises.

Despite the advancements witnessed in the Lagos entrepreneurial environment, there are still significant infrastructure gaps that must be filled. One of the biggest issues is a shortage of

inexpensive and dependable electricity. This has hampered the growth of many enterprises in Lagos, since they lack access to the resources they require to function. Indeed, the lack of infrastructure in power supply pushes self-generation activities to entail economic and environmental expenses. Actually, a supply of 4000-6800 MW is available to fulfil a demand of 16,000-27,000 MW. This means that there is a potential to provide a stable and cheap power supply by improving transmission capacity and diversifying sources.

Lagos is moving towards a more sustainable structure of the environment in which the actors manage their daily operations. This is significant considering the environmental difficulties Lagos confronts as a result of increased development. Currently, this has resulted in severe air, land, and water pollution, as well as substantial flooding hazards. The poor drainage system - which needs extensive network renovation - exacerbates these difficulties because 18% of Lagos State territory is on low-lying coastal plains, leaving it prone to recurrent floods.

I have already anticipated the “Lagos State Development Plan 2052”. Now I want to analyse another chapter of this plan. Chapter 6 – titled Modern Infrastructure – wants to argue how the government thinks to improve to provide world-class modern physical and digital infrastructure to support economic and social activities. To make this project feasible, five guiding areas have been identified:

- New urban centres
- Transportation
- Power & Energy
- Internet connectivity
- Water & Sanitation
- Waste management

Several SDGs such as Goal 7 (Affordable and clean energy), Goal 9 (Industry, innovation, and infrastructure) or Goal 11 (Sustainable cities and communities) are involved to achieve the end result. In addition, projects possess the six qualities of a sustainable infrastructure previously outlined in Chapter 3.

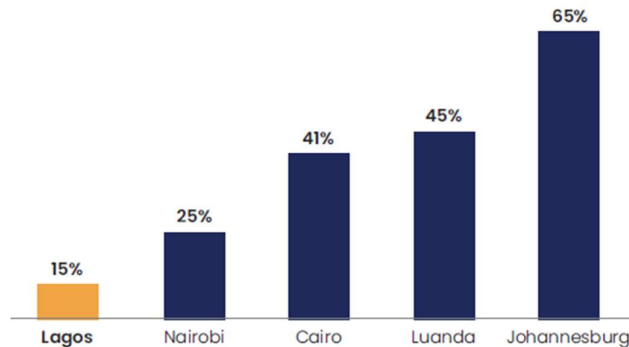
The Plan proposes to improve land use in Lagos State by constructing new urban centres that would transfer economic activity and population density to underused eastern and western regions. Critical infrastructure will sustain these burgeoning urban centres. Due to their low population density and economic activity, Badagry and Epe have been proposed as potential locations for future urban centres. The first has the potential to become a significant economic centre, whilst the second benefits from its proximity to raw and natural resources.

The Lagos State government has identified 17 important projects to support - and then sustain - the development of new urban centres. First and foremost, guidelines for structurally and physically sustainable building approaches in future metropolitan centres must be developed. Second, to give incentives and secure investments to encourage private sector actors to construct critical and supporting activities such as health care, education, and financial institutions. Finally, engage stakeholders to enable the relocation of essential economic operations and the implementation of a housing and office upgrading programme. It is pointless to build new urban centres without a well-connected and efficient transportation network. Creating a multi-modal transportation system aimed at minimising traffic congestion on highways is a requirement not just for the future, but also for the present. The Plan aims at transforming and improving transports via land and via water. The implementation of the transport system foresees the strengthening of existing traffic regulations and the creation of a regulatory framework to support each transport method. In addition, it foresees a price transparency mechanism for public transport. As for the previous point (new urban

centres), the Government includes incentives to promote the engagement of stakeholder both in the public and private sector to address in the best possible way the transport challenge. Providing abundant and dependable power through the use of renewable and independent sources is an important step toward ensuring contemporary infrastructure in Lagos State. The Power and Energy industry was identified as a sector to observe and help actively under public administration and social services. To ensure the achievement of a dependable, efficient, and sustainable electricity and energy supply, the Lagos State identified as key metrics the quantity of energy generated and distributed, the stability of the system, the share of the population connected, and the share of clean energy deployed.

The fourth point is internet connectivity. To achieve the result of providing internet for citizens in public spaces and infrastructure, there is a necessity for massive investments in the sector. Actually only 15% of the population have access to fixed broadband internet and when compared to its peers, Lagos is far behind them, as shown in figure 19.

