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A review of incubation's success; managers' perspectives in the Lagos technology ecosystem.

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Business incubators are argued to have been part of the entrepreneurial support scene since the 1950's. As such, the incubation literature has benefited from a long and rich research tradition, leading to a variety of studies that have examined impact. Additionally, a variety of models covering the first-generation traditional real-estate models to other models like corporate incubators, virtual incubators, and the most recently hybrid incubators have emerged. The majority of them have been successful in bridging the problem of "newness" experienced by new ventures, and start-ups within Sub-Saharan Africa (SSA), especially in Nigeria, have also not been overlooked.

Nevertheless, what is often not emphasised enough when discussing success factors is that an incubator's success factor is peculiar to the incubator type in question and the context of its operation. Furthermore, existing literature offers a very limited in-depth investigation into the role of managers in business incubation evaluation process and even less insight into how SSA managers, especially in Nigeria, manage to support successful start-ups, despite the daunting contextual terrain.

As a result, this paper critically examines incubation support within the SSA context, focusing on Lagos Yaba/Ikoyi axis, one of the most prominent technology hot-beds in Nigeria. In this paper, the management's perspective on incubation evaluation is explored to understand how they interact with contextual factors within Lagos to design and evaluate support impact on tenant companies. In this paper, incubator managers are identified as individuals who design incubation programmes and provide day-to-day support for new ventures within the ecosystem.

A case study approach was used for this research, this involved in-depth interviews with five different incubator managers playing major roles in the technology ecosystem. The findings emphasise the influence of environmental factors like location centrality and traffic avoidance in choosing where an incubator is located. In seeking to understand how managers evaluate success, the anchor across conversations is the place of making impact as a yardstick for designing impact. However, the perception of what impact looks like vary between managers interviewed. This paper not only enriches the existing literature on incubation. It also provides a nuanced insight into policy strategies that can guide business venture support in Nigeria and throughout SSA.

Keywords: Managers, Success Factors, Business Incubation, Lagos Technology Ecosystem

1.0 Introduction

Following the emergence of the first incubator set up in 1959 at the Batavia Industrial centre, New York (Akçomak, 2009; Al-Mubarak and Wong, 2011) and Europe's in 1975 (Aernoudt, 2004), business incubation literature has expanded and there has been a development of the typologies, focus and the meaning of the overall concept of incubation. Incubators exist to provide a combination of services to incubating firms, from real-estate access, development support tools and expertise knowledge required for running their businesses successfully (Theodorakopoulos, Kakabadse and McGowan, 2014). Business incubators also provide a nurturing environment for new businesses; from the ideation phase, when firms are most vulnerable through to commercialisation and then launch (EU, 2002; Hanadi and Busler, 2010). The incubator management team enhances network creation for tenant firms Hansen et al., (2000), by leveraging the incubator management internal and external network framework (Hughes, Ireland and Morgan, 2007)

However, to better serve the dynamic needs of entrepreneurs Rijnsoever, Van Weele and Eveleens (2017) highlight how the typologies, focus, and concept of incubation have evolved over the years. These changes are fuelled by increasing research interests that created a reputation for incubators as support systems critical for enhancing economies (Lalkaka and Abetti, 1999), tools for technological development (Avnimelech et al., 2007), vehicles for regional development and tools for technology commercialisation (Smilor and Gill, 1986; Lumpkin and Ireland, 1988; Peters et al., 2004; Bergek and Norman, 2008; Olaopa and Siyabola, 2012). As a result, different governments have put in place several policies or incentives to enhance their presence (Meru and Struwig, 2015). Additionally, Hannon and Chaplin (2003) suggest that the extent and nature of the incubator managers involvement could influence incubatee outcomes as managers would spend an average of 10-60% face to face with tenant firms. Similarly, Kakabadse et al., (2020) views that since incubators are institution-building intermediary organisations their function is contingent upon the interactions between managers and firms in the incubator, the "micro-level" and their relationship with the wider network outside the incubator the "macro-context".

With widespread interest in business incubation support, an evaluation of incubation performance and impact have received considerable interest across support literature (Hausberg and Korreck, 2020). As a result, a range of measures have been used to gauge the impact of the support provided to start ups. These include; employment growth i.e. (number of jobs created by incubatee firms), financial performance (sales), survival rates; business incubator occupancy rate/number of new firms supported; incubation management competencies and the range of support services provided (Aerts et al., 2007; Schwartz 2009; Akçomak, 2009; Al-Mubarak and Wong, 2011; Stokan et al. 2015). However, what is often ignored when discussing success factors is that success factors adopted by an incubator are

particular to the incubator type in question and operations that are vital to the success of the incubator (Voisey et al., 2006; Bergek and Norrman, 2008). As such, a unified success criterion that takes on board all these elements will be a herculean task to design. In addition to these challenges, the influence of the incubator manager has been understudied, despite the manager's role in brokering network access and business support (Theodorakopoulos, Kakabadse, and McGowan, 2014).

