

The role of Business Incubators and Accelerators in Edtech Entrepreneurship in Nigeria

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Abstract

The rapid evolution of the educational sector through technological advancements has given rise to a significant increase in EdTech entrepreneurship in Nigeria. This study explores the role of business incubators and accelerators in fostering these entrepreneurial ventures, focusing on the unique challenges and opportunities within this emerging market. Employing a qualitative research design, this study conducted semi-structured interviews with 15 key stakeholders, including founders of EdTech startups and managers from incubators and accelerators in Lagos, Nigeria. The data collected were analyzed using thematic analysis to unearth patterns and insights into the mechanisms of support provided by these entities. The results indicate that incubators and accelerators are pivotal in providing multifaceted support to EdTech startups, including financial aid, mentoring, networking opportunities, and infrastructural resources. Participants reported significant improvements in business outcomes such as increased customer base and revenue growth, facilitated by the support received. However, challenges like market access, technology integration, and navigating regulatory frameworks persist, albeit mitigated by the strategic interventions of incubators and accelerators. The study concluded that incubators and accelerators play a critical role in the scalability and sustainability of EdTech startups in Nigeria, enhancing their ability to adapt and thrive in a competitive educational technology landscape. Recommendations were made that, the study recommends that incubators and accelerators should increase their focus on providing tailored infrastructural support and specialized mentorship programs that align with the unique needs of the EdTech sector. Additionally, partnerships should be strengthened between startups, educational institutions, and policy makers is essential for enhancing market access and integration of new technologies into the educational system.

Keywords: Entrepreneurship, Business Incubators, Accelerators, Edtech

Introduction

In today's rapidly evolving educational landscape, technological advancements play a pivotal role in reshaping learning methodologies and enhancing accessibility. Educational Technology (EdTech) refers to the integration of information and communication technology into education, aimed at improving learning experiences and outcomes (Bates, 2019). EdTech encompasses a broad spectrum of tools and platforms, ranging from simple digital resources like educational videos to sophisticated management systems that organize and deliver learning materials efficiently. Within this context, EdTech entrepreneurship emerges as the pursuit of innovative educational solutions through the development and implementation of new technologies and methodologies (Hwang, 2020). This endeavor necessitates expertise not only in technology and education but also in business operations and management.

To foster such entrepreneurial ventures, incubators and accelerators play crucial roles. While these terms are often used interchangeably, they serve distinct purposes. Incubators provide long-term support to startups, offering essential resources such as office space and advisory services to help them become fully operational (Cohen, 2019). Accelerators, on the other hand, focus on facilitating rapid growth through fixed-term, cohort-based programs that include mentoring, training, and opportunities for startups to present their innovations to potential investors during public pitch events or demo days (Miller & Bound, 2016).

The growing demand for innovative educational tools that address diverse learning needs while ensuring scalability and accessibility characterizes the contemporary EdTech landscape. The COVID-19 pandemic further highlighted the critical role of educational technologies, as remote learning became a necessity for learners worldwide (UNESCO, 2020). Despite the rising need for such technologies, their development and effective implementation face significant challenges, particularly in regions with inadequate digital infrastructure or traditional educational systems resistant to technological integration.

EdTech entrepreneurs often confront multifaceted challenges, ranging from technical and pedagogical complexities to business-related hurdles such as securing funding, navigating market dynamics, and achieving sustainable growth. Incubators and accelerators bridge these gaps by providing guidance, resources, and networking opportunities, thereby enhancing the potential for innovation and success in the EdTech sector.

This paper seeks to examine the critical role of incubators and accelerators in supporting EdTech entrepreneurship, with a specific focus on Nigeria. Addressing the challenges and opportunities in this context highlights how targeted entrepreneurial support can significantly improve educational outcomes and accessibility. By exploring these mechanisms, the study aims to offer insights into optimizing such initiatives to create an environment conducive to innovation and growth in the educational sector. These findings will contribute to scholarly discourse and practical strategies for fostering EdTech advancements.

Objectives of the Study

The specific objectives of the study were to:

1. identify the types of support provided by incubators and accelerators to EdTech startups in Nigeria.
2. evaluate the effectiveness of these support mechanisms in enhancing the business performance of EdTech startups.
3. explore the challenges faced by EdTech startups within incubator and accelerator programs in Nigeria.
4. assess the impact of incubator and accelerator programs on the scalability and sustainability of Nigerian EdTech startups.