Fig.19 Share of population with access to internet. (Source: *The Lagos State Development Plan 2052*)



The fifth point is water and sanitation. Water is one of the most important resources in any city and managing water resources is critical. Through coordination, modern infrastructure, and sustainable practices, Lagos will prioritise and take the necessary actions to increase the supply of water resources to support the standard of living and economic activities. In this specific sector, the government identified as key measures the volume of water distribution per day, the share of the population with access to clean water, and the monitoring of safe sanitation of the hygiene system. One way to achieve this, is to build sewage treatment plants and improve the management and maintenance of the infrastructure for wastewater such as pipes. Another way is to raise public awareness through campaigns.

The final section regards waste management, which I have already highlighted as a major challenge for the Lagos State Government, since it is a consequence of the rapid economic and social growth experienced in the last years. In the next 30 years, Lagos aspires to increase its efficiency in collecting wastes from a 63% to almost a 90% collection of the generated waste. Concurrently, they set as target a 45% recycling ratio – actually it is 10% - in order to keep out waste from landfills. The 17 initiatives that the Lagos State wants to use to perform well in this sector include measures such as the reorganization of LAWMA (Lagos Waste Management Agency), the employment advanced procedures to treat and reprocess electronic waste, and the collaboration with partners like the WHO (World Health Organisation) to receive funds to adopt waste management practices effectively and efficiently.

6.2.3 Social factors

Following the classification made in the previous chapters, this section can be divided into social networks and human capital. In particular, the category of “social networks” includes two sub-factors: investors and mentors, as shown in table 1. Starting with investors, this category focuses on discovering the impact of sustainable investing in the Lagos ecosystem. The mentor’s category, instead, focuses on determining if and to which extent mentors provide support to the players, in particular entrepreneurs. Eventually, the human capital category focuses on trying to understand if the human capital - present in Lagos - has the necessary skills to help the SEE to thrive.

Standard Chartered announced the release of its Sustainable Banking Report 2022, titled “Mobilising Retail Investor Capital” in September 2022. According to the study paper, which investigates ESG investment options, individual investors may channel \$198 billion toward top ESG (Environmental, Social, and Corporate Governance) concerns. It was also underlined that this money might be essential in filling financing shortages in Nigeria's other ESG concerns, such as food and water security, as well as pollution and waste management.

Standard Chartered's recent research also revealed that by 2030, an estimated \$8.2 trillion of investable retail money may be channelled into sustainable investments to support ESG objectives in ten growing economies. It also identifies current investor hurdles and proposes solutions to make sustainable investing a mainstream asset class.

Nigeria, according to the report, has a strong potential for development in sustainable investment, owing to its big population and expanding domestic income. In addition to other ESG issues of concern to retail investors, such as pollution, waste management, and energy security, greater access and transparency in the sustainable investment ecosystem could mobilise Nigeria's \$198 billion in retail capital potential in meeting its carbon neutrality targets. The top ESG priorities for Nigerian investors are scarcity of food and water (40%), climate change and carbon emissions (35%), and human rights, poverty, and income disparity (32%). To access \$198 billion, investor hurdles must be addressed. Indeed, the research emphasises the necessity for investor and market-specific hurdles to be addressed in order to transform investment interest into meaningful effect. Investors stated that they were having difficulty finding sustainable investment possibilities since they are not currently available to individual investors. Others stated that a lack of granularity in reported ESG data, as well as variability in the conclusions of various ESG grading techniques, were significant hurdles to investing in sustainable assets. Finally, the majority of investors base their selections on facts and word-of-mouth. Nigerian investors selected the following as the most significant impediments to growing their sustainable investments:

- Accessibility (54%): For all investors in Nigeria who picked “accessibility”, 30% found sustainable investment possibilities difficult to obtain without the assistance of a financial advisor, and 30% were hampered by market/residency constraints
- Comprehensibility (46%): For all Nigerian investors who picked “comprehensibility”, 49% stated that there was insufficient information or granularity to assist them comprehend or analyse the effect of sustainable investments on ESG concerns
- Comparability (44%): For all Nigerian investors who picked “comparability”, 33% said it is difficult to assess sustainable investment alternatives since different ESG grading techniques produce different recommendations.

These findings show how financial institutions may play a significant role in releasing accessible capital by breaking down these obstacles for retail investors utilising investor behaviour and motive research.

