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Business Incubator Managers' Strategic Approaches to Enhance Sustainable Competitive Advantage for Nigerian Startups

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Walden University

College of Management and Human Potential

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Adekunle Seye Ogunniyi

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2025

Abstract

Business Incubator Managers' Strategic Approaches to Enhance Sustainable Competitive

Advantage for Nigerian Startups

by

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MBA, DeVry University, 2012

HND, The Polytechnic Ibadan, 1996

Research Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

October 2025

Abstract

The inability of many Nigerian startups to sustain operations beyond their first five years remains a critical challenge for startup leaders. Startup leaders who lack effective strategies and capabilities to outperform competitors risk extinction within the entrepreneurial ecosystem. Grounded in the resource-based view (RBV) and Porter's five forces (P5F) framework, the purpose of this qualitative pragmatic inquiry was to explore the strategies employed by business incubator managers to enhance sustainable competitive advantage for Nigerian startups. The participants included six business incubator managers in Nigeria who had successfully implemented strategies that supported the survival and growth of startups beyond five years. Data were collected using semistructured interviews and a review of publicly accessible documents. Thematic analysis revealed six key themes: (a) market identification for strategic positioning, (b) enhancing business support for capacity building, (c) resource allocation for ecosystem integration, (d) technology adoption for competitive advantage, (e) sustaining long-term competitiveness, and (f) strategic adjustment to overcome challenges. A key recommendation that emerged from this study was the importance of establishing more regional support hubs to enhance startup resilience and competitiveness. The implications for positive social change include the potential for entrepreneurship support organizations to enhance the sustainability and competitiveness of startups by adopting effective incubation practices that promote innovation, create employment opportunities, and contribute to sustained economic growth within Nigerian communities.

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Dedication

This work is dedicated to the cherished memory of my late mother, whose unwavering encouragement from my earliest years instilled in me the commitment to achieve academic excellence. Her enduring legacy serves as a guiding beacon in all that I do, and her steadfast belief in the power of education resonates deeply in my heart.

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Section 1: Foundation of the Project

Background of the Problem

Startups play a crucial role in driving innovation, creating jobs, and fostering economic growth by developing new products, services, and business models (Ressin, 2022). Despite their significance, only approximately 10% of startups survive beyond their 5th year, as they face numerous challenges that limit their competitiveness against established firms in the entrepreneurial ecosystem (Ajah, 2023; Erdogan & Koohborfardhaghighi, 2019; Galal, 2023; Silva Júnior et al., 2022). To mitigate high failure rates, many startups turn to business incubators for strategic support. Incubators serve as strategy enablers, helping startups build resilience, reduce operational risks, and maintain a competitive advantage in the market (Awonuga et al., 2024; Blank, 2020; Akpoviro et al., 2021). By enhancing startups' dynamic capabilities, incubators provide strategic resources and guidance that facilitate long-term competitiveness.

Securing and sustaining a competitive edge, however, requires deliberate and well-structured strategies, with incubator managers playing a pivotal role in this process (Ali & Anwar, 2021; Colovic, 2022; Friesenbichler & Reinstaller, 2021; Lee, 2021). Examining the strategies and practices of incubation managers is therefore essential, as their decisions directly shape startups' ability to develop sustainable competitive advantages and achieve long-term success within the Nigerian entrepreneurial ecosystem. Furthermore, Bala Subrahmanya (2022) and Zhang and Song (2024) argue that inadequate strategic support from entrepreneurship development organizations, including business incubators, constrains startups' competitiveness and scalability, highlighting the

critical need to investigate incubation managers' strategies for promoting sustainable competitive advantage.

Business Problem Focus and Project Purpose

The specific business problem is that some business incubator managers lack effective strategies to prepare startups for sustainable competitive advantage in Nigeria. Therefore, the purpose of this qualitative pragmatic inquiry was to explore and identify the effective strategies that business incubator managers use to prepare startups for a sustainable competitive advantage in Nigeria. The population consisted of six business incubator managers with more than five years of experience nurturing startups in Nigeria.

A purposeful sampling method was employed to recruit participants. I collected the data for this study through semistructured interviews and publicly available documents. The population eligibility criteria included business incubator managers who have implemented effective strategies to enhance the competitiveness and sustainability of startups within the Nigerian entrepreneurial ecosystem. The theory that serves as the conceptual framework for this project is the resource-based view (RBV), developed by Wernerfelt (1984) as a strategic management theory, and Porter's five forces (P5F) framework, introduced by Porter (1979). This conceptual framework combines internal firm resources with industry-level competitive dynamics to offer a thorough perspective for analyzing sources of sustained competitive advantage.

Research Question

What effective strategies do business incubator managers use to prepare startups for sustainable competitive advantage in Nigeria?

Assumptions and Limitations

Assumptions

In qualitative research, an assumption is a fundamental perspective, expectation, belief, or theory regarding the study, participants, or phenomena under investigation (Lim, 2024). Assumptions are beliefs, ideas, or facts that remain unverified within the study context yet are considered valid. According to Park et al. (2020), understanding assumptions helps researchers clarify the reliability of the results that underpin scientific investigations and identify limitations in producing solid proof. Understanding the assumptions is crucial to this study, as the researcher plays a vital role in the qualitative research process. Therefore, acknowledging assumptions lays the groundwork for the analysis of this study, while validating them ensures the reliability of data-derived conclusions.

The study was based on three assumptions. Initially, I assumed the participants' knowledge of strategies for preparing startups for a sustainable competitive advantage in Nigeria was accurate. Second, I assumed the participants' responses to the interview questions were truthful. Third, I assumed that business incubator managers were constantly refining their strategies to help startups establish resilience and maintain a competitive edge.

Limitations

Limitations in a qualitative study refer to inherent constraints such as a small sample size, researcher subjectivity, time restrictions, or limited access to participants and contextual data, which may influence the credibility, dependability, and transferability of

the findings (Taherdoost, 2022). Recognizing these constraints is essential to prevent misinterpretation, ensure transparency, and guide future research. In this study, limitations included (a) the study was limited to six participants from Abuja, Ibadan, and Lagos. Hence, the findings might not represent the experiences of business incubator managers in other Nigerian cities (b) reliance on the quality of publicly available documents beyond the researcher's control; and (c) the possibility that participants withheld relevant information about their strategies and practices. Additionally, the dynamic nature of Nigeria's startup ecosystem may influence the long-term relevance and applicability of the identified strategies.

Transition

I investigated and explored the effective strategies incubation managers used to prepare startups for sustainable competitive advantage in Nigeria. In Section 1, I provided the background of the problem, outlined the focus of the business problem, specified the project's purpose, and described the assumptions and limitations of this study. Section 2 will encompass an extensive review of both professional and academic literature, as well as the conceptual framework. Section 3 describes the research methodology, including ethical issues, study design, data collection, analytic methodologies, and processes for ensuring reliability and validity. Section 4 presents a comprehensive discussion of the research findings, followed by a critical examination of their implications for business practice, potential social implications, future research directions, and the study's overall conclusion.

Section 2: The Literature Review

A comprehensive review of scholarly and professional literature is essential for developing a robust academic foundation for this study. An extensive literature review not only educates the academic community but also highlights underexplored areas, hence opening new avenues of research and enhancing the progression of knowledge (Kraus et al., 2021). In this research, the literature review fulfills numerous essential functions. Initially, it offers an extensive summary of the fundamental principles and theoretical frameworks relevant to the strategic management of business incubation. Secondly, it analyzes empirical studies and case-based research to understand existing patterns, best practices, and challenges related to the strategic approaches employed by business incubators in equipping startups for post-incubation sustainability in Nigeria. Ultimately, it highlights gaps in the current body of knowledge, validating the necessity of this study and establishing a foundation for a pragmatic inquiry.

This study is grounded in the RBV theory and the P5F model. Academics, business leaders, and entrepreneurs extensively utilize these frameworks to assess competitive landscapes by examining firm-specific assets and industry-wide dynamics (Furr & Eisenhardt, 2021; Isabelle et al., 2020; Jeong, 2021; Ployhart, 2021). Their combination provides a thorough perspective for analyzing the phenomenon under investigation. Luft et al. (2022) and Rocco et al. (2022) argue that a conceptual framework facilitates researchers in explaining the relationship between fundamental concepts and the phenomenon being investigated. Consequently, the integration of RBV and P5F offers a comprehensive analytical framework for examining the strategic

approaches employed by business incubator managers to enhance sustained competitive advantage for Nigerian startups.

A Review of the Professional and Academic Literature

The literature review for this study was conducted comprehensively to guarantee scholarly rigor and relevance. The Walden University Library's extensive digital resources facilitated access to seminal texts and peer-reviewed journals. The literature relevant to the study was identified using a variety of databases, such as Business Source Complete, EBSCOhost, Emerald Insight, ERIC (Educational Resource Information Center), Google Scholar, SAGE Journals, Web of Science, ScienceDirect, ProQuest Central, Taylor & Francis Online, and the Thoreau multidatabase search engine. The research on business incubation, entrepreneurship, and strategic management was informed by various academic and professional materials provided by these platforms.

To guarantee that the review was founded on contemporary research and emerging trends, the search procedure prioritized peer-reviewed journal articles published between 2020 and 2025. Ulrich's Periodicals Directory was implemented as a validation instrument to confirm the peer-reviewed status of selected articles. The search engine employed a variety of keywords and keyword combinations, including business incubator, business strategy, competitive advantage, economic growth, entrepreneurship, Resource-Based View, startups, sustainability, the Nigerian startup ecosystem, Porter's Five Forces, and Nigerian startups. The inclusion criteria were met by filtering articles based on their relevance to the research objectives, peer-review status, and publication date.

Although most of the sources reviewed fell within the 5-year timeframe, a limited number of seminal works, particularly those foundational to the conceptual frameworks employed, were also included, despite their earlier publication dates, due to their enduring relevance and scholarly value. The reference pool comprised 208 sources, including 184 peer-reviewed articles (88.5%) published between 2020 and 2025. Another five sources (2.9%) included peer-reviewed articles published more than 5 years prior to the study. The remaining sources included 15 grey literature (7.2%), and three books (1.4%) (see Table 1).

Table 1

Number and Percentage of References Used

Reference type	No. of references	Peer-reviewed	% Peer-reviewed	< 5 years	% < 5 years	% > 5 years
Journals	190	190	91	184	88.5	2.9
Books	3					
Gray literature	15					

Application to the Applied Business Problem

Business incubator managers in Nigeria occupy a pivotal role in formulating and implementing strategies that enhance startup sustainability. The recent proliferation of business incubators across the Nigerian entrepreneurial ecosystem underscores a growing recognition of their function in promoting startup development and innovation (Gómez et al., 2023). In light of this trend, it is imperative to examine the strategic approaches adopted by incubator managers to support the growth and long-term viability of startups. Accordingly, this study focused on exploring the strategic initiatives and managerial practices employed by business incubator managers in Nigeria, as these individuals

possess firsthand experience and strategic insights into the mechanisms that influence startup survival. These insights are essential for advancing a deeper understanding of the strategic dimensions that underpin effective incubation practices and inform the broader discourse on sustainable entrepreneurship.

Studying the competitive strategies of business incubators is essential because these organizations play a significant role in preparing startups for competition in the Nigerian entrepreneurial ecosystem after the incubation period. Business incubators offer a range of business development services, including facilitating networking, providing financial assistance, offering infrastructure support, and fostering a supportive environment (Lin-Lian et al., 2021; Paoloni & Modaffari, 2021). These organizations play a pivotal role by providing critical support services and resources to emerging ventures. As the Nigerian economy evolves, fostering a conducive environment for startup growth is essential for driving economic development, job creation, and innovation (Peter & Olufemi, 2023; Odeyemi et al., 2024). Hence, understanding the strategic approaches employed by incubator managers can offer valuable insights into how startups can effectively leverage these resources to achieve sustainable competitive advantage in the Nigerian business environment.

Conceptual Framework

This study was based on two major theoretical models, the RBV and P5F, which combined to create the conceptual framework for the research. The combination of RBV and P5F enabled a dual-level analysis of firm-specific resources and the broader competitive factors influencing the Nigerian startup ecosystem (Jung & Jeong, 2021;

Ployhart, 2021). These well-established strategic management theories provided a solid framework for examining the research question of this study and interpreting the strategic approaches used by business incubator managers in the Nigerian context. Their application provided crucial insights into how incubators prepare startups for post-incubation survival and long-term competitive advantage in Nigeria's dynamic entrepreneurial environment.

Resource-Based View Theory

RBV offers a robust theoretical framework for understanding how startups can leverage both tangible and intangible resources to achieve and sustain a competitive advantage, particularly under resource-constrained conditions. This perspective traces its origins to Wernerfelt's seminal 1984 work, which positioned RBV as a core lens for analyzing organizational identity. However, the foundational ideas can be attributed to Penrose (1959), who emphasized unused managerial resources as a key driver of firm growth. Wernerfelt built upon Penrose's notions by advocating for a clear delineation of a firm's resource base to enhance strategic market engagement over time (Wernerfelt, 1984). Subsequently, Barney (1986; 1991) advanced RBV theory by introducing the concepts of strategic factor markets and emphasizing the role of resource heterogeneity and immobility in securing sustained competitive advantage. Together, these theoretical contributions highlight the strategic importance of resource identification, allocation, and management, providing valuable insights into how incubator managers can support startups in developing resource-based strategies for long-term success.

Barney's articulation of RBV further refines the theory by identifying the specific characteristics of resources that contribute to sustained competitive advantage. Central to his framework is the principle of resource heterogeneity, which posits that firms possess unique, strategically relevant resources that differentiate them from competitors. He also emphasizes the importance of strategically leveraging these resources to maintain a competitive edge over time. Most notably, Barney (1991) introduced the VRIN framework, asserting that only resources that are valuable, rare, inimitable, and nonsubstitutable can generate sustained returns above the norm. This perspective marked a significant shift in strategic management thought by moving the focus away from external environmental conditions toward the internal resource configurations of the firm. By emphasizing firm-specific assets as the foundation of competitive advantage, Barney's contributions offer a powerful lens for analyzing how incubator-supported startups can build and sustain market relevance through resource-based strategies.

Porter's Five Forces Model

The P5F model remains a foundational tool for analyzing industry competitiveness, particularly in evaluating external market dynamics that influence firm strategy. Introduced in a seminal *Harvard Business Review* article, the P5F framework was designed to help strategists systematically assess the key forces shaping competitive environments (Porter, 1979). The model identifies five critical forces: internal rivalry, the threat of new entrants, the bargaining power of suppliers, the bargaining power of buyers, and the threat of substitute products or services. Each force captures a distinct dimension of competition that collectively determines industry profitability and strategic

positioning. While the model has maintained enduring relevance in strategic management (Wellner & Lakotta, 2020), scholars have critiqued it for its static perspective and insufficient consideration of dynamic external influences such as technological disruption and regulatory change (Isabelle et al., 2020). To address these limitations, integrating the P5F framework with the RBV allows for a more comprehensive analysis of strategic decision-making, particularly in the context of Nigerian business incubator managers navigating both internal capabilities and external market forces.

Although the P5F model offers a valuable lens for assessing industry competitiveness, its application to business incubator mentoring strategies necessitates contextual adaptation for the development of startups. Business incubators play a crucial role in supporting early-stage ventures, and their effectiveness hinges on their ability to guide startups toward achieving a sustainable competitive advantage (Akpoviro et al., 2021). By integrating the P5F model into the conceptual framework of this study, a more structured and comprehensive analysis of competitive pressures was achieved, particularly in relation to startup survival within the Nigerian entrepreneurial ecosystem. This integration provided an in-depth understanding of how incubator managers mentor startups to navigate critical external forces, such as supplier and buyer bargaining power, guiding strategic partnership decisions, and the threat of new entrants, which informs positioning and differentiation strategies. Moreover, acknowledging the model's limitations, this study adapted the P5F framework to reflect the dynamic and multifaceted nature of Nigeria's startup environment. In doing so, this study advanced a more holistic and agile approach to strategic mentoring, equipping incubator managers with the tools to

respond effectively to the evolving challenges of a competitive and complex entrepreneurial landscape.

Synergy Between RBV and P5F Model

Integrating the RBV and P5F frameworks has attracted considerable attention within academic circles, offering insights into strategic management and competitive advantage. Jung and Jeong (2021) argued that the P5F model emphasizes industry-level analysis to identify competitive forces, while Ployhart (2021) highlighted that RBV focuses on firm-specific resources and capabilities. However, Ogutu et al. (2023) suggested that combining multiple perspectives on knowledge management and competitiveness can provide a more comprehensive understanding of competitive dynamics. Integrating the RBV with the P5F model in this study allowed for a thorough examination of the strategic approaches employed by business incubator managers. The RBV provided a lens for examining internal strengths, capabilities, and resource endowments, whereas the P5F provided a structured view of the external competitive environment. Together, these frameworks provided a more comprehensive understanding of how incubator managers help startups exploit their unique internal resources in response to industry dynamics. This dual-theoretical integration enhanced the study by capturing both firm-level advantages and market-driven obstacles, shedding light on the strategic paths startups might take to gain and maintain a competitive advantage in Nigeria's dynamic entrepreneurial environment.

The integration of the RBV and the P5F model provides a comprehensive framework for understanding how business incubator managers formulate effective

strategies. Malhotra et al. (2024) and Zahra (2021) emphasized the complementarity of RBV in enhancing strategic decision-making, noting that it underscores the role of firm-specific resources in achieving sustainable competitive advantage. Their findings suggest that incorporating RBV into strategic planning enables firms to develop distinctive capabilities that strengthen their competitive positioning. Similarly, Wellner and Lakotta (2020) highlighted the relevance of the P5F model in analyzing external market conditions. When combined, these approaches enable managers to identify resource-based opportunities within broader industry dynamics, leading to more effective long-term strategies. This integration offers a comprehensive understanding of how incubator managers align internal capabilities with external market forces, facilitating the examination of their strategic approaches in supporting startups.

Overview of the Nigerian Entrepreneurial Landscape

Nigeria's entrepreneurial landscape represents a vibrant and rapidly evolving ecosystem that plays a pivotal role in driving the nation's economic growth. As Gómez et al. (2023) observed, this dynamic environment is fueled by a young and innovative population whose creativity propels business development across multiple sectors. According to PricewaterhouseCoopers (PwC, 2024), micro, small, and medium enterprises (MSMEs) make substantial contributions to the Nigerian economy, accounting for 46.32% of GDP, 6.21% of total exports, 96.9% of all businesses, and 87.9% of employment. Despite these contributions, scholars such as Harrison (2022) and the Presidential Enabling Business Environment Council (PEBEC, 2024) noted that MSMEs continue to encounter challenges that impede their capacity to foster inclusive

and sustainable economic growth. Addressing these persistent barriers is essential for maximizing the transformative potential of MSMEs and sets the stage for examining the strategic role of business incubators in supporting startup development within Nigeria's entrepreneurial ecosystem.

The rapid growth of Nigeria's digital economy has created a fertile environment for startup development, yet persistent structural challenges continue to hinder entrepreneurial progress. Kemp (2023) reported that as of January 2023, Nigeria had a population of 221.2 million, with approximately 122.5 million internet users, reflecting the widespread adoption of digital technologies across the nation. This digital expansion has fueled the rise of startups in various sectors, including finance, healthcare, agriculture, technology, and manufacturing. However, as Musa et al. (2021) noted, many of these ventures face obstacles, including inadequate infrastructure, regulatory bottlenecks, and limited access to capital, all of which constrain their growth potential. Consequently, business incubators have become essential mechanisms for supporting these startups, offering the resources, mentorship, and strategic guidance needed to enhance their sustainability. This context underscores the importance of examining how business incubator managers develop and implement strategies that foster the long-term competitiveness of startups in Nigeria.

The Nigerian government has taken deliberate steps to strengthen entrepreneurship through supportive policies and capacity-building initiatives. For example, the Nigerian Startup Act of 2022, passed on October 19, 2022, was designed to establish a legal framework that promotes startup growth and nurtures technology-driven

talent (Peter & Olufemi, 2023). This policy reform formalized the startup ecosystem, signaling governmental commitment to entrepreneurship and attracting foreign investment. Despite these public and private sector efforts, however, the entrepreneurial landscape in Nigeria remains complex, marked by persistent challenges in areas such as capital accessibility, market entry, regulatory compliance, infrastructure, talent management, networking, competition, technological advancement, and economic stability (Ekechi et al., 2024; Odeyemi et al., 2024; Peter & Olufemi, 2023). Recognizing these challenges provides essential context for examining how business incubator managers develop strategic approaches to help startups navigate Nigeria's evolving entrepreneurial environment.

Nigerian Startup Ecosystem

Nigeria's startup ecosystem stands among the most dynamic in Africa, serving as a vital driver of innovation and entrepreneurship across the continent. According to the StartupBlink (2023) Global Startup Ecosystem Index, Nigeria ranks 64th globally and is recognized as one of Africa's "Big Four" startup hubs alongside Egypt, Kenya, and South Africa, with a particular strength in the fintech (financial technology) sector. Ogbonna et al. (2023) attributed this vibrancy to Nigeria's vast natural resources, diverse population, and dynamic business environment. Further evidence from PwC (2024) shows that over 41 million MSMEs contribute approximately 48% to Nigeria's GDP, accounting for 96% of all businesses and 84% of total employment. Despite this economic significance, scholars such as Arejiogbe et al. (2023) and Harrison (2022) observed that inadequate government support continues to impede the survival and growth of these enterprises.

Consequently, business incubation services have become essential mechanisms within Nigeria's entrepreneurial ecosystem, providing critical resources and mentorship to empower startups and sustain innovation among the country's young and dynamic population.

Startups serve as a vital engine of growth within Nigeria's MSME sector, driving innovation, operational efficiency, and economic expansion. According to the PwC (2024) report, a substantial portion of Nigeria's entrepreneurial ecosystem depends on startups, underscoring their critical role in promoting job creation, technological advancement, and sustainable development. Li et al. (2020) further emphasized that business incubators play a crucial role in nurturing highly innovative startups by equipping them with the dynamic capabilities necessary to thrive in competitive markets. These incubators provide essential resources, such as mentoring, infrastructure, and networking opportunities, that transform innovative ideas into viable business ventures. By connecting startups' creative potential with structured support systems, business incubators strengthen the broader entrepreneurial ecosystem, fostering resilience and scalability among emerging enterprises. This foundational role of business incubators establishes the context for examining the strategic approaches managers employ to enhance startup sustainability in Nigeria's evolving business landscape.

Lagos serves as the epicenter of Nigeria's startup and innovation ecosystem, driving entrepreneurial activity and technological advancement across multiple sectors. According to Galal (2023) and Startup Genome (2023), Nigeria is home to over 3,360 startups, with a significant concentration in Lagos, the nation's largest metropolis. Tiba et

al. (2020) noted that many of these innovative ventures emerged from prominent business incubators and technology hubs such as the Co-Creation Hub (CcHub) and the Tony Elumelu Foundation, which play pivotal roles in cultivating entrepreneurial talent and fostering innovation. These hubs support diverse industries, including fintech, agriculture, healthcare, e-commerce, renewable energy, and logistics, thereby reinforcing Lagos's position as a leading innovation hub in Africa. This concentration of incubators and startup activity highlights the importance of examining how incubation strategies in Lagos contribute to the sustainable growth and competitiveness of startups within Nigeria's broader entrepreneurial ecosystem.

Fintech Sector

The fintech sector, in particular, has experienced remarkable growth driven by startups that address the financial inclusion gap and offer innovative financial solutions. Despite this progress, Nigerian startups face substantial challenges, including the need for mentorship, market access, and technical skills (Musa et al., 2021; Peter & Olufemi, 2023; Odeyemi et al., 2024). Business incubators play a crucial role in mitigating these challenges, particularly during the early stages of startup development, by providing essential support and resources. However, Nigeria's entrepreneurial landscape continues to evolve, driven by innovation and resilience, despite facing numerous challenges. This dynamic ecosystem fosters economic growth and addresses critical socioeconomic issues, positioning Nigeria as a pivotal player in Africa's entrepreneurial future.

Agriculture Sector

The agricultural sector represents a vital component of Nigeria's startup ecosystem, where the integration of technology is transforming traditional farming practices and driving economic growth. According to the World Bank (2022), agriculture contributes significantly to Nigeria's GDP and employs approximately 38% of the national workforce, underscoring its central role in the economy. Empower Africa (2023) highlighted the success of agrotechnology startups such as FarmCrowdy, which leverage digital platforms to connect farmers with investors and enhance agricultural productivity. Incorporating technology into agriculture has the potential to optimize yields, promote sustainable farming techniques, and increase overall production efficiency. Bello et al. (2021) further noted that government initiatives, including the Youth-in-Agribusiness program, provide hands-on training to young entrepreneurs across agricultural value chains, reinforcing innovation within the sector. By combining effective business incubation with technological advancements, Nigeria's agrotechnology startups can enhance market access, streamline supply chains, and bolster food security. This synergy underscores the growing importance of strategic incubation in driving innovation-led growth across key sectors of the Nigerian economy.

Health Sector

Startups in this sector are leveraging technology to create solutions that enhance accessibility, affordability, and quality of healthcare services. The health sector within Nigeria's startup ecosystem has experienced significant growth and innovation, driven by the urgent need to address healthcare challenges and improve overall public health

outcomes (Babatunde et al., 2021). These innovations range from telemedicine platforms that provide remote consultations and medical advice to health management systems that streamline patient records and enhance diagnostic accuracy. Health tech startups are also developing mobile applications for health education, disease monitoring, and wellness tracking, thereby contributing to preventive care and improved health management. Despite facing challenges such as regulatory hurdles and limited funding, these startups are increasingly attracting attention from investors and forming partnerships with governmental and international health organizations, positioning the sector as a vital component of Nigeria's entrepreneurial landscape.

E-commerce Sector

The e-commerce sector of startups in Nigeria has experienced significant growth, exemplified by platforms such as Jumia and Konga. These companies have revolutionized retail by providing online marketplaces that offer a wide range of products and services, catering to diverse consumer needs nationwide (Peter et al., 2023). Jumia, founded in 2012, has emerged as one of Africa's largest e-commerce platforms, offering a diverse range of goods from electronics to fashion, and leveraging partnerships with local vendors to enhance its market presence (Jumia, 2024; Nduji et al., 2023). Konga, established in 2012, initially focused on electronics and gradually expanded its offerings to include a broad range of consumer goods, while also integrating logistics services to enhance delivery efficiency (Konga, 2024).