Taking note of this, Hausberg and Korreck (2020) identifies that incubation literature remains fragmented, as there is still no consensus over what business incubation is, or should be, and which factors contribute to successful business incubation (Theodorakopoulos, Kakabadse and McGowan, 2014). More so, this study argues that literature covering incubation support studies are skewed, as reportage of incubation support from the African context, specifically from Sub Saharan Africa (SSA), still leaves so much to be desired. A review by Mian, Lamine and Fayolle (2016) covering studies done between (1985-2014) observed a mere 1% coverage of incubation studies focus on Africa. This number is disappointing considering that at present, Africa is home to 618 technology support spaces, a jump of about 40% (442) in 2018 (GSMA, 2019). A later review by Deyanova et al. (2022) collated the distribution of publications and citations of the most active countries, out of the 48 countries reviewed the United States had the most publications (44) and the most citations recording 2575 in the period examined. The only African country that made the list in terms of publications was South Africa, with only six publications. This further highlights the need for more coverage of incubation support in Africa.

To this end, this paper aims to examine definitional and evaluation issues surrounding business incubation over time. Following this, the role of the context is explored, and the context of Africa and Nigeria are reviewed in the second section. The third section submits a theoretical framework by drawing on success measures identified across studies; however, specific attention is paid to management's influence in determining success measures of incubation support. The last two sections present findings from the case study location and implications to support practitioners.

2.0 Defining the Business Incubator Concept

In seeking to understand exactly what business incubators are, Hausberg and Korreck (2020) observe that there is definitely no scarcity in definitions of incubators as academics and practitioners have presented a plethora of variations. Studies like, Dee et al. (2011), Hanadi and Busler (2010), and Buys and Mbewena (2007) emphasise the infrastructural aspect of incubation, while others like Abduh et al. (2007), Zedwitz and Grimaldi (2006), and Chinsoboom (2000) view them as tools for accelerating new businesses to launch more quickly into the market or as links to technology innovations (Hsu et al., 2003). Some other studies identify it as a policy driven tool for driving economic growth through the support of enterprise (Brunel et al., 2012; Olaopa and Siyabola, 2012; Amezcua, 2010; Avnimelech et

al., 2007). Taking note of these varied perceptions of what a business incubator is, Theodorakopoulos, Kakabadse and McGowan (2014) and Albort-Morant and Ribeiro-Soriano (2016) view that there is still no universally accepted definition of business incubator. Therefore, it is important to conceptualise what this study identifies as a business incubator. A business incubator is an environment responsible for supporting start-ups, by providing tailored support to address local problems; access to advanced competencies, networks, finance and technology to improve innovation; and encourage co-operation and complementarity in a specific context. Pauwels et al. (2016) notes that support provided to start ups within incubators improves their probability of survival and accelerates their development as it grants them legitimacy and credibility in the marketplace.

However, Theodorakopoulos, Kakabadse and McGowan (2014) and Hackett and Dilts, (2004b) study identify the multiplicity of usage of the term “business incubators”, as a one of the problems noted in incubation extant studies. They explain multiplicity of usage as situation where a variety of closely related, but distinct concepts is used to describe incubation/business incubators. Business incubation is used interchangeably with concepts like “innovation centers” (Smilor, 1987; UKBI, 2009), “business centers” “germinators”, “graduators”, “grow-on space”, “hubs”, “hot-desks”, “spokes”, “ideas labs”, “managed workspace”, “venture labs”, “hatcheries”, “hives”, (UKBI, 2009, 2012); “starter units”, “science parks” or “technopoles” (Castells and Hall, 1994; Ferguson and Olofsson, 2004; Hansson, 2007; Squicciarini, 2009) and “networked incubator” (Hansen et al., 2000; Bøllingtoft and Ulhøi, 2005; McAdam and McAdam, 2006). This means business incubator ends up being an umbrella word for a very heterogenous set of studies and concepts, such that the possibility of finding a unified metric for identifying success or impact is daunting (Aernoudt, 2004).

Furthermore, different impact measures have been utilised in previous studies. The conceptual overlap mentioned earlier makes it difficult in finding a unified metric for identifying success or impact for understanding incubation performance (Hausberg and Korreck, 2020; Deyanova et al., 2022). Some studies focus on the firm level, macroeconomic level, or at a multi-dimensional level, where more rigorous and holistically evaluation is undertaken (Hausberg and Korreck, 2020). Therefore, Dee et al. (2012) advocate for a careful consideration of validity, comparability and generalisability of findings by paying attention to authorship, research method and focus of analysis. This study does not delve into these divergent conversations, but for a review of business incubation impact studies the reader is directed to earlier studies such as Campbell (1989), Mian (1994), Hackett and Dilts (2004), Grimaldi and Grandi (2005), and Voisey et al. (2006). Recent studies like Deyanova et al. (2022) and Hausberg and Korreck (2020) also do some justice to this conversation.

To explain the reason for this multiplicity of usage, Grimaldi and Grandi (2005) suggest that the variations represent the evolution of company requirements and needs which have triggered incubators

to diversify in meaning and service. However, a different argument presented in Hannon and Chaplin (2003) views that the conceptual adoption of “incubators” from the natural science implies nurturing to full strength those not able to achieve outcomes unaided; they argue that this is not a universally accepted image of how start-ups are to be represented. Hausberg and Korreck (2020) concurs but add that the concept of business incubators should not be too narrow, to avoid including similar concepts that can potentially cause confusion or too broad to include substantial aspects of what research investigates as organisational entrepreneurship.

