# EFFECT OF TECHNOLOGY BUSINESS INCUBATION ON ENTREPRENEURSHIP DEVELOPMENT IN NORTHEAST, NIGERIA

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#### **Abstract**

This study examined the effect of technology business incubation on entrepreneurship development in Northeast Nigeria, Survey design was adopted and primary data was collected using 5-point Likert scale structured questionnaire from a census sampling of 103 technology incubation centre of Northeast. The study employed the Partial Least Square Structural Equation Modeling (PLS-SEM). The study found that incubation manager competencies has positive and significant effect on entrepreneurship development also the study found that professional management service has negative and insignificant effect on entrepreneurship development in Northeast while the study selection performance has positive and significant effect on entrepreneurship development in Northeast. Based on the finding the study concluded that incubation manager competencies should leverage their extensive networks to connect startups with vital resources such as funding opportunities and industry experts. It's also concluded that professional management service can create conflicts and distract from what truly matters for the business's growth and success. It is also concluded that selection performance improved entrepreneurial fit by facilitating a better match between entrepreneurs and their ventures. It is recommended that the government should promote comprehensive training programs for incubator managers to ensure they possess the latest knowledge and skills in business development and empowering them to provide effective support to startups.

**Keyword**: Entrepreneurship development, technology business incubation, selection performance

#### **INTRODUCTION**

Globally, technology incubators are economic development tool use for promoting the concept of growth through innovation and application of technology, support economic development strategies for small business development, and encourage growth from within local economies, while also providing a mechanism for technology transfer (Zaidi et al., 2023). Incubation is the temporary, facilitative support provided to start-up enterprises through the delivery of complex services and special environment with the aim of improving their chance of survival in the early phase of the life span and establishing their later intensive growth. The rise of technology business incubators reflects a growing recognition of the importance of entrepreneurship as a driver of economic growth (Mian, 2014).

In Nigerian government has recognized the importance of entrepreneurship and has initiated various policies to support the growth of technology incubators. These initiatives aim to create an enabling environment that encourages investment in startups and enhances the overall entrepreneurial landscape (Yahaya, 2019). As a result, technology business incubation is emerging as a vital component in advancing Nigeria's economic development through innovation and entrepreneurship. Technology incubation business helps entrepreneurial access innovative resources and enhances entrepreneurs' abilities in starting up new business, in order to facilitate more competitive SMEs and promote economic development.

Selection performance is the degree to which the incubator behaves like an 'ideal type' venture capitalist when selecting emerging organizations for admission (Nwachukwu & Nneji, 2022). Effective incubator managers possess a diverse set of ability to identify and nurture promising business ideas, provide guidance and mentorship to incubatees, and facilitate access to essential resources the competencies of incubator managers are essential for effective entrepreneurship development (Aernoudt, 2020). Professional management services is the specialized support provided by experts to help organizations, particularly startups and small businesses, improve their operations, strategic planning, and overall management practices also can facilitate access to funding by preparing entrepreneurs for investor meetings and helping them create compelling business plans (Nkem, 2016). By addressing these key

objectives and building upon existing literature, therefore this study evaluates the effect of technology business incubation in fostering entrepreneurship development in Northeast, Nigeria.

Entrepreneurship development is a critical driver of economic growth, job creation, and innovation. Technology business incubation has emerged as a promising strategy to foster entrepreneurship development in any region (Abdullahi et al., 2020).

In Northeast Nigeria, prior to the recent infestation of insurgency, the growth of entrepreneurship has been hindered by various challenges, including limited access to resources, infrastructure, and support systems which led to large amount of unemployment of youth in the region (Nwekeaku & Samson, 2021). Despite the existence of Technology Incubation Centers that provide services to curtail this, their impact in promoting entrepreneurship development in Northeast Nigeria remains largely unseen. This study aims to investigate the effect of technology business incubation on entrepreneurship development in Northeast Nigeria and none of the previous studies made combination variables used in this study and also did not apply advance technique of data analysis such as PLS-SEM thereby creating a gap which this study seeks to cover.

#### Objectives of the Study

The over-all objective of the study is to investigate "The effect of technology business incubation on entrepreneurship development in Northeast Nigeria". This main objective is further made into the following three specific objectives in order to have a focus in the study and literature content. These are:

- i. To evaluate the effect of Selection Performance on entrepreneurship development in Northeast Nigeria.
- To analyse the effect of Incubator Manager Competences on entrepreneurship development in Northeast Nigeria.
- iii. To assess the effect of Professional Management services on entrepreneurship development in Northeast Nigeria.