Research Questions

1. What are the specific types of support that incubators and accelerators offer to EdTech startups in Nigeria?
2. How effective are the support mechanisms provided by incubators and accelerators in improving the business outcomes of EdTech startups?
3. What challenges do Nigerian EdTech startups face while engaging with incubators and accelerators?
4. In what ways do incubator and accelerator programs impact the long-term scalability and sustainability of EdTech startups in Nigeria?

Literature Review

The influence of incubators and accelerators on the survival and growth of startups has been widely studied across various industries. Incubators, known for offering long-term

developmental support, play a pivotal role in enhancing the sustainability and growth potential of startups (Bøllingtoft & Uhløi, 2011). Accelerators, by contrast, provide short-term, intensive programs aimed at driving rapid growth and preparing startups for investor engagement through mentorship and networking opportunities (Cohen, 2013; Hallen, Bingham, & Cohen, 2014). These support mechanisms not only reduce the risks associated with new ventures but also increase their appeal to venture capital investors.

In technology-focused industries, the support provided by incubators and accelerators is often tailored to the specific needs of high-tech startups. These entities offer essential resources, such as access to advanced laboratories and connections to technology markets, which are crucial for the development and scaling of tech innovations (Hochberg, 2016). Scillitoe and Chakrabarti (2010) highlight the importance of specialized resources and expertise in enabling rapid prototyping and product development, particularly in high-tech sectors.

The role of incubators and accelerators in the EdTech sector is distinct, given its dual emphasis on achieving educational outcomes and maintaining business viability. Gopal (2019) illustrates how accelerators adapt their services to address challenges unique to EdTech startups, such as navigating lengthy procurement cycles and aligning products with educational standards. Additionally, EdTech startups must contend with fragmented markets that require a deep understanding of educational policies and the diverse needs of learners (Ndemo & Weiss, 2017). Despite the well-documented advantages of incubators and accelerators, research focusing specifically on their impact in the EdTech sector remains limited. Much of the existing literature centers on generic tech startup models, leaving significant gaps in understanding how these support systems address the specific challenges faced by EdTech entrepreneurs. Bell (2018) observes that while accelerator programs broadly benefit general tech startups, EdTech ventures often require tailored approaches that consider longer sales cycles and the complex interactions among stakeholders in education.

Research on incubators and accelerators within emerging markets, such as Nigeria, is even more scarce. Afolabi (2018) is one of the few scholars to examine how these support systems affect startups in less developed economies, noting that while the mechanisms may be similar to those in developed markets, the outcomes are often influenced by local economic, cultural, and infrastructural factors. The integration of technology into education in such contexts adds

additional complexity, including challenges like limited digital infrastructure and varying levels of technological literacy among users (Oviawe, 2020).

In the Nigerian EdTech sector specifically, Olanrewaju (2021) highlights the potential of incubators and accelerators to drive growth and innovation but notes that outcomes can vary significantly due to the unique dynamics of the local education and technology landscapes. The study underscores the importance of adapting incubation and acceleration models to align more closely with the needs and realities of Nigerian EdTech startups, calling for a more structured and context-specific approach.

These insights reveal a critical gap in the existing research: the need for targeted empirical studies exploring how incubators and accelerators can be optimized to meet the unique requirements of the EdTech sector in emerging economies. Much of the current literature relies on findings from developed markets or other sectors, which may not fully capture the nuances of regions like Nigeria. This paper aims to address these gaps by examining the specific roles and impacts of incubators and accelerators on EdTech startups in Nigeria. By focusing on this context, the study seeks to provide a more nuanced understanding that can inform policy, practice, and future research in similar settings globally.

Methodology

This study adopts a qualitative research design to explore the role of incubators and accelerators in supporting EdTech entrepreneurship in Nigeria. The qualitative approach is appropriate for this study as it allows for a deeper understanding of the experiences, motivations, and challenges stakeholders face within the EdTech ecosystem. Semi-structured interviews were employed as a common qualitative method that provides flexibility in obtaining detailed information about the participants' experiences and viewpoints (Bryman, 2016). This method is particularly suited to exploring complex issues such as the operational mechanisms of incubators and accelerators, their influence on startup success, and the challenges EdTech startups face in Nigeria. The target population for the study was all EdTech startups in Lagos State, Nigeria. Using a purposive sampling technique, 10 founders and key personnel from EdTech startups in Lagos that have participated in incubator or accelerator programs were selected. In addition, 5 managers or key representatives from incubators and accelerators that target or include EdTech firms in their portfolios were selected. The total sample for the study amounted to 10 participants. Each

interview lasted approximately 30-45 minutes and was conducted in English, which is the official language of Nigeria.