In reviewing the conceptual variations captured across studies, Von and Grimaldi (2006) advocate for the need to consider the context of incubation model design, as current studies side-line the contextual criterion, which needs to be explored. Similarly, Allahar and Brathwaite (2016) explain that the variations of the incubator concept noted is indicative of a situation where no one model can fit all business environment, economic condition or cultural contexts. The varied definitions presented across studies are therefore a reflection of contextual factors replete in the context explored. Equally, Lalkaka (2002) note that the offering and configurations of business incubators vary because of the existence of environmental conditions and the ecosystem in a particular country. These studies highlight the role of context in incubation design. Context provides insight to cultural orientations, information about the constraints of organisational structures, business strategies and characteristics of prevailing local firms (Abetti, Hirvensalo and Kapij 1998). This view is also echoed in Welter’s (2010) study, who notes that the contextual view of entrepreneurship improves knowledge of when, how and why entrepreneurship happens. Therefore, the context provides clarity on how individuals access entrepreneurial opportunities and sets boundaries for their actions (Welter, 2010). It is therefore important to consider the role of context in designing support, which is where attention is turned to in the next sub-section.

3.0 Context and Start-up Support

Since business incubators are recognised as institution-building intermediary organisations, it is imperative to understand the influence of the relationship between the context, entrepreneurial opportunities and support. According to Zahara and Wright (2011) the entrepreneurial process is complex and as such exhibit’s variations in outcomes. These variations in outcome are as a result of unique activities involved in the process, which include; opportunity identification and resource mobilization (Shane and Venkataraman, 2000). Therefore, entrepreneurs need to establish connections to resources and niches, in order to benefit from a diverse pool of information flow (Singh et al., 1999). However, Jack and Anderson (2002) notes that entrepreneurs are socially embedded, hence, what would be value or identified as an opportunity is determined by resource availability and opportunity perception, which again is embedded in the individuals’ social context usually the product of an existing environment. Therefore, their study notes that the nature of the entrepreneurial process or

entrepreneurial event is determined by the extent an individual is socially embedded and how the individual is embedded as this would impact how they draw on resources and the actual entrepreneurial action taken.

Consequently, Sorenson (2007) view that understanding the entrepreneurial context improve understanding of what may encourage or undermine entrepreneurial activity, independent of the individual characteristics of occupants. Entrepreneurial context also illuminates the relationships between institutions, entrepreneurial activities, and economic development and how the relationships result in innovation and spill over of knowledge (Desai, 2011). The place of context in entrepreneurial studies has been examined by various studies in which different dimensions of the entrepreneurial context have been examined, including temporal, socio-spatial, organizational, and institutional dimensions (Baumol, 1990; Welter, 2010; Autio et al., 2014; Zahra, Wright, and Abdelgawad, 2014; Letaifa and Goglio-Primard, 2016).

With regards to understanding the place of context in support modelling, the specific contextual dimension that provides a deeper illumination on the factors that would influence support modelling is the social-spatial dimension of the entrepreneurial context. The socio-spatial context examines the geographic location of firms, networks and network relations between entrepreneurs, financiers, incumbent firms and institutions that promote and support entrepreneurial actions (Parhankangas and Autio, 2004; Welter, 2011; Zahara and Wright, 2011; Autio et al., 2014). The business incubator is a supportive intermediary that provides a platform useful for the exchange of internal resources and external inter-organisational activities through the identification of the right network partners, external combinative capabilities and an atmosphere that allows the absorption of external knowledge received (Tötterman and Sten, 2005).

Despite the established importance of context within entrepreneurship in general, this study observes that the support context is not exactly considered when designing incubators in Africa. Mutambi et al. (2010) and Bayuo (2017) view that the infant nature of the incubator industry in Africa places limitations that hampers harnessing of entrepreneurial opportunities and innovation support that incubators are created to provide. Other studies have hinted on the need to design incubation models that that would cater to the diverse needs of the African entrepreneurial space. To discuss this in more detail, the next section reviews incubation literature from Africa. Discussion begins with a review of the incubation support context in Africa and thereafter Nigeria. This would inform understanding on the uniqueness of the system in place.

3.1 Business incubation in Africa.

According to Lose (2021), African policymakers have recognised business incubation as an important tool for unleashing human ingenuity, driving competitive enterprises and creating sustainable jobs. Business incubators in Africa also provide support for small enterprises to overcome deficits caused by infrastructure, equip them with business skills, access to market linkage, financing and “people connectivity” (Lose, 2021). However, Aggarawal (2012) notes that the incubation literature and industry in SSA is still evolving. From literature observation, common objectives for setting up incubation revolve around economic development, support for start-ups, employment generation and technology commercialisation (Lose and Tengeh, 2015).