## LITERATURE REVIEW

# **Technology Incubation**

According to the National Business Incubators Association (NBIA), "Business Incubation catalyses the process of starting and growing companies, providing entrepreneurs with the expertise, networks and tools they need to make their ventures successful. Incubation programmes diversify economies, commercialize technologies, create jobs and create wealth (Afolabi, 2020).

Technology business incubator (TBI) is an organization that aims to support and accelerate the growth and success of small and medium startups, which center on applying novel technologies to industrial applications through an array of business support services such as resource sharing, knowledge agglomeration, and technology innovation (Hansen et al., 2009)

Technology business incubation is a process that helps startup companies and individual entrepreneurs develop their businesses by providing a comprehensive range of services, including management training, office space, and access to financing. The primary goal of a technology business incubator (TBI) is to facilitate economic development by improving the survival and growth of new entrepreneurial units (Hite & Hesterly (2021). According to this study technology business incubation is defined as a collaborative environment that nurtures fledgling technology ventures through mentorship, shared resources, and a supportive community, thereby reducing the risk associated with starting a new business.

## **Selection Performance**

Selection performance refers to the degree to which the incubator behaves like an 'ideal type' venture capitalist when selecting emerging organizations for admission to the incubator (Ayatse et al, 2017). It is the decision process concerning which ventures to accept for entry and which to reject. The selection from the pool munificence of candidate companies is done taking into consideration four characteristics:

managerial characteristics, market characteristics, product characteristics and financial characteristics. It means candidate companies need to be evaluated in the light of these characteristics (Nwachukwu & Nneji (2022). Greve and Salaff (2023) strongly advocate that those entrepreneurs who are ambitious to grow bigger should get the preference during selection and should follow the objective of 'picking-up the winners'.

#### **Incubator Manager Competences**

The competencies and skills of incubator managers is the success of technology business incubation programs (Ndagi, 2018). Incubator manager competencies refer to the diverse set of knowledge, skills, abilities, and attitudes required for effective leadership and management of technology business incubation programs (Obaji et al., 2014). Effective incubator managers can provide valuable guidance, mentorship, and access to resources, ultimately increasing the chances of success for incubated businesses. Investing in the professional development and training of incubator managers, as well as fostering a culture of continuous learning and improvement, is essential for ensuring the long-term success of incubation programs and the enterprises they support (Franke & Lüthje, 2024). This study view Incubator managers competencies as an entrepreneurial knowledge to guide startups effectively, and networking abilities to build relationships with stakeholders.

#### **Professional Management Services**

According to Nkem, (2016) professional management services refer to specialized services provided by individuals or firms that focus on managing specific functions within an organization, such as project management, human resources, or financial planning, aimed at improving efficiency and effectiveness in achieving organizational goals.

Professional Management Services encompass occupations that require specialized training and knowledge, including roles such as consultants and managers who deliver expertise to help organizations optimize their operations and strategies (Nobuyo, 2023). These services involve providing technical support, advice, and training to enhance the management and operation of organizations. This includes logistics management, project monitoring, and administrative support, which are essential for improving organizational performance (Seam & Faye, 2016).

In the context of the study professional management is defined as the responsibility for developing, coordinating, and overseeing the implementation of plans within an organization. This includes ensuring that all aspects of management are aligned with the organization's strategic objectives.

## **Entrepreneurship Development**

Entrepreneurship development is the process of learning the skills and acquiring the knowledge necessary to start and run a new business venture (Bulsara). It is the act of instilling entrepreneurial qualities, skills, and values in individuals, enabling them to become successful entrepreneurs (Jibrin, (2022). It can also be used to refer to all activities that encompass creating an environment that fosters the development of entrepreneurial skills, attitudes, and behaviors necessary for successful entrepreneurial ventures (Scott & Twomey, 2018). It includes the enhancement of entrepreneurial skills and knowledge through structured training and an institutionally supported program (Nwankwo, 2021). Entrepreneurship development is the process of enhancing the supply of entrepreneurs or adding to the silos for future entrepreneurs (Watad & Ospina, 2019).). Entrepreneurship development is the process of creating an entrepreneurial workforce that can identify opportunities and turn them into economic opportunities (Klapper & Léger-Jarniou, 2016).).