Both platforms have played pivotal roles in shaping consumer behavior towards online shopping, promoting startup ventures offering digital payments, and enhancing the

accessibility of various MSME products in a market traditionally dominated by brick-and-mortar stores. Their success highlights the transformative impact of e-commerce startups in Nigeria, driving economic growth, job creation, and technological innovation within the digital economy. However, Okolie and Ojomo (2020) identified frequent power interruptions, insecurity, high technology costs, a lack of trust, and the difficulty in acquiring skilled IT personnel as the primary challenges to adopting e-commerce in Nigeria.

Renewable Energy Sector

The renewable energy sector of startups in Nigeria is burgeoning with innovation and entrepreneurial vigor, exemplified by companies such as Arnergy and Rensource. The inadequacy of Nigeria's electricity infrastructure has catalyzed the emergence of Rensource and Arnergy, with investors injecting \$20 million and \$9 million, respectively, demonstrating an increasing interest in green energy investments in Nigeria (Adeshokan, 2020; Musa et al., 2021). Arnergy specializes in providing solar energy solutions tailored for MSMEs and homes, utilizing innovative financing models to make solar energy accessible and affordable. On the other hand, Rensource focuses on decentralized solar energy solutions, targeting underserved communities and businesses with reliable and clean energy alternatives. These startups leverage technological advancements and local market insights to address Nigeria's energy challenges, including unreliable grid power and high energy costs (Musa et al., 2021). Their initiatives contribute to environmental sustainability by reducing carbon emissions and promoting economic development through job creation in the renewable energy sector. This entrepreneurial ecosystem

drives Nigeria towards a greener future while catalyzing socioeconomic progress through renewable energy innovation. However, the industry faces constraints that affect the sustainability of the startups primarily due to inadequate funding, regulatory challenges, and limited infrastructure support.

Logistic Sector

Nigeria's logistics startup sector is a rapidly evolving component of the nation's entrepreneurial ecosystem, transforming supply chain operations through digital innovation. Kobo360 and GIG Logistics exemplify this transformation, serving as leading players in redefining logistics management and service delivery (Benjamin & Foye, 2022). Kobo360, in particular, has developed a technology-driven platform that connects truck owners with businesses in need of freight services, thereby optimizing cargo transportation nationwide (Kobo360, 2024). Through features such as real-time tracking, efficient route planning, and transparent pricing, the platform has significantly enhanced logistics efficiency. Similarly, GIG Logistics offers a comprehensive range of solutions, including express delivery and supply chain management, which contribute to enhanced service reliability and market reach. Collectively, these startups demonstrate how technology-driven logistics innovations are reshaping Nigeria's transport infrastructure by increasing cost-effectiveness, operational reliability, and customer satisfaction. This transformation highlights the broader role of digital entrepreneurship in driving economic growth and sets the stage for exploring how business incubators can further support innovation within Nigeria's logistics and technology sectors.

Impact of Business Incubation on Startup Development in Nigeria

Business incubators play a critical role in fostering the growth and sustainability of early-stage enterprises, particularly within challenging business environments like Nigeria. These incubators provide essential resources, including mentorship, networking opportunities, shared office space, and sometimes access to funding, to help startups accelerate their development and success. In the Nigerian context, where structural barriers such as limited access to finance, poor infrastructure, and bureaucratic inefficiencies persist, incubators serve as vital intermediaries by offering capital, mentorship, and access to networks that are otherwise scarce (Akpviroro et al., 2021; Li et al., 2020). Beyond individual enterprise support, incubators contribute to broader economic development by stimulating innovation and addressing youth unemployment. A key distinction also exists between incubators and accelerators: while incubators provide extended, holistic support for nascent ventures, accelerators focus on rapidly scaling more mature businesses through short-term, intensive programs (Bańka et al., 2022). Given Nigeria's high rate of startup failure, the role of business incubators in overcoming systemic obstacles and enhancing enterprise survival is especially significant, warranting closer examination of the strategic approaches employed by incubator managers.

Empirical evidence highlights the effectiveness of business incubators in enhancing startup success and ecosystem development in Nigeria. Studies show that startups supported by incubators exhibit significantly higher survival and growth rates than those operating independently. For example, Awonuga et al. (2024) found that

incubated startups outperform non-incubated counterparts in key performance indicators, including longevity and scalability. A prominent example is the co-creation hub (CcHub) in Lagos, which has played a central role in advancing Nigeria's tech ecosystem by supporting high-impact ventures such as Andela, AgriEdge, BudgIT, Doctoora, HerVest, FICHAYA, OneHealthNg, and Grid, many of which have expanded internationally and secured substantial investment (CcHub, 2024; Madichie & Hinson, 2022). CcHub's strategic partnership with Google for Startups further exemplifies its commitment to linking local startups with global networks and resources, thus strengthening their capacity for sustainable growth. These outcomes highlight the significance of understanding how incubator managers in Nigeria strategically allocate resources and partnerships to support the development and scalability of startups in a competitive and evolving entrepreneurial landscape.

Business incubators make a significant contribution to economic development through job creation, revenue growth, and the cultivation of entrepreneurial capacity. Empirical studies by Akpoviroro et al. (2021), Assenova (2020), and Awonuga et al. (2024) consistently demonstrate that incubated businesses in Nigeria tend to achieve higher revenue growth and generate more employment than non-incubated firms. A notable example is the Tony Elumelu Foundation's Entrepreneurship Program, which operates similarly to a business incubator and has supported over 1.5 million entrepreneurs across 54 African countries, including a substantial number from Nigeria, resulting in the creation of more than 400,000 direct and indirect jobs (Tony Elumelu Foundation, 2024). Beyond economic metrics, incubators play a crucial role in capacity

building by offering structured training, mentorship, and workshops that develop entrepreneurs' strategic, financial, and operational competencies. They also facilitate access to emerging technologies and promote a culture of innovation, key factors in enhancing the competitiveness of startups in both local and global markets. These functions position incubators not only as support mechanisms but also as strategic actors in national development, reinforcing the need to examine how incubator managers design and implement initiatives that drive long-term business viability.

Business incubators in Nigeria function as collaborative ecosystems that foster innovation, strategic partnerships, and sector-wide growth. These incubators offer startups structured opportunities to connect with investors, customers, and partners, thereby facilitating access to critical networks that support business scalability and sustainability (Li et al., 2020). For instance, organizations such as the Tony Elumelu Foundation manage incubation centers that have become dynamic hubs for innovation in agriculture, manufacturing, and information technology. This collaborative model not only accelerates individual startup growth but also contributes to broader sectoral development by creating synergies and knowledge-sharing platforms. By integrating access to mentorship, capital, and professional networks, incubators enhance entrepreneurial capacity and support job creation, economic diversification, and national competitiveness. The growing number of successful, incubator-supported enterprises illustrates the transformative potential of such programs in addressing Nigeria's socioeconomic challenges and shaping a resilient and inclusive financial ecosystem.

Government-Led Initiatives to Promote Entrepreneurship in Nigeria

The Nigerian government has recognized the crucial role of entrepreneurship in driving economic growth, creating jobs, and fostering innovation. In response, organizations have launched various initiatives to support the entrepreneurial ecosystem and create a conducive environment for startups. One of the most notable programs is the National Youth Service Corps Skill Acquisition and Entrepreneurship Development (SAED) program (TamBari & Taylor, 2020). This initiative aims to equip young graduates with entrepreneurial skills and reduce unemployment. By offering training in various vocations and business management, the SAED program cultivates a culture of self-reliance and empowers young Nigerians to establish their own businesses.

Another significant initiative is the Youth Enterprise with Innovation in Nigeria (YouWiN) program, which provides funding and support to young entrepreneurs. YouWiN organizes business plan competitions, offering winners substantial grants to develop their businesses (Omeje et al., 2020). This program has successfully nurtured numerous startups across different sectors, demonstrating the potential of targeted government interventions in boosting entrepreneurship. Furthermore, the BOI offers various funding schemes tailored explicitly for MSMEs, providing accessible loans with favorable terms to stimulate business growth (Bank of Industry, 2022). The Nigerian government has also implemented policies to improve the overall business climate. The introduction of the PEBEC aims to streamline regulatory processes and reduce bureaucratic red tape. PEBEC's efforts have significantly improved Nigeria's Ease of Doing Business ranking, making it easier for startups to register and operate (PEBEC,

2024). Through these initiatives, the government also introduced tax incentives and exemptions for startups, particularly in the technology sector, to encourage innovation and attract investment.

Despite these positive steps, challenges remain. Issues such as corruption, inconsistent policy implementation, and limited access to information for potential beneficiaries sometimes hinder the effectiveness of these initiatives (Joseph et al., 2021; Musa et al., 2021). Joseph et al. (2021) suggested that continuous monitoring and evaluation of government programs are essential to ensure that these initiatives meet the needs of entrepreneurs and address the challenges they face. Moreover, fostering stronger collaborations between the public and private sectors can enhance the impact of these initiatives. The Nigerian government has made significant strides in supporting entrepreneurship through various programs and policy reforms. Initiatives such as SAED, YouWiN, and BOI funding schemes provide crucial support to young entrepreneurs, while regulatory improvements spearheaded by PEBEC enhance the overall business environment. However, for these efforts to reach their full potential, ongoing efforts to tackle implementation challenges and foster public-private partnerships are crucial. These initiatives bolster the startup ecosystem and contribute to Nigeria's economic development and social stability.

Barriers to Growth and Sustainability for Startups in Nigeria

The Nigerian startup ecosystem is a hub of innovation and entrepreneurial activity, yet it is also fraught with significant challenges and immense opportunities. Nigeria's startups face many obstacles, including limited access to capital, which

hampers their ability to scale and sustain operations (Peter & Olufemi, 2023). Regulatory hurdles and bureaucratic inefficiencies often slow down business processes, creating additional barriers to entry and growth. Furthermore, inadequate infrastructure, such as unreliable power supply and poor internet connectivity, poses substantial challenges to operational efficiency (Babajide & Brito, 2020). Despite these hurdles, the Nigerian startup landscape offers tremendous opportunities for growth, driven by a large and youthful population, increasing internet penetration, and a rising middle class with growing purchasing power. The ability to navigate these challenges effectively can unlock substantial potential for startups in the country.

Capital Accessibility

Access to capital is a critical determinant of entrepreneurial success in Nigeria, influenced by various factors within the financial landscape. The banking sector in Nigeria, characterized by a mix of traditional banks and microfinance institutions, plays a central role in providing financial services to entrepreneurs (Rufus et al., 2022). In addition to conventional banking, venture capital and angel investment have emerged as alternative funding sources for startups and high-growth ventures in Nigeria. While the sector has witnessed significant growth and innovation in recent years, challenges such as high interest rates, stringent collateral requirements, and limited outreach to underserved areas persist, hindering access to finance for many entrepreneurs (Adetiloye et al., 2020; Babalola et al., 2023). However, venture capital and angel investment availability remain relatively limited compared to more developed entrepreneurial ecosystems, with a concentration of funding in select sectors and regions.

Understanding the dynamics between banking sector development and economic growth is crucial for assessing Nigeria's economic path. According to Azolibe (2021), a significant long-run relationship exists between banking sector development indicators and economic growth in Nigeria. This finding underscores the pivotal role of banking sector reforms in shaping Nigeria's economic future, highlighting the need for strategic policies to enhance the efficiency and effectiveness of the banking sector and foster sustainable economic development. Addressing these challenges is particularly critical in Nigeria's entrepreneurial ecosystem, where startups often struggle to access capital, hindering their growth and contribution to economic prosperity. Innovative financial solutions and supportive regulatory frameworks are crucial for empowering startups and harnessing their potential as drivers of economic dynamism and innovation in Nigeria.

Furthermore, entrepreneurs in Nigeria require assistance in accessing finance due to factors such as inadequate credit information systems, a lack of venture capital infrastructure, and risk aversion among investors (Awoyemi & Makanju, 2020). Despite these challenges, opportunities exist to enhance entrepreneurs' access to finance through initiatives such as government-supported venture capital funds, fintech innovations, and strategic partnerships with financial institutions. By addressing these challenges and leveraging emerging opportunities, entrepreneurs can more effectively access the financial resources necessary to drive innovation, growth, and job creation in Nigeria.

Regulatory Challenges

Navigating Nigeria's complex legal and regulatory environment remains a significant challenge for entrepreneurs, profoundly impacting business operations and

growth potential. The country's business laws and regulations are characterized by bureaucratic obstacles, regulatory ambiguities, and inconsistent enforcement, resulting in a cumbersome framework for startups and small enterprises. Despite ongoing government efforts to streamline these processes (PEBEC, 2024), entrepreneurs continue to face difficulties in key areas, including company registration, taxation, intellectual property protection, and contract enforcement. Nigeria's persistent regulatory challenges are reflected in its ranking on the World Bank's Ease of Doing Business Report, where obstacles in electricity access, property registration, and contract enforcement continue to impede entrepreneurial activity (World Bank, 2020). Although recent reforms have yielded progress in some domains, including business registration and construction permits, systemic issues persist. Nevertheless, the government has initiated various programs aimed at fostering entrepreneurship, including the creation of development agencies, venture capital funds, and SME support schemes (Salami et al., 2023). Understanding these regulatory dynamics is essential for incubator managers and entrepreneurs alike, as effective navigation of this environment is pivotal to enhancing business sustainability and growth in Nigeria.

Despite recent regulatory reforms, significant challenges persist in creating an environment that enables entrepreneurship in Nigeria. Scholars such as Ekechi et al. (2024) and Salami et al. (2023) have noted that the government has introduced initiatives, including simplified business registration processes and tax incentives, aimed at stimulating entrepreneurial activity and innovation. However, entrenched complexities within the legal and regulatory framework continue to constrain startup development and

SME growth. Jegede and Irewole (2020) argue that further reforms, particularly streamlining bureaucratic procedures and enhancing transparency, are essential to reducing regulatory burdens and facilitating business operations. A more efficient and transparent regulatory system would not only alleviate existing constraints but also promote a more inclusive and dynamic entrepreneurial ecosystem. Thus, fostering a supportive legal and policy environment is crucial for unlocking the full potential of Nigeria's startup landscape and advancing broader economic diversification and employment generation goals.

Infrastructure Constraints

Infrastructural deficiencies, particularly unreliable electricity supply, remain a major barrier to the operational efficiency and scalability of startups in Nigeria. Peter and Olufemi (2023) found that infrastructure-related challenges significantly hinder entrepreneurial performance, with power supply issues being among the most pressing. According to PwC (2024), only about 55% of Nigerians have access to electricity, and those who do often experience frequent outages. These disruptions force many businesses to depend on costly and unsustainable alternatives such as fuel-powered generators. The implications are particularly severe for tech-based startups, which rely heavily on uninterrupted power to maintain servers, data centers, and digital platforms. As a result, addressing infrastructural deficits, particularly those related to power reliability, is essential for enabling innovation-driven enterprises to thrive in Nigeria's competitive startup landscape.

Inadequate transportation infrastructure poses another significant barrier to startup growth in Nigeria, particularly in sectors that rely on efficient logistics and supply chain management. Studies by Adeleke (2022) and Ekechi et al. (2024) highlight how poor road conditions, limited transport networks, and congested ports undermine the timely movement of goods and increase operational costs. According to PwC's (2024) MSME Survey, inefficiencies in transportation infrastructure significantly raise the cost and time associated with distributing products across the country. These constraints are especially detrimental for startups operating in e-commerce, agrotechnology, and similar sectors that rely heavily on reliable delivery systems to ensure customer satisfaction and market responsiveness. Moreover, limited access to rural markets, where a significant portion of the population resides, further restricts startups' reach and growth potential. Improving transportation infrastructure is thus essential not only for enabling efficient logistics but also for expanding market access and enhancing the overall competitiveness of Nigeria's entrepreneurial ecosystem.

Moreover, despite notable advancements, Nigeria's telecommunications infrastructure remains a significant constraint for startups that rely on digital connectivity for daily operations and growth. As of early 2024, the country recorded 103.0 million internet users, representing an internet penetration rate of 45.5% (Kemp, 2024). However, the quality and consistency of internet access vary widely, particularly between urban centers and underserved rural areas (Peter et al., 2023). For startups that rely on cloud computing, digital platforms, and e-commerce, slow and unreliable internet connectivity presents operational inefficiencies and limits their ability to scale and compete

effectively. Additionally, the high cost of internet access places a considerable financial strain on small enterprises, often consuming a disproportionate share of their limited operational budgets. Enhancing the reliability, affordability, and reach of telecommunications infrastructure is therefore essential to unlocking the potential of digitally driven startups and fostering inclusive innovation across Nigeria's entrepreneurial ecosystem.

Notwithstanding the ongoing efforts by both public and private stakeholders, infrastructural deficiencies persist as substantial challenges to startup development in Nigeria. Persistent issues such as unreliable electricity supply, poor transportation networks, and inconsistent internet connectivity undermine operational efficiency and limit scalability across key sectors. These challenges remain deeply entrenched, despite various initiatives aimed at providing alternative solutions and temporary relief. Nonetheless, evidence suggests that targeted investments, comprehensive policy reforms, and strengthened collaboration between government agencies and private sector actors can help mitigate these constraints. Addressing these infrastructural barriers is crucial to creating a more enabling environment for innovation, productivity, and long-term sustainability within Nigeria's startup ecosystem, thereby complementing other strategic elements, such as access to finance and capacity-building initiatives.

Talent Sourcing and Retention

Talent sourcing and retention are critical components for the success and sustainability of startups within Nigeria's entrepreneurial ecosystem. However, these areas present significant challenges due to various socioeconomic and educational

factors. SMEs in Nigeria often face prolonged periods of instability due to frequent employee turnover, nepotism, fraudulent practices, and inadequate succession planning (Monyei et al., 2021). One major challenge is the skills gap. According to a report by the Nigerian Economic Summit Group (2023), there is a need for a significant alignment between the skills imparted by educational institutions and the job market requirements, particularly in technology- and innovation-driven sectors. This mismatch requires more adequately skilled professionals, forcing startups to invest heavily in training and development to bridge this gap.

Another challenge is the high rate of brain drain. Understanding the impact of brain drain is crucial for assessing Nigeria's intellectual and innovative landscape. Anetoh and Onwudinjo (2020) underscored brain drain as a significant challenge, noting that many of Nigeria's most celebrated intellectuals and innovative geniuses currently reside outside the country's borders. Many skilled Nigerian professionals seek better opportunities abroad due to limited prospects and unfavorable working conditions at home. The World Bank estimates that Nigeria loses a substantial portion of its highly educated workforce to emigration, thereby exacerbating the talent scarcity faced by local startups (World Bank, 2020). This brain drain depletes the talent pool, increasing competition for the remaining skilled professionals and driving up salary expectations and operational costs for startups.

Additionally, the entrepreneurial ecosystem needs help with retention. The instability of the Nigerian economy, characterized by inflation and fluctuating exchange rates, impacts job security and employee satisfaction. According to Kim (2022), high

turnover rates are typical among startups, as employees often move to more stable and established companies that offer better job security and benefits. This turnover disrupts business operations, leading to a loss of institutional knowledge and continuity. Despite these challenges, there are significant opportunities to enhance talent sourcing and retention in Nigeria's startup ecosystem. Ternenge et al. (2020) suggested that leveraging Nigeria's large and youthful population through entrepreneurship implementation programs could help overcome the unemployment challenge. The vast pool of potential young talent can be nurtured through targeted educational programs and vocational training. Initiatives such as the National Youth Service Corps Skill Acquisition and Entrepreneurship Development (SAED) program aim to equip young graduates with market-relevant skills, thus enhancing their employability in the startup sector.

Furthermore, partnerships between startups and educational institutions can play a crucial role in addressing the skills gap. Programs that integrate practical experience with academic learning, such as internships and co-op placements, can ensure that graduates possess the necessary skills and expertise to meet the demands of the entrepreneurial ecosystem. Moreover, Ghani et al. (2022) suggest that creating favorable work environments and offering competitive compensation packages can also enhance employee retention. Startups that invest in employee development, foster a positive organizational culture, and offer career advancement opportunities are more likely to retain their talent. Additionally, remote work opportunities, which have become increasingly prevalent due to the COVID-19 pandemic, can attract and retain talent by offering greater flexibility and a better work-life balance.

While talent sourcing and retention present significant challenges for startups in Nigeria due to the skills gap, brain drain, and economic instability, there are ample opportunities to address these issues. Nigerian startups can build a robust and sustainable talent pipeline by leveraging the youthful population, enhancing educational partnerships, and creating conducive work environments. These strategies are crucial for fostering innovation and maintaining competitiveness in Nigeria's rapidly evolving entrepreneurial ecosystem.

Challenges of Competition and Market Density for Startups

The entrepreneurial ecosystem in Nigeria has seen significant growth over the past decade, driven by a combination of government initiatives, increased access to technology, and a burgeoning young population (Gómez et al., 2023; Oyeyemi et al., 2024). Despite this growth, the ecosystem faces substantial competition and market saturation, particularly in critical sectors such as technology, agriculture, and retail. Studies have shown that the influx of new businesses often leads to market congestion, where numerous firms compete for limited market share (Attar et al., 2022; Jacob, 2020). This heightened competition has a dual effect: it stimulates innovation and improvement in product and service offerings, but it also increases the risk of business failures due to the difficulty of differentiating in a crowded marketplace. Entrepreneurial activities are most concentrated in urban centers like Lagos and Abuja, contributing to pronounced saturation in these areas.

Adetiloye et al. (2020) and Babalola et al. (2023) argue that market saturation in Nigeria's entrepreneurial ecosystem is primarily due to limited access to funding and

financial resources. While there has been a noticeable increase in venture capital and angel investment activities, these resources still need to be improved to meet the demands of the numerous startups and small businesses. This scarcity of funding means that only a few enterprises can scale effectively, while many others need help to survive beyond the initial stages of development. Additionally, businesses face financial barriers that hinder their ability to innovate and expand, forcing them to operate with minimal resources (Adetiloye et al., 2020). This environment creates a competitive landscape where only the most resourceful and adaptable businesses can thrive, leading to a high turnover rate in the entrepreneurial sector.

Moreover, Nigeria's regulatory and infrastructural challenges further exacerbate market saturation and competition. Many researchers highlighted in their studies that the regulatory framework in Nigeria often poses significant hurdles for new businesses, including lengthy registration processes, high taxation, and inconsistent enforcement of laws (Ekechi et al., 2024; Jegede & Irewole, 2020; Joseph et al., 2021; Peter & Olufemi, 2023). These challenges increase the cost of doing business and create an uneven playing field where well-established firms have an advantage over new entrants. Infrastructural deficits, such as unreliable power supply and inadequate transportation networks, also limit the operational efficiency of businesses. Despite these challenges, the entrepreneurial spirit remains resilient, with many entrepreneurs finding innovative ways to navigate these obstacles. However, the overall impact of these issues contributes to a highly competitive and saturated market, where a combination of strategic positioning, resourcefulness, and adaptability determines success.

Emerging Opportunities for Nigerian Startups

Nigerian startups have abundant opportunities to capitalize on growing consumer demand, technological advancements, supportive government policies, access to global markets, and increasing entrepreneurial awareness and adoption. Assenova (2020) and Ekechi et al. (2024) emphasize the importance of effective market entry and growth strategies for capturing and expanding market share in a competitive environment. The availability of a young, educated workforce presents an opportunity for startups to source and retain talent. Moreover, the increasing adoption of technology and innovation across various sectors, from fintech to agricultural technology, offers a platform for startups to disrupt traditional business models and create value. Joseph et al. (2021) advocate for increased public-private partnerships, regulatory reforms, and government initiatives to create a more supportive environment for entrepreneurial activities. Building robust business networks and exploring collaborative opportunities can facilitate access to resources and markets.

With a growing need for technology-driven solutions in fintech, agricultural technology, health tech, and e-commerce, Nigerian entrepreneurs are well-positioned to close systemic gaps and penetrate untapped markets. Furthermore, regional and worldwide collaborations, access to digital financing, and the growing importance of diaspora investment have created new opportunities for business scalability. Despite infrastructure and regulatory challenges, the ever-increasing ecosystem provides opportunities for innovative, adaptable, and impact-oriented startups. Understanding these dynamics is essential for startups to thrive in Nigeria's complex but promising

entrepreneurial ecosystem, positioning them for sustainable growth and success. Nigerian startups with these strategic advantages are well-positioned to capitalize on emerging opportunities and make significant contributions to the country's economic development.

Market Entry and Growth Opportunities

The Nigerian market presents a complex landscape for startups, defined by both structural challenges and significant growth opportunities. A key obstacle lies in the fragmented and predominantly informal structure of many economic sectors, which complicates market entry and limits the visibility of new ventures (Adeosun et al., 2022; Ogwueleka & Naveen, 2021). This fragmentation is compounded by bureaucratic inefficiencies and inconsistent regulatory enforcement, increasing the cost and complexity of conducting business (World Bank, 2020). Nevertheless, Nigeria's demographic and technological trends present compelling opportunities for entrepreneurial success. With one of Africa's largest and youngest populations, characterized by a median age of approximately 18 years, and an expanding middle class (PwC, 2024), the country offers a growing consumer base, especially for youth-oriented products and services. Additionally, the rising penetration of internet access and mobile device usage provides a strong foundation for digital innovation and e-commerce ventures (Kemp, 2024). These dynamics underscore the importance of understanding how startups can strategically position themselves within Nigeria's evolving market conditions, particularly through differentiated offerings and adaptive market-entry strategies.

Successful market entry in Nigeria often hinges on startups' ability to leverage local knowledge, networks, and strategic marketing approaches. In particular, small and medium-sized enterprises (SMEs) benefit from incorporating cross-border marketing and branding strategies to enhance visibility and competitiveness. Marino and Pariso (2021) argue that such strategies not only strengthen a firm's positioning in domestic markets but also enable expansion into international markets by improving brand recognition and consumer trust. For startups operating within Nigeria's fragmented economic environment, these approaches can be instrumental in building credibility, penetrating new customer segments, and navigating cultural and market-specific nuances. By adopting targeted branding and cross-border marketing efforts, entrepreneurial ventures are better equipped to scale, access new markets, and establish a resilient business model. Thus, market entry strategies that combine local engagement with a global outlook are essential for startups aiming to achieve sustainable growth in both the Nigerian ecosystem and the broader international marketplace.

For Nigerian startups seeking long-term success, sustainable growth depends on diversification and the strategic adoption of advanced technologies. Oyeyemi et al. (2024) argue that by expanding into new market segments and developing innovative business models, startups can disrupt traditional industries and reduce exposure to sector-specific risks. This approach not only broadens their customer base but also enhances resilience in volatile markets. Leveraging technologies such as artificial intelligence (AI), blockchain, and the internet of things (IoT) further enables operational efficiencies and the creation of distinct value propositions. These innovations help startups differentiate

themselves in increasingly competitive environments, both locally and globally. By integrating diversification and technological innovation into their growth strategies, Nigerian startups can drive innovation-led development and position themselves as influential contributors to the national and international entrepreneurial ecosystems.