A review conducted by David-west, Umuokoro and Onuoha (2018) reveals that more than half 61.7% of the incubators operating across SSA are privately owned, and just about 5.6% are publicly owned; with both mostly focused on technology (Lose, 2021, David-west, Umuokoro and Onuoha, 2018; Bayuo, 2017). Lose (2021) alludes that the reason for this is the need for investors, software designers, programmers, and young entrepreneurs to connect with each other. However, this is a call for more research to investigate alternative incubation models that would cater to the diverse need of the African entrepreneurial space.

Additionally, Bayuo (2017) indicate that most incubators in SSA are modelled after those in developing countries, and that the copy and paste syndrome limits incubation performance and could see to the eventual failure of the incubator. In the last review of incubation performance in SSA, incubator failure rate was estimated to be at 60% (World Bank, 2016). Factors like the disconnect between either the organisation’s goals to its business structure or between its goals and the needs of its operating environment were identified as possible contributors (World Bank, 2016). Obaji, Olugu and Obiekwe’s (2015) study also shares this sentiment, they note that the incubation policies designed are often incompatible with the Africa business environment. In addition to the problems mentioned, problems like ease of doing business, fund mismanagement and a mismatch between incubator and incubatee needs have been discussed. For a summary, please see

table 1

Table 1: Challenges Faced by Business Incubators in Africa

David-west, Umukoro and Onuoha (2018)	✓ Poor ease of doing business in Africa ✓ Infrastructure challenges ✓ Poverty levels ✓ Disconnect between service levels or inappropriate service provided
Lose et al., (2016)	✓ Limited awareness of incubation ✓ Difficulty accessing funds ✓ Unwillingness of incubatees to graduate ✓ Incubation management limited skill set - Infrastructure
Ogutu and Kihonge (2016)	✓ Limited access to funding ✓ Incubation management limited experience ✓ Location ✓ Mismatch between managers experience and incubator needs
Masutha and Rogerson (2015)	✓ High dropout rates ✓ Financial mis management ✓ Lack of demand for local products ✓ No government support ✓
Adegbite (2001)	✓ Limited access to funding ✓ Weak management ✓ Refusal of incubates to vacate ✓ Bureaucracy - Infrastructure

Source: Author's

From the table presented above, common problems identified include funding, infrastructural deficits, incubation management and vacation period. These studies provide useful insights into common problems, however, what these studies have failed to identify is the most impactful challenge. Further studies utilising these indicators would be necessary for understanding if these challenges listed are exclusive to set contexts. These challenges listed above are also not exhaustive, however they will act as possible indicators for policy design and further incubation research.

To direct incubation support model in Africa, Meru and Struwig (2015) advocates for the urgency for incubators to respond to local needs, to effectively contribute to shaping local structures and institutions for new business creation and economic development. Additionally, Lose (2021) recommends the need

for national government to increase the institutionalisation of business incubators to especially cater to business that could also exist informally. In preparation for the case studies examined in this study, attention is now diverted to the support context in Nigeria to outline the current state of knowledge relating to the unique elements of the system in place.

3.2 Business incubation in Nigeria.

Like their counterparts in other SSA countries, the incubation ecosystem in Nigeria is also in its infancy and limited studies have been carried out to assess how they are used to support start-ups in Nigeria (Iyortsuun, 2017; Ikebuaku, 2018). Existing incubation studies in Nigeria are mostly focused on reviewing incubation's impact on entrepreneurship (Adelowo, Olaopa and Siyanbola, 2012; Obaji, Senin, and Richards, 2014; Bubou and Okrigwe, 2017; Olayinka et al., 2018; Asikhia et al., 2020). Others like Obaji and Olaolu (2020) and David-west, Umuokoro and Onuoha, (2018) examined the barriers to incubation performance. While Adegbite (2001) is more or less the pioneer study that explored incubation development in Nigeria. At the moment and to the best of author's knowledge, the incubator management's perspective on evaluating incubation performance in Nigeria is yet to be explored.

The earliest study of business incubation in Nigerian is attributed to Adegbite (2001). The study notes that Nigeria's first engagement with business incubation was in 1988, following a summit organised by the United Nations Development Programme (UNDP). This summit was designed to foster economic development through the commercialisation of R&D results, boost innovation and replace import substitution (Obaji Olugu and Obiekwe, 2015; Iyortsuun, 2017). It can be argued that the Nigeria's focus on technology incubation was influenced by the propositions from UNDP. Following the summit's directives, Obaji Olugu and Obiekwe (2015) note that the first Government technology incubator was set up in 1993, in Lagos, Nigeria. Their study explains that no consideration was given to regional needs, instead, incubators were used as mediums for satisfying political constituency needs.

However, a review of their performance, by studies like David-west, Umuokoro and Onuoha, (2018), Obaji, Senin, and Richards (2014), Iheanacho (2005) and Adegbite (2001) all observe that these government-led technology incubators are yet to actualise the goals for which they were set up for. Obaji, Senin, and Richards (2014) attribute the failure to the inability of the government to design policies that would enable these support entities to run efficiently. Equally, David-west, Umuokoro and Onuoha (2018) identify corruption and mismanagement for the failures within the support context and advocate for privatisation to aid in curbing the excesses of the system failure. Following the limited success of government-led incubators, new private entrants have stepped in to bridge the gap left by the government. In an incubation mapping conducted by the network of incubators and innovators in Nigeria in 2018, results show that Nigeria is home to 26 private incubators, 54 co-working spaces, 8

accelerators and 17 innovation hubs (NINE, 2018). **Figure 1** provides an overview of the entrepreneurship support context in Nigeria. From the Figure 1, entrepreneurship support with the Lagos ecosystem is the most active, as a result, this location was selected as a case location.