The paper emphasises the need of taking decisive action to:

- Make more solutions available in more markets via digital platforms, democratising access to sustainable investments
- Provide information that is straightforward and transparent
- Address investor concerns and give data-driven guidance on how to connect their ESG goals with the appropriate solutions

“Individuals have the capacity to be catalysts for change” stated Lanre Olajide, Country Head, Wealth Management. “According to our Global analysis, if we eliminate the constraints that restrict and limit these opportunities, \$8.2 trillion of retail investor money may flow into sustainable investments. According to the analysis, the top ESG-related challenges in the ten markets evaluated are climate change, pollution, poverty, corruption, food shortages, and energy security, which correlate to the areas that investors are most interested in solving. We know that a rising number of our clients in Nigeria are looking for ways for their investments to have a beneficial influence on the environment and society, and there is a strong desire to move ESG investing from a specialist investment strategy to a mainstream investment approach. We have the experience and solutions as a bank to help investors achieve both profit and purpose. Importantly, we are well positioned to lead initiatives and solutions that will enable the transition to a more sustainable future to begin now.”

Now, I illustrate the following organisations as concrete examples of the sustainable investing presence in Lagos. The most interesting are the Green Investment Club, All On, Garden Institute of Business Entrepreneurs (GIBE), FC4S Lagos Center, and Impact Investors Foundation. The Green Investment Club (TGIC) educates people about money and gives them practical tools to help them achieve their financial goals. The Club seeks to bridge the financial literacy gap for Nigerian millennials through various offerings, which include a community-based investing club, online courses, webinars, campus visits, and a digital platform. Youth aged 25-45 account for an estimated 60% of Nigeria's adult population. This figure should improve the economy's development prospects; nonetheless, this age group is poorer than their parents were at the same age. This demographic group is affected by issues such as high inflation (17.33% as of February 2021) and frequent currency depreciation. As a result, their savings rate is lower, their property ownership rate is lower, and their general faith in the local financial system is at an all-time low. Our target audience is the Nigerian young who are attempting to save, budget, and invest in an ever-changing economic climate. They desire to achieve financial security and cross items off their bucket list, but investment institutions often disqualify them owing to their income level. The value offered is on-demand financial education through a community-based investment club and solid collaborations with reputable financial institutions to give people with inexpensive investment solutions. Despite the support provided by increasing the rate of financial literacy among young people, TGIC is active also in delivering its contribution to small, medium, and micro businesses - over 80% of enterprises are classified as small, middle, or micro. As an impact-driven investor community, TGIC promotes social and communal development through the #TGIC4good programme. The #TGIC4good project was established to help a variety of causes. Among these projects is a recent collaboration with the Lagos State Employment Trust Fund (LSETF) to generate funding for companies in Lagos state to recover from recent theft. Indeed, following the #ENDSARS demonstration, looting and vandalism impacted small businesses, thus the Club decided to distribute awards to vandalised small companies for a total of ₦10 million.

All On is an investment firm whose objective is to expand commercial market access for underserved or unserved energy sectors. Its main goals are to maximize benefits to Lagos and

doing so also Nigeria, to support sustainable development, respect HSSE (Health, Safety, Security, and Environment) standards and keep open communication and engagement with all stakeholders. All On provides loans and equity tailored to the needs of energy businesses of all sizes. The emphasis is on organisations who have proven off-grid energy technology solutions and are ready to scale. All On aims at creating an economic and regulatory framework that allows off-grid energy enterprises to prosper. It collaborates on advocacy and policy problems with strategic partners to accelerate the construction of an enabling environment for the renewable energy sector. It also promotes innovation and the identification of promising business and deployment models, assists partners and entrepreneurs in effectively obtaining and sharing information, commissions industry relevant research, contributes to capacity development, and engages in other activities necessary to accelerate the scaling of Nigeria's off-grid energy sector. In addition, All On sets up the All On Hub with the support from the Rockefeller Foundation. It is a facility intended to give non-financial support and to develop the capacities of entrepreneurs in the Nigerian energy sector at the ideation, angel, growth, and market entry stages.

The Financial Centre for Sustainability, Lagos ("FC4S Lagos" or "FC4SL") was founded in April 2019 by key financial market stakeholders, including FMDQ Group, Africa's first vertically integrated financial market infrastructure (FMI) group, with the support of the United Nations Environment Programme (UNEP) and other financial market ecosystem stakeholders. The Financial Centre for Sustainability in Lagos is one of twenty-eight financial centres worldwide with the mission of facilitating information interchange, sharing common activities, and leading the creation of global standards needed to promote the proliferation of green and sustainable finance. Its only purpose is to accelerate the growth of green and sustainable finance in Nigeria while also encouraging the acceptance of the UN 2030 SDGs. Furthermore, FC4S Lagos was accepted as the 23rd member to the FCS networks in May 2019, which was ratified at a conference attended by capital market parties in partnership with the UNEP Inquiry. In October 2019 officially opened its doors in Lagos.