Although startups in Nigeria face considerable challenges, the country's entrepreneurial ecosystem offers substantial opportunities for innovative and adaptive ventures. Regulatory hurdles, market fragmentation, and infrastructural constraints continue to pose significant barriers to entry and growth. However, Nigeria's youthful population and rising rates of digital adoption create a dynamic and expanding market for technology-driven solutions. Startups that implement practical strategies, such as forming local partnerships, focusing on customer-centric product development, and designing scalable technological models, are better positioned to navigate these complexities and capitalize on emerging opportunities. In addition, ongoing government reforms aimed at improving the ease of doing business provide further momentum for entrepreneurial success. Taken together, these conditions highlight the importance of strategic adaptability and innovation in enabling Nigerian startups to thrive in a rapidly evolving economic landscape, setting the stage for further exploration of the institutional and managerial capabilities that support this growth.

Transition

Section 2 presented an in-depth review of both professional and scholarly literature relevant to the topic. The review established the significance and relevance of further investigation to address the challenges of startup survival in Nigeria through

business incubation. Section 3 describes the research methodology, including ethical issues, study design, data collection, analytic methodologies, and processes for ensuring reliability and validity. Section 4 presents a comprehensive discussion of the research findings, followed by a critical examination of their implications for business practice, potential social implications, future research directions, and the study's overall conclusion.

Section 3: Research Project Methodology

The research methodology is the fundamental framework that guides the investigative path of a study, ensuring rigorous methodology and ethical conduct. This section provides a comprehensive overview of the research methodology employed in this study. It addresses the ethical considerations, the nature of the study, the targeted population, sampling methods, and participant selection. Additionally, it details the data collection process, the design of interview questions, techniques for organizing and analyzing data, and the measures taken to ensure the reliability and validity of the findings.

Project Ethics

The underlying premise is that the researcher serves as the primary tool of a qualitative study, as highlighted by Collins and Stockton (2022), implying that my beliefs and biases will inevitably influence every aspect of this research. The reflexivity of my position enabled me to consider multiple perspectives, attitudes, and beliefs that influence the design of this study and the interpretation of the data. As a self-reflective researcher, I consistently analyze my decisions while acknowledging how my perspective might affect the outcomes. Hence, as the principal researcher embarking on this qualitative pragmatic inquiry, I undertake a multifaceted role, serving as the primary instrument for data collection. Drawing insights from the methodology proposed by Tomaszewski et al. (2020), my responsibilities encompass gathering and collating data from diverse sources. I collected high-quality data that provided profound insights into the effective strategies employed by business incubation managers in Nigeria. This was achieved through face-

to-face and online semistructured interviews, direct observations, and an analysis of relevant publicly available documents. To ensure the integrity of the data, I adhered to rigorous ethical standards throughout the research process. Additionally, I thoroughly familiarized myself with the ethical guidelines governing research involving human participants to uphold the highest levels of moral responsibility.

While selecting participants for this study, I ensured a cohort of qualified and experienced business incubation managers with the requisite skills and expertise to mentor startups into full-grown business ventures within Nigeria's entrepreneurial ecosystem over the past five years. This rigorous selection process aligns closely with the ethical imperatives outlined in the Belmont Report, which serves as a cornerstone for moral and ethical guidance throughout this research endeavor. The Belmont Report delineates research protocol and principles across three fundamental categories: Respect, emphasizing the importance of honoring participants' opinions and choices; Beneficence, which mandates that researchers prioritize the care, protection, and defense of research subjects from potential risks; and Justice, ensuring equity and fairness in participant selection and treatment (Nagai et al., 2022). Furthermore, the report provides ethical guidelines for securing voluntary consent from participants before their involvement in research, safeguarding their privacy, identity, and the information they volunteer (Pritchard, 2021). By adhering strictly to the principles of respect, beneficence, and justice delineated in the Belmont Report, I safeguard the rights and well-being of research participants at every stage of the study.

I obtained approval from Walden University's Institutional Review Board (IRB) before commencing the data collection process (11-14-24-1168162). I adhered to Walden University guidelines, treating human subjects in research with the utmost respect and autonomy. Recognizing the importance of informed consent, I ensured that participants were adequately informed about the research procedures, potential risks, and anticipated benefits. Moreover, I informed the participants that their participation in this study is voluntary, with the freedom to withdraw from the study at any juncture without prejudice. By fostering an environment of transparency and respect, I upheld the ethical principles of autonomy and beneficence in my treatment of research subjects. Participants were selected based on principles of equality and fairness, with a clear delineation of their rights and responsibilities. I refrained from leveraging my position or offering inducements to elicit participation, ensuring that participants engage in the study driven solely by their interest in contributing to knowledge and effecting positive change within the realm of business incubation in Nigeria.

I ensured the highest ethical standards in my research by adhering to a rigorous ethical framework throughout the data collection process, thereby safeguarding the study's integrity and credibility. I primarily used interviews to collect participant insights, allowing them to openly share their experiences, expertise, and perspectives on the research topic. I avoided potential bias by carefully designing the interview questions to prompt authentic and honest responses without steering participants toward any predetermined conclusions. This meticulous approach mitigated the risk of bias and enhanced the reliability of the data collected. I ensured that the qualitative findings of this

research are credible and trustworthy by consistently upholding principles of data integrity and validity, thereby contributing valuable and ethical insights to the academic community.

Moreover, I ensured ethical compliance and respect for participant autonomy by explaining the withdrawal process in the research and effectively presenting it to all participants. I informed the participants that their involvement in the study was voluntary and that they could withdraw from participation without facing any repercussions. In addition, I streamlined the withdrawal process by providing participants with a straightforward and efficient means of notifying me of their choice, such as via email or phone call. Upon withdrawal, I erased the participant data obtained up to that point, based on their preference, to uphold their privacy and maintain confidentiality.

I adhered to ethical principles and safeguarded the rights of participants by employing rigorous procedures throughout the research process. I ensured that all participants were provided informed consent, including comprehensive information on the study's objectives, potential risks and benefits, confidentiality measures, and the process for withdrawing consent. I protected participants' confidentiality in the research document by excluding identifiable information to ensure anonymity. Additionally, I ensured the secure storage of the acquired data in a password-protected electronic format. I shall save all the data gathered for 5 years after the study's conclusion to safeguard the rights of the participants and aid any potential future investigations.

Nature of the Project

I adopted the qualitative method to address my research question. Qualitative research facilitates deeper exploration, description, and understanding of contextual phenomena (Islam & Aldaihani, 2021). This approach is appropriate for my study because I seek to explore, describe, and understand a phenomenon within a specific setting. Moreover, qualitative research is more effective for capturing information regarding human experiences, behaviors, attitudes, and emotions from the population of interest (Lamb et al., 2021). Using the qualitative method enabled me to describe, interpret, and understand the strategic approaches business incubator managers employ to enhance sustainable competitive advantages for startups in Nigeria.

My research design is a pragmatic inquiry that focuses on individual decision-makers' approaches to addressing a real-world problem. A pragmatic qualitative analysis, according to Ramanadhan et al. (2021), is a strategic combination of elements from well-established qualitative approaches to meet the analytical needs of a study. This design facilitates research for deeper exploration of real-world problems. I employed a pragmatic inquiry design for this research since my study focused on individual decision-makers with successful experiences in business incubation.

Population, Sampling, and Participants

The targeted population comprises business incubator managers in Nigeria who have successfully incubated and mentored startup businesses, enabling them to sustain their operations for over five years. The metrics for assessing eligibility and selecting qualified study participants who can provide accurate and unbiased responses to the

research questions must be purposefully outlined (Rainer & Wohlin, 2022). The participant eligibility criteria for this study include (a) being a business incubator manager, (b) being located in Nigeria, and (c) having more than five years of experience. Applying eligibility criteria to determine participation in a qualitative study increases the likelihood of obtaining rich and comprehensive data that meaningfully addresses the research question.

The primary focus of this study is on business incubator managers located in Nigeria, specifically in the prominent startup ecosystems of Lagos. The Nigerian Startup Ecosystem Report revealed that more than 459 startups exist in Lagos, Abuja, and Ibadan (Mulligan & Jackson, 2022). Therefore, the active and robust entrepreneurial ecosystems of Lagos, Abuja, and Ibadan justify the selection of business incubation managers, who provide an appropriate framework for analyzing these managers' strategies and experiences. Purposive sampling was used to select six participants from the target population. Purposive sampling involves carefully selecting participants who can provide enhanced data to answer the research question (Johnson et al., 2020). Semistructured interviews with participants were conducted to achieve data saturation, ensuring that all essential themes were accurately captured and represented. Data saturation is the stage in a research process where the researcher gathers sufficient data to draw necessary conclusions (Alam, 2020). At this point, collecting additional data will not yield any further valuable insights.

I gained access to diverse and experienced participants who met the study's selection criteria on LinkedIn, Facebook, and Instagram. Utilizing professional

associations, online forums, and social media groups is an effective strategy for gaining access to participants, given the existing levels of connection between the researcher and the participant population (Sledzieski et al., 2023). I employed several strategies to establish a working relationship with participants, including sharing information about the research project, explaining the process for informed consent, and helping them prepare for the interview by referring to the interview protocol. Establishing a productive working relationship with research participants begins with transparent communication and mutual respect (Liu et al., 2022). I established trust with the participants by providing thorough and detailed information about the research project, including its purpose, methodology, potential implications, and their right to withdraw from the study. Clear explanations of the informed consent process ensure that participants understand their rights, the voluntary nature of their participation, and any potential risks and benefits associated with it. I also helped each participant prepare for the interview by providing an overview of the interview protocol, discussing the topics to be covered, and addressing any questions or concerns they may have had. These strategies prioritized the ethical conduct of the study and contributed to a collaborative and respectful relationship with participants.

Data Collection

As the researcher, my responsibility is to collect data methodically and appropriately to answer the research question underpinning my study. For this research, I utilized data collection instruments and sources that included (a) semistructured interviews with a sample of business incubator managers who have effectively devised

and executed startup strategies in Nigeria, (b) government documents such as the performance metrics of startups, (c) training manuals, and (d) public records such as participant success rates and feedback. Qualitative research involves the researcher being the primary tool, and the researcher's position and perspective influence the research process, the findings, and the overall outcomes (Darwin Holmes, 2020). However, I ensured that my observations and interactions with the participants did not influence the characteristics of the data. The effectiveness of the data collected through qualitative interviews relies on the researcher's expertise and the quality of the interview questions (Roberts, 2020).

Qualitative interviews are broadly categorized into three formats: structured, unstructured, and semistructured, each with distinct characteristics. Structured interviews adhere to a rigid protocol, limiting researchers' ability to probe beyond predefined questions. While this approach ensures consistency, it may restrict the depth of responses. On the other hand, unstructured interviews involve free-flowing conversations without a predefined format or written questions, offering flexibility but potentially lacking focus and alignment with research objectives (Buys et al., 2022). Semistructured interviews strike a balance between structure and flexibility by incorporating a prepared list of questions alongside the opportunity to explore participants' responses more deeply through probing (Hwang et al., 2022). This approach is advantageous for gaining rich, detailed insights while aligning with the research objectives. Despite their benefits, semistructured interviews require researchers to remain vigilant against potential biases during data collection and analysis (Wingate & Bourdage, 2024). Moreover, they demand

a thorough understanding of the research context and objectives, as well as meticulous attention to detail during transcription and data interpretation. Given these considerations, the semistructured interview format is well-suited for my research. It enables the collection of comprehensive data, providing the flexibility to explore key themes and uncover insights that might not emerge through unstructured approaches.

A semistructured interview, consisting of open-ended questions, is a suitable method for this study as it facilitates the collection of valuable and reliable data from business incubation managers regarding crucial aspects of their effective strategies. A semistructured interview with open-ended questions allows the interviewee to express their thoughts uninterrupted (Naz et al., 2022; Peel, 2020). I formulated robust questions for a semistructured interview to guide the conversation effectively while allowing me to explore in-depth insights and gather relevant data. I managed every aspect of the research process, unbiased and equitably, to obtain accurate results and establish a solid conclusion. This approach enables the participants to freely express their unique viewpoints on the interview questions, allowing me to obtain extensive information from the participants' perspective, encompassing personal sentiments, emotions, and thoughts, while minimizing self-restraint

Furthermore, I developed an interview protocol that outlines the key components and steps involved in the interview process, ensuring consistency, focus, and alignment with the research objectives. Creating an interview protocol and incorporating potential follow-up questions facilitates information sharing, helping researchers stay focused (Roberts, 2020; Yin, 2018). My interview process consists of an opening statement, a

series of interview questions and prompts for probing, and additional follow-up questions. The interview protocol, presented in the Appendix, was discussed with each participant in my study. Additionally, I enhanced the reliability and validity of my data collection process by using audio recordings throughout the interviews, with the participants' consent, and documenting noteworthy comments in written form.

I conducted follow-up interviews with the participants to review the interview transcript and my notes, confirming the accuracy of my interpretation of the information they shared. After conducting the interview, researchers should set aside time for reflection and documentation of their interview experience (Leahy, 2021). Furthermore, I employed triangulation to examine the data collected from numerous participants in my study, drawing on the works of Singh et al. (2021) and Yin (2018). I allocated significant time to collect high-quality data from six participants through semistructured interviews, as well as government documents and public artifacts. I implemented these methods to enhance the validity and credibility of the study's results, as I recognize that insufficient or inaccurate data can compromise the validity of the study findings.

Interview Questions

I used semistructured interviews to collect the data. The interview questions include the following:

1. What strategies do you use to help startups identify markets to enter where they can establish a competitive advantage?
2. What business support strategies have you used to help startups build a competitive advantage?

3. How have you helped them sustain that advantage?
4. What criteria do you use to match startups with resources that can enhance their competitive positioning in the market?
5. What technologies have you leveraged to help startups create a competitive edge?
6. How do you leverage networks to help startups create strategic advantages?
7. How do you leverage partnerships to help startups create strategic advantages?
8. How have you helped startups integrate environmentally sustainable practices to establish a competitive advantage?
9. What challenges do you think startups in Nigeria will face in the future, and how will you adjust your strategies?
10. What else can you share about the strategies you use to help startups build and maintain a sustainable competitive advantage?

Data Organization and Analysis Techniques

Effective methodologies for gathering, organizing, and protecting data are crucial in qualitative research to maintain ethical standards (Khan & MacEachen, 2022). I implemented a comprehensive strategy to ensure the security and organization of the data collected from participants. To ensure confidentiality, I stored the raw data securely with password-protected audio and text files. Furthermore, I actively incorporated reflexivity into every stage of my research process. Personal reflexivity requires researchers to actively engage in introspection and clarify their expectations, assumptions, and subconscious responses to participants (Olmos-Vega et al., 2022). I consistently addressed my reflexivity by using notebooks to capture reflections and observations,

systematically documenting essential findings as they occurred. This strategy enabled me to manage and synthesize the collected data accurately without interference. Moreover, it enabled tracking emerging patterns, themes, and insights while ensuring transparency and accountability throughout the research process.

Furthermore, I used a thematic analysis approach to analyze the data collected through semistructured interviews. The thematic analysis enables researchers to identify and explore recurring patterns or themes within the data (Kiger & Varpio, 2020). This process aligns with my purpose to identify and understand the effective competitive strategies that the participants engaged. Thematic analysis is a qualitative approach to data analysis, in which identifiable patterns within a given dataset are identified, reported, and subsequently interpreted in terms of their intrinsic significance (Naeem et al., 2023). I employed the steps of thematic analysis suggested by Naeem et al. (2023). These steps include preparing and organizing the data, transcribing the data, becoming familiar with the data, selecting keywords, coding the data, producing categories and themes from underlying coded passages, and making the analysis process transparent.

The first step in the data analysis process was to organize all audio-recorded interview files and place them in one folder. Furthermore, observational notes and publicly accessible documents were converted to Microsoft Word format to maintain consistency and accessibility for analysis. According to Naeem et al. (2023), verbatim transcripts are standard in capturing every utterance from the participant. In the third step, the transcripts were reviewed and re-read, along with the audio recordings, to gain an in-depth understanding of the participants' ideas and experiences as documented in the

interviews, observation notes, and supporting documents. The fourth step involved extracting keywords from emergent data, while considering any biases that might impact data interpretation. During the fifth step, initial codes were generated using a color-coding scheme and descriptive labels to categorize related data segments. The sixth phase involved organizing these codes into categories and subthemes based on trends, similarities, differences, and interrelationships among the data. Each subtheme segment was then categorized into a major theme. The seventh step involved analyzing and refining the themes, as well as interpreting the findings, to create the final report. Finally, steps were taken to ensure transparency throughout the analysis by explicitly documenting each stage.

Reliability and Validity

Reliability and validity are essential factors in establishing the credibility and trustworthiness of qualitative research (William, 2024). Reliability and validity are crucial criteria for evaluating the integrity and credibility of study results. A qualitative researcher should incorporate reliability and validity procedures throughout the research process (Rose & Johnson, 2020). To ensure credibility and trustworthiness in my study, I included the concepts of reliability and validity at every stage of the research process. The process began with formulating the research question and selecting an appropriate research method and design. A sufficient sample size was used, and qualified participants were purposefully selected. High-quality data were collected and rigorously analyzed to ensure accurate interpretation and enhance the reliability of the results. By following the

principles highlighted by Rose and Johnson (2020), this study established solid reliability and validity for its findings, ensuring the replicability of the results.

Reliability

Reliability in qualitative research emphasizes the reliability of the data collection process, ensuring that the results are stable and consistent throughout multiple applications of the approach (Rose & Johnson, 2020). To ensure the reliability of my research, I employed various strategies, including triangulation, which involves using different data sources to support and verify my conclusions. Additionally, I conducted member checking by revisiting the participants to validate the correctness and interpretation of the findings. Also, I implemented an audit trail by meticulously documenting my research process, encompassing data collection, analysis, and decision-making, to ensure transparency and accountability. Finally, I provided solid descriptions to offer readers a comprehensive and complete account of the research background, participants, and conclusions, enabling them to evaluate the credibility and validity of the results.

Validity

The validity of qualitative research refers to the degree to which a study fulfills the four criteria used to assess a study's trustworthiness: credibility, transferability, dependability, and confirmability (Sabnis & Wolgemuth, 2023). Data triangulation was employed to cross-check information from multiple sources, including interview transcripts, observation notes, and other relevant documents, thereby enhancing the

credibility of the research and increasing confidence in the findings. The transcripts of participants' responses were thoroughly examined to ensure their accuracy.

Moreover, member checking was conducted to validate the data interpretation, ensuring that the findings accurately reflected the participants' intended meanings and experiences. By checking members, researchers can verify that their account accurately reflects the participants' actual experiences (Motulsky, 2021). To ensure the transferability of the research findings, data were collected utilizing a standardized interview procedure that maintained consistency across participants. The data analysis processes were diligently recorded to provide a clear and comprehensive explanation of each step, allowing future researchers to examine the relevance of the findings to similar environments. Transferability refers to the extent to which researchers can apply qualitative research findings to other settings or contexts involving different participants (Tuval-Mashiach, 2021). Providing adequate details on the site, participants, and the procedures I used to collect the study data strengthened the transferability of the findings of this study to different settings or contexts.

Furthermore, I established an audit trail to ensure confirmability by meticulously documenting every step of my data gathering, analysis, and interpretation. Confirmability refers to the extent to which the participants' perspectives and the data influence the outcomes of a qualitative study, rather than the researcher's perspectives or personal biases (Johnson et al., 2020). I reflected on my background, beliefs, and expectations, and how they might influence my engagements with the participants, their understanding of the data, and their interpretation of my findings. Moreover, I ensured data saturation and

triangulated the data sources. According to Hennink and Kaiser (2022), achieving data saturation can enhance the credibility, transferability, and confirmability of the findings of a qualitative study.

Transition and Summary

Section 3 describes the research methodology, including ethical issues, study design, data collection, analytic methodologies, and processes for ensuring reliability and validity. Section 4 presents a comprehensive discussion of the research findings, followed by a critical examination of their implications for business practice, potential social implications, and future research directions.

Section 4: Findings and Conclusions

The purpose of this qualitative, pragmatic inquiry study was to identify the effective strategies that some business incubator managers use to prepare startups for a sustainable competitive advantage in Nigeria. The participants were six experienced business incubator managers who had successfully implemented strategies to enhance the long-term competitiveness of Nigerian startups. Data were gathered through semistructured interviews and publicly accessible documentary data. Thematic analysis followed Yin's five-phase process: compiling, disassembling, reassembling, interpreting, and concluding to examine the data (Yin, 2018). Six major themes were identified: (a) market identification for strategic positioning, (b) enhancing business support for capacity building, (c) resource allocation for ecosystem integration, (d) technology adoption for competitive advantage, (e) sustaining long-term competitiveness, and (f) strategic adjustment to overcome challenges. The triangulation of interview data with documentary sources enhances the reliability and breadth of the findings. The RBV theory and P5F framework explained how participants formulated strategies to develop a sustainable competitive advantage for startups.

Presentation of the Findings

The research question was: What effective strategies do business incubator managers use to prepare startups for sustainable competitive advantage in Nigeria? The data for this project were gathered through semistructured interviews with six business incubator managers who have implemented effective strategies to help startups establish a sustainable competitive advantage within the Nigerian startup ecosystem. To acquire a

contextualized understanding of the participants' experiences and challenges, they were asked 10 open-ended questions to gather insights and establish genuine and transparent conversations. Participants were assigned numerical identifiers to safeguard their identities and ensure the confidentiality of their responses. Participants were designated as P1, P2, P3, P4, P5, P6, while specific locations were masked. The participants were six business incubator managers who met the inclusion criteria and were selected using a purposive sampling process. Participants' years of experience ranged from 6 to 14, and their educational backgrounds spanned from bachelor's to master's degrees. The participants provided services to startups in various sectors, including fintech, retail, education, health, logistics, and agriculture (see Table 2).

Table 2

Participants Demographics

Participant ID	Level of education	Industry focus	Years of experience
P1	Master's degree	Multisector	14
P2	Bachelor's degree	Fintech, retail, edtech, and agribusiness	8
P3	Master's degree	Fintech, logistics, edtech, health, and e-commerce	7
P4	Bachelor's degree	Multisectors	10
P5	Bachelor's degree	Fintech, logistics, retail, agribusiness, and edtech	6
P6	Master's degree	Multisector	12

Member checking was conducted with each participant via email to ensure that their perspectives were accurately captured. All the participants responded positively to

emails for member checking, ensuring the accuracy and credibility of the data. After reviewing the interview recordings and notes, I determined that data saturation had occurred and proceeded with the thematic analysis of the data. The recorded interviews were transcribed using NVivo 15 qualitative coding software to identify similar words and phrases. I then manually reviewed the data to ensure accuracy and identify themes. This word frequency analysis resulted in the identification of 24 initial subthemes. The subthemes were examined, revised, and aggregated into six major themes that reflect the primary strategies employed by incubator managers to develop long-term competitive advantage for startups. These themes offered insights into how startups can navigate a challenging business climate while maintaining long-term sustainability. Each theme comprised four subthemes that concentrated on the incubator manager's specific strategies.

The first theme, market identification for strategic positioning, represents all the codes that emphasize how startups differentiate themselves by identifying market opportunities. The second theme, enhancing business support for capacity building, emphasizes personalized mentoring, sector-specific training, and strategic business planning to support the growth of startups. The third theme, resource allocation for ecosystem integration, captured how startups utilize industry partnerships, specialized skills, and technological resources to establish a solid competitive foundation. The fourth theme, technology adoption for competitive advantage, emphasizes innovation to improve efficiency, scalability, and customer engagement. The fifth theme, sustaining long-term competitiveness, focuses on achieving long-term success through

environmental responsibility, social impact, and adaptive strategies. Finally, the sixth theme, strategic adjustment to overcome challenges, highlights how startups utilize adaptive risk management to mitigate infrastructure gaps, regulatory impediments, talent shortages, and market volatility. These themes offer a comprehensive understanding of the effective strategies that business incubator managers employ to prepare startups for long-term success in Nigeria's dynamic economic environment. Table 3, Figure 1, and Figure 2 detail the number of participant references to each theme.