The interview guide was developed based on the literature review and preliminary research questions and included topics such as the nature of support provided, perceived benefits and challenges of the programs, and the impact of these programs on the startups' development and scalability. The data collected from the interviews were analyzed using thematic analysis, a method that is well-suited for identifying, analyzing, and reporting patterns (themes) within data (Braun & Clarke, 2006). The thematic analysis allows for the interpretation of various stakeholders' perspectives within the context of incubator and accelerator influence on EdTech startups. To enhance the reliability and validity of the study, the analysis was conducted using NVivo, a software tool that helps in managing and organizing qualitative data, thereby facilitating the identification of recurring patterns and themes across the data set.

Results

Participant Demographics

The study comprised a total of 15 participants, including 10 founders and key personnel from various EdTech startups and 5 managers or representatives from well-established incubators and accelerators. These participants were purposively selected based on their involvement in incubator or accelerator programs and their firsthand experience in the EdTech sector in Lagos, Nigeria. The roles of startup participants included Chief Executive Officers, Chief Technology Officers, and Product Managers, ensuring a wide range of insights from different hierarchical levels within the startup ecosystem. The incubator and accelerator representatives held positions such as Program Director, Mentorship Coordinator, and Investor Relations Manager, providing a comprehensive view from the facilitators of these entrepreneurial support systems.

The age of participants ranged from 28 to 50 years, with a mean age of approximately 35 years, reflecting a mix of youthful enthusiasm and seasoned expertise. The gender distribution among the participants was relatively balanced, with six females and nine males. This diversity in age and gender ensured a variety of perspectives and experiences, enriching the data collected and offering a more nuanced understanding of the EdTech landscape in Nigeria.

Participants brought a diverse array of professional experiences and expertise to the study. Among the startup founders, backgrounds included educational software development,

educational curriculum design, business management, and venture capital, which provided a broad spectrum of knowledge on both the technological and entrepreneurial aspects of EdTech. The incubator and accelerator managers had varied experiences in startup mentoring, business development, and educational technology, contributing deep insights into the mechanisms of support and development for startups. This rich professional diversity allowed for a comprehensive exploration of the interactions between EdTech ventures and their support structures within incubators and accelerators.

Research Question 1: What are the specific types of support that incubators and accelerators offer to EdTech startups in Nigeria?

In assessing the specific types of support offered to EdTech Startups in Nigeria, participants consistently emphasized the critical role of financial support provided by incubators and accelerators. This support varied from seed funding to facilitate the initial stages of startup development to more structured financial injections aimed at scaling operations. Additionally, financial grants for market research and product development were also highlighted as pivotal in reducing the financial burden on early-stage startups. As stated by one of the participants:

"The seed funding, we received was crucial in transitioning from an idea to a functioning prototype. Without this financial backing, our progress would have been significantly slower."
(P5)

Also, mentoring emerged as a highly valued form of support among the participants. Seasoned entrepreneurs and industry experts frequently offered guidance, which was instrumental in navigating the complexities of the EdTech market. A participant shared that "the strategic advice and ongoing support from our mentors helped us refine our business model and better understand our customer base". Mentorship was not only crucial for business strategy but also for personal leadership development within the startups.

Networking support was another critical area where incubators and accelerators added value. Access to a broad network of industry contacts, potential investors, and fellow entrepreneurs was universally recognized as beneficial. As clearly stated by one of the participants;

"The networking events organized by the accelerator have been invaluable. They've opened doors to partnerships and opportunities that we couldn't have accessed otherwise," (P2)

These connections often led to collaborative projects and expanded the startups' visibility within the industry. In terms of infrastructural support, incubators and accelerators frequently provided essential support, including office space, access to technology labs, and testing facilities which were particularly beneficial for product development and iteration. This support significantly lowered the operational costs associated with product development and testing, as this is evident in the participant's response thus: "having a physical space to work from, along with access to high-tech labs, allowed us to prototype much faster and more effectively," (P1)

As clearly outlined in the findings, incubators and accelerators offer multifaceted support to EdTech startups in Nigeria, encompassing financial, mentoring, networking, and infrastructural assistance. Each type of support plays a distinct role in enhancing the startups' capacity to develop, launch, and scale innovative educational technologies.

Research Question 2: How effective are the support mechanisms provided by incubators and accelerators in improving the business outcomes of EdTech startups?