SustyVibes, KPMG Nigeria, Financial Data House Limited, SMEFUNDS Capital Limited, Climate Smart Nigeria, and Nigeria Climate Innovation Centre Lagos are among the leading sustainability and financial organisations invited to help chart an effective plan that will place FC4S on the pedestal of progress and make Lagos State a pathfinder in sustainable finance and innovation. Additionally, the Research Education & Engagements group, one of the four thematic areas of the FC4S Lagos Governance Structure, has the following terms of reference that explain the objectives, tasks, limitations of duty, and essential activities of members participating in FC4S Lagos implementation:

- To give insights and thought leadership on challenges of local sustainability.
- To exchange information and build capacity among stakeholders and key institutions/agencies by holding seminars, workshops, and boot camp sessions for various market stakeholders.
- To develop/leverage measures for quantifying the financial centre's contribution to climate change and sustainable development through research papers on relevant topics and leveraging relationships within the worldwide FC4S network.
- Identifying significant potential and encouraging innovation in Nigeria's green/sustainable finance business.
- To collect relevant data/statistics and create a strong database on green/sustainable finance investments.
- To monitor and assess changes in the FC4S Network and provide recommendations to improve FC4S Lagos's worldwide competitiveness.

- Participate in and promote domestic, regional, and worldwide green/sustainable financial engagements (meetings, conferences, seminars, etc.).

The other thematic areas are Policy & Regulation, Legal & Risk Management, and Issuances & Investments. The Policy & Regulation thematic area is in charge of spearheading regulatory advocacy and policy reforms that would result in the entrenchment of Environmental, Social, and Governance (ESG) principles and impact investments that will promote the expansion of Nigerian sustainable finance. The Legal & Risk Management thematic area is in charge of creating and expanding de-risking techniques that would pave the way for investments in sustainable finance-related goods. The Issuances & Investments thematic area is in charge of leading efforts to expand the pipeline of sustainable finance-related projects and to provide standardisation in designing sustainable finance-related products in response to investor demand.

The Impact Investors Foundation (IIF) works with key stakeholders in the impact investing arena to mobilise finance for social projects in Nigeria. The primary purpose of this organisation is to support the growth and quality of impact investment in Nigeria.

The Foundation is dedicated to removing obstacles to social impact investing by establishing an effective and supportive environment that fosters the expansion of investment pipelines and the creation of long-term impact. Critical stakeholders' convenings, information exchange facilitation, deal flow catalysation, capacity development, creating proof of what works, mainstreaming novel investment techniques, and engendering collective action are among its initiatives.

The Ford Foundation, Africa Capital Alliance, Businessday Media, Bank of Industry, and Dalberg Advisors launched the Impact Investing Alliance of Nigeria (IIF) in 2018 as a multi-sector cooperation. Its focus areas are Knowledge Sharing & Networking, Capacity Building, and Policy Advocacy.

The Knowledge Sharing and Networking initiative of the IIF aims to create awareness about impact investing and educate key players in the industry. It aims to debunk misconceptions and fight unfavourable preconceptions about impact investment. According to the Global Impact Investing Network (GIIN), impact investments are those that aim to have a beneficial, demonstrable social and environmental impact as well as a financial return. Impact investments may be done in both developing and mature economies, with returns ranging from below market to market, depending on the investors' strategic objectives.

The expanding impact investing industry provides financial support to address the world's most pressing issues in sectors such as sustainable agriculture, renewable energy, conservation, microfinance, and inexpensive and accessible basic services such as housing, healthcare, and education.

The Capacity Building program intends to assist ecosystem growth through specialised masterclasses for service providers, government, impact capital suppliers, and investee enterprises in order to bridge knowledge gaps and strengthen sectoral understanding at all levels.

Ultimately, the Policy Advocacy programme seeks to engage top government officials and investors by identifying significant issues and co-creating solutions. The Foundation will commission research on the legislative and regulatory barriers that stifle the supply and demand for impact capital.

Sustainable investment in Lagos has the potential to be a significant instrument for driving economic growth and alleviating poverty in the city. Lagos can create employment and economic growth, lower its carbon footprint, and enhance its financial stability by investing in green infrastructure and renewable energy. This sort of investment may aid in the development of a more robust local economy and a brighter, healthier future for the city.