Table 3

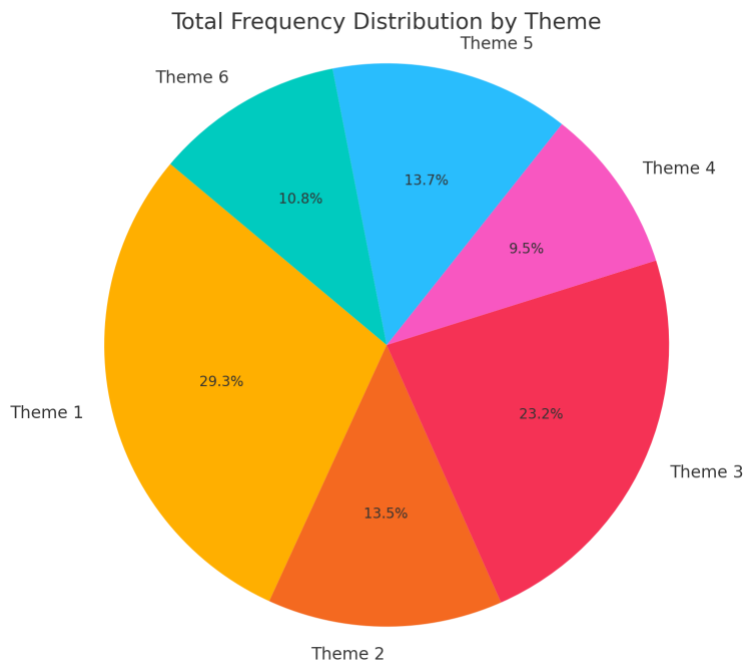
Number of References Per Theme

Themes	# references	Percentage
Market identification for strategic positioning	111	29.6%
Enhancing business support for capacity building	51	10.9%
Resource allocation for ecosystem integration	88	20.7%
Technology adoption for competitive advantage	36	11.5%
Sustaining long-term competitiveness	32	14.2%
Strategic adjustment to overcome challenges	41	13.1%

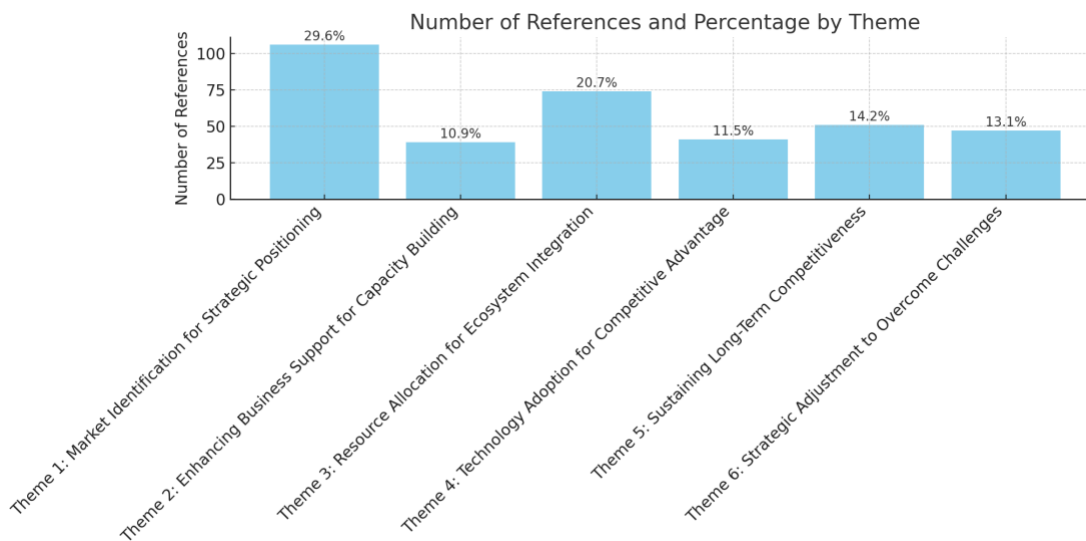
Note. n = 6

Figure 1

Pie Chart of the Number of References per Theme

**Figure 2**

Bar Chart of the Number of References and Percentage by Theme



Publicly Available Document Analysis

Document analysis is a systematic method of reviewing and evaluating documents (Moilanen et al., 2022). To enhance the credibility and depth of the research findings, I incorporated publicly available documentary materials to validate and triangulate the six major themes identified through a thematic analysis of the interview data. The selected documents were from reputable organizations, including PwC, Startup Genome, the Japan International Cooperation Agency (JICA), and Disrupt Africa. These documents provided macro-level insights into Nigeria's entrepreneurial ecosystem, contributing external validation and contextual support to the participants' perspectives. The documents were subjected to a structured content analysis following Bowen's (2009) process, and the data were analyzed to identify essential strategies, challenges, and initiatives consistent with the interview findings. The coding method followed the same thematic framework developed during the interview to ensure consistent analysis.

Furthermore, I employed methodological triangulation, as described by Denzin (1978), by combining documentary and primary interview data. The triangulation method included validating emerging themes by comparing interview themes to the documentary data. The documents provided secondary data to complement and validate the interview findings (see Table 4).

Table 4

Documentary Data Source Matrix (D1–D5)

Document code	Document title/source	Key relevance to study themes
D1	Disrupt Africa Tech Startups Funding Report	Provides funding patterns and sectoral dominance (e.g., fintech, mobility);

	2024 (Disrupt Africa, 2024)	highlights role of incubation in funding success and startup resilience
D2	Japan International Cooperation Agency (JICA) Ecosystem Report 2022 (JICA, 2022)	Details programs like iHatch and NINJA that support strategic incubation, sectoral innovation, and regional expansion; promotes cross-border mentorship and funding
D3	PwC Nigeria MSME Survey 2024 (PWC, 2024)	Analyzes MSME challenges in infrastructure, financing, regulation, and digital adoption; reinforces incubator-led support in addressing these issues
D4	PwC Nigeria Startup Act 2022 (PWC, 2022)	Outlines national startup policy, regulatory frameworks, tax reliefs, and institutional incubation strategies aimed at enabling sustainable startup growth
D5	Startup Genome Global Startup Ecosystem Report 2023 (Startup Genome, 2023)	Benchmark analysis of Lagos startup ecosystem; highlights funding trends, public-private partnerships, and innovation hubs supporting sustainable competitiveness

Theme 1: Market Identification for Strategic Positioning

This first major theme, market identification for strategic positioning, addressed the central research question by highlighting the strategies employed by participants to help startups identify the most profitable and viable market segments for effective positioning. Incubators play a crucial role in guiding startups to understand market dynamics, consumer behavior, and competition (Awonuga et al., 2024; Ravichandran & Dixit, 2024). This support is crucial for Nigerian startups in navigating a constantly evolving business landscape, where access to market knowledge and strategic insights can influence their long-term sustainability and competitive advantage. Startups require a well-defined market identification strategy to gain a competitive edge (Joshua et al., 2024), particularly in dynamic business environments such as Nigeria. By identifying key market opportunities and aligning startups' offerings with these demands, incubators

enable businesses to carve out a unique position in the market (Paoloni & Modaffari, 2021). This strategic positioning enables startups to stand out, attract their target audience, and differentiate themselves from competitors, thereby enhancing their sustainable competitive advantage.

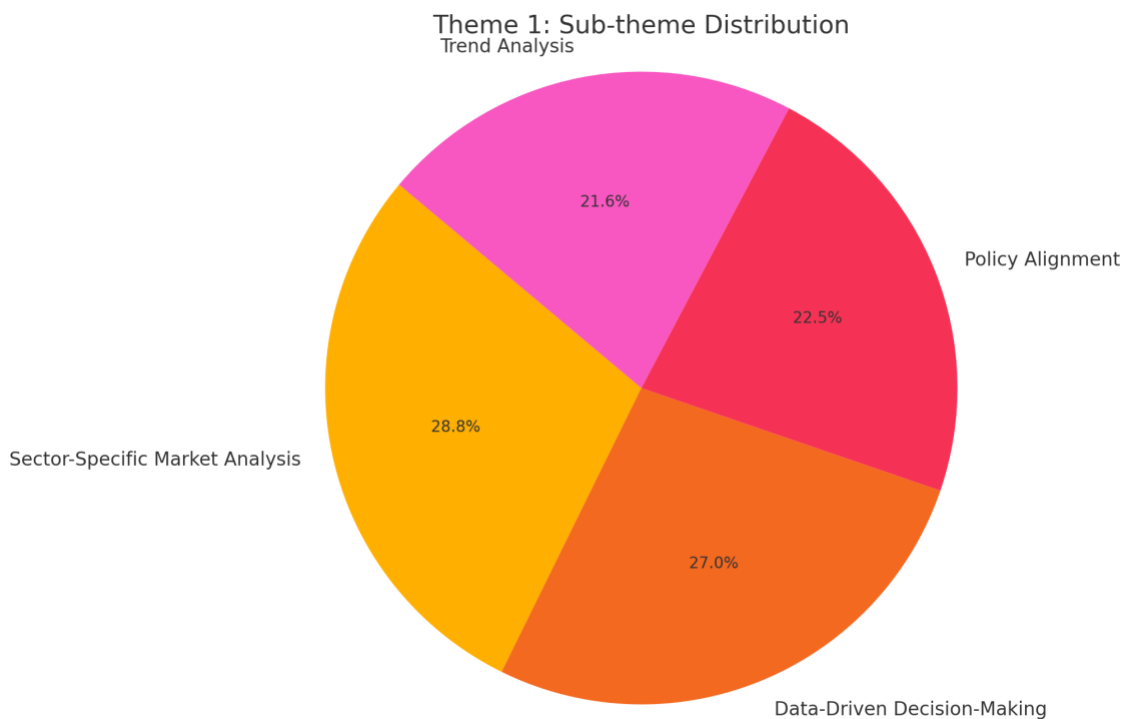
Furthermore, market identification allows startups to adapt and respond to the changing demands and trends in Nigeria's entrepreneurial landscape. Incubators help startups stay attuned to shifts in consumer preferences, technological advancements, and regulatory changes, enabling them to pivot or fine-tune their business models when necessary (Habiburrahman et al., 2022). This proactive approach to market positioning ensures that startups remain relevant and competitive, even as external factors evolve. By fostering a deep understanding of market needs and competition, this strategy equips startups with the insights they need to make informed decisions and sustain long-term growth.

This theme combined four subthemes: sector-specific market analysis, data-driven decision-making, policy alignment, and trend analysis. These subthemes categorize various codes that describe participants' strategies that help startups identify, assess, and penetrate markets effectively. Each subtheme highlights a different facet of market identification, demonstrating how incubators tailor their strategy based on industry trends, geographic conditions, and policy landscapes. The word frequency analysis of the interview transcript and public document data generated the subthemes (see Table 5 and Figure 3).

Table 5*Frequency of Codes Supporting Subtheme 1*

Theme	Number of references	Percentage
Sector-specific market analysis	32	28.8%
Data-driven decision making	30	27.0%
Policy alignment	25	22.5%
Trend analysis	24	21.6%

Note. $n = 6$

Figure 3*Pie Chart of the Number of References per Subtheme 1****Sector-Specific Market Analysis***

All six participants referred to this subtheme, making it one of the most frequently emphasized elements under Theme 1. Participants highlighted their strategies to align startups with high-growth industries and government-prioritized sectors. Recognizing

that targeting specific industries, such as fintech, agribusiness, and healthcare, enhances startups' likelihood of achieving sustainable competitive advantage. P1 highlighted that their incubator employs market research and segmentation analysis to assist startups in identifying market gaps and competitive advantages, emphasizing sector-specific characteristics and consumer needs to guide strategic entrance decisions. P2 indicated that they offer sector-specific market research tailored to startups, focusing on population size, market stability, and product demand. This research guides startups toward categories with significant development potential in the Nigerian market. Similarly, P3 strategically focused on government-backed sectors, utilizing policy analysis and regulatory alignment to help startups secure contracts and funding in the agribusiness, education, and healthcare sectors.

Moreover, P4 customized strategies are based on regional economic strengths, identifying Lagos as a hub for fintech and e-commerce, Ibadan as a center for agribusiness and retail, and Abuja as a stronghold for government-aligned enterprises. Based on regional economic dynamics, P4 recommended technology-oriented industries in Lagos, agribusiness and retail in Ibadan, and high-end service sectors in Abuja. P5 indicated that he collaborates with universities and NGOs to gather sector-specific market data. This helps startups identify underrepresented markets and specific industries with significant social and economic impact potential. P6 highlighted that she employs a sector-specific approach by evaluating the requirements of startups in the fintech, logistics, healthcare, agriculture, real estate, and tourism sectors.

The response provided by P6 revealed that implementing a sector-specific approach enables startups to gain a competitive advantage by better understanding their target market. She further explained that her organization offers cross-sector support to startups; for example, they provide compliance and cybersecurity support to fintech startups, support agricultural technology startups in gaining access to export networks, and guide health-tech startups in accessing telemedicine partnerships. These targeted strategies illustrate how incubators serve as catalysts, bridging startups with industries that offer the most strategic opportunities for growth and stability.

Overall, all the participants demonstrated that sector-specific market analysis is not merely about industry selection but also about leveraging specialized knowledge, market intelligence, and partnership networks to ensure startups establish a strong competitive foothold. By employing a sector-specific market analysis strategy, participants help startups position themselves in industries where they can leverage competitive advantages, regulatory incentives, and sector-specific growth trends. These participants' approach to market identification underscores the role of business incubators in equipping startups with the necessary tools to sustain their business and gain a competitive edge.

Data-Driven Decision Making

A data-driven approach to decision-making is fundamental in ensuring that startups assess market demand, risk factors, and long-term viability before committing resources (Edet et al., 2024). All participants illustrated how incubators leverage analytical tools and market intelligence frameworks to guide startups in navigating

competitive landscapes. P1 discussed the execution of the P5F framework to assess competitive pressures, industry attractiveness, and startup positioning, ensuring that entrepreneurs understand their relative strengths and weaknesses before entering the market. Similarly, P2 utilized market stability assessments to evaluate a sector's long-term feasibility, reducing the likelihood of startups entering volatile or unsustainable industries. P3 explained that she utilized market mapping data from governmental departments and organizations to give startups evidence-based insights into emerging market opportunities. These structured approaches enable incubators to provide startups with quantifiable insights, allowing them to anticipate market shifts, optimize business models, and align their strategies with industry demands and regulatory trends.

Moreover, data-driven decision-making extends beyond internal business strategy to encompass broader ecosystem intelligence, enabling startups to identify and capitalize on emerging opportunities (Voorneveld & de Groot, 2024). P4 emphasized that he conducts comprehensive market research and competitor analysis to provide startups with data-driven insights into customer behavior and regional market dynamics, ensuring that decisions are informed by solid knowledge. P5 discussed collaborating with universities and NGOs to leverage academic research and grassroots insights on emerging market trends and underserved communities. P5's partnership-driven approach aimed to ensure that startups responded to current market needs and aligned with evolving socioeconomic demands, particularly in the agribusiness, fintech, and healthcare sectors. By integrating data analytics, consumer insights, and strategic modeling, incubators reduce uncertainty, enhance market entry strategies, and foster a culture of evidence-based entrepreneurship

(Font-Cot et al., 2025). The participants demonstrated that leveraging market intelligence and predictive analysis is crucial to enhancing startup resilience, investment viability, and long-term scalability, underscoring the importance of structured, data-driven decision-making processes within incubation programs.

Policy Alignment

Policy alignment is critical for startups seeking a sustainable competitive advantage in diverse economic and regulatory environments (Martins de Souza et al., 2024). Five participants discussed how they facilitate startups' adaptation to policy and regulatory compliance. P2 explained that their market research approach involves examining market stability and government policies to ensure that startup business ideas comply with regulatory requirements and are responsive to policy changes. P3 mentioned strategically aligning startups with political and economic priorities, which enables her organization to leverage government contracts, regulatory incentives, and funding opportunities. This targeted approach ensures that startups operating in a specific location integrate with public-sector initiatives and policy-driven markets, thereby enhancing their chances of securing governmental support. Similarly, P4 mentioned customized market strategies based on city-specific characteristics, recognizing Lagos as a tech-driven hub, Ibadan as a center for affordable retail and agribusiness, and Abuja as a premium market aligned with government priorities. This differentiation enables startups to maximize their competitive edge by tailoring their offerings to each region's specific regulations and consumer dynamics. Beyond market differentiation, regulatory compliance and

policy engagement are crucial for startups in highly regulated industries (Berniak-Woźny et al., 2025).

Furthermore, P5 indicated that they help startups understand regulatory policies and encourage collaboration with NGOs that push for a more business-friendly regulatory environment, assisting startups in adapting to and meeting policy requirements. P6 mentioned how she supported startups in fintech, healthcare, and logistics by fostering collaborations with regulatory bodies and ensuring adherence to sector-specific compliance requirements. This proactive approach mitigates legal risks and operational bottlenecks, allowing startups to navigate complex policy landscapes effectively. By embedding policy awareness and regulatory adaptability into their strategic planning, incubators enable startups to position themselves favorably within industry frameworks while advocating for business-friendly reforms. Collectively, P1–P6 insights illustrate how policy alignment enhances market positioning, fosters government-industry synergies, and optimizes startup sustainability, reinforcing the incubators' role as strategic enablers of location-specific business success.

Trend Analysis

Trend analysis is a strategic necessity for startups, enabling them to identify emerging opportunities, mitigate risks, and maintain a competitive edge in dynamic and rapidly evolving market environments (Kongrode et al., 2023). Incubators play a crucial role in equipping startups with market intelligence tools to anticipate industry shifts and strategically position their offerings (Akpoviroro et al., 2021). P1 highlighted competitive benchmarking, training startups to assess market gaps, emerging consumer demands, and

opportunities for differentiation. Leveraging comparative industry analysis allows startups to refine their value propositions, ensuring their products and services stand out in saturated markets. P2 emphasized that their approach to market identification incorporates dynamic market data and continuous monitoring of evolving market trends to guide startups' strategic decisions. P3 highlighted their utilization of policy research and market mapping to assist startups in forecasting trends and aligning with future market directions and social demands. P4 indicated that their strategies are driven by regional trend analysis, acknowledging unique market patterns in Lagos, Ibadan, and Abuja, and directing startups to capitalize on these trends to penetrate industries with growth potential.

Furthermore, P5 mentioned integrating academic research into market analysis, drawing on university-driven insights to track evolving industry trends and shifts in consumer behavior. P6 highlighted the implementation of sector-specific evaluations for startups in fintech, logistics, and agribusiness, ensuring they address critical issues and align their business models with industry needs. The knowledge-driven approach of P1–P6 indicated that they enable startups to align their innovations with empirical market data, reducing uncertainty and fostering evidence-based decision-making. Incubators facilitate market demand assessments to guide startups in navigating high-growth industries (Berniak-Woźny et al., 2025). These insights underscore how incubators empower startups to proactively adapt to market fluctuations, mitigate risks, and capitalize on new opportunities, thereby ensuring long-term sustainability in a competitive and evolving business landscape. For example, the study by Mustafa et al.

(2023) suggests that by analyzing fintech regulations and consumer adoption trends, startups can implement secure digital payment solutions that cater to financial inclusion initiatives. Similarly, logistics startups benefit from route optimization strategies, while agribusinesses leverage emerging technologies such as precision farming to enhance productivity (Chen et al., 2023).

Overall, the collective insights from all the participants revealed a deliberate application of sector-specific trend analysis as a strategic tool for enhancing startup competitiveness. The participants' approaches fundamentally align with Nigeria's dynamic market landscape. The P1–P6 response also suggests that trend analysis reduces market entry risks and improves startup sustainability and competitiveness. The participants' trend analysis strategies align with the RBV framework by emphasizing the application of sectoral knowledge as a unique and valuable resource in building competitive advantage. Each participant's approach reflects an in-depth understanding of Nigeria's entrepreneurial landscape, ensuring that startups' business models align with market identification for strategic positioning and economic opportunities. The following subtopic will address aligning Theme 1 with the conceptual framework.

Documentary Evidence for Theme 1

The review of publicly available documents confirmed the interview results for this theme. Market identification was not incidental, as indicated by participant responses; instead, it resulted from strategic foresight, ecosystem awareness, and alignment with government-prioritized sectors. The five documented sources (D1–D5) support the argument that good market identification is a fundamental component of

strategic incubation. The Disrupt Africa Funding Report (D1) confirms Nigeria's dominance in the fintech and mobility sectors, underscoring the efficacy of tailored incubator support in high-growth sectors. JICA's Idea Hatch (iHatch) and North East Startup Training (NEST) programs (D2) promote startups according to scalability and sectoral relevance, promoting regional diversification. The PwC 2024 MSME Survey (D3) identified geographic concentrations of MSMEs in Lagos, Abuja, Ibadan, Rivers, and Kano, corresponding with the localization of market-driven incubators. The Nigeria Startup Act (D4) enhances this by fostering digital innovation hubs and facilitating market access through the Startup Engagement Portal. The Startup Genome Report (D5) highlights Lagos' global standing, featuring over 4,000 startups, particularly in fintech and ed-tech, underscoring the importance of ecosystem-aligned market strategies.

These reports highlight the importance of regulatory alignment and context-specific market intelligence, thereby supporting the assertions of participants that market identification is crucial for effective strategic positioning. Incubation managers ensured that startups were strategically positioned to capitalize on economic opportunities and mitigate risks associated with market entry by utilizing sectoral expertise and ecosystem dynamics.

Alignment of Theme 1 With the Conceptual Framework

All the participants highlighted strategies that align with market identification and strategic positioning to achieve a competitive advantage. Theme 1 is consistent with the RBV theory and the P5F framework, which serve as the theoretical foundation for this study. The P5F framework highlights the need to evaluate the external forces of industry,

competitive rivalry, supplier bargaining power, buyer bargaining power, substitute threats, and new entrant threats to identify market positioning and maintain a competitive advantage (Porter, 1980). The RBV theory emphasizes leveraging the firm's unique VRIN resources to achieve long-term success (Wernerfelt, 1984). The P5F framework and the RBV theory emphasize the evaluation of internal capabilities and external forces, aligning with the participants' approach to strategically positioning startups in the market. All the participants elaborated on Theme 1 through four subthemes: sector-specific market analysis, data-driven decision-making, regional and policy alignment, and competitor and trend analysis.

The first subtheme, sector-specific market analysis, aligns with the RBV by enabling startups to leverage unique industry-specific resources for sustained competitive advantage while addressing P5F by identifying barriers to entry and industry rivalry. The second subtheme, data-driven decision-making, supports RBV by optimizing internal capabilities through strategic resource allocation and enhances P5F by strengthening a startup's bargaining power through informed market positioning. The third subtheme, regional and policy alignment, reinforces RBV by ensuring startups capitalize on location-based regulatory advantages and align with P5F by mitigating the threat of government intervention and regulatory barriers. The fourth subtheme, competitor and trend analysis, enhances RBV by helping firms develop unique capabilities based on market intelligence and fits within P5F by enabling startups to counter competitive pressures and anticipate industry shifts.

Alignment of Theme 1 With the Literature

As current academic research, market identification and strategic positioning are crucial for securing a lasting competitive advantage. One example of strategic market positioning for competitive advantage previously identified in the literature is the concentration of successful startups in Yaba, Nigeria, where they innovate, expand, and create opportunities for other businesses (Gómez et al., 2023). The success of the entrepreneurial ecosystem in Yaba, Nigeria, underscores the importance of strategic market positioning for achieving a competitive advantage. Startups that formulate effective strategies for identifying niche markets, market entry, competitive differentiation, and scalability planning, and remain aware of environmental changes, will be rewarded for their efforts (Furr & Eisenhardt, 2021).

Barney (1991) posits that firms can attain a competitive advantage through VRIN resources, a fundamental principle of the RBV theory. Companies that effectively utilize unique skills, including brand recognition, innovative technology, and strategic alliances, can distinguish themselves in the marketplace and sustain superior performance compared to their competitors (Jung & Jeong, 2021). Research by Ployhart (2021) on dynamic capacities suggests that organizations must continually adapt, restructure, and cultivate resources to address evolving market conditions, thereby emphasizing the importance of scaling planning in competitive strategy.

The PF5 framework remains relevant in evaluating market positioning by analyzing external factors of competition. Recent studies have highlighted that organizations performing environmental analyses of industry rivalry, supplier and buyer

power, the threat of substitutes, and barriers to entry are more effectively positioned to execute market entry strategies and achieve competitive differentiation (Burra & Ushadevi, 2022; Malhotra et al., 2024; Paksoy et al., 2023). Moreover, researchers argue that recognizing niche markets can provide companies with a sustainable competitive advantage, particularly in densely populated industries (Wellner & Lakotta, 2020). Recent academic studies suggest that organizations with precise strategic positioning, solid resource capabilities, and proactive industry analysis tend to outperform their competitors in terms of profitability and market share (AlTaweel & Al-Hawary, 2021; Arokodare & Asikhia, 2020; Jung & Jeong, 2021). The data collected from the participants confirms that strategic market positioning is crucial to long-term business success when aligned with internal resources and external industry dynamics.

Theme 2: Enhancing Business Support for Capacity Building

The second theme addressed the central research question by highlighting the strategies employed by participants to equip startups with the necessary skills, knowledge, and resources to scale their operations and enhance their long-term success. Incubators provide startups with the skills, networks, and infrastructure they need to overcome industry challenges and achieve long-term success (Assenova, 2020; Yani et al., 2024). In Nigeria's dynamic entrepreneurial landscape, where access to quality training and mentorship is often limited, incubators play a critical role in bridging this gap. Awonuga et al. (2024) highlighted the impact of incubators on startup success through their business support, such as financial management, leadership development, marketing strategies, and operational optimization. This foundation of skills enables

startups to strengthen their internal capabilities, making informed decisions, navigating challenges, and remaining competitive in a rapidly changing market.

Furthermore, capacity building fosters a culture of continuous learning and innovation within startups (Ahmad et al., 2024). By equipping startups with the tools and expertise to adapt to market trends and technological advancements, incubators ensure that startups are resilient and proactive in identifying new growth opportunities. In Nigeria, where economic and regulatory landscapes frequently evolve (Ajah, 2023), such capacity-building initiatives can help startups respond swiftly to external changes, maintaining their competitive edge. Ultimately, this strategy enhances startups' sustainability by fostering operational excellence, innovation, and leadership skills that are crucial for long-term success.

Theme 2 combines four subthemes: mentorship, regulatory compliance, workspace development, and investor readiness programs. These subthemes categorize the codes relating to how the participants helped improve the startup's operational efficiency, market positioning, and financial resilience. Participants discussed how their respective incubators use these strategies to empower startups, ensuring they are well-positioned for growth and sustainability. The word frequency analysis of the interview transcript and public document data generated the subthemes (see Table 6 and Figure 4).

Table 6

Frequency of Codes Supporting Subtheme 2

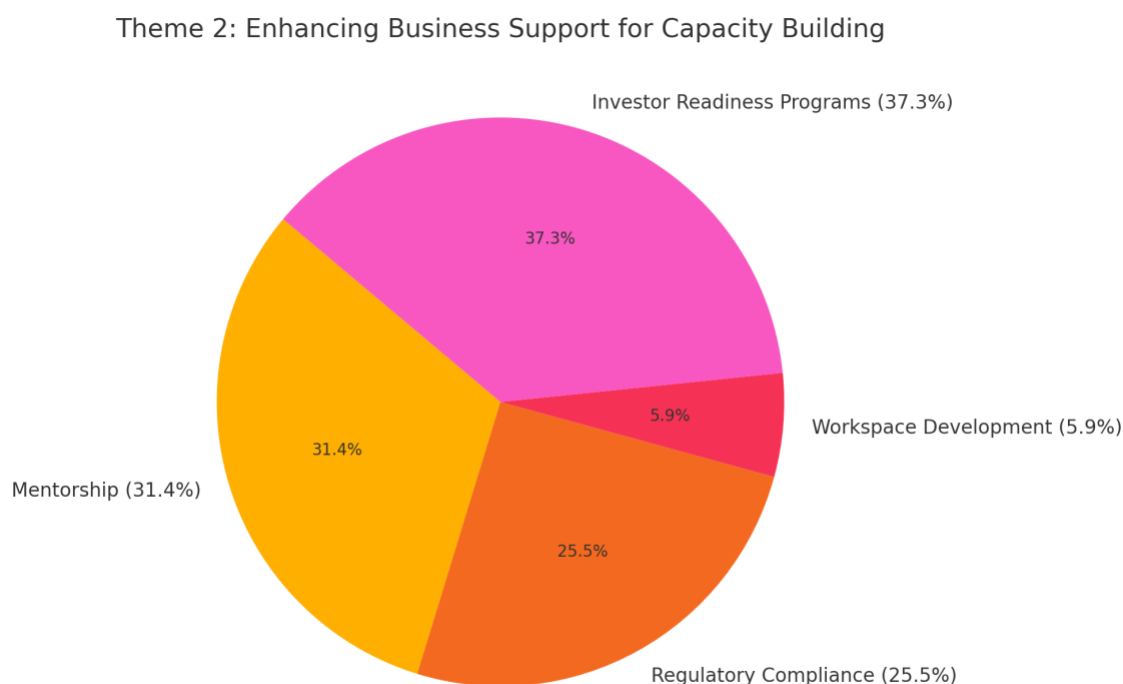
Theme	Number of references	Percentage
Mentorship	16	31.4%
Regulatory compliance	13	25.5%
Workspace development	3	5.9%

Investor readiness programs	19	37.3%
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Note. n = 6

Figure 4

Pie Chart of the Number of References per Subtheme 2



Mentorship

Mentorship plays a crucial role in equipping startups with the necessary skills and knowledge to navigate the complexities of their respective industries (Assenova, 2020). P1 indicated that they provide a customized mentorship program emphasizing product development, branding, customer relationship management, and specialty management to assist startups in creating value and maintaining a competitive edge. P2 stated that they offer tailored training and mentorship in alignment with each startup's product and market requirements, guaranteeing appropriate support that facilitates customer

acquisition and growth objectives. P3 explained that startups in their program benefit from specialized coaching provided by industry experts, which enhances operational efficiency, strategic planning, and financial management. P4 noted that as part of their comprehensive support strategy, they provide tailored mentorship to startups, ensuring they receive industry-specific advice and leadership development coaching to help them succeed. P5 indicated that they offer startups grassroots mentorship in conjunction with NGOs, assisting them in aligning their business strategy with local community needs and establishing socially responsible companies. P6 disclosed that they implement a sector-specific mentoring strategy. This approach involves providing fintech startups with guidance on regulatory compliance and cybersecurity, agribusiness startups with mentorship on advanced techniques, and retail startups with support on branding and market access strategies.