The second research question examined the effectiveness of the support mechanisms provided by the incubators and accelerators. Findings showed that the effectiveness of the support mechanisms provided was overwhelmingly affirmed by the participants. Founders and managers alike highlighted that the comprehensive support substantially accelerated their growth trajectories and facilitated significant milestones in business development. Several participants provided concrete examples of how support from incubators and accelerators directly contributed to measurable improvements in their business outcomes:

"Post-engagement with the accelerator, our user base grew by 150% in six months, primarily due to enhanced marketing strategies and industry connections facilitated through the program." (P3)

"With the financial and strategic planning support received, we were able to streamline our operations and increase our annual revenue by 15% year-over-year." (P6)

"The networking opportunities led to two major partnerships that expanded our services into new regional markets," (P4)

"The mentorship and networks I accessed through the accelerator not only sharpened our business acumen but also opened up avenues that were previously unreachable. This was transformational for our business." (P5)

"The structured financial support helped us cover critical operational costs at a crucial time, allowing us to focus on growth rather than survival."(P8)

The findings above underscores that the support mechanisms provided by incubators and accelerators are highly effective in fostering business improvements for EdTech startups. By reducing barriers to entry, facilitating access to essential resources, and connecting startups with a wider entrepreneurial ecosystem, these programs significantly enhance business outcomes. This effectiveness is evident in the startups' accelerated growth metrics, revenue increases, and expanded market reach, directly addressing the second research question regarding the impact of these support mechanisms on improving business outcomes for EdTech startups in Nigeria.

Research Question 3: What challenges do Nigerian EdTech startups face while engaging with incubators and accelerators?

Findings from the thematic analysis showed that participants outlined several significant challenges that they encounter in their entrepreneurial journey. One major challenges identified was difficulty in gaining entry into and expanding within the competitive EdTech market. As stated by one of the participants, "breaking into the established educational institutions and convincing them to adopt new technologies has been my biggest hurdle". Also, integrating technology with existing educational frameworks often presents a complex challenge, as this is evident from the participant's responses;

"Aligning our tech solutions with the varied infrastructural realities of schools across Nigeria requires customized approaches that are resource-intensive" (P7)

In addition, continuous access to funding remains a crucial challenge. Findings further showed that navigating the regulatory landscape in Nigeria can be problematic, as a participants stated, "frequent changes in educational policies and regulations usually disrupts planned and ongoing projects, affecting our operational stability".

In mitigating these challenges, participants shared that, incubators and accelerators often help bridge the gap between startups and potential market opportunities through industry

connections and partnerships. One participant (a startup founder) testifies that "the program introduced us to key stakeholders in the education sector, which significantly eased the market entry process". In addition, technical support and access to testing facilities are provided to ensure that products can be effectively integrated into existing systems.

From the findings, it is evident that while challenges in market access, technology integration, funding, and regulatory environments are significant, the structured support from incubators and accelerators plays a crucial role in mitigating these issues, thus facilitating smoother and more successful startup operations. This support not only helps overcome immediate barriers but also strengthens the startups' ability to sustain long-term growth and adaptation in a dynamic market.

Research Question 4: In what ways do incubator and accelerator programs impact the long-term scalability and sustainability of EdTech startups in Nigeria?

The data gathered from the interviews reflects significant insights into how incubator and accelerator programs influence the scalability and sustainability of EdTech startups in Nigeria. Participants reported that these programs provide essential foundations and resources that enable businesses to scale effectively and sustain operations over the long term. As regards the impact of these programs on startup scalability and sustainability, several key trends emerged from the gathered data thus.

Participants noted that incubators and accelerators offer structured frameworks that guide them through the scaling process. Also, the programs often help startups optimize resources, which is crucial for sustainability. A participant highlighted, "access to shared resources and services through the incubator reduced our operational costs significantly, which is crucial for our long-term sustainability." In addition, findings showed that long-term access to mentorship and advisory networks helps ensure ongoing development and troubleshooting post-program. In general, findings strongly support the positive impact of these programs on scalability and sustainability.

The evidence from participant feedback and identified trends confirms that these programs provide vital support mechanisms that enhance both the immediate and sustained growth potential of startups within the challenging EdTech landscape. The findings underscore the critical role these entrepreneurial support systems play in fostering environments conducive to long-term success for startups, ensuring they are well-equipped to grow and adapt in an evolving market.