According to what I was able to discover, it is clear that Lagos possesses a robust and thriving business culture, and many entrepreneurs have found success by taking advantage of the numerous mentoring programmes. Mentorship programmes are intended to guide and encourage aspiring entrepreneurs in developing the skills, knowledge, and resources required to begin and build successful enterprises. A lot of mentorship programmes are offered in Lagos for prospective entrepreneurs. These programmes offer direction and assistance in areas such as company development, funding, marketing, and operations. Mentors are experienced entrepreneurs or business experts who provide entrepreneurs with advice, insight, and tools to assist them overcome the hurdles of beginning and sustaining a firm.

Even the Lagos State Government recognises the importance of making available mentorship programmes for Lagos entrepreneurs. In point of fact, it provides some opportunities for future entrepreneurs. These programmes are intended to assist entrepreneurs in developing the skills and resources needed to start and grow successful firms. The programmes give entrepreneurs access to mentors, networking opportunities, and resources to assist them get the skills and tools they need to start and build a firm.

The Lagos Chamber of Commerce and Industry (LCCI) provides a wide range of Business Development Services to both members and non-members. These services include training (both cognitive and skill-based), business seminars, and business information services. In particular, the LCCI Entrepreneurship mentorship programme is part of the company's CSR efforts. The framework of the plan enables successful company owners to serve as Mentors to young/potential business owners. It functions as a classroom and an on-the-job attachment module.

The programme has become a legacy and a leader in the business nursery industry in Nigeria, with the scheme making a significant contribution to youth development and entrepreneurial attitude. Since the inception of the mentorship programme in 2013, LCCI has graduated 245 mentees, several of whom have earned various national accolades.

Another opportunity of mentorship is provided by the Lagos State Employment Trust Fund. The Lagos State Employment Trust Fund (LSETF) is a Nigerian programme formed by the Lagos State Government to give financial assistance to small and medium-sized firms (SMEs) in the state of Lagos. The LSETF's mission is to create jobs, foster entrepreneurship, and encourage investment in the state's economy. The fund offers qualifying SMEs with financial support in the form of grants and loans to help them build and expand their enterprises. The LSETF is available to SMEs from a variety of industries, including manufacturing, agriculture, education, healthcare, retail and services, and technology. The objective is to establish an ecosystem in which SMEs may thrive and provide jobs for Lagos residents.

The LSETF mentorship program intends to create a strong, effective, and sustainable business mentorship network. This mentoring programme will allow entrepreneurs to connect with their colleagues and others who can assist lessen the learning curve by offering useful outside insight to the business. It provides access to industry or subject knowledge that may be absent in the business. Marketing, Product Development, Risk Management, Entrepreneurial Leadership, Strategy, Cash-flow Management, Financial Management, Funding, Tax Management, Legal, HR Management, Corporate Governance, and Succession Planning are among the important courses studied in this programme.

Another example comes from the already examined Tony Elumelu's Foundation.

The application procedure for being a mentor in the Tony Elumelu's Foundation will begin with registration, which will be reviewed. Access to the mentorship and learning platform will be granted upon approval for mentorship. Mentees will be matched with mentors based on their preferences and administrative matching to guarantee the greatest fit.

Mentors will work with up to three assigned mentees for six weeks in a task-based learning forum, encouraging each mentee to go out and execute each learning module. Following training, mentors will help their mentees for 11 months by establishing monthly milestones that will be monitored to assure success. The platform also includes forums for peer-to-peer and inter-group interactions, as well as the ability to easily integrate social network accounts (e.g., on LinkedIn) to make sharing and networking easier. In addition, the Foundation instituted - with the support of the UN Development Programme (UNDP) - the TEF-UNDP Youth Entrepreneurship Programme which will provide seed funding, business training, and mentorship to an extra 100,000 young African entrepreneurs over the next ten years. This Program arose from the Foundation's proven and proved philanthropic approach, which prioritises African entrepreneurs as important facilitators of economic growth.

The first phase of this collaboration began in 2019 and benefits 2,100 enterprises.

Overall, mentorship programmes in Lagos have shown to be incredibly effective in supporting ambitious entrepreneurs in starting and building lucrative businesses. These programmes provide assistance in areas such as company formation, finance, marketing, and operations, as well as access to a network of experienced entrepreneurs and business professionals who may provide further guidance and resources. These mentorship programmes may be immensely valuable to Lagos entrepreneurs in navigating the challenges of starting and running a business.