Figure 1: Ecosystem Mapping of private ESO (Entrepreneurship Support Organisations) in Nigeria.

Source: (NINE, 2018).

One observation worth of noting is the presence of Hybrid incubators, which for the purpose of this study are incubators that offer, Pre incubation, incubation and acceleration routes to start ups. There are currently 4 hybrids that exist within the Lagos technology ecosystem (NINE,2018). The success of these support entities, particularly the incubators and accelerators have been explored by extant studies, using various evaluation approaches. An attempt at discussing these approaches is presented in the next section.

4.0 Theoretical Lens of Business Incubation Evaluation

Business incubation evaluation is critical for stakeholders involved as it requires capital and time investment from both sponsors, stakeholders and the entrepreneurs (McMullan, Chrisman, and Vesper,2001). However, conducting this evaluation is often difficult as there is yet to be a consensus on the right evaluation method (Phan, Siegel, and Wright 2005).

In reviewing approaches to evaluating incubator impact studies recurring approaches like the control approach, benchmarking approach and in situ approaches have been used (Dee et al., 2012). The control

approach explores performance of incubated and non-incubated firms' using indicators like, firm survival, employment growth, etc (Dee et al., 2012). On the other hand, Miller, Dalziel, Salminen and Autio (2018) describes the benchmarking approach as an evaluation that takes into account identified industry best practices, that involves the collection of specific information about companies, industries or support programme to identify actionable knowledge known as the "benchmark". The benchmark identifies standards that are often referenced when an assessment is made. The last approach (in situ) involves an in-depth study of the incubation process, the focus of this particular approach is more at the incubator or incubatee level (Dee et al., 2012). All these highlighted approaches give insights into the different perspectives for understanding incubation impact and are useful for understanding the impact of incubation from multiple perspectives, however, they are equally not perfect perspectives and are subject some critiques.

For example, regional difference, objective difference and typologies of incubation have been cited as some challenges of the in-situ approach (Bergek and Norman, 2008; Torun et al., 2018). A good example of this is highlighted in a study by OECD in 1997, it recognises success of an incubation programme as the ability to meet the objectives of stakeholders, whilst Bergek and Norman (2008) ascribes success to the extent to which incubator outcomes correspond to incubator goals and incubatee objectives. However, the evaluation of incubators' performance becomes further complicated as goals vary across institutions. Additionally, Dee et al. (2012) notes that most studies that utilise this approach discuss start-ups in general and fail to make a distinction between the start ups' stage of development. For the benchmarking approach, Miller, Dalziel, Salminen and Autio (2018) suggest that this approach tends to oversimplify by ranking indicators, as indicators are snapshot of performance at a particular time, it does not take into cognisance changes that could happen over time. Similarly, Bergek and Norman (2008) add that benchmarking does not take into account different incubator goals or goals set by the incubators within a particular time period, therefore it is hard to discern if difference in outcome is based on practice or foci between incubators. Torun et al. (2018) adds that there is no framework that identifies a common evaluation framework due the different typologies of the incubators, goals or stakeholders involved, as such whatever benchmark is utilised might just be applicable for a particular region. The control approach has also been criticised for failing to distinguish the extent of impact that can be attributed to the incubator services or bias in the selection of "winning" start-ups (Schwartz (2010; Dee et al, 2012). This is because of the challenge of identifying a control group with similar development outcome to incubated companies (Sherman and Chappell, 1998). This study adds that the in-situ approach indicators cannot be generalised, as the understanding of the mechanisms of incubation support investigated would differ from incubator to incubator and context to context.

This study is not seeking to review the evaluation approaches identified however an attempt is made to group previous studies in order of approach utilised. For a review, see table 2 below:

Table 2: Business incubation Approaches for evaluating Impact

Approach	Indicators Across Studies	Studies
In-situ Approach	Might have been adapted from Daft's (2009) study on managing organisational effectiveness by accounting for the overall goal of the organisation, stakeholders and the method of acquiring and allocating resource. Indicators used by these studies are dependent on the incubation model investigated However, some common indicators often mentioned include: - Selection process - Incubator objective - Incubatee selection method - Funding method - Network model - Management Support method - Growth (Sales, Cashflow, assets growth, employment growth)	Mian (1997) Hansen et al. (2000) Grimaldi and Grandi (2005) Bollingtoft and Ulhøi (2005) Bergek and Norman (2008) Paton et al. (2009) Sa and Lee (2012) Amezcuca, Grimes, Bradley, and Wiklund (2013) Soetanto and Jack (2013) Dutt et al. (2016) Apa, Grandinetti and Sedita (2017)
Benchmarking Approach	Most of the studies that utilise the benchmark approach didn't specify the process that led to the selection of these benchmark indicators, however, Torun et al. (2018) notes that indicators picked could be based on the community level, which examines impact, incubation level which examines incubation process and the incubatees level, which explores incubatee success and impact to regional development. Again, not all studies use these indicators, as indicator chosen is subject to incubator type, focus of study/stakeholders and region of study. Some common benchmark tools used include: - No of jobs/employment created by tenant firms - Survival rate - Space - Links to University - Patents Granted - Number of Spinoffs - No of IPR created - Occupancy rate - Degree of innovation - Funds/Capital Attracted - Number of events - Number of projects - Ratio of tenant to staff - Admission and Exit rates	Allen and McCluskey (1990) Sherman (1999) Philips (2002) Lalkaka (2002) Hsu et al. (2003) CSES (2002) UKBI (2009) Al-Mubarak and Wong (2011) Inanga and Azih (2014) Wann, Lu, Lozada, and Cangahuala (2017). Del Campo Villares, Miguens-Refojo and Ferreiro-Seoane (2020)
Control Group Approach	Here similar indicators are also noted, but studies tend to compare incubatee tenant firms with firms outside the incubation - Firm Survival/ Firm Growth - Employment Rate/Job Creation - Sales Growth - Profitability	Westhead (1997) Segal, Westhead and Wright (2003) Dettwiler, Lindelöf and Löfsten (2006) Amezcuca (2010) Schwartz (2013)

Source: (Author's).

What is indicative from the studies highlighted above is the similarity of the indicators used in evaluating incubation impact, however, what differed across these studies, and is critical in shaping outcome is the research methods adopted. For control group studies, incubatee firms in incubation were paired with start-ups outside the incubator. The benchmarking studies reported here used a mix of

methods mostly surveys and interviews. However, because of the possible problem of generalisation and replication, the in-situ studies, mostly explored specific cases to really understand the peculiarities and nuances of the context of the incubation support. What is interesting to note is that in comparison to the other two approaches the control approach was the least explored, it is not apparent why this is so, however, the argument of selection bias mentioned earlier might be a reason.

It is noteworthy to also mention that none of these papers considered the perception of incubator managers within the evaluation process. Although extant studies acknowledge the role they play, including hands-on management (Aernoudt, 2004); determining selection and exit policies (Aerts et al., 2007; Lee and Osteryoung, 2004); and attracting best-fit entrepreneurs for the incubation program and assisting them as their businesses develop, while also ensuring compliance with funding requirements (Rouach et al., 2010; Meru and Struwig, 2015).

The lack of consideration given to the context in evaluating impact is another critical observation noted in these studies. This paper argues that it is essential to account for contextual variation in impact evaluation since contextual factors influence entrepreneurial outcomes. Since the contextual view of entrepreneurship improves our understanding of when, how, and why entrepreneurship occurs. This study seeks to understand how the entrepreneurial context of Lagos influences support and how managers evaluate business incubator success within this context. To get a nuanced understanding of support context and managers perception on business incubation evaluation, paper would address these research questions;

1. How does the entrepreneurial context of Yaba/Ikoyi influence support?
2. What influences decision to start up business incubator?
3. What KPIS are used to evaluate success?

To answer these question, the next question discusses the research methods, how data is collected and analysed.

5.0 Research Methods

A qualitative approach was utilised to obtain deeper insights and explain meanings that individuals, which in this case incubator managers attach to different experiences (Leech and Onwuegbuzie, 2007). Data collection occurred between March 2019 and May 2019, using semi-structured interviews taken from 4 incubator managers and 1 Incubator Founder who doubles as a manager. Semi-structured interviews present an opportunity to probe for answers and build on the responses of participants (Saunders et al., 2016). The interviews lasted between 30mins to 1 hour.

As highlighted earlier, Lagos provided a promising location for investigation, as it is the second location with the highest concentration of incubators in Nigeria. Target location were incubators around the Yaba/Ikoyi axis. These incubators were all technology focused, 3 operated a hybrid model (Pre incubation, Incubation and Acceleration) and 1 corporate and 1 deep technology accelerator. For anonymity purpose, these incubators are referred to as Incubator A, B, C, D and E. Table 3 below provides an overview of the attribute of the participants interviewed, it also provides information about the incubator model and services they provide.

Table 3: Participant data and Incubator profile

Incubator Type (All incubators are technology focused)	Participant	Services
Incubator A Private owned (Hybrid) Incubator	Incubation Manager	Co-working space Access to internet Finance Management and Finance Business support and an array of networking events like (entrepreneurial events, social events, mentorship and advisory sessions, hackathons and funding events).
Incubator B Private owned Incubator (Pre incubation and incubation)	Incubator Manager	Service is double layer (at pre incubation start-ups access training school for one year, supported with training on how to build technology, business development and marketing) At incubation firms access end to end support from co-working space, trainings on how to pitch, code, market and raise additional funding. Access to internet and an array of networking events like (entrepreneurial events,

		social events, training and funding sessions)
Incubator C Private owned Deep Technology Accelerator	Incubator Manager	Funding Co-working space Access to internet and an array of networking events like (entrepreneurial events, social events, mentorship and expert sessions, and funding events).
Incubator D Private owned Corporate Accelerator	Incubator Manager	Co-working space Access to internet Cloud Storage Funding and an array of networking events like (entrepreneurial events, mentorship/ training and funding sessions).
Incubator E Private owned (Hybrid) Incubator	Incubator Founder and Manager	Co-working space Support is tailored to meet request of support partners, however an array of networking events like (mentorship/advisory and funding session).