Similarly, Entrepreneurship development is the process of fostering entrepreneurial mindsets, skills, and capabilities in individuals, enabling them to identify and capitalize on business opportunities. However, this study defined as the process of creating and nurturing entrepreneurs through education, training, and support systems.

## **Empirical Review**

Sohail et al. (2023) conducted a systematic literature review of the incubation process frameworks. It was an empirical and theoretical research on the context, interventions, mechanisms and objectives behind the incubation process, and offered future research directions along the four literature streams. The result of the review demonstrated that the genesis and dynamics of incubator growth, as well as the functionality of the incubation process, depend on the mechanisms applied at every stage of the incubation process, the first of which is the Selection Performance. As one of the policy implications, they suggest the creation of a more ad hoc (rather than generalized) mechanism of incubation selection process in order to cater for diverse incubator types and the varied needs of incubatees. The study is basically what it is, that is, a focus on the incubation process and not much on its participants.

Zaidi et al. (2023) conducted a study in Pakistan to find out if Entrepreneurship ecosystem and managerial skills contribute to startup development. The purpose of this study was to analyse the factors affecting startup development and the entrepreneurship ecosystem's contribution to it. A quantitative research methodology was used for data collection from different startup owners working across Pakistan. It was a cross-sectional descriptive study, which investigated the causal effect of variables at a definite point in time. Non-probability convenient sampling was used for selecting available startups from the incubation centers. The sampling framework consisted of the founders of the startups that have been previously incubated at any of the selected incubation centers. Regression analysis results from 165 responses of entrepreneurs and incubation centers demonstrated that the most important factors affecting startup development were financial access, government support, marketing challenges, education, technology and managerial skills in order of occurrence. Among the recommendations were that professional services such as access to finance as well as out-sourced managerial services are key to the success of the entrepreneurial ecosystem and hence, should be made available to the incubatees. The non-probability convenient sampling would not have provided a good representation of the population universe.

Taiwo and Esomu (2022) studied the role of technological incubator centres on the growth of SMEs in Nigeria. The methodology employed was a cross-sectional survey design. The research was carried out in Lagos and Abia States. The population for the study was 790 SMEs. Out of that number, 279 were chosen at random. The instrument of data collection was an adapted questionnaire. Ten samples (10% of the sample size) were used to test the reliability of the questionnaire. The Cronbach Alpha Level was 0.79. 250 copies of the questionnaires were coded and used for analysis. To analyze the data, statistical tools like frequency, percentage, mean, and multiple regression analysis were used. The statistical software employed was SPSS version 21. The findings revealed that incubator centers have a positive and significant effect on the growth of SMEs. The main suggestion was to encourage collaboration between SMEs and incubation centers. The study was conducted only to emphasise the growth of SMEs in Lagos and Abia states, not the development of entrepreneurship in northeast Nigeria.

Siddiqui et al (2021) carried out an investigation on Identifying critical success factors for university business incubators in Saudi Arabia. The purpose of the research was to develop critical success criteria for business incubators in Saudi Arabia. Survey methodology was employed to collect the data. Data were analyzed in many ways. Firstly, based on the survey results, list of success criteria for business incubators performance was presented. Secondly, descriptive analysis showed that top three critical factors include coaching and mentoring hours, number of services and supports offered; and access to funds in terms of total attractive investment. While the least important factors considered were affiliation with the university, time limit to tenancy, and numbers of IPOs launched. Thirdly, factor analysis summarized all the critical success factors for university business incubators and culminated into five big factors, including support services; network support; financial support; economic development; and alumni success. Finally, cluster analysis showed two major cluster groups in the data: 'employees' of the incubators and 'incubatees'. This research provided guidelines and critical success criteria for business incubators operating in Saudi Arabia.