The Lagos sustainable entrepreneurial ecosystem is a complex system with multiple players who all play a significant part. For the system to be sustainable, all stakeholders must have the requisite sustainability-related skills, such as an orientation toward the SDGs. These abilities enable stakeholders to successfully communicate with one another and build a sustainable entrepreneurial environment. Human capital skills in the Lagos SEE are critical for the creation of new ideas, methods, and practises that would aid in the attainment of sustainability. These abilities include the ability to identify opportunities for sustainable business ventures, develop new products and services, comprehend environmental and ethical issues associated with sustainable business, develop appropriate strategies for implementing sustainability initiatives, and effectively communicate these strategies to all stakeholders. Having the appropriate abilities also aids in the promotion of collaboration among stakeholders. This collaboration is critical for the success of any long-term business because it allows all stakeholders to contribute with their skills and resources to the development of a successful and sustainable business model. Furthermore, cooperation allows stakeholders to collaborate to handle any difficulties that may develop and ensure the business's viability.

I provide the insights of a recent study on Green Human Resource Management (or Sustainable Human Resource Management) practices applied to a Lagos manufacturing company (Dangote Nigeria Plc.) (Oyedokun, 2019).

On the one hand, modern firms have two significant challenges: recruiting, keeping, and developing people; and on the other, adopting a human resource management system that satisfies economic, social, and environmental objectives. Sustainable HRM, in particular, aids in the development and/or reinforcement of the skills, motivation, values, and trust required for the firm to accomplish the intended economic, social, and environmental goals. Thus, the purpose of Sustainable HRM is to operationalize business sustainability goals and strategies via the use of HR policies and practises that promote fairness, development, and well-being while also being successful in environmental preservation.

Dangote Nigeria Plc is a Nigerian multinational firm based in Lagos. The corporation plays a prominent role in the Nigerian economy and is one of the country's greatest employers. It is a diverse company that manufactures, distributes, and markets a wide range of consumer goods and

services. Other areas in which the corporation has stakes include energy, manufacturing, telecommunications, real estate, and banking.

Dangote Nigeria Plc is Africa's largest cement manufacturer and the largest publicly traded firm in West Africa. With over 20,000 people, it is also Nigeria's largest manufacturing employer. The enterprise has a total annual capacity of 26 million metric tonnes of cement manufacturing. In addition, the corporation has stakes in the sugar, salt, and wheat sectors.

Dangote Nigeria Plc is deeply committed to corporate social responsibility and has developed a number of programmes aimed at bettering the lives of its workers and the communities in which it works. In addition, the corporation has made infrastructure investments to improve access to clean water, energy, and healthcare. The corporation has also made educational investments, granting scholarships to kids from low-income families. Dangote Nigeria Plc is devoted to Nigeria's economic growth and development and has played an important role in the country's economic diversification. Oil and gas, steel, fertilisers, and other industrial operations are among the investments made by the corporation. It has also invested in infrastructure and transportation development, assisting in connecting the country's rural parts with metropolitan centres.

Dangote Nigeria Plc has also been active in a variety of charitable initiatives, including donating to organisations, sponsoring schools and health facilities, and giving disaster assistance. In addition, the firm has worked on the development of alternative energy sources such as solar and wind power.

Green Human Resource Management Practices (GHRM) have become more significant for enterprises in Nigeria's industrial industry in recent years. Companies, in particular, are turning to GHRM to offer them with a lasting competitive advantage. His paper investigates the impact of GHRM on long-term competitive advantage in the Nigerian manufacturing industry, with a special focus on Dangote Nigeria Plc.

The major purpose of GHRM is to create a more environmentally conscious and sustainable workplace. Companies may guarantee that they are lowering their environmental effect by implementing GHRM, while also ensuring that their staff are aware of the importance of environmental protection. This can result in a more efficient and long-term company plan. Companies that lower their environmental impact can also cut their expenses, giving them a competitive advantage. Furthermore, GHRM can assist to boost employee morale and engagement. Employees are more likely to feel valued and appreciated when their workplace is more sustainable, which may lead to higher productivity and better departmental collaboration. This may provide businesses with a competitive advantage as well as assist them retain their finest personnel.

Overall, it is obvious that GHRM may have a substantial impact on the Nigerian manufacturing industry's long-term competitiveness. Businesses that use GHRM can minimise their environmental impact, save money, and boost employee morale. Dangote Nigeria Plc is an excellent example of this, since their GHRM initiatives have enabled them to become more efficient and competitive. As more firms in Nigeria's manufacturing industry embrace GHRM, the overall degree of sustainable competitive edge within the industry is anticipated to rise.