All participants' insights underscored the significance of tailored coaching and industry-specific training in fostering entrepreneurial success. Beyond technical expertise, incubator mentorship programs are a critical support mechanism for startup resilience and long-term competitiveness (Lamperti et al., 2023). The structured mentorship emphasized by P1–P6 fosters an ecosystem where entrepreneurs are technically proficient and equipped with the leadership acumen to drive sustainable business growth. For example, the leadership development initiatives of P1, P2, P3, and P4 help startups cultivate adaptive thinking and problem-solving skills for responding to market uncertainties.

Similarly, P5 and P6 mentorship includes compliance training, ensuring startups are well-versed in industry regulations and risk mitigation strategies. According to the study conducted by Yani et al. (2024), this alignment between mentorship and industry-specific challenges reduces the likelihood of early-stage business failures. It enhances startups' ability to secure investments and partnerships. P1–P6 strategies contributed to a knowledge-driven entrepreneurial ecosystem by incorporating formal training and mentorship into incubation programs, providing businesses with technical competence and strategic insights to drive innovation and grow effectively.

Regulatory Compliance

Regulatory compliance is crucial for startups, especially in highly regulated industries such as fintech, healthcare, and agribusiness, where legal and financial complexities can pose significant barriers to entry (Rupeika-Apoga & Wendt, 2022). P2 and P4 were pivotal in mitigating market entry challenges by offering structured guidance on compliance and financial literacy. P4 tailored its regulatory support to the distinct legal frameworks of Lagos, Ibadan, and Abuja, ensuring startups in these regions align with industry-specific policies, licensing requirements, and government incentives. The localized approach of P4 helped startups navigate jurisdictional differences, minimizing risks associated with noncompliance and regulatory uncertainties. Similarly, P2 prioritized financial literacy training, equipping entrepreneurs with the knowledge to manage cash flow, taxation obligations, and investment risks. The initiatives of P2 and P4 empowered startups to develop sound financial management practices, reducing vulnerability to regulatory penalties and economic instability.

Beyond mitigating legal risks, regulatory and compliance support enhances startups' long-term sustainability and access to growth opportunities (Wang & Chen, 2024). By ensuring adherence to government policies and industry regulations, P4 supported startups in securing government contracts and grants, expanding their market reach and credibility. For instance, fintech startups that receive compliance guidance can establish partnerships with financial institutions, while agribusiness startups can benefit from aligning with agricultural export policies. Similarly, P2's financial literacy training fosters investor confidence, and well-structured financial planning increases a startup's attractiveness to venture capital and microfinance institutions. The strategies of P2 and P4 align with the study conducted by Lange et al. (2023), which highlights the importance of establishing a structured regulatory compliance framework to mitigate operational risks and facilitate sustainable scaling for startups. The authors argued that aligning growth strategies with current legal requirements is crucial to preventing penalties, legal impediments, and trust issues, promoting long-term success. The compliance-driven strategies of P2 and P4 reduce regulatory burdens and position startups for scalable and sustainable growth by ensuring they operate within established legal and financial frameworks.

Workspace Development

Workspace development is crucial in fostering innovation, collaboration, and business scalability for startups. P1, P3, and P4 discussed how they supported startups by providing workspace development, while P2, P5, and P6 highlighted that workspace development is not their priority. P1 stated that they provide startups access to a

collaborative co-working environment, allowing them to interact, share ideas, and learn from firms operating in various sectors, fostering growth and innovation. P3 mentioned that they offer communal workspaces to startups as part of their capacity-building strategy. This enables startups to collaborate with peers and utilize shared resources.

Additionally, P3 supported co-working spaces and innovation hubs in Abuja, providing startups with a collaborative ecosystem where they can interact with industry professionals, share knowledge, and access government-backed resources. This approach facilitates networking and strategic positioning within key economic sectors, particularly in policy-driven industries. P4 clarified that they provide workspace facilities to startups in order to improve their operational efficiency and establish a supportive physical environment that encourages innovation and co-creation. P1, P3, and P4 contributed to creating structured environments that enable startups to access the necessary physical and digital resources to thrive.

However, P5 did not prioritize workspace development in their strategy; rather, they prioritized academic partnerships and financial-technological resource allocation, which implies that they had limited input on this subtheme. Beyond physical spaces, infrastructure development enhances the operational efficiency and long-term sustainability of startups. By integrating workspace solutions with research institutions, P5 mentored startups to utilize data-driven insights and leverage university technology infrastructures to attract investment opportunities. P5 collaborated with universities and NGOs to establish research-driven incubation hubs, offering startups cutting-edge academic resources, industry expertise, and funding networks. These hubs bridge the gap

between theoretical knowledge and practical application, enabling startups to leverage university research for market-driven innovations.

Similarly, P2 explained that their program structure prioritized capacity-building and financial support strategies over workspace development, despite prioritizing mentorship and training. Additionally, P6 clarified that although workplace development is acknowledged, their focus was primarily on sector-specific mentoring and resource alignment, rather than providing physical workspace facilities. This approach facilitates networking and strategic positioning within key economic sectors, particularly in policy-driven industries.

Investor Readiness Programs

Access to funding remains a critical barrier for startups, necessitating structured investor readiness programs that enhance financial literacy and capital acquisition strategies (Quas et al., 2022). P1 stated that they equip startups for investor engagement by offering coaching in financial management, branding, and customer interaction strategies that make them investor-ready and enable funding acquisitions. P2 emphasized that they provide targeted investor preparedness programs that focus on financial planning, business strategy, and pitching skills, thereby ensuring that startups can effectively present themselves to potential investors. P3 disclosed that they organize seminars and training sessions to facilitate the acquisition of government contracts and grants. This indirectly contributes to investor readiness by helping startups comply with regulatory and funding requirements. P4 emphasized organizing investment-focused pitch events, allowing startups to present their business models to potential investors,

refining their value propositions, and enhancing their ability to articulate business viability.

Furthermore, P4 also prioritized equipping startups with the skills and networks to secure investment, leveraging structured pitch events, venture capital (VC) connections, and alternative financing sources. Wang et al. (2023) assert that VC firms offer not only financial resources but also strategic and regulatory guidance, helping startups overcome compliance challenges and enhance their prospects for scalable success. By directly engaging with VC firms and industry experts, these events increase funding opportunities and help startups refine their financial strategies based on investor feedback. Similarly, P5 and P6 supported startups in expanding their accessibility to funding by connecting them with microfinance institutions and angel investors, ensuring that early-stage ventures in underrepresented industries, such as agribusiness and healthcare, can access capital beyond traditional banking systems. According to P5, they facilitate capacity-building seminars and connect startups with academic resources to help them develop sustainable and profitable business models that are appealing to investors, thereby enhancing their investor readiness.

P6 stated that she assisted startups in preparing for investors by providing sector-specific training and mentorship, which ensures that startups comprehend market strategies and compliance, thereby increasing their appeal to investors and funding bodies. These investor readiness initiatives contribute to financial resilience and long-term sustainability. By fostering connections with diverse funding sources, P6 empowered startups to explore hybrid financing models, combining microfinance with

VC funding to balance risk and scalability. The P6 approach to hybrid funding is highly beneficial to businesses, particularly in capital-intensive areas such as fintech and logistics, where access to necessary funds is crucial for scaling. Additionally, P4's structured pitch programs expose startups to global investment trends, equipping them with strategic insights on investor expectations, financial structuring, and risk mitigation. As a result, these programs improve startups' immediate funding prospects and instill a culture of financial discipline and strategic growth planning, positioning them for sustained success in competitive markets.

Theme 2 included information about the specific opinions of participants regarding how they provided a comprehensive framework for startup growth by combining training, regulatory assistance, infrastructure development, and investor support. Each participant's reflections highlight the importance of systematic capacity-building activities in increasing startup sustainability and competitiveness. This major theme addressed the research question by demonstrating how incubators contribute to startups' competitive advantage by closing the knowledge gap, lowering regulatory hurdles, providing infrastructure support, and improving access to funds.

Documentary Evidence for Theme 2

The review of publicly accessible documents confirmed the findings from the interviews for this theme. Participants emphasized that equipping startups with management skills, industry-specific expertise, and operational proficiency was crucial for enhancing their long-term sustainability and market competitiveness. The selected documents underscore the importance of organized incubation in developing startup

capacity. D1 shows that 48.5% of sponsored African startups were incubated, demonstrating the effectiveness of incubation programs. D2's iHatch and the Next Innovation with Japan (NINJA) incubation programs provide intensive coaching and boot camps, which replicate the strategies used by participants in this study. D3's post-COVID-19 observations highlight productivity challenges that require incubator-provided training and remote operational support. D4 institutionalizes capacity building through seed funding, credit guarantees, and tax breaks related to training. D5 reinforces this with ecosystem programs like Lagos Innovates and the Lagos State Government Knowledge, Innovation, Technology, and Entrepreneurship (KITE) initiative, which provide mentorship, digital skills, and innovation leadership.

These cross-sectoral supports justify the participants' strategic focus on developing resilient, talented startup teams. Business incubation managers significantly contributed to bridging knowledge gaps, alleviating regulatory obstacles, and enhancing infrastructural and financial accessibility for startups through the provision of organized support systems. This theme highlights how incubators enable a lasting competitive advantage by fostering an environment conducive to startup growth and mitigating systemic barriers.

Alignment of Theme 2 with the Conceptual Framework

This second theme is consistent with the RBV theory. It emphasizes the strategic development of internal resources such as knowledge, skills, and specialized experience to provide startups with the capabilities they need to attain and maintain a competitive advantage (Barney, 1991). The RBV theory suggests that firms can achieve sustainable

success using VRIN resources (Wernerfelt, 1984). In this study, participants highlighted how incubators assist startups in establishing business support and building capacity that is tough for competitors to replicate. For example, all participants' regulatory compliance approaches serve as crucial assets that position startups for success in the competition. Similarly, the capacity-building and financial support strategies of P2 align with the RBV proposition.

The mentorship and workspace development strategy also facilitates the internal capacity development of startups, as RBV theory advocates. These instances reveal how incubators support startups and help them build capacity within particular sectors, supporting RBV's claim that internal resources drive competitive success (Barney, 1991). Consequently, the RBV aligns with the participants' strategies, prioritizing the development of VRIN internal resources. This is achieved through customized mentorship, regulatory compliance support, workspace development, and investor readiness programs. These strategic supports provide startups with operational capabilities and knowledge-based assets that promote a sustained competitive advantage in complex and evolving business environments.

Furthermore, the P5F framework addresses the external competitive challenges startups must negotiate to maintain growth, complementing the RBV viewpoint (Porter, 1979). The study by Eskiyeerli and Ewertz (2024) reveals that business incubators are essential in reducing competing factors in the startup ecosystem with customized support. For example, the P1 strategy of using tailored regulatory guidance for fintech startups strengthens entrance barriers, increasing the difficulty for new competitors. The

approaches of all participants to investor readiness programs created strategic alliances between startups and investors, enabling startups to negotiate better supplier conditions and reduce their dependence on suppliers. Similarly, the P6 strategy for customized digital marketing and branding coaching enhances perceived value beyond price competition, thereby improving product differentiation and reducing customer negotiating power.

Moreover, the P1-P6 strategies of providing guidance to startups on regulatory compliance were consistent with the RBV assertion of reducing the threat of substitutes and minimizing direct industry competition (Barney, 1991). Subsequently, the P5F framework aligns with the participants' strategies, as they enhance the internal capacity of startups to effectively address competitive rivalry, supplier power, and threats from new entrants. These strategies help startups reduce barriers to entry, enhance their bargaining power, and differentiate themselves in a dynamic market environment by providing mentorship, regulatory compliance support, workspace development, and investor readiness programs.

Combining RBV with P5F demonstrates how capacity building specifically links internal resource development with business support and external market positioning. While Porter's approach emphasizes the strategic position required to properly negotiate competing forces, RBV ensures that companies develop specific knowledge and exclusive technologies (Porter, 1980; Wernerfelt, 1984). The results show that effective companies let their internal strengths match outside industry dynamics, enabling them to flourish despite market obstacles. For example, P1 and P6 highlighted regulatory

knowledge, cybersecurity plans, and banking relationships, aligning with the RBV entry barriers and the P5F industry competitiveness, guaranteeing continuous development (Porter, 1980; Wernerfelt, 1984). Similarly, the P5 strategy provides startups with grassroots mentorship from NGOs, enabling them to align their business strategy with local community needs and establish socially responsible companies that are aligned with the RBV and P5F strategies, thereby establishing a competitive market position (Porter, 1980; Wernerfelt, 1984).

Ultimately, the study supports the notion that business support and capacity building offer startups a two-edged advantage in navigating industry-specific external pressures while enhancing their internal competencies. Incubators improve their prospects of long-term success and competitive sustainability by equipping startups with sector-specific competencies, as highlighted by RBV, and strategic market positioning, as proposed by P5F (Porter, 1980; Wernerfelt, 1984). This alignment emphasizes the need for tailored startup support programs that acknowledge the unique opportunities and difficulties in different sectors, assuring startups survive and become major players in their fields.

Alignment of Theme 2 with the Literature

The findings in the current study align with the existing scholarly literature on business incubators and their role in enhancing startup competitiveness and sustainability in Nigeria. Many scholars argue that business incubators equip startups with the necessary resources, mentorship, and sector-specific knowledge to navigate unique market challenges (Assenova, 2020; Awonuga et al., 2024; Paoloni & Modaffari, 2021).

Given Nigeria's dynamic and often volatile business environment, incubators play a crucial role in fostering startups' adaptive capabilities, enabling them to develop tailored strategies for market entry, differentiation, and scalability (Harrison, 2022). This perspective is supported by participant responses, highlighting the importance of tracking business inflow, return customers, and project-based profitability as key metrics for measuring growth. Participants emphasized that understanding sector-specific customer preferences, maintaining financial discipline, and leveraging referrals were fundamental to sustaining their businesses, reflecting the scholarly consensus that incubator-driven strategic guidance enhances long-term business success (Assenova, 2020).

Furthermore, the existing literature highlights that business incubators in Nigeria serve as catalysts for competitive advantage by helping startups develop unique value propositions and strengthen their market positioning (Iwu et al., 2024). The participant's insights on supporting startups in measuring completed projects, customer satisfaction, and referrals to secure a stable customer base and enhance brand credibility are a catalyst for gaining a competitive advantage. Studies indicate that startups that benefit from business support and mentorship are better equipped to withstand competitive challenges, cultivate resilience, and establish connections with key industry networks (Yani et al., 2024). The responses from P4 and P6 highlighted the argument of Yani et al. (2024) as they both expressed their efforts to encourage startups to focus on project-based financial evaluation and customer referrals to leverage their industry knowledge for sustained growth. Thus, participant responses reinforce the scholarly argument that customized

incubator support tailored to industry dynamics significantly improves startup sustainability and competitiveness in Nigeria's entrepreneurial landscape.

Theme 3: Resource Allocation for Ecosystem Integration

The third major theme, resource allocation for ecosystem integration, addressed the central research question by highlighting the strategies employed by participants to help startups access crucial resources and connect them to a broader network of industry players. All the participants emphasized the incubators' critical role in ensuring startups do not face resource constraints to enable them to focus on innovation and growth. A strong entrepreneurial ecosystem necessitates smart resource allocation and integration with industrial networks, research institutions, and financial enablers (Theodoraki et al., 2022). Ecosystem integration facilitates strategic partnerships with universities, NGOs, and government entities, providing startups with valuable insights, market intelligence, and regulatory support that enhance their competitive positioning. Jiang et al. (2023) emphasize that partnerships with universities, NGOs, and regulatory agencies mitigate institutional voids and regulatory obstacles in emerging markets. Their study suggests that incorporating startups into a larger ecosystem is essential for enhancing their market positioning, compliance efficiency, and growth opportunities.

y allocating resources efficiently and fostering ecosystem integration, incubators help startups become more resilient and sustainable in the long term (Lindelöf & Hellberg, 2023). This approach supports operational efficiency and encourages sustainability in business practices, making startups more attractive to socially conscious investors. Additionally, integrating into a well-connected ecosystem enhances market

penetration, allowing startups to expand regionally and globally (Primario et al., 2024).

Ultimately, this strategy equips startups to thrive in a dynamic and often uncertain market, ensuring they remain competitive and adaptable to change.

This major theme combined four subthemes: industry-aligned partnerships, access to specialized expertise, financial-technological resource allocation, and university-NGO collaborations. Most participants' interview responses reveal how they ensure that startups have access to critical resources, industry-specific knowledge, funding, and market prospects. Incubators assist startups in laying solid foundations for long-term sustainability by creating industry-aligned partnerships, utilizing specialized expertise, allocating financial and technological resources, and cooperating with academic and nongovernmental organization stakeholders (Bajwa et al., 2021). Participants highlighted that ecosystem integration helps startups manage industry complexities, adhere to regulatory standards, and operate efficiently in changing market situations. The word frequency analysis of the interview transcript and public document data generated the subthemes (see Table 7 and Figure 5).

Table 7

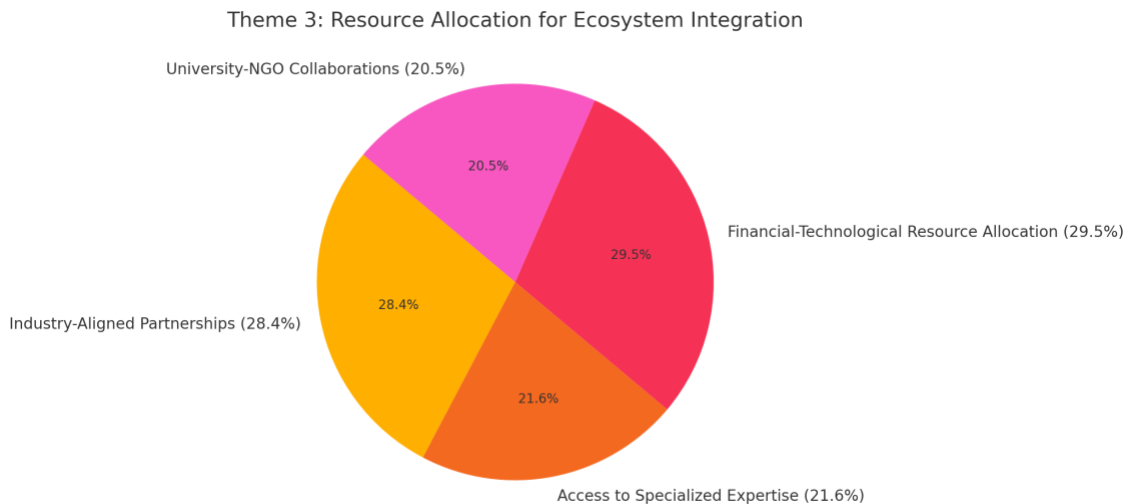
Frequency of Codes Supporting Subtheme 3

Theme	Number of references	Percentage
Industry-aligned partnerships	25	28.41%
Access to specialized expertise	19	21.59%
Financial-technological resource allocation	26	29.55%
University-NGO collaborations	18	20.45%

Note. $n = 6$

Figure 5

Pie Chart of the Number of References per Subtheme 3



Industry-Aligned Partnerships

Establishing industry-aligned partnerships is a strategic approach that enhances startup sustainability by providing access to critical resources, market opportunities, and regulatory support (Steiber & Alänge, 2020). P1 indicated their incubator develops crucial partnerships by connecting startups with funding sources, legal guidance, and supply-distribution networks. These collaborations enable startups to access industry-specific resources necessary for business sustainability and expansion. P2 underscored that establishing collaborations with banks, financial platforms, and insurance firms is essential for improving startups' market position. P3 emphasized the significance of strategic partnerships and revenue diversification to ensure the sustainability of startups. P4 indicated that he partners with academic institutions, technology clusters, agricultural extension agencies, and local government programs to guarantee that startups are

optimally situated within their industry. These collaborations facilitate startups' access to essential resources and industry experience necessary for market entry and growth.

Furthermore, P5 claimed that their relationships with universities, NGOs, and industry stakeholders provide startups access to research facilities, commercial development programs, and emerging technology. These partnerships enable startups to co-develop innovative solutions that align with industry demands. P6 underscored the importance of aligning startups with sector-specific institutions to strengthen their credibility and market positioning. Fintech startups, for instance, benefit significantly from partnerships with banks, as these collaborations facilitate regulatory compliance, increase consumer trust, and provide access to financial infrastructure (Kaur et al., 2024). Similarly, agribusiness startups thrive when integrated into cooperative networks, which offer shared resources, improved bargaining power, and streamlined access to supply chains (Suresh et al., 2024). By embedding startups in these industry-specific ecosystems, incubators create a foundation for long-term scalability and competitive advantage (Freytag, 2019).

In addition to financial and market benefits, industry-aligned partnerships foster innovation and operational efficiency (Azofeifa et al., 2024). P6 highlighted the role of NGO collaborations in supporting healthcare startups, particularly in navigating regulatory hurdles and securing funding for pilot programs. NGOs provide startups with research-backed insights, access to underserved populations, and funding opportunities that facilitate early-stage development and impact measurement (Kirina et al., 2022). This collaborative model ensures startups comply with industry regulations and innovate to

address real-world challenges. Through these structured partnerships, startups gain sector-specific insights, access to essential networks, and opportunities for sustained growth, ultimately enhancing their ability to scale and remain competitive in dynamic market environments.

Access to Specialized Expertise

Integrating specialized expertise into startup ecosystems enhances innovation, strategic planning, and regulatory alignment (Primario et al., 2024). All the participants repeatedly acknowledged the strategic significance of access to specialized expertise in enhancing the capability and competitiveness of startups. P1 underscored the importance of sector-specific specialists in improving startups' operational efficiency and preparing them to address market-specific challenges. P2 emphasized the importance of technical specialists and experts in ensuring startups produce high-quality goods that satisfy market requirements and regulatory standards. This exemplifies a calculated approach to utilizing specialized expertise to mitigate risks and enhance corporate performance.

For instance, P5 acknowledged that his organization collaborates with universities to conduct feasibility studies and provide evidence-based recommendations, ensuring that startups develop market-driven solutions rather than operating on assumptions. According to Abdulkader et al. (2020), embedding startups in knowledge-driven environments enables them to refine their value propositions, enhance product-market fit, and maintain a competitive edge. These academic engagements expose startups to cutting-edge research, industry best practices, and empirical data, thereby strengthening their capabilities and achieving a competitive edge.

Additionally, P3 and P4 underscored that sectoral factors frequently influence the provision of specialized expertise. P3 emphasized that startups in Abuja were connected to technical hubs, including agricultural cooperatives, healthcare professionals, and coding academies, which ensured targeted capacity building. P4 substantiated this perspective by elucidating that their incubator strategy entailed matching startups with experts following the sector's requirements. For instance, fintech startups were advised on regulatory compliance, while agribusiness enterprises were provided with advanced agricultural mentorship. These observations highlight the deliberate effort to foster sustainable growth by integrating industry-specific competencies into enterprises.

Finally, P5 and P6 emphasized the importance of collaborating with academic institutions and industry professionals to promote innovative solutions and bridge skill disparities. P5 observed that startups could access specialized knowledge essential for developing socially pertinent and market-driven solutions through partnerships with universities and grassroots mentors. P6 clarified that startups could overcome technical deficiencies and implement sectoral best practices by facilitating access to logistics, healthcare, fintech, and agriculture experts.

Beyond academic collaborations, P6 highlighted the importance of regulatory engagement by facilitating interactions between startups and policymakers to streamline compliance processes and unlock government-backed incentives. Startups operating in highly regulated sectors, such as fintech and healthcare, benefit from direct engagement with regulatory bodies, which fosters proactive compliance and reduces regulatory uncertainties (Frederiks et al., 2022). Additionally, international organizations provide

startups access to global best practices, funding opportunities, and cross-border market insights, further strengthening their resilience. The collective insights of the participants demonstrate that access to specialized expertise is a strategic resource for improving startups' competitiveness, long-term sustainability, and capabilities.

Financial-Technological Resource Allocation

Adequate allocation of financial and technological resources is critical for startups to scale their operations, enhance efficiency, and maintain long-term competitiveness (Joshua et al., 2024). P1–P6 emphasized the crucial role of financial-technological resource allocation in improving the competitive position of entrepreneurs. P1 emphasized the importance of ensuring startups have access to critical financial resources, including funding opportunities and digital tools such as CRM software, to enhance operational efficiency and service delivery. P2 mentioned that startups can increase their growth and sustainability by streamlining transactions and reducing operational bottlenecks, which are facilitated by access to financial platforms and technological infrastructure, particularly mobile payment systems. These technological innovations allow startups to streamline operations, improve customer experiences, and maintain agility in dynamic market environments (Tran & Vo Thi, 2024).