Source: (Author's).

Data collection involved two stages, the “lead-in stages” and “core stages”. These stages helped the researcher establish location that would be more accessible and cost-effective for the research project. These stages also helped the researcher to leverage existing relationships and establish new relationships. This technique is called the snow balling technique, whereby the researcher accesses participants through contact information that is provided by other participants (Noy, 2008). The lead-in stage involved incubator mapping to establish the spread of incubator, initial contact with incubators to scout prospective participants and initial face to face meetings to establish interest to partake in research. Following initial meeting with prospective participants, the core stage involved further review of literature, redrafting interview questions and interviews with managers.

Findings from these interviews are reported using quotes and are all responses from the managers interviewed in this study. For data analysis, the interpretative analysis approach (IPA) was used. IPA is concerned with the interpretation of the perspectives and experiences presented by participants, by exploring, describing or situating data (Smith, Flowers and Larkin, 2012). To address the questions highlighted earlier, attention is focused on the findings and then discussion section.

6.0 Findings

As noted earlier, incubator models have evolved over time. The models covered in this study are hybrid incubators that offer pre-incubation, incubation and acceleration routes for start-ups. Other models examined in this study include a corporate accelerator and a deep technology accelerator. For analysis purposes, they will all be called incubators.

6.1 Influence of Entrepreneurial Context in Lagos on Business Incubation Support

The Yaba/Ikoyi axis has several support facilities. Yaba and Ikoyi are about 8.03 km apart. Three incubator managers emphasized the importance of environmental and infrastructure factors, such as avoiding traffic, centrality of the location, and ease of access to infrastructure like the Internet. These factors strongly influenced the decision to locate their incubators there.

Incubator A Manager remarks: *when we opened incubator A, we brokered partnership with XXX, an internet provider with the government to lay a fibre optic cable in Yaba. The government waived the right of way, basically taxes that would allow XXX to lay their fibre optics cable. The idea behind this was that it would attract more start-up companies to want to agglomerate in this space and it did; because after this was done notable technology start-ups and other support entities moved to this location. Till day, more and more technology start-ups still choose this location to start their business. Yaba is also central, you can get to the island easily from here too*"

Incubator C Manager affirms this by stating: ".... *Yaba is a central location, limited traffic, easy access to the island and also infrastructure, like internet, is available here in Yaba*".

Manager D, located in Ikoyi which, as stated above, is approximately 8.03kms away, also cites reduced traffic. The manager explains:

".... Traffic and logistics were a factor; we needed a place that was close and easily accessible. Ikoyi is not too away from the mainland and is in the heart of the island, you spend less time in traffic".

Asides the environmental and infrastructural factors, the Yaba/Ikoyi location also provides incubators with the opportunity to readily access technology talent and knowledge from the budding technology community. For example, Incubator manager A remarks:

"Yaba offers us the opportunity to access talent easily. The other thing would be the accessibility to other entrepreneurs, which helps us to easily access the tech community. People gave this space this name (Yabacon valley) because, at the time, this space was agglomerated by technology start-ups and this incubator was also the premier support place at that time. Although Yabacon Valley started as a joke, there was interest in creating something similar to the Silicon Valley".

Equally, Manager C, mentions proximity to schools as avenue to access talent

“...when you look at the way popular ecosystems are built, you will see that ecosystems are usually close to talent, especially for technology. Yaba is uniquely positioned within close proximity to Unilag and Yabatech, both universities. It also, has the largest concentration of secondary schools across Nigeria and possibly West Africa. So Yaba, gives access to talent”.

A different insight on how the location of Yaba/ Ikoyi improves access to talent is noted by Incubator Manager D. He states:

“With respect to accessing talent and relationships readily, this location definitely helped. First because there are a couple of co-working spaces within Ikoyi, with varied companies that work out of them. Our start-ups are able to leverage this to test their products and of course acquire their first customers. Then, in respect to building communities, accessing talent and relationships, this location has definitely helped”.

Following responses from managers, being situated in the Yaba or Ikoyi location reduces traffic concerns, offers centrality benefits and improves tenant firms’ opportunity to access internet and technology talent.

6.2 Decisions Influencing the Establishment of a Business Incubator

The raison d’etre (reason for being) for most business incubators was built on two main reasons. The first reason was the need to build a community and to improve start-up access to funding.

Incubator Manager C perspective of building community was to disrupt existing impression of Nigerian start-ups, as prior to the existence of the incubator, little had been done to support start-ups within the deep tech space, so, they needed to build that community;

He notes;

It was more of less a bet, a lot of people say that Nigerian developers and entrepreneurs have not finished developing solutions for basic technologies (ecommerce shops payment aps and the likes), so why would anyone be working on advanced sciences like AI, IOT, solutions that people around the world were developing. We said it was impossible, they had to be innovators that can be build solutions to be on par with counterparts around the world. The accelerator was set up to find those individuals, innovators who are building solutions for the future and support them with building the future today. We need to start creating our own community, this was a daring one, but we are happy we did.