This is the author's study of a corporation in the manufacturing industry; hence, I may consider this point of view presented to us to be quite particular. However, I feel that the quantitative analysis results may be simply applied to any sector. In truth, it is not the techniques introduced by HRM that are important, but the aim for which they are used, namely the attainment of SDGs both within and beyond the workplace.

Not only are individual companies attempting to improve their own sustainability through improved HR practises or through sustainability-oriented staff, but Lagos as a whole is searching for a method to recruit competent and qualified individuals.

Lagos is striving to construct an inventive city and community geared for the future of work and as stated by the development manager of Talent City Lagos - as it has been chosen to call it – “this project will change approximately 18 acres of land into the Silicon Valley of Africa”. The location, which is located in Alaro City, Lagos' new city in the Lekki Free Zone, is intended to become a magnet for digital talent from across the world as well as an ecosystem for entrepreneurs. The tech community will be constructed with high-speed internet, continuous power supply, and world-class infrastructure, digital governance automating business and banking operations, and regulations to encourage and support tech innovation. It will have co-working spaces, parks, and smart houses to house over 1,000 people, 2,500 remote employees, and thousands of virtual residents prior to the real city's inauguration. Talent City was founded by Nigerian tech entrepreneur Iyinoluwa Aboyeji and experienced real estate partner Luqman Edu with the goal of creating a network of sustainable startup cities across the continent to power tech talent and create technology-enabled jobs while responding to the continent's exponential population growth. Talent City Lagos, which is scheduled to be completed in 2030, will play a critical role in unleashing Africa's digital economy and workforce growth.

CONCLUSIONS

The notion of sustainable entrepreneurial ecosystems is a hot issue these days in entrepreneurship research. However, the concept of SEEs is still considered as rather unexplored due to its novelty. This thesis sought to address three problems, two of which were mostly theoretical in nature and the third of which was more practical in nature. The questions were the following:

- How can a sustainable entrepreneurial ecosystem (SEE) be defined?
- What are the factors influencing it?
- What are the criteria for determining its level of sustainability?

So far, both scholars and practitioners have overlooked SEE assessment entirely. Neither a theoretical framework for SEE assessment, nor an assessment tool could be found in the literature. Throughout my research and writing of this paper, I had the opportunity to delve into the topic, noting similarities and differences in the perspectives of the authors who expound in order to provide the business community and beyond with a valuable contribution in understanding a topic that is as important as it is current.

My response to the first research question is the result of a study of all of the primary scientific publications researched, as well as a personal point of view on the issue. A SEE is the product of all interactions between individuals, organisations, corporations, and institutions that collaborate to encourage sustainable innovation with a strong focus on the SDGs. A SEE's objectives span all three parts of the TBL (Triple-Bottom-Line), namely economic, environmental, and social. A SEE also need to develop the required capabilities to become resilient and adapt to any external shock in order to last over time. In addition to the inclusion of the SDGs in this prospective definition of SEEs, I believe it is important to acknowledge Cannice et al. (2022), who provided me with insight into how ecosystems altered during the Covid-19 epidemic. Undoubtedly, the pandemic has had a tremendous influence on global business and entrepreneurial ecosystems. The individual industries and sectors involved, the resilience and

adaptation of the enterprises engaged, and the policy responses of governments and other stakeholders have all had varying effects.

The digitally distribution of resources may have implication on future research since it could change the concept of entrepreneurial ecosystem but also it could allow for the emergence of new SEEs around the world by giving access to resources not present in that specific territory.

The solution to the second study question, on the other hand, was the result of merging the investigations done by Isenberg and Spiegel, which were also discovered to be the primary studies undertaken on the components of a SEE.

The intriguing discovery was that a SEE is not impacted by a single aspect over another. In truth, individuals are unable to effect the required transformation on their own. Real change happens when cultural, material, and social forces interact with one another in pursuit of a similar objective, such as the sustainability of the entire ecosystem. The environment can only thrive in this manner. When viewed from the outside, these factors are no different from those of the classic entrepreneurial ecosystem; however, when examined in depth, it is clear that the orientation and purposes pursued by the components involved within each factor are much broader, as they aim to address sustainable development challenges.

The answer to the third and last research question was the most difficult. As of now, no practical use of an assessment tool has been discovered.