P3 and P4 further elaborated on the strategic allocation of financial and technological resources, tailored explicitly to startups' growth stages and sector-specific requirements. For example, P3 disclosed that startups in Abuja received financial capital and technology tools, such as compliance software, through partnerships and grants with development organizations. Similarly, P4 described how digital solutions, including

cloud computing, GIS tools, and financial planning seminars, were provided to startups in Lagos, Ibadan, and Abuja to enhance market responsiveness and scalability. By strategically combining financial backing with technological infrastructure, incubators equip startups with the tools to navigate market complexities, optimize processes, and sustain long-term growth (Chakraborty et al., 2023).

P5 and P6 highlighted the long-term benefits of integrating financial and technological resources. P5 elaborated on the financial support and innovation-enabling technologies (such as diagnostic tools, agricultural drones, and economic inclusion software) that startups could access through their partnerships with universities and NGOs. P6 emphasized that their incubator facilitated access to blockchain technologies, AI-driven solutions, and venture funding, notably for fintech startups, to support digital transformation and sectoral growth. By strategically allocating financial resources, incubators reduce startups' vulnerability to cash flow shortages and operational inefficiencies, positioning them for sustainable success (Ghosh et al., 2019). Collectively, these observations illustrate that the P1–P6 strategies for empowering startups, enhancing competitiveness, and assuring long-term sustainability are predicated on the targeted allocation of financial and technological resources.

University-NGO Collaborations

University and NGO collaborations foster sustainable entrepreneurship by embedding startups within knowledge-driven ecosystems (Rinkinen et al., 2023). P1–P6 highlighted the strategic importance of relationships between universities and NGOs in strengthening startup ecosystems and enhancing competitive advantage. P1 emphasized

that collaborations with universities provided startups access to academic resources, research insights, and capacity-building initiatives that guided product development and market strategies. P1 also emphasized the importance of NGO participation in facilitating grassroots mentorship and providing socially impactful guidance to businesses, particularly those in underprivileged communities.

P2 and P3 emphasized that collaboration with universities and NGOs promotes continuing education, research accessibility, and social accountability among startups. P2 elucidated that university partnerships allowed startups to utilize cutting-edge research, access talent pipelines, and acquire technological proficiency. At the same time, NGOs fostered relationships with local populations and provided financial and operational assistance. P3 similarly pointed out that collaborations with academic institutions and development organizations in Abuja offered startup funding options, policy advocacy, and capacity-building initiatives affiliated with governmental priorities and societal needs. Through these collaborations, startups gain evidence-based insights into consumer behavior, industry trends, and innovative business models (Audretsch & Fiedler, 2023).

Furthermore, P4, P5, and P6 elaborated on the extensive ecosystem impacts related to this collaboration. P4 indicated that partnerships with universities and NGOs were crucial in assisting startups in places such as Lagos, Ibadan, and Abuja to expand operations and incorporate social impact projects. By partnering with NGOs, startups can align their ventures with broader social and environmental objectives, ensuring long-term impact (Christodoulou et al., 2024). P5 also provided specific examples of university laboratories utilized for agricultural testing and product development, whereas NGOs

financed renewable energy initiatives and environmental sustainability programs. P6 highlighted how these partnerships integrated academic knowledge, community needs, and entrepreneurial development, fostering a climate conducive to the success, innovation, and social relevance of startups.

The participants' insights collectively demonstrate how relationships between universities and NGOs can enhance the business success and societal impact of startups. These collaborations provide startups with funding, advocacy support, and access to underserved markets, enhancing their capacity to address critical societal challenges (Khan et al., 2023). Incubators bring together academics, businesses, and social impact networks to create an ecosystem where startups can be profitable while making significant contributions to economic and social progress.

Theme 3 offers startups a strategic framework for maximizing resources, fostering growth, and achieving a long-term competitive edge. Participants actively promote industry-aligned alliances, enabling startups to access market insights, supply chains, and mentorship from established organizations. The participants' responses demonstrated how business incubators connect startups with specialized expertise, ensuring they gain the necessary skills and sector-specific knowledge to manage industry challenges. Furthermore, incubators help startups acquire financial and technological resources, allowing them to scale operations, increase productivity, and remain competitive (Akpororo et al., 2021). Additionally, the participants noted that collaborations with academic institutions and NGOs enhance the ecosystem by offering research-based insights, financing opportunities, and community-driven support. The participants'

approach indicated that startups build the resilience required to succeed in dynamic markets, overcome operational constraints, and create a long-term presence in their sectors through their collaborative efforts.

Documentary Evidence for Theme 3

The review of publicly accessible documents validated the interview findings for this theme. Participants emphasized the importance of intentional initiatives to connect startups with universities, NGOs, regulatory agencies, and industry groups, thereby optimizing resource accessibility and operational support. This method demonstrates a strategic focus that promotes information exchange, facilitates market entry, and accelerates the spread of innovation, ultimately enhancing the competitive position of startups. Aligning incubators with broader ecosystem resource flows is crucial to the sustainability of startups. D1's analysis of increasing late-stage funding demonstrates that effective incubation helps to build investor-ready ecosystems. D2 confirms this through resource-sharing agreements with the National Information Technology Development Agency (NITDA), the Office for Nigerian Digital Innovation (ONDI), Mitsubishi, and regional technology hubs. D3 highlights infrastructure shortcomings, such as transportation and electricity, which incubators can address through shared resources and public-NGO partnerships. D4 mandates incubator-university collaborations and innovation parks to strengthen systemic integration. Similarly, D5 highlights EU-backed digital infrastructure projects and public-private partnerships in Lagos, which promote equitable allocation of ecosystem resources.

These findings support the notion that ecosystem-centric incubation promotes size and sustainability. Participant reflections and documentary data collectively demonstrate that deliberate resource allocation fosters a sustainable competitive advantage for startups by integrating them into a supportive, resource-abundant entrepreneurial ecosystem.

Alignment of Theme 3 with the Conceptual Framework

Strategic resource matching and integration within the broader business ecosystem are critical to ensure startups attain long-term competitive advantage (Diaz-Gonzalez & Dentchev, 2022). The RBV framework posits that a firm's ability to acquire and sustain a competitive advantage is contingent upon its unique VRIN (Barney, 1991). Business incubators operate as mediators, facilitating access to resources such as financial capital, infrastructure, industry networks, and specialized knowledge to help startups develop. P5's approach of connecting startups with university research institutes, NGOs, and corporate investors is consistent with RBV, ensuring that startups receive access to vital but often scarce resources, such as intellectual capital, funds, and mentorship. For instance, P5's focus on research-driven innovation and academic partnerships supports the RBV's claim that knowledge-based resources, especially those created through research collaborations, improve a firm's capacity for innovation, adaptation, and competitive differentiation (Cuthbertson & Furseth, 2022).

Furthermore, P6's industry-specific mentoring program, which offers startups specialized knowledge in fintech, agribusiness, and healthcare, emphasizes the value of distinctive capabilities that are difficult for rivals to imitate. This industry-specific mentoring program supports the RBV's focus on resource uniqueness as a key driver of

sustainability. Similarly, P6's sector-specific ecosystem integration, which connects fintech companies with regulatory agencies and agribusinesses with cooperative networks, exemplifies how incubators help enterprises develop rare and unique competitive advantages. Incubators bridge resource gaps through strategic alliances, supporting RBV's claim that enterprises with superior resource acquisition and usage capacities obtain long-term market advantages (Fernandes et al., 2022).

The P5F framework demonstrates that successful resource matching and ecosystem integration have a direct impact on a startup's capacity to mitigate competitive challenges (Porter, 1980). Startups reduce suppliers' bargaining power by acquiring alternative resource streams through incubator-facilitated alliances, such as P4's strategy of integrating startups with multinational supply chains to minimize procurement dependency. Furthermore, incubator-supported ecosystem integration reduces entry barriers by providing startups with regulatory assistance, market data, and technology support, as demonstrated by P3's proactive policy advocacy for startups in government-aligned industries. Furthermore, resource-sharing methods, such as P6's approach to integrating startups into cross-sector collaborations, promote innovation while minimizing competition to improve industry positioning. Hence, it is evident that business incubators equip startups with strategic resources and industry networks, enabling them to negotiate market uncertainties, adapt to environmental upheavals, and develop long-term competitive advantages in Nigeria's dynamic economic climate.

Alignment of Theme 3 with the Literature

The ability of startups to achieve sustainable competitive advantage heavily depends on access to critical resources and integration within supportive business ecosystems (Gueguen et al., 2021). Business incubators serve as resource facilitators, mitigating some of the fundamental constraints and challenges faced by startups, such as funding limitations, infrastructure deficits, talent shortages, and market access barriers (Akpoviroro et al., 2021). P5's strategy of leveraging university research partnerships and NGO collaborations aligns with Yuen and Lam's (2024) study, which emphasizes knowledge-driven resource allocation, thereby enhancing innovation capacity and market adaptability. Similarly, P6's focus on sector-specific ecosystem integration, such as linking agribusiness startups with cooperative networks and fintech startups with regulatory bodies, addresses the challenge of fragmented industry support systems that often hinder startup scalability, as argued by Kumari et al. (2024). These strategic interventions enable startups to overcome systemic constraints and gain access to high-value resources that would otherwise be inaccessible.

Regarding opportunities and competitiveness, the literature underscores how well-integrated startups within incubator-led ecosystems can enhance their market positioning by leveraging shared resources, strategic partnerships, and institutional support (Awonuga et al., 2024; Yani et al., 2024). P4's approach to embedding startups within multinational supply chains and linking them to impact investors is consistent with research highlighting how ecosystem-based collaboration fosters innovation and reduces market entry barriers (Ates, 2022; Gueguen et al., 2021).

Additionally, ecosystem integration supports long-term sustainability by helping startups navigate regulatory complexities, access mentorship networks, and build resilience against economic shocks (Crnogaj & Rus, 2023). For instance, P3's policy advocacy initiatives demonstrate how incubators help startups align with regulatory requirements, reducing legal uncertainties and compliance risks, a critical factor for sustainability in emerging markets like Nigeria. By aligning with scholarly insights on ecosystem-driven startup development, it is evident that incubator managers play a pivotal role in equipping startups with the resources, networks, and strategic foresight necessary to maintain long-term competitiveness and market relevance.

Theme 4: Technology Adoption for Competitive Advantage

The fourth major theme, technology adoption for competitive advantage, addressed the central research question by highlighting the strategies employed by participants to leverage innovative technologies that improve efficiency, enhance product offerings, and streamline operations. In an increasingly digitalized business world, technology adoption is a critical driver of startup competitiveness, allowing for efficiency, scalability, and market differentiation (Silva Júnior et al., 2022). All the participants highlighted their role in helping startups adopt and implement technologies that drive competitive differentiation. By introducing tools such as automation, data analytics, or customer relationship management (CRM) systems, incubators help startups enhance their operational processes, reduce costs, and deliver superior customer experiences, thereby strengthening their market position.

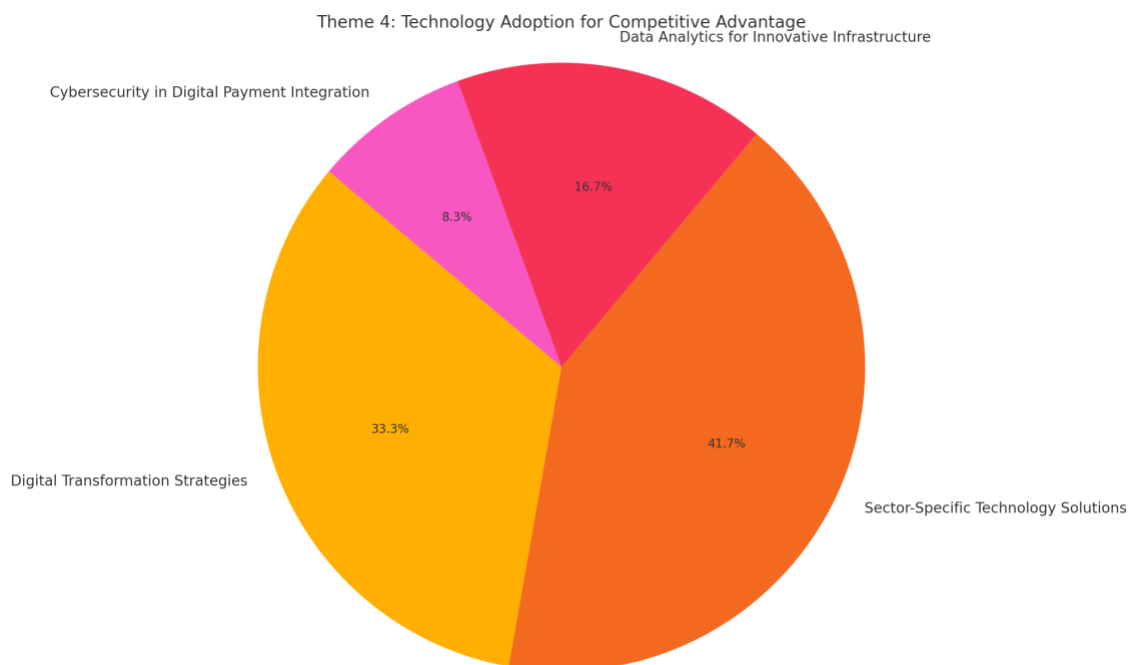
Moreover, technology adoption fosters innovation, allowing startups to stay ahead of competitors by developing new products, services, or business models that meet emerging market needs. In Nigeria's fast-paced entrepreneurial environment, where digital transformation is gaining momentum, incubators encourage startups to adopt digital tools and platforms that enhance scalability and market reach. By enabling startups to harness the potential of technologies like e-commerce, mobile applications, and fintech solutions, incubators ensure that these businesses remain adaptable, resilient, and able to capitalize on new opportunities, ultimately strengthening their sustainable competitive advantage.

The fourth major theme combined four subthemes: digital transformation strategies, sector-specific technology solutions, data analytics for innovative infrastructure, and cybersecurity in digital payment integration. Business incubators play a crucial role in providing businesses with innovative technological tools to enhance their operational capabilities. Participants emphasized the importance of digital transformation, industry-specific technical solutions, data analytics, and cybersecurity measures in maintaining the competitiveness and resilience of startups. The word frequency analysis of the interview transcript and public document data generated the subthemes (see Table 8 and Figure 6).

Table 8*Frequency of Codes Supporting Subtheme 4*

Theme	Number of references	Percentage
Digital transformation strategies	12	33.3%
Sector-specific technology solutions	15	41.7%
Data analytics for innovative infrastructure	6	16.7%
Cybersecurity in digital payment integration	3	8.3%

Note. n = 6

Figure 6*Pie Chart of the Number of References per Subtheme 4****Digital Transformation Strategies***

All the participants highlighted the importance of digital transformation strategies in improving the competitive advantage of startups. P1 underscored integrating digital tools, including data analytics platforms, digital marketing tools, and CRM software. P1 believed that integrating these digital resources enhanced operational efficiency and

enabled startups to respond effectively to evolving market trends and consumer preferences. Similarly, P2 highlighted the importance of digital transformation by promoting the adoption of digital payment systems and mobile-first initiatives for startups. The core strategies of P2 focused on enhancing startups' productivity, increasing market accessibility, and facilitating transactions through the implementation of technology. P3 discussed advocating for startups to leverage automation tools that minimize operational redundancies and enhance productivity. This initiative enables startups to focus on automation-driven process improvements, reducing costs and enhancing service efficiency.

Furthermore, P4 and P5 discussed implementing digital strategies, including cloud solutions, CRM tools, and e-commerce platforms, to optimize operations and enhance customer engagement in startups. All the participants acknowledged the necessity of digital transformation to improve financial management, scale operations, and comply with global technological trends. P6 highlighted the adoption of CRM systems and AI-powered automation, which enable startups to personalize client interactions and enhance service delivery. P6's insights further illustrated the sector-specific application of digital transformation strategies. For example, P6 discussed the adoption of blockchain technology by fintech startups, while healthcare startups utilized telemedicine solutions facilitated by wearable technology. P6 explained that their customized approach empowers startups to tackle specific industry challenges while promoting innovation and scalability.

Overall, all the participants agreed that digital transformation was a critical strategy for entrepreneurs to navigate market complexities, meet consumer expectations, and establish sustainable competitive advantages. Oyeyemi et al. (2024) assert that startups can develop agile, technology-oriented business models that respond to market dynamics and consumer expectations by implementing digital transformation strategies. Ultimately, these technological advancements provide startups with a competitive edge to scale efficiently, navigate regulatory complexities, and foster sustainable business growth.

Sector-Specific Technology Solutions

Technology adoption must align with industry-specific requirements to enhance operational efficiency, regulatory compliance, and market competitiveness. P1-P6 provided valuable insights into the strategic use of sector-specific technological solutions to maintain startup competitiveness. P1 highlighted the use of specialized technology instruments to fulfill the operational needs of various sectors. P1 demonstrated how retail, agricultural, and service startups used appropriate technical solutions to increase efficiency and reach. This strategy ensured startups acquired technology tailored to their industries' unique requirements and obstacles. Similarly, P2 underscored the importance of implementing financial technology tools and mobile-first solutions tailored to the Nigerian market. P2 startups in the fintech sector received assistance in integrating mobile payment platforms and user-friendly financial systems to enhance transactions in communities with limited access to traditional banking services. This was complemented

by sector-focused collaborations, such as partnerships with banks and financial institutions, to strengthen market access and operational scalability.

P4, P5, and P6 expanded on the application of technology by discussing how solutions matched industry-specific needs. P4 discussed introducing advanced technologies, such as drone mapping and remote sensing, in agribusiness, while promoting compliance management software in service industries. P5 provided examples of the deployment of diagnostic technologies in healthcare and the introduction of financial inclusion software to address the financial access gap. P6's strategy comprehensively revealed how fintech companies adopted blockchain and AI-driven fraud detection, logistics firms implemented route optimization technologies, and healthcare startups utilized telemedicine systems. These disclosures underscored the participants' recognition that technology adoption must be sector-specific to generate enduring competitive advantages and address the evolving requirements of each sector. Embedding technology into sector-specific strategies enables startups to strengthen their competitive edge and drive industry-wide advancements (Sayilir et al., 2025).

Data Analytics for Innovative Infrastructure

Five participants illustrate how data-driven insights may enhance strategic decision-making and business infrastructure development. P1 underscored the importance of utilizing data analytics platforms to improve operational efficiency and consumer engagement. P1 advocated for startups to employ data analytics tools to monitor operational performance, market trends, and customer preferences. This approach enables startups to identify gaps, refine their strategies, and build infrastructure in alignment with

market demands. P2 emphasized the incorporation of data analytics into operational systems to enhance decision-making. P2 elaborated on how startups were guided to implement data platforms enabling them to monitor transactions, customer behaviors, and business performance automatically. This enables startups to proactively refine their business models and invest in innovative infrastructure, thereby enhancing service delivery and customer satisfaction.

While P3's responses showed limited emphasis on data analytics, P4 expanded on the relevance of this subtheme by mentioning the use of CRM systems and cloud-based data solutions that helped startups manage customer information and streamline their internal operations. P5 reinforced this insight by explaining how partnerships with universities provided startups with access to research-based data and analytical frameworks, which are instrumental in infrastructure planning and innovation. P6 further demonstrated a practical application by encouraging startups to use analytics tools for fraud detection in fintech and route optimization in logistics. The insights of P1, P2, P4, P5, and P6 align with Sreenivasan and Suresh's (2023) study, which argues that embedding data analytics and smart infrastructure into startups strengthens their competitive edge and enhances their adaptability in evolving markets. Hence, the collective insights of the participants indicate that data analytics was employed not only for market assessment but also as a critical instrument for developing innovative infrastructure and the long-term sustainability of startups' competitive advantage.

Cybersecurity in Digital Payment Integration

The views of all participants on the subtheme of Cybersecurity in Digital Payment Integration revealed various levels of emphasis and strategic applicability across their incubation models. Overall, this sub-theme received less attention than other technology-related efforts, suggesting a potential gap in the structured implementation of cybersecurity among some incubators. P1's statement did not clearly mention cybersecurity procedures in its digital support for startups. Instead, P1 focused on larger technology solutions, including CRM systems, data analytics, and digital marketing tools, without explicitly addressing cybersecurity problems. This absence indicates that, while digital tools were used to gain a competitive edge, cybersecurity may not have been prioritized or integrated into their digital payment procedures during the interview.

P2 demonstrated cybersecurity awareness by encouraging entrepreneurs to select reputable software providers to ensure seamless account reconciliation and transaction management. P2 recognized the importance of secure financial operations and ensured that startups employed secure mobile platforms and digital payment mechanisms. However, the cybersecurity focus was implicit, being discussed alongside operational efficiency and financial integrity rather than as an independent plan. P3 made no explicit mention of cybersecurity in their comments. Their strategy focused on market mapping, regulatory compliance, and resource alignment, rather than digital security of the payment system. Similarly, P4 did not clearly reference cybersecurity techniques in digital payment integration. This disparity between P3 and P4 suggests that, while they

helped startups with technology adoption and compliance, cybersecurity in payment systems may not have been a top priority throughout their incubation program.

In comparison, P6 provided the most extensive insights about cybersecurity. P6 emphasized supporting fintech startups through cybersecurity integration, focusing on fraud detection methods and regulatory compliance in digital payment systems. P6 helped startups integrate AI-powered fraud detection systems, blockchain technology, and secure APIs to safeguard financial transactions and consumer data. This proactive strategy established cybersecurity as a critical component of fintech business support, recognizing the inherent risks involved with digital payment infrastructures. Consequently, cybersecurity in digital payment integration received unequal attention across P1 to P6. While some participants, such as P6, incorporated explicit cybersecurity tactics into sector-specific incubation, others just mentioned it tangentially (P2) or completely ignored it (P1, P3, P4, and P5). This disparity shows an opportunity for incubators to take a more systematic and standardized approach to cybersecurity, particularly in the digital banking industry, where cyber threats are prevalent. A comprehensive cybersecurity strategy might strengthen startups' resilience, increase consumer trust, and maintain their competitive advantage in digital markets.

Documentary Evidence for Theme 4

The participants viewed technology adoption as both an operational necessity and a strategic advantage that distinguishes startups in a competitive and rapidly evolving market landscape. The review of publicly accessible documents strongly supports this thematic insight. All five documents indicated that technology is a fundamental

component of startup competitiveness. D1 suggests that most financed startups are in technologically advanced areas such as fintech, cleantech, and mobility, emphasizing technology as a catalyst for investor confidence. D2 provided help for artificial intelligence, agricultural technology, and digital health through acceleration platforms. D3 observed extensive technological adoption among MSMEs, confirming the efficacy of incubators in facilitating digital transformation. D4 reinforces this by highlighting government efforts through tax incentives for research and development, intellectual property advancement, and access to regulatory sandboxes for financial technology. D5 emphasizes Lagos' position as a hub for technology innovation events and the emergence of cybersecurity and innovative fintech startups.

These documentary sources corroborate the participants' narratives by emphasizing the systematic integration of technology into Nigeria's incubation methods to achieve sustainable competitive advantage. The alignment of participant accounts and documentary evidence suggests that technology adoption is not incidental but fundamental to incubators' strategic support of startups within the Nigerian entrepreneurial ecosystem.

Alignment of Theme 4 with the Conceptual Framework

Technology adoption is crucial for gaining a sustainable competitive advantage, aligning with the RBV and P5F framework to boost startups' position in the Nigerian business scene (Barney, 1991). The RBV framework harnesses VRIN resources, enabling technology adoption by improving operational efficiency, innovation, and scalability. Business incubator managers provide startups with digital transformation plans, sector-

specific technological solutions, and robust data analytics tools, ensuring that these companies develop unique competencies that competitors struggle to replicate. For example, P6's integration of AI-driven automation and CRM systems gives startups customer insights and operational efficiency, bolstering their internal resources for long-term market supremacy. Similarly, P4's assistance with blockchain implementation in fintech startups yields a secure and efficient financial transaction system, making these businesses more resilient and less susceptible to replication.

According to the P5F model, technology adoption allows companies to lessen competitive pressures while strategically navigating industry forces. Implementing cutting-edge solutions, such as P5's use of cloud-based data analytics and P4's use of GIS tools, improves logistical efficiency and increases negotiating power by helping enterprises streamline operations and scale more efficiently. Furthermore, cybersecurity measures and P6's integration of AI-driven fraud detection mitigate vulnerabilities associated with digital financial transactions, thereby lowering the risks posed by industry competition and the bargaining power of suppliers and buyers. Furthermore, incubator-driven technology solutions in agribusiness, fintech, and healthcare, such as P5's usage of drone-assisted farming and P3's support for telemedicine platforms, enable startups to differentiate themselves and gain traction in areas with high entry barriers. Startups in Nigeria's dynamic financial landscape can mitigate challenges from new entrants, resist competitive pressures, and improve long-term sustainability by incorporating technological innovation into their business models.

Alignment of Theme 4 with the Literature

Adopting technology as a strategic tool for securing sustainable competitive advantage aligns with scholarly discussions on the constraints, challenges, opportunities, competitiveness, and sustainability of startups mentored by business incubators. Studies indicate that startups face significant constraints related to funding, digital infrastructure, and talent shortages (Awoyemi & Makanju, 2020; Singh, 2024; Egere et al., 2022; Khan et al., 2023). Additionally, the study conducted by Adeniyi and Adeeko (2024) revealed that limited access to advanced technological tools and cybersecurity vulnerabilities impede startup scalability in Nigeria. Furthermore, Kokogho et al. (2025) argue that incorporating sophisticated analytics and machine learning enhances cybersecurity risk management in FinTech by enabling proactive threat detection and expedited incident response. Nevertheless, business incubators play a pivotal role in mitigating these barriers by facilitating cost-effective access to cloud computing, AI-driven automation, and fintech solutions, thereby ensuring that startups optimize their operations despite financial and infrastructural constraints (Alfallah & Veri, 2024). For example, P6's emphasis on customer relationship management (CRM) systems and AI-powered fraud detection aligns with the literature on leveraging digital platforms to enhance operational efficiency and mitigate financial risks (Avira et al., 2023). Furthermore, P5's integration of cloud-based data analytics for market intelligence reinforces findings by Rai et al. (2025) that data-driven decision-making and strategic resource allocation equip startups with capabilities to gain a competitive edge.

From an opportunity and competitiveness perspective, scholarly research highlights that startups incubated within technology-driven ecosystems benefit from accelerated innovation, regulatory navigation, and market differentiation (Akpoviroro et al., 2021; Assenova, 2020). The strategic use of GIS tools in logistics, as stated by P4, blockchain for fintech compliance mentioned by P4, and AI-powered diagnostics in healthcare by P3, underscores how incubators equip startups with sector-specific digital solutions, enhancing their ability to compete in highly dynamic industries (Abdulkader et al., 2020; Kaur et al., 2024; Tran & Vo Thi, 2024). Additionally, technology adoption contributes to startup sustainability by fostering adaptive business models that evolve in response to market trends and regulatory shifts. Research by Rana (2024) highlights the importance of digital transformation in future-proofing startups against external shocks, a strategy reflected in P6's cross-sector tech integration and P5's utilization of university-industry collaborations to drive continuous innovation. By embedding technology as a core business enabler, incubator managers help startups overcome initial market-entry barriers and position them for long-term resilience and competitive advantage in Nigeria's evolving business environment.