Incubator B shared a similar opinion but added that this community also included stakeholders like mentors and coaches who they identify were crucial to their start up but stated that they recognised the place of funding in the process.

He notes;

“Our goal was to create a community where technology and technology solutions can thrive while also bridging the knowledge and business gap through mentorship, coaching and strategic partner

introduction. The incubator initially started as a school to transfer skills to individuals to start their own companies, but it was also imperative to empower people financially as well, and so company provided seed fund to these new businesses who have acquired these skills. However, it was not adequate to give individuals funding alone as they are an array of requirements to starting a company. Founders assessed and discovered that it was important to give new businesses credibility and also give them access to a conducive environment, hence the birth of incubator. The process is training programme, seed funding and then incubation”.

Manager A adds;

“At the beginning, we had just co-working spaces, the founders were thinking of building up a community of people who had ideas and were interested in building technology together in a particular space.

However, they soon realised that creating community was not sufficient, start -ups also needed funds to bring ideas to market, as such the intention evolved to providing opportunity to get funded too.

Manager A notes,

“However, founders realised that when these start-up, come up with ideas, they would not have funds to continue or take it to the next stage. So, good solutions that these start -ups were providing was not seeing the light of day. However, we noticed that this was not exactly addressing the problem because these start-ups were building technology solutions and required more funding to the tune of say 30,000 and support.... we then created a VC fund, that supports business who are possibly looking to raise more funding and might have gone through the first stages and second stages of funding. Usually, the amount of funding that can be raised from the venture fund is somewhere between 500k to 1 million dollars”.

However, for incubator D, they need more than just a community of start-ups but a synergy with corporates that will improve start up access to funding.

.... Our start up community had built great products but lacked capital and the distribution base that big corporate had. The question became, can we create a fusion between this value providers, can we create a mutually beneficial relationship between corporate financial institutions and the start-up ecosystem? This birthed Incubator D, which basically was about agglomerating innovative fin tech companies and matching them together with a big financial institution to access funding”.

6.3 KPIs for evaluating incubation success.

In discussing KPIs for evaluating incubation success, they all note that KPIs change with time, which is understandable because start-ups need evolve with time. With the exception of Manager C, all managers cited impact as the main KPI, although their perceptions differed. For example, Manager A view impact as *“how many lives are we impacting using technology”*. Manager D and E view impact solely from the start ups perspective. Manager D notes;

“... it is in the number companies we support, the growth rate of supported companies (percentages vary over times), the number of employments created by portfolio companies”.

Manager E adds;

“.... for us, it is how many entrepreneurs are we able to reach yearly from all of our programmes yearly. We also check for the ratio between male and female entrepreneurs or which sectors these businesses emerge from, this drives our engagement for next year”.

For Manager B, impact is also tenant focused but they emphasise customer acquisition, which begets revenue. He notes

“Our Kpis is about making impact for our tenant companies, we are focused on customer acquisition, which translates to revenue even though not directly”.

7.0 Discussions and Conclusions

The results of the interviews presented within the findings section provides an opportunity to explore another alternative for evaluating business incubators. Existing studies on business incubation evaluation overlook or oversimplify the crucial role and unique perspective of incubation managers. It is imperative that their contributions and expertise are recognized and integrated into any meaningful evaluation process. A study by Kakabadse et al., (2020) hinted on the perceived importance of the incubator manager perception, however, their study focused on how managers perceived legitimate ways to deal with structural arrangements, job demands and constraints.

Furthermore, exploring contextual aspects advocated for by Von and Grimaldi and Allahar and Brathwaite (2016) provided insight into understanding how contextual factors influence incubation location. Business incubator managers identify environmental factors, such as avoiding traffic, the centrality of the location (access to mainland and island), and ease of access to infrastructure like the internet as some key influences of the Yaba/Ikoyi entrepreneurial context. However, beyond environmental factors, the location is also a hotbed for accessing technology talent and the community needed for attracting incubatees and supporting them.

In seeking to understand why these business incubators were set up, managers again cite the opportunity to build community and improve access to funding. This study indicates that the need to establish community plays a dual role; the first influence was due to the environmental factors mentioned earlier in choosing the Yaba/Ikoyi location as a good place to set up their incubators. Second, incubator managers recognize that they must not only join but reinforce the existing community by building their own. In looking at evaluation approaches earlier discussed, incubation objective as an evaluation indicator was only identified within the in-situ approach, however none of the studies cited mentioned building community as an objective.

Additionally, it is worthwhile to state that, while managers recognised the need to build a technology community either as a trigger for being situated here and or an objective, they also state that providing access to funding was also crucial as it helped tenant companies to build solutions, bring ideas to market and scale.

Lastly, when discussing KPIs for measuring impact, managers emphasise that KPIs used for measuring incubation impact often vary from time to time, probably to suit start up needs and market demand. However, they stressed the importance of making impact as the core trigger for establishing KPIs. The interpretation of impact seems to vary; for some managers it was to support as many start-ups as possible, for others create employ or just change using technology.

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