What I attempted to do was to provide a table with some possible guidelines for assessing the sustainability of an industrial eco-system.

The table was then applied to a unique and lesser-known location, such as Lagos, Nigeria, rather than the already explored Silicon Valley.

The Lagos research exceeded my expectations, in my opinion. The research allowed me to explore an environment that, given that we are talking about a Sub-Saharan country, I never expected to be so sophisticated. At the same time, it was astonishing to see how the entire ecosystem is motivated by a desire to meet the United Nations 2030 Agenda goals. Indeed, various actors are attempting to make a tangible contribution from both an environmental and a social standpoint. All of this is backed by a range of for-profit and non-profit organisations that provide services to aspiring entrepreneurs.

The fact that various efforts are underway to improve the socio-environmental and economic conditions in Lagos is likely to be a positive development, as it provides opportunities for young and aspiring entrepreneurs to contribute to the sustainable development of the community and the environment, as well as the achievement of the SDG targets.

Obviously, because this is a qualitative study, there is a lack of numerical data that might be used to confirm the Lagos community's sustainable path. However, this might be an opportunity to implement the current research with further details.

My research can provide two types of findings. The first is to raise awareness of the relevance of lesser-known entrepreneurial ecosystems, such as those in underdeveloped nations (LDCs). The second goal of study is to create a tool that can be used in any environment to quantify and evaluate the sustainability of entrepreneurial ecosystems.

APPENDIX

APPENDIX A Contribution to the understanding of the Sustainable Entrepreneurial Ecosystems

AUTHOR	YEAR	TITLE	MAIN IDEA
Di Vito, Ingen-Housz	2021	From individual sustainability orientations to collective sustainability innovation and sustainable entrepreneurial ecosystems	How EEs become SEEs
Cohen	2006	Sustainable Valley Entrepreneurial Ecosystems	How components of the formal and informal network, physical infrastructure, and culture within a community could contribute to a SEE
Cannice et al.	2022	A shock to the system: EE resilience and adaptation in a global pandemic	Definition of SEE
Bischoff, Volkmann	2018	Stakeholder support for sustainable entrepreneurship a framework of sustainable entrepreneurial ecosystems	The role of stakeholder support for developing sustainable entrepreneurial ecosystems.
Volkmann et al.	2021	Sustainable entrepreneurial ecosystems: an emerging field of research	Reasons to focus research on SEE
Pankov et al.	2021	Towards sustainable entrepreneurial ecosystems: examining the effect of contextual factors on sustainable entrepreneurial activities in the sharing economy	Contextual factors of a SEE (applied to the case of sharing economy); indifference on the theme
O'Shea et al.	2021	The buzz before business: a design science study of a sustainable entrepreneurial ecosystem	How a SEE co-evolve in its emerging phase
Bischoff	2021	A study on the perceived strength of SEE on the dimensions of stakeholder theory and culture	Stakeholder collaboration; Strength of a SEE
Theodoraki et al.	2017	A social capital approach to the development of sustainable entrepreneurial ecosystems: an explorative study	Role of UBIs within a SEE

APPENDIX B Interview made by NBC News (15th November 2022; source:

<https://www.nbcnews.com/video/lagos-nigeria-keeps-growing-as-world-population-passes-8-billion-153665093874>)

SPEAKER	NOTES
NBC speaker 1	This is Lagos, the most populated city in Africa. It's the financial capital of Nigeria, the continents largest economy. More than 15 million people live here. That's twice the size of the next biggest African mega city.
Local speaker 1	What was once a small coastal town is now a heaving Metropolis attracting economic migrants from all over West Africa. But as the city's population keeps growing, you can really feel the infrastructure under the pressure.
NBC speaker 1	Earlier this year, the state expanded its population control policy granting access to free contraceptives. But first, they need to be convinced. So, six children and you potentially are going to have more. Community at least 95 million people here live below the poverty line. And as families keep growing, there are more mouths to be fed.
NBC interviewer	So how are you able to provide for your children for your five children?
Local speaker 2	It's a problem for me, sometimes I don't have anything. So, I have to struggle and whatever I get I give to my children.
NBC speaker 1	Organizations are working with community leaders to bridge the gap in awareness and education that comes second to tradition.
NBC interviewer	But can the women here make the decision themselves about what they want to do around having children?
Local speaker 3	I think it's not possible because they say they cannot do anything without husbands.
NBC interviewer	Why do people want to keep having more children?
Local speaker 4	It is culture, tradition. It goes a long way, a long path.

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