Theme 5: Sustaining Long-Term Competitiveness

Theme 5 addressed the central research question by highlighting the strategies employed by participants to help startups maintain their market leadership by adapting to market changes, evolving customer needs, and emerging industry trends. All participants emphasized the importance of integrating environmental responsibility, continuous learning, social impact, and adaptable strategies to achieve long-term success. The study

conducted by Wu et al. (2020) highlighted that business incubators help to improve the effect of internal and external networks on startup orientation, promoting adaptability and innovation necessary for long-term competitiveness. All participants deliberated on their efforts to equip startups with strategies for resilience against market volatility resulting from economic shifts, regulatory changes, and competition. By guiding startups to diversify their offerings, enhance their operational efficiencies, and maintain a strong customer focus, incubators enable them to sustain their competitive edge over time. This long-term focus ensures that startups not only survive but thrive despite challenges.

Additionally, incubators help startups develop a sustainable business model that emphasizes innovation, continuous learning, and strategic partnerships (Habiburrahman et al., 2022; Lamperti et al., 2023). In Nigeria, where access to capital, skilled labor, and infrastructure is limited, as highlighted in the study conducted by Egere et al. (2022), sustaining long-term competitiveness requires leveraging networks, investing in talent development, and fostering collaborations. Incubators provide essential resources, including mentorship, funding opportunities, and market insights, which help startups navigate uncertainty and remain agile (Karahan et al., 2022). This ongoing support enables startups to refine their strategies, adapt to market demands, and remain competitive, ultimately securing their long-term growth and success. Four participants in this study emphasized the importance of integrating environmental responsibility, continuous learning, social impact, and adaptable strategies to achieve long-term success.

Theme 5 combined four sub-themes identified through participant data coding: ecological sustainability practices, resilience through continuous learning, social impact

and inclusive growth, and future-proofing strategies. The sustainability-focused activities that the participants highlighted are crucial in supporting startups in preserving their competitive advantage while contributing to broader economic, environmental, and social objectives. Word frequency analysis was conducted using the interview transcript and public documentation data, which resulted in the identification of sub-themes (see Table 9 and Figure 7).

Table 9

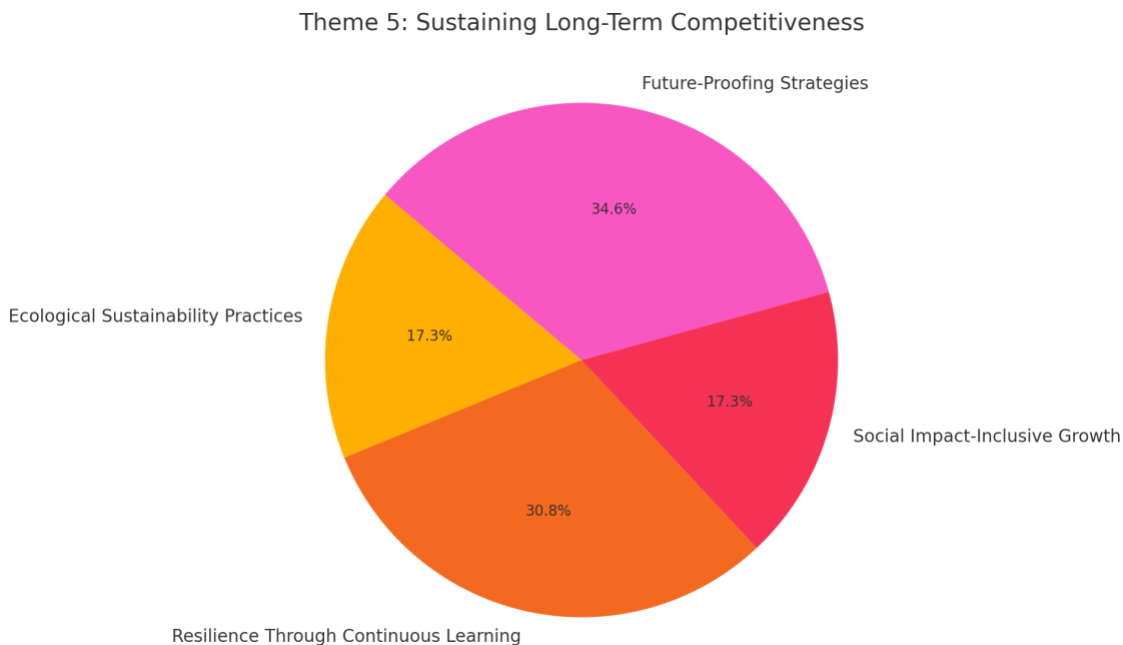
Frequency of Codes Supporting Subtheme 5

Theme	Number of references	Percentage
Ecological sustainability practices	9	17.3%
Resilience through continuous learning	16	30.8%
Social impact-inclusive growth	9	17.3%
Future-proofing strategies	18	34.6%

Note. n = 6

Figure 7

Pie Chart of the Number of References per Subtheme 5



Ecological Sustainability Practices

Integrating ecological sustainability into business operations is crucial for achieving long-term competitiveness and ensuring regulatory compliance. All the participants emphasized the strategic benefits of adopting eco-friendly practices that align with global environmental standards. P1 asserted that environmental consciousness is crucial for sustainable business practices. He encouraged startups to implement sustainable strategies such as energy efficiency, effective waste management, and environmentally friendly manufacturing practices to enhance long-term profitability and appeal to consumers. P2 underscored the significance of the green revolution and advocated for startups in Lagos to prioritize renewable energy sources and sustainable

practices. P3 promoted sustainability in Abuja by assisting startups in implementing renewable energy solutions, including solar energy, to decrease operational expenses. She also urged startups to participate in recycling activities and connect them with environmental advocacy organizations for green certifications. P4 promoted ecological sustainability by advising startups in Lagos, Ibadan, and Abuja on implementing sector-specific eco-friendly practices. He promoted organic agriculture in Ibadan, advocated for the implementation of green energy in Abuja, and enhanced sustainable packaging and logistical efficiency in Lagos.

Furthermore, P5 mentioned advocating for university-led waste-to-energy projects, enabling startups to implement renewable energy solutions that minimize waste and reduce reliance on nonrenewable resources. According to the study by Artem et al. (2024), these initiatives promote sustainable production processes and foster innovation by embedding startups in research-driven ecosystems focused on environmental conservation. Similarly, P6 emphasized the importance of renewable-powered irrigation systems for agribusiness startups, which reduce carbon footprints while enhancing agricultural productivity. By leveraging clean energy solutions, startups can optimize resource efficiency, mitigate environmental risks, and meet sustainability expectations from consumers and investors (Artem et al., 2024). These environmentally conscious practices position startups as responsible corporate entities, increasing their attractiveness to impact-driven stakeholders while ensuring long-term viability in an evolving business landscape.

Resilience Through Continuous Learning

Building resilience through continuous learning is fundamental to sustaining long-term competitiveness in an evolving business landscape (Olaleye et al., 2024). Five participants emphasized the importance of ongoing research, leadership development, and adaptive strategies in equipping startups with the tools necessary to navigate industry disruptions. P1 highlighted that maintaining a competitive advantage necessitates continuous improvement and commitment to quality. He supported startups in fostering team development through regular training and upskilling initiatives, utilizing market input and performance evaluations to guarantee continuous learning and alignment with organizational objectives. P2 emphasized that startups can achieve long-lasting success by attentively addressing customer feedback, utilizing it to enhance their products, and incorporating technology innovations such as efficient payment systems. He emphasized the necessity for continuous education, re-skilling, and operational efficacy to maintain competitiveness in evolving market conditions. P3 facilitated continuous learning by coordinating capacity-building initiatives and strategic workshops for startups. She recommended that startups consistently enhance their value propositions and adjust to regulatory or market fluctuations to maintain resilience and competitiveness over time.

P4 discussed promoting leadership development programs and fostering a culture of strategic foresight and proactive decision making among entrepreneurs. By instilling forward-thinking approaches, startups can anticipate market shifts, mitigate potential risks, and position themselves for sustainable growth in dynamic environments (Kato, 2024). Similarly, P5 leveraged academic collaborations to provide startups with

evidence-based insights that align their business models with emerging industry trends. Through research-driven mentorship and access to cutting-edge knowledge, startups can refine their strategies, enhance operational efficiency, and stay ahead of market demands (Rai et al., 2025). These initiatives underscore the importance of agility and continuous innovation, enabling startups to adapt to change and capitalize on new opportunities for long-term sustainability and competitive advantage.

Social Impact-Inclusive Growth

Startups that strike a balance between profitability and social impact establish long-term sustainability and resilience in competitive markets (Al-Hakimi et al., 2022). Most participants emphasize the importance of integrating social responsibility into business models to drive inclusive growth and foster meaningful societal change. P3 emphasized the incorporation of financial inclusion, healthcare accessibility, and education into entrepreneurial strategies, ensuring that startups generate revenue and address critical socioeconomic challenges. Chakraborty et al. (2023) emphasize the importance of regulatory compliance, stakeholder collaboration, and responsible innovation strategies that enable startups to generate profits while addressing systemic socioeconomic issues, such as healthcare inequality and digital exclusion. By embedding these impact-driven objectives, startups enhance their credibility, attract socially responsible investors, and foster stronger relationships with local communities.

Similarly, P5 leverages NGO collaborations to support purpose-driven initiatives that address pressing local and global social challenges. Through these partnerships, startups access resources that enhance their ability to implement community-focused

programs, such as affordable healthcare solutions and educational outreach efforts. These initiatives demonstrate that aligning business success with social impact strengthens brand loyalty, fosters long-term customer trust, and positions startups as key contributors to sustainable economic development.

Future-Proofing Strategies

Future-proofing strategies are essential for startups to remain competitive amid market uncertainties and technological disruptions (Alami & Sergio, 2024; Oduro et al., 2024). Participants emphasized the importance of adaptability, cross-sector innovation, and strategic foresight in sustaining long-term business viability. P1 highlighted the value of flexibility and leadership development as methods for future-proofing. He encouraged startups to adapt to changing market conditions, establish a solid organizational culture, and constantly monitor industry trends and consumer preferences to remain competitive. P2 suggested that startups must plan for macroeconomic and microeconomic uncertainty by implementing a balanced and resilient business model. He emphasized the importance of diversifying funding sources, increasing operational efficiency, and developing strong networks and alliances to resist external disruptions and potential challenges. P4's approach to future-proofing focuses on guaranteeing that startups perpetually innovate and adapt to market fluctuations. He recommended that startups prioritize leadership development, community engagement, and the capacity to modify their business models in response to future market demands and regulatory landscapes.

Furthermore, P5 indicated that future-proofing necessitates the integration of startups within a network of academic institutions, nongovernmental organizations, and

corporate partners. He believes that this integrated environment helps startups develop resilience models, enabling them to adapt to market fluctuations while maintaining social relevance and environmental sustainability. P6 promoted cross-sector innovation by integrating fintech solutions into agribusiness financing, enabling farmers and agricultural entrepreneurs to access tailored financial products. Additionally, P6 facilitates the application of AI-driven analytics in logistics, optimizing supply chain efficiency and predictive decision-making. By leveraging technology across multiple industries, startups enhance their resilience and expand their market opportunities, ensuring they remain ahead of industry shifts.

Moreover, prioritizing business flexibility allows startups to effectively navigate regulatory changes, economic fluctuations, and evolving consumer demands (Enwereji et al., 2024). P6 strategic approach underscores the necessity of strategic foresight in anticipating industry trends and aligning business models with future market conditions. Omowole et al. (2024) asserted that if startups embed agility into their operational frameworks, they can mitigate risks and position themselves as industry leaders capable of driving continuous innovation and adaptation. This approach enables startups to pivot quickly in response to external challenges, ensuring sustained growth and long-term competitiveness.

Overall, Theme 5 indicated that startups must incorporate environmental responsibility, continued education, social impact, and adaptive strategies into their business models to maintain long-term competitiveness. P1–P6 highlighted the necessity of integrating sustainability practices, including waste minimization and the adoption of

renewable energy, to improve operational efficiency and comply with changing regulatory and market demands. By cultivating resilience through continuous learning and innovation, startups can adjust to industry changes while promoting inclusive economic growth. Consequently, by implementing proactive future-proofing strategies, incubators provide startups with essential tools to manage uncertainties, generate enduring social value, and sustain a competitive advantage.

Documentary Evidence for Theme 5

The publicly accessible documents examined for this study provided solid support for the participants' perspectives on sustaining long-term competitiveness among Nigerian startups. The documents highlight resilience and long-term growth as key benefits of effective incubation. D1 shows that Nigerian startups are raising larger funds and hiring more, indicating increased operational maturity. D2 offers 12-week programs and provides cross-border investor access to enhance startups' long-term profitability. D3 highlights the long-term contribution of MSMEs to GDP and employment, despite macroeconomic constraints, emphasizing the need for incubators to provide continuity solutions. D4 provides 10-year startup labels, pioneer tax status, and multi-agency policy support to assure sustainability. D5 observes continuous VC inflows and ecosystem exposure in Lagos, which indicate scalable outcomes.

These findings are consistent with the participants' strategies for integrating long-term resilience into startup models. These documents consistently echoed the participants' reflections that the incubators' strategic role extends beyond short-term success. Instead, the focus was on providing startups with adaptive strategies, access to

continuous learning, and collaborative networks that promote long-term viability. The credibility of this theme is further bolstered by the alignment between the documentary evidence and the participants' insights, which emphasizes the importance of incubation managers in maintaining the competitiveness of startups over time.

Alignment of Theme 5 with the Conceptual Framework

The P5F framework and RBV provide a robust analytical framework for understanding how managers of business incubators develop plans that ensure the long-term viability and competitiveness of startups in Nigeria. RBV holds that having VRIN resources is the foundation of a company's long-term competitive advantage (Barney, 1991). In this regard, incubators are essential in providing businesses with strategic assets that support long-term competitiveness, including ecological sustainability practices, resilience through continuous learning, social impact-inclusive growth, and future-proofing strategies. The participants' insights connect the RBV and the subthemes. RBV suggests that for a business to maintain a competitive edge over time, it needs to possess VRIN resources (Barney, 1991). According to the participants' responses, incubators play a key role in helping startups adopt environmentally sustainable practices. For instance, P2 and P3 utilize eco-friendly packaging, adopt organic agriculture practices, and invest in renewable energy sources. These are high-value and socially responsible assets, making them difficult for rivals to duplicate.

Another major point raised by the participants was the importance of resilience through continuous learning. This came through their practices that help build adaptive internal capabilities, such as reinvesting in R&D, incorporating feedback loops, and

offering mentorship. These learning-driven approaches keep startups innovative and well-positioned to thrive and stand out in rapidly changing markets. The social impact and inclusive growth were also seen as strategic advantages. For example, P3 stated that startups that actively engage with local communities, form global development partnerships, and promote inclusive practices can build trust, gain legitimacy, and become deeply embedded in their environments. These locally rooted relationships are tough for competitors to replicate, making them powerful, socially grounded resources that enhance competitiveness.

From the perspective of P5F, the feedback also highlighted how incubator support helps startups counter external threats and strengthen their market position. P1 and P6 noted that sustainable practices reduce exposure to regulatory pressures and foster customer loyalty, diminishing buyer power and the risk of substitutes. The subtheme of continuous learning is also aligned with better responsiveness to industry competition and market shifts, allowing startups to stay relevant even in saturated or rapidly evolving sectors. The P5F framework further explains how strategic sustainability initiatives help startups navigate industry rivalry and external threats (Porter, 1980). Incubator-led initiatives, such as P4's emphasis on digital transformation and international market expansion, ensure that startups remain flexible in response to technological disruptions and globalization trends, thereby strengthening their capacity to withstand competitive rivalry and market entry challenges.

Furthermore, socially inclusive strategies such as partnerships with NGOs and community groups are barriers to new entrants. These established networks and goodwill

are complex for newcomers to match. Lastly, P5 encourages startups to employ future-proofing strategies, such as scenario planning, diversification, and integration tools like CRM, GIS, and ERP systems, to navigate uncertain infrastructure and policy conditions. These strategies align with P5F by enabling firms to adapt to changes in customer behavior, regulations, and technological advancements. Hence, business incubators in Nigeria ensure that startups are well-positioned to prosper in the face of economic volatility, regulatory obstacles, and technological advancements, while promoting long-term resilience and growth by coordinating with RBV's resource-driven approach and Porter's insights into competitive strategy.

Alignment of Theme 5 with the Literature

The ability of startups to achieve sustainable competitive advantage heavily depends on access to critical resources and integration within supportive business ecosystems (Ziakis et al., 2022). Business incubators serve as resource facilitators, mitigating some of startups' fundamental constraints and challenges, such as funding limitations, infrastructure deficits, talent shortages, and market access barriers (Hewitt & van Rensburg, 2020). P5's strategy of leveraging university research partnerships and NGO collaborations aligns with the literature, which emphasizes knowledge-driven resource allocation, thereby enhancing innovation capacity and market adaptability (Yuen & Lam, 2024). Similarly, P6's focus on sector-specific ecosystem integration, such as linking agribusiness startups with cooperative networks and fintech startups with regulatory bodies, addresses the challenge of fragmented industry support systems that often hinder startup scalability (Berniak-Woźny et al., 2025). These strategic

interventions enable startups to overcome systemic constraints and gain access to high-value resources that would otherwise be difficult to acquire.

Regarding opportunities and competitiveness, the study by Crammond (2024) underscores how well-integrated startups within incubator-led ecosystems can enhance their market positioning by leveraging shared resources, strategic partnerships, and institutional support. P4's approach to embedding startups within multinational supply chains and linking them to impact investors is consistent with research highlighting how ecosystem-based collaboration fosters innovation and reduces market entry barriers (Shkarupeta & Babkin, 2024). Additionally, ecosystem integration supports long-term sustainability by helping startups navigate regulatory complexities, access mentorship networks, and build resilience against economic shocks (Crammond, 2024). For instance, P3's policy advocacy initiatives demonstrate how incubators help startups align with regulatory requirements, reducing legal uncertainties and compliance risks. This policy advocacy initiative, demonstrated by P3, is critical for sustainability in emerging markets like Nigeria. By aligning with scholarly insights on ecosystem-driven startup development, incubator managers play a pivotal role in equipping startups with the resources, networks, and strategic foresight necessary to maintain long-term competitiveness and market relevance.

Theme 6: Strategic Adjustment to Overcome Challenges

Theme 6 addressed the central research question by highlighting the strategies employed by the participants to remain flexible and adaptable in the face of changing market conditions and unforeseen obstacles. Participants emphasize the need for strategic

adjustments to address budgetary constraints, regulatory inconsistencies, infrastructure inadequacies, and international market pressures. These challenges require proactive solutions that allow startups to maintain competitiveness while adjusting to changing business environments. The study by von Kolpinski et al. (2022) highlighted that startups in dynamic marketplaces must confront numerous obstacles that affect their sustainability and growth in order to gain a competitive edge. This strategy enables startups to adapt and overcome challenges, particularly in Nigeria, where startups often face regulatory uncertainty, economic volatility, and limited access to essential resources, as highlighted by Ajah (2023). All the participants highlighted their crucial role in guiding startups in reassessing their business models, identifying emerging threats, and adjusting their strategies accordingly. This proactive approach enables startups to mitigate risks and capitalize on new opportunities, thereby ensuring long-term competitiveness in a rapidly evolving environment.

Furthermore, strategic adjustments encourage startups to build resilience and agility, two key traits for sustaining competitive advantage (Musa & Enggarsyah, 2024). In Nigeria's entrepreneurial ecosystem, where external factors like infrastructure deficits and market instability hinder growth, incubators help startups develop contingency plans and refine their operations. By fostering an environment that encourages experimentation and learning from failure, incubators support startups in making informed adjustments that align with both short-term and long-term objectives (Bala Subrahmanya, 2022). This adaptability enables startups to overcome challenges, maintain market relevance, and ensure continued success despite external pressures.

This major theme encompasses four subthemes derived from participant responses: alternative financing, regulatory instability, advocacy efforts, infrastructure and talent deficiencies, and global competitiveness. Each subtheme illustrates strategic initiatives startups undertake to mitigate risks and focus on opportunities for long-term success (see Table 10 and Figure 8).

Table 10

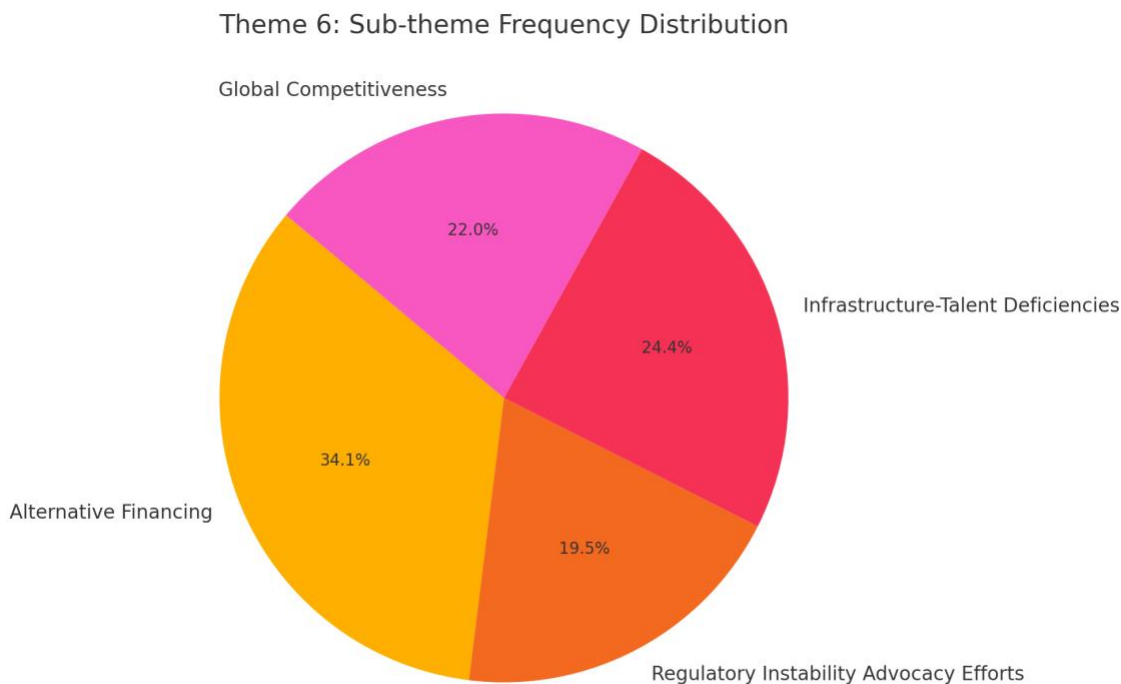
Frequency of Codes Supporting Subtheme 6

Theme	Number of references	Percentage
Alternative financing	14	34.15%
Regulatory instability advocacy efforts	8	19.51%
Infrastructure-talent deficiencies	10	24.39%
Global competitiveness	9	21.95%

Note. n = 6

Figure 8

Pie Chart of the Number of References per Theme



Alternative Financing

The study conducted by Ajah (2023) and Egere et al. (2022) revealed that one of the challenges SMEs encounter in Nigeria is limited access to traditional financing. However, in the study, participants P1-P6 revealed their proactive strategies for addressing the persistent challenge of restricted access to conventional funding encountered by Nigerian startups through the subtheme of Alternative Financing. P1-P6 admitted that traditional bank financing is frequently unavailable to startups due to bureaucratic procedures, high interest rates, and stringent collateral requirements. As a

result, each participant implemented various alternative financing strategies to help startups overcome these financial obstacles.

P1 and P2 highlighted the potential of nontraditional financing models, including microfinance institutions and crowdfunding, as viable alternatives for startups. P1 underscored the significance of financial literacy and financial resource mobilization as fundamental components of assisting startups in obtaining alternative funding. The strategic engagement with microfinance banks and financial cooperatives that are more flexible in lending to small businesses, particularly in the fintech and retail sectors, was further discussed by P2. Both participants' approaches were based on acknowledging Nigeria's underdeveloped credit infrastructure and the desire to address this deficit by providing startups with access to unconventional funding sources.

Similarly, P3 and P4 reported establishing strategic partnerships with international development organizations and donor agencies to offer startup grants and capacity-building funding. For example, P3 described the utilization of partnerships with foreign development organizations headquartered in Abuja to connect startups with grant opportunities and low-interest loans, particularly for agribusiness and education startups. P4 deliberated on initiatives to establish connections with venture capitalists and diaspora financing networks to offer equity financing and mitigate the reliance of startups on restricted local funding sources. These alternative funding strategies demonstrate a deliberate transition from conventional bank lending to institutional and international financing partnerships.

The integration of startups into academic, NGO, and industry collaborations by P5 and P6 resulted in increased access to financial resources and a shift toward ecosystem-driven approaches. P5 reported utilizing university partnerships to facilitate research grants, innovation funding, and NGO-backed financing programs to support socially impactful startups. The strategy of P6 involved establishing connections between startups and sector-specific accelerators, impact investors, and financial institutions interested in financing innovative solutions in the fintech, agribusiness, and healthcare sectors. Both participants acknowledged that alternative financing mechanisms, which are integrated into broader ecosystem partnerships, have the potential to establish sustainable funding channels for startups and promote financial inclusion.

Collectively, the insights from participants P1 to P6 emphasize the importance of alternative financing as a strategic response to the constraints of Nigeria's financial ecosystem. The participants' strategies demonstrate a deliberate diversification of funding sources beyond traditional credit institutions, including crowdfunding, donor agencies, venture capitalists, microfinance institutions, and academic-NGO collaborations. This method not only enhances startups' access to financial capital but also aligns with capacity-building objectives, thereby enhancing Nigerian startups' long-term competitiveness and resilience. The emphasis on alternative financing further reinforces the RBV theoretical framework, as participants strategically mobilized financial resources as valuable, uncommon, and inimitable assets essential for maintaining a competitive advantage in a challenging economic environment.