Summary of Major Findings

1. Incubators and accelerators provide EdTech startups in Nigeria with comprehensive support including financial backing, mentoring, networking opportunities, and infrastructural resources.
2. These support mechanisms are highly effective, significantly enhancing business outcomes such as customer base growth, revenue increases, and market expansion for EdTech startups.
3. Despite facing challenges like difficult market access, complex technology integration, continuous funding needs, and fluctuating regulatory conditions, EdTech startups benefit from the mitigative support of incubators and accelerators.
4. Incubator and accelerator programs crucially impact the long-term scalability and sustainability of EdTech startups by offering structured growth frameworks, resource optimization, and ongoing support networks that adapt to market changes.

Discussion of Findings

The findings from this study provide a comprehensive examination of the roles and impacts of business incubators and accelerators in supporting EdTech entrepreneurship in Nigeria. These institutions serve as critical catalysts in nurturing startups by providing essential resources, mentorship, and networks necessary for overcoming the inherent challenges of the EdTech market. The effectiveness of support mechanisms provided by incubators and accelerators in improving business outcomes resonates with the findings of Hwang (2020), who noted the significant role of tailored business support in startup survival and growth. This study underscores this point by showing that in the EdTech sector, such support not only aids in immediate business metrics, such as revenue and market expansion but also in navigating the longer educational sales cycles typical of this industry. This aspect is often underexplored in the literature, which tends to focus on more rapid startup growth trajectories typical of other tech sectors.

Addressing startup challenges, Ndemo and Weiss (2017) discussed barriers such as market access and regulatory complexities in emerging markets. This study contributes additional layers to this narrative by detailing how incubators and accelerators specifically adapt their services to meet these challenges in the Nigerian context. For instance, the legal and regulatory guidance provided helps startups navigate the often-volatile policy landscape, a critical service that aligns

with the observations of Oviawe (2020) regarding the fluctuating educational policies in emerging markets.

In terms of scalability and sustainability, Bell (2018) noted the tailored approaches of acceleration programs in ensuring long-term success, particularly in tech startups. Our study enhances this discourse by illustrating how these initiatives are uniquely adapted to the EdTech sector in Nigeria, facilitating not just scalability but also ensuring that startups remain adaptable and resilient in a fluctuating market environment. While there are clear global parallels in the roles of incubators and accelerators, this study highlights several unique elements in the Nigerian context. The emphasis on overcoming infrastructural deficits, for example, is particularly pronounced. The support for navigating regulatory environments also emerges as a more critical factor than in more stable regulatory regimes. These findings suggest that incubators and accelerators in Nigeria, and possibly other similar regions, might need to place greater emphasis on these areas compared to their counterparts in more developed ecosystems. Also, this study underscores the indispensable role of incubators and accelerators in fostering EdTech entrepreneurship in Nigeria, highlighting their adaptability and essential support in navigating unique market challenges. It confirms that these entities not only facilitate startup growth but also enhance their prospects for long-term sustainability and scalability.

Conclusion

This study explored the significant role of incubators and accelerators in fostering EdTech entrepreneurship in Nigeria. The findings affirm that these institutions provide vital support across financial, mentoring, networking, and infrastructural domains, significantly enhancing the growth and sustainability of startups in the EdTech sector. Despite the inherent challenges such as market access, technology integration, regulatory uncertainties, and continuous funding needs, incubators and accelerators have proven effective in mitigating these obstacles, thereby promoting business success and innovation in educational technologies. The effectiveness of these support mechanisms highlights not only their immediate benefits in terms of business growth and operational stability but also underscores their crucial role in ensuring long-term scalability and adaptability of EdTech ventures in a rapidly evolving marketplace. As such, incubators and accelerators are not merely support hubs but critical ecosystems that foster the development and flourishing of EdTech enterprises within Nigeria and potentially across similar markets.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Incubators and accelerators should increase their provision of technical and infrastructural resources, such as advanced technology labs and testing facilities, to cater specifically to the needs of EdTech companies that frequently require high-tech environments to develop and test their products.
2. Develop mentorship programs that specifically address the unique challenges of the EdTech market, including longer sales cycles and the need for alignment with educational standards and policies. These programs should involve experts with experience in education technologies and pedagogical strategies.
3. Build stronger linkages between EdTech startups, educational institutions, and policy makers. This would facilitate better market access and quicker adoption of new technologies in educational settings, enhancing the market reach and impact of startup innovations.
4. Incubators and accelerators should play an active role in advocating for more supportive policies and regulations that favor the growth of EdTech. This could involve dialogues with government bodies to streamline and stabilize the regulatory framework for educational technologies.

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