Regulatory Instability Advocacy Efforts

The participants collectively acknowledge the impact of Nigeria's volatile regulatory landscape on the sustainability and competitiveness of startups. Regulatory instability poses a significant challenge for startups, necessitating proactive advocacy and compliance strategies to maintain operational continuity (Yang et al., 2025). All participants emphasized the importance of engaging with policymakers and aligning business models with evolving legal frameworks to mitigate risks. The participants recognized that variable policies, bureaucratic impediments, and ambiguous regulatory frameworks present substantial barriers to the expansion of startups. Their strategies focused on helping startups navigate uncertainties while participating in advocacy to foster a more stable and supportive business environment.

The response from P1 and P2 underscored the significance of policy participation and regulatory knowledge as essential lobbying tools. P1 advised startups to cultivate relationships with government agencies and participate in public forums to stay informed about regulatory changes that may impact their operations. P2 elaborated on this by emphasizing the function of incubators as mediators that foster communication between policymakers and startups, thus enhancing the representation of startups that may have limited access to regulatory authorities. Both participants regarded their advocacy activities as crucial in alleviating the disruptive impacts of regulatory changes and ensuring that startups remain compliant and prepared.

P3 and P4 adopted a more proactive and systematic strategy for regulatory advocacy. P3 articulated efforts to establish partnerships with international development

organizations and local stakeholders to impact policy reforms that foster startup growth, especially in Abuja. P4 engaged in comprehensive collaboration with industry associations and governmental entities to promote regulation clarity, transparency, and the elimination of bureaucratic obstacles. These initiatives were not solely defensive but were intended to collaboratively establish a regulatory environment that fosters innovation and entrepreneurship in industries such as fintech, agriculture, and healthcare.

P5 and P6 demonstrated a strategic commitment to long-term regulatory advocacy campaigns, integrated within extensive ecosystem alliances. P5 indicated collaboration with NGOs and universities to perform policy research and create position papers that guide regulatory reforms impacting startups, especially in underprivileged communities. According to Giourka et al. (2021), startups enhance their competitiveness by integrating international best practices and positioning themselves for cross-border expansion. This strategic alignment safeguards businesses against abrupt regulatory changes and facilitates access to global markets and investment opportunities. P6 emphasized the importance of facilitating direct interaction between startups and regulators through workshops and policy discussions, aiming to foster a mutual understanding of regulatory impediments. Both participants acknowledged that enduring advocacy requires cooperative efforts among multiple stakeholders, including academics, industry, and government.

The overall insight from all participants reveals that lobbying for regulatory stability is crucial for providing strategic support to startups. These initiatives correspond with the P5F concept in mitigating the threat of external pressures that may compromise

startup competitiveness. The participants' proactive lobbying strategies enable startups to anticipate and adapt to regulatory changes, thereby fostering a conducive atmosphere for entrepreneurship in Nigeria. Their initiatives demonstrate a sophisticated comprehension of the relationship between policy stability and sustainable corporate growth, emphasizing the need for stakeholder involvement and policy advocacy in addressing structural obstacles in emerging economies.

Infrastructure-Talent Deficiencies

Participants P1 to P6's views on the subtheme Infrastructure-Talent Deficiencies reveal a common recognition of structural and human capital constraints that impede startup development and long-term competitiveness in Nigeria. Infrastructure deficiency and talent shortages pose significant challenges to startup scalability, requiring strategic interventions to enhance operational efficiency (Kayser et al., 2023). Throughout the interviews, all participants consistently identified a lack of reliable infrastructure, including power supply, digital connectivity, and transportation networks. P1 to P6 also identified a shortage of specialized and entrepreneurial talent as a critical barrier that startups must overcome to thrive in the Nigerian business environment.

Participant P1 noted inadequate infrastructure, particularly poor logistics and energy supplies, which raise operational costs and limit market access for startups. P1 also mentioned a scarcity of industry-ready people, stating that many startup founders struggle to recruit talented professionals with the technical and managerial expertise needed to scale their operations. Similarly, P2 emphasized the challenge of acquiring excellent infrastructure outside of large urban areas such as Lagos and Abuja, as well as a

mismatch between traditional education systems' skills and the dynamic needs of the startup ecosystem.

Participants P3 and P4 shared their viewpoints, recognizing that infrastructural shortcomings, particularly irregular internet connectivity and limited access to co-working spaces, hinder startups' ability to adopt current technology and compete effectively in regional and global markets. Both participants emphasized the importance of targeted talent development activities to bridge the gaps in technical knowledge and entrepreneurial skills. P3 further stated that these inadequacies disproportionately affect startups in nonmetropolitan areas, compounding regional disparities in startup success rates. P4 highlighted the lack of interaction between higher education institutions and industry, resulting in an underdeveloped pipeline of entrepreneurial talent.

Participants P5 and P6 proposed strategic approaches to these difficulties, emphasizing the need for ecosystem-wide actions. P5 described coordinated efforts with universities and NGOs to offer specialized training programs and promote entrepreneurship education, aiming to address talent shortages. They also addressed how to help startups gain access to physical infrastructure, such as digital hubs and innovation centers. P6 emphasized leveraging international collaborations and diaspora networks to solve infrastructure limitations and human capital shortfalls. This participant urged deliberate investments in digital infrastructure and sector-specific training initiatives to equip startups with the necessary skills and resources to remain competitive.

The overall response of the participants reveals that they see infrastructure-talent deficits as systemic barriers that impede startup growth, innovation potential, and market

competitiveness. Their methods are closely tied to the RBV philosophy, which posits that a sustainable competitive advantage depends on access to valuable, scarce, and unique resources, such as human and physical capital. The participants' emphasis on partnerships, talent development, and infrastructure enhancement indicates that Nigerian startups will remain vulnerable to internal and external market pressures unless these inadequacies are addressed. Collectively, these initiatives address the infrastructural and human capital challenges that impede startup growth, as highlighted in the studies conducted by Ajide (2020) and Priyanka et al. (2023). The viewpoints of participants P1 to P6 emphasize the importance of legislative interventions and collaborative ecosystem-building initiatives in bridging infrastructure gaps and fostering the entrepreneurial skills necessary for long-term startup success in emerging economies.

Global Competitiveness

The participants' insights about the subtheme Global Competitiveness revealed a shared acknowledgment of the necessity for Nigerian startups to compete in markets beyond local and regional boundaries. Achieving global competitiveness requires the adoption of international best practices and the establishment of cross-border collaborations (Giourka et al., 2021). The participants recognized that global competitiveness is crucial for the sustainability and scalability of startups in Nigeria, especially amid rising globalization, digital disruption, and local market saturation. They identified several obstacles that affect the ability of Nigerian startups to thrive in international markets.

Participant P1 emphasized that Nigerian startups face considerable structural obstacles that hinder their global competitiveness, including insufficient access to foreign capital, inadequate intellectual property protections, and limited exposure to international market standards. P1 underscored that failing to solve these problems will hinder numerous Nigerian startups from expanding outside local markets. P2 emphasized the necessity for startups to conform to international business processes, adopt globally recognized technological standards, and refine their value propositions to attract overseas customers and investors.

Participants P3 and P4 focused on the legal and infrastructural constraints that hinder startups' ability to compete on a global scale. P3 said that inconsistent government policies and a complicated regulatory landscape generate uncertainty, hindering startups from participating in cross-border trade and securing overseas collaborations. P4 stated that Nigerian startups frequently trail their international peers due to the lack of sophisticated infrastructure, especially digital infrastructure, which is essential for engagement in the global digital economy.

Participants P5 and P6 provided strategic recommendations for overcoming these obstacles. P5 highlighted the significance of ecosystem alliances, particularly collaborations with international NGOs, academic institutions, and development agencies, in enhancing startups' global exposure and competitiveness. International networking and knowledge exchange further strengthen startups' ability to compete globally (Subrahmanya, 2022). They outlined activities to provide startups with the knowledge and resources necessary to adhere to global market norms and secure

international funding opportunities. P6 promoted specialized capacity-building initiatives centered on international business competencies, digital marketing, and adherence to global rules. They emphasized the need to incorporate global best practices into local business models while preserving cultural and regional significance. By engaging with global entrepreneurship ecosystems, startups gain exposure to emerging industry trends, innovative business models, and potential cross-border partnerships (Giourka et al., 2021).

From an analytical perspective, the participants' insights correspond with the RBV theory and P5F framework. From the RBV perspective, the participants emphasized the necessity for Nigerian startups to acquire and develop distinctive resources, such as international networks, globally competitive technology, and regulatory expertise, to compete in the global marketplace. According to Porter's framework, the participants' emphasis on regulatory barriers, access to global markets, and international partnerships underscores the importance of external factors, such as the threat of new entrants and the bargaining power of global customers, which Nigerian startups must strategically manage to attain international competitiveness.

The overall findings from the participants indicate that Nigerian startups must adopt a strategic approach to enhance their global competitiveness, focusing on addressing internal capacity deficiencies, infrastructural and policy constraints, and international market positioning. These observations reinforce the assertion that Nigerian startups require a conducive ecosystem, strategic alliances, and legislative reforms to

overcome structural and capability-related obstacles that hinder their participation in the global market.

Documentary Evidence for Theme 6

The review of publicly accessible documents supported and reinforced the participants' views on the importance of strategic adaptation in addressing the persistent challenges faced by startups in Nigeria. Adaptability and flexibility are crucial for navigating Nigeria's complex entrepreneurial landscape. D1 depicts how startups have resorted to debt funding and diversification in response to decreased VC activity. D2 identifies policy lobbying, regional outreach, and seed funding as strategic adaptations. D3 outlines the challenges faced by MSMEs in terms of taxes, financing, and infrastructure, highlighting the role of incubators in overcoming these challenges. D4's unification of regulatory processes and innovative commercialization paths improves strategic agility. D5 refers to Lagos's proactive talent recruiting, diaspora engagement, and education-industry alignment as adaptable mechanisms.

These sources confirm that strategic adaptation, as demonstrated by the study's participants, is critical for incubator and startup success in Nigeria. The documentary evidence supported the participants' perspectives that strategy adjustment constitutes a deliberate and continuous effort to address the uncertainties and systemic challenges of Nigeria's entrepreneurial ecosystem. The incorporation of documentary evidence and participant perspectives underscores the vital role of adaptability, resilience, and strategic adjustment in promoting startup sustainability and a competitive edge.

Alignment of Theme 6 with the Conceptual Framework

The RBV and P5F framework systematically examines the business incubator strategies provided to startups for addressing challenges and making strategic adjustments to achieve a long-term competitive advantage in Nigeria. According to the RBV, startups' potential to achieve long-term success depends on their ability to create and exploit distinctive, inimitable, and strategically essential resources (Barney, 1991). However, Nigerian startups face significant resource constraints, including financial limitations, regulatory uncertainty, inadequate infrastructure, and skill shortages (Ajah, 2023). These challenges limit their ability to develop long-term competitive advantages. Business incubator managers fill these resource shortfalls through alternative finance channels, as evident through P4, P5, and P6 regulatory advocacy and capacity-building initiatives. The support provided by P1 to P6 indicated that incubators help startups become more resilient and competitive by giving them access to financial networks, policy insights, and workforce development efforts.

The P5F framework outlines how business incubators help startups navigate industry challenges and adapt to strategic changes, thereby maintaining competitiveness. For example, new entrants pose a significant challenge to Nigeria's developing startup ecosystem, needing effective market positioning and differentiation initiatives. Incubator-led activities, such as digital transformation (as mentioned by P4), sector-specific innovation (as cited by P6), and global market development (as mentioned by P5 and P6), help startups build competitive forces that make them less vulnerable to new competitors. Similarly, financial constraints and regulatory uncertainty are examples of external forces

categorized by Porter as supplier power that generate barriers. Hence, incubators help startups overcome competitive rivalry by promoting data-driven decision-making, policy alignment, and cross-sector collaboration. Incubators employ this method to equip startups with adaptive capabilities, enabling them to overcome immediate challenges and maintain a competitive advantage over time.

Alignment of Theme 6 With the Literature

The challenges and strategic adjustments faced by startups in Nigeria reflect broader constraints and opportunities discussed in the scholarly literature on business incubation (Harrison, 2022). Startups mentored by business incubators must navigate financial limitations, regulatory instability, infrastructure deficits, and gaps in global competitiveness, which are commonly cited barriers in entrepreneurship research (Ajah, 2023; Akwei & Nwachukwu, 2022). Incubators mitigate these challenges by facilitating alternative financing solutions, providing regulatory compliance support, promoting workforce development, and facilitating international market integration (Akpoviroro et al., 2021; Awonuga et al., 2024). For instance, access to funding remains a critical constraint, as venture capital and traditional banking institutions in Nigeria often have stringent requirements for startups (Awoyemi & Makanju, 2020). P4, P5, and P6 highlighted diaspora investments, NGO partnerships, and microfinance strategies as alternative funding mechanisms. The approaches of these participants aligned with research advocating for diversified financing models to enhance startup sustainability (Oturu, 2025).

Regulatory unpredictability further compounds startup challenges, as shifting government policies and compliance requirements create uncertainty (Sreenivasan & Suresh, 2023). The advocacy efforts of P6, compliance training of P4, and international partnerships of P5 emerged as key strategies employed by incubators to counteract this instability, aligning with studies that emphasize the importance of policy engagement and legal preparedness for entrepreneurial success (Sudaryana et al., 2024). Additionally, infrastructure gaps and talent shortages hinder scalability, reinforcing findings from existing research on emerging-market entrepreneurship (Ajah, 2023; Ajide, 2020). Digital infrastructure improvements of P6, university collaborations of P5, and mentorship programs of P3 address these gaps by equipping startups with the necessary technological and human capital resources, supporting the argument that incubators serve as catalysts for startup ecosystem development (Akpoviro et al., 2021). Ultimately, maintaining global competitiveness remains crucial for long-term sustainability. Scholarly literature highlights that startups in developing economies benefit from international networks and cross-border collaborations (Rodríguez-García et al., 2024), aligning with participant strategies such as aligning with international standards of P4, leveraging geopolitical advantages of P6, and fostering global mentorship connections of P5. These findings underscore the importance of incubator-driven strategic adjustments in enhancing startup resilience, innovation, and sustainable competitive advantage.

Business Contributions and Recommendations for Professional Practice

The findings of this study provide substantial contributions to the professional practice of business incubation and startup development, especially within the Nigerian

and broader sub-Saharan African entrepreneurial ecosystems. The insights gathered from the six incubator managers underscore the practical challenges and strategic measures required to enhance startup sustainability and competitive advantage. This research identifies a significant gap in academic knowledge and professional practice by providing insights into how business incubation strategies can reduce startup failure rates, foster sustainable business growth, and enhance socioeconomic development.

The primary contribution of this study is the elucidation of how strategic market identification, capacity-building activities, resource allocation strategy, technology adoption, and regulatory advocacy may be systematically utilized to enhance startup outcomes. The thematic analysis indicated that incubator managers' dependence on sector-specific market analysis, data-driven decision-making, and policy alignment provides startups with the strategic insight required for market entry and competitive edge. These findings are directly relevant to professional practice, providing specific, context-oriented strategies for business incubation managers and policy stakeholders aiming to cultivate a robust entrepreneurial environment.

This research addresses a significant gap in the literature by examining the scarcity of empirical studies on the integration of ecosystem partnerships, including universities, NGOs, and industrial stakeholders, in the distribution of resources. Previous research has primarily focused on incubation models in developed countries, often neglecting the specific constraints encountered by startups in developing environments, including infrastructural inadequacies, talent shortages, and limited access to capital (Adegbite, 2022; Egere et al., 2022; Gómez et al., 2023). This study fills this gap by

offering localized, practical insights that accurately depict the realities of startup development in Nigeria. The focus on technology adoption strategies, such as digital transformation and cybersecurity integration, enhances the expanding knowledge base on digital entrepreneurship and its implementation in emerging countries.

The findings underscore the importance of incubator managers serving as strategic facilitators, addressing institutional gaps through mentorship, capacity-building initiatives, and targeted advocacy for regulatory changes. Business leaders, legislators, startup support organizations, and entrepreneurship instructors are encouraged to consider the practical strategies outlined in this report to improve startup survival and growth rates. The report emphasizes the need for an increase in regional support hubs across the country to enhance tailored mentorship programs, regulatory compliance assistance, alternative funding options, and industry-specific training, thereby addressing structural problems.

To translate these insights into enhanced business practices, the following specific recommendations are suggested:

- **Institutionalization of Data-Driven Market Identification Programs:** Business incubators must integrate systematic market research, policy analysis, and data analytics training into their incubation processes to empower startups in making educated market entry decisions.
- **Strategic Capacity Enhancement:** Incubators and startup support entities must provide tailored mentorship initiatives, co-working space development, regulatory

compliance seminars, and investor readiness training to strengthen startup operational competencies.

- **Resource Allocation Based on Ecosystems:** Professional incubator managers must utilize strategic alliances with universities, NGOs, and financial organizations to enhance access to specialized expertise, financial resources, and technical knowledge.
- **Digital Integration and Technological Preparedness:** Incubation programs must emphasize digital transformation efforts by providing startups with access to digital payment systems, data analytics tools, industry-specific technologies, and cybersecurity enhancement resources.
- **Advocacy for Regulatory Reforms:** Incubator managers, in partnership with startups and development organizations, must engage lawmakers to foster regulatory stability, enhance access to alternative funding options, and rectify infrastructural and talent shortcomings.
- **Advancement of Sustainable Business Models:** Incubators must incorporate sustainability and resilience training into their support programs to motivate startups to embrace environmentally friendly practices, social impact projects, and adaptive leadership strategies.

Implications for Social Change

The results of this doctoral study have the potential to significantly contribute to positive social change by promoting the sustainable development of entrepreneurial ecosystems in Nigeria and other developing economies. This study presents empirical

evidence on how startups can enhance long-term sustainability through strategic market identification, capacity building, resource allocation, technology adoption, and regulatory advocacy. These strategies are essential for promoting inclusive socioeconomic growth, reducing unemployment, nurturing social innovation, and enhancing business competitiveness. The findings of this study advance efforts to reduce poverty, promote economic self-sufficiency, and foster resilient communities by providing startups with the necessary tools and resources to overcome structural and institutional barriers.

By fostering entrepreneurial resilience, continuous learning, and leadership development among startup founders and their employees, the strategies identified in this research can contribute to the development of human capital at the individual level. The potential to empower individuals with market-relevant skills, enhance their employability, and cultivate a culture of innovation is present in the emphasis on capacity-building initiatives, such as mentorship programs, training, and investor readiness workshops. Moreover, the incorporation of digital technologies and data-driven decision-making is encouraged to assist individual entrepreneurs in navigating intricate market environments and enhancing their quality of life by generating more business opportunities.

The results provide a roadmap for incubators, policy stakeholders, and entrepreneurship development organizations to design and implement more effective entrepreneurship support programs from an organizational and institutional perspective. This study promotes collaboration between public and private sector institutions to create a more enabling environment for startup development by advocating for regulatory

reforms and fostering partnerships that align with the industry. The establishment of sustainable business models that prioritize ecological responsibility, social inclusiveness, and ethical governance can be the result of these collaborative efforts, thereby contributing to the long-term well-being of society.

The strategic approaches identified in this study have the potential to reduce systemic inequalities and promote inclusive economic growth at the community and societal levels. The results motivate startups to address community needs, generate employment opportunities, and contribute to social development initiatives by emphasizing environmentally sustainable practices and socially impact-inclusive growth. This research also highlights the importance of advocating for regulatory reforms, which can lead to more equitable access to resources, improved infrastructure, and increased financial inclusion for marginalized populations.

Ultimately, this study advocates for an entrepreneurial ecosystem that is not only economically viable but also socially responsible, thereby fostering the dignity, worth, and growth of individuals and communities. The results bolster the broader agenda of sustainable development by addressing critical structural challenges that impede the success of startups, such as regulation instability, talent constraints, and infrastructure deficits. Incubators and business executives can contribute to developing a more resilient, inclusive, and prosperous society where entrepreneurship catalyzes positive social change by converting these discoveries into actionable strategies.

Recommendations for Further Research

This pragmatic qualitative inquiry study explores the strategies employed by incubator managers to help Nigerian startups achieve a sustained competitive edge. While the findings gave valuable insights into practical strategies for market identification, capacity building, resource allocation, technology adoption, and overcoming structural constraints, the study had certain limitations. These constraints present opportunities for future research to broaden and enhance the scholarly and professional understanding of sustainable business practices in emerging economies. One recommendation is to widen the geographical scope of future studies. The study focused on incubators in Lagos, Ibadan, and Abuja. Expanding the study to include startup incubators in other Nigerian regions and similar economies in sub-Saharan Africa may enhance the generalizability of the findings. Comparative research could reveal geographical disparities in regulatory frameworks, resource availability, and socioeconomic factors influencing startup sustainability, allowing for more contextually informed incubation strategies.

I recommend applying mixed-methods or quantitative methodology to supplement the qualitative insights gained from this study. While generating rich, detailed narratives, this study's qualitative pragmatic inquiry design used a relatively small sample of six incubator managers. A quantitative or mixed-methods study with a larger and more diverse sample of stakeholders, including incubator managers, startup founders, policymakers, and investors, would enable researchers to test the generalizability of the identified strategic themes and subthemes, providing statistically significant results.

Furthermore, a longitudinal approach might be used to analyze the long-term impact of the identified strategies on startup survival and performance.

Furthermore, this study was limited by the potential for participant and researcher bias in qualitative interviews. Future studies could use data triangulation across several data sources and stakeholder groups to address this constraint. For example, gathering viewpoints from startup founders, funding agencies, government regulators, and incubator managers would provide a comprehensive understanding of the entrepreneurial ecosystem and its success in improving competitiveness. Future research may investigate demographic variables, such as gender, education level, and socioeconomic status, to examine their impact on access to incubation resources and strategic assistance. Understanding these processes could help build inclusive incubation models that address discrepancies in startup success rates among different social groups.

Finally, as technology continues to transform entrepreneurship, future studies should examine how emerging technologies, such as artificial intelligence, blockchain, and digital payment systems, can help startups enhance their competitiveness and resilience. Examining how startups adopt and integrate these technologies, as well as the challenges they face, may provide valuable insights for business leaders, policymakers, and incubator managers seeking to enhance technology-driven entrepreneurship. Addressing these suggested research areas would not only broaden the academic discourse on startup incubation. Still, it would provide actionable knowledge for enhancing professional practice in business incubation and entrepreneurship development in emerging nations.

Conclusion

This qualitative, pragmatic inquiry study employed in-depth, semistructured interviews with six experienced incubator managers to yield comprehensive insights into the practical strategies and challenges affecting startup success and sustainability within the Nigerian entrepreneurial ecosystem. The results were classified into six principal themes: (a) market identification for strategic positioning, (b) enhancing business support for capacity building, (c) resource allocation for ecosystem integration, (d) technology adoption for competitive advantage, (e) sustaining long-term competitiveness, and (f) strategic adjustment to overcome challenges. The thematic analysis indicated that incubator managers utilize a dynamic combination of 24 strategies and industry-aligned collaborations to enhance startups' resilience and potential for sustained success. A crucial realization was the strategic alignment of business support services with government policies and market developments, enabling the mitigation of regulatory risks and capitalization on emerging opportunities. Furthermore, incubator managers vigorously advocated for digital transformation, ecological sustainability, and socially impactful growth as vital elements of a sustainable competitive advantage.

Another significant discovery was the management's intentional endeavors to confront systemic obstacles, including infrastructural deficiencies, regulatory instability, and talent gaps. Through promoting policy reforms, enhancing global competitiveness, and providing access to alternative finance, incubator managers equipped startups to maneuver Nigeria's unstable economic landscape. These observations align with the RBV theory and P5F framework, affirming that strategic resource allocation, capacity

enhancement, and proactive market positioning are essential for startup survival and success. This study enhances academic literature and professional practice by addressing a knowledge gap in the strategic support provided by incubator managers to startups in developing economies. The results offer a pragmatic framework for business leaders, governments, and stakeholders seeking to enhance startup ecosystems and promote sustainable entrepreneurship in Nigeria and globally.

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Appendix: Interview Protocol

Interview Protocol	
Introduction	<p>Hello, my name is Adekunle Ogunniyi. I am a Doctoral Candidate with Walden University. The purpose of this interview is to identify and explore the effective strategies used by business incubator managers to enhance sustainable competitive advantage for Nigerian start-ups. I am going to ask you ten questions to which I would like your responses. Then, I will conclude the interview. Do you have any questions?</p>
Consent and participation	
<p>As a reminder, your participation in this study is entirely voluntary, and the interview will be audio-recorded. You may choose not to answer any question and are free to discontinue the interview at any time without consequence. I will be speaking with you and other business incubator managers about your experiences in mentoring start-ups to build a sustainable competitive advantage in Nigeria. Your insights will contribute valuable information that may benefit professionals in your field by highlighting effective strategies to enhance sustainable competitive advantage for start-ups in Nigeria. The interview is expected to last approximately 20–30 minutes. To protect your privacy, no names or identifying details will be included in the published study. I assure you that your identity as a participant will remain strictly anonymous throughout and after the study.</p> <p>Contacts and Questions: If you want to talk privately about your rights as a participant, you can call the Walden University Research Participant Advocate at 612-312-1210. Walden University’s ethics approval number for this study is 11-14-24-1168162. Please share any questions or concerns you might have at this time. If you agree to be interviewed as described above, please state “I consent.”</p>	
Begin Interview	<p>I will ask you ten questions for which I would like your honest responses. Then, I will follow up on your responses for member checking to ensure your responses are captured accurately. Do you have any questions?</p>
I ensured that I captured the participants responses accurately by watching for nonverbal cues, paraphrased the participant response, and asked follow-up probing questions to get more in depth	<p>Interview Questions:</p> <ol style="list-style-type: none"> 1. What strategies do you use to help start-ups identify markets to enter where they can establish a competitive advantage? 2. What business support strategies have you used to help start-ups build a competitive advantage? 3. How have you helped them sustain that advantage? 4. What criteria do you use to match start-ups with resources that can enhance their competitive positioning in the market? 5. What technologies have you leveraged to help start-ups create a competitive edge?

	<ol style="list-style-type: none"> 6 How do you leverage networks to help start-ups create strategic advantages? 7 How do you leverage partnerships to help start-ups create strategic advantages? 8 How have you helped start-ups integrate environmentally sustainable practices to establish a competitive advantage? 9 What challenges do you think start-ups in Nigeria will face in the future, and how will you adjust your strategies? 10 What else can you share about the strategies you use to help start-ups build and maintain a sustainable competitive advantage?
I wrapped up the interview thanking participant.	Thank you for participating in the interview, an integral part of my research project.
Finally, I scheduled a follow-up interview with the participant to perform member checking.	I will contact you in a week to schedule a time for us to review the accuracy of my interpretations of your interview responses.