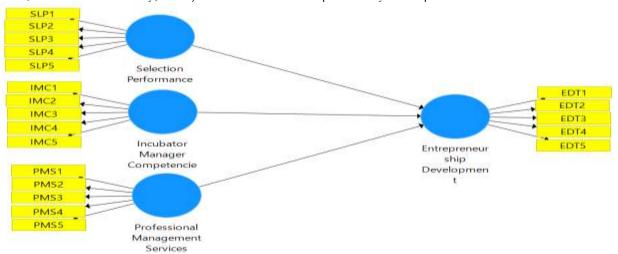
Ayatse, et al (2017) carried out an assessment of the impact of business incubation processes, including incubator manager competencies, on firm performance and entrepreneurship development. They adopted a quantitative survey and literature review methodology using responses from 150 incubatees in Nigeria. The data was quantitatively analyzed and the results showed that Incubator manager competencies in areas such as business advisory, mentoring, and resource acquisition significantly influenced the performance and development of incubated firms. It was recommended that Incubators should prioritize hiring and developing managers with strong business advisory, mentoring, and resource acquisition competencies to foster entrepreneurship development. While this research may be very similar, it is however oblivious of the peculiarities of the Northeast of the country.

## **Entrepreneurial Ecosystem Theory**

The theory that underpinned the study is the entrepreneurial ecosystem theory, which was propounded by Daniel (2010). The thrust of the entrepreneurial ecosystem theory suggests that successful entrepreneurship is influenced by a complex and interdependent set of factors within a specific geographic region. These factors collectively create an environment that can either foster or hinder entrepreneurial activity. The theory posits that entrepreneurship thrives in environments where multiple elements work together to support new venture creation and growth. Stam (2015) developed a model of entrepreneurial ecosystems based on existing literature and case studies, emphasizing the role of entrepreneurial activity in creating value within the ecosystem. In conclusion, the theory offers a comprehensive perspective that highlights the interconnected nature of various factors influencing entrepreneurial success.

#### **METHODOLOGY**

The study adopted a cross-sectional survey research design. The study population comprised of all incubatee centers (103) that are active in six (6) technology incubation centers in the six states of the Northeast geopolitical zone, i.e, Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe states. The study adopted the use of census sampling which is employment of the entire research population as the sample size are not much (Parker, 2011. The study relied on primary source of data collection using structured five-point likert scale questionnaire to collect data from respondents. The study employed the Partial Least Square Structural Equation Modeling (PLS-SEM) to model the regression analysis. The PLS path modeling method was developed by Wold (1982). The PLS algorithm is a sequence of regressions in terms of weight vectors. The weight vectors obtained at convergence satisfy fixed point equations. PLS-SEM is a non-parametric method that does not require that the data meet certain distributional assumptions. However, the parametric significance tests (e.g., as used in regression analyses) cannot be applied to test whether coefficients such as outer weights, outer loadings and path coefficients are significant. Instead, PLS-SEM relies on a nonparametric bootstrap procedure to test the significance of various results such as path coefficients, Cronbach's alpha, HTMT, and R² values. (Efron & Tibshirani, 1986; Davison & Hinkley, 1997). The model for the path analysis is specified thus:



Theoretical model on effect of of technology business incubation on entrepreneurship development in Northeast Nigeria.

#### RESULTS AND DISCUSSION

Out of the one hundred and three (103) distributed questionnaires, 100 were properly filled and returned giving a response rate of 98%. Subsequently, all further analyses were done using 100 responses data.

**Table 4.1: Descriptive Statistics** 

Variable	Mean	Median	Min	Max	SDV	Kurtosis	Skewness
SLP	3.72	4.00	1.00	5.00	1.17	-0.44	-0.62
IMC	3.71	4.00	1.00	5.00	1.13	-0.34	-0.60
<b>PMS</b>	3.11	3.00	1.00	5.00	1.17	-0.86	-0.13
EDT	3.68	3.80	1.00	5.00	1.12	-0.44	-0.55

Source: SMART, PLS Output, 2024.

Data on the study variables were described in Table 4.1 above in terms of the mean, minimum, maximum, standard deviation, skewness and kurtosis values. Corporate income Tax (CIT) revealed an average value of 2.96 with a standard deviation value of 0.98. However, the minimum and maximum values stood at 1 and 4 respectively. Value added tax (VAT) had minimum and maximum values of 2 and 5 respectively however, it showed an average of 4.31 along with a standard deviation of 0.76. Furthermore, Performance (PERF) showed a minimum value of 1 and a maximum value of 4 with an average value of 3.63 accompanied with a standard deviation value of 0.91. All the skewness and kurtosis values were less than 1 which shows that there is a normal distribution of data.

#### Assessment of Measurement Model

In assessing the measurement model, we begin by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included hence justifying why indicators with loadings less than 0.708 and above 0.50 were not deleted from the model as seen in figure 2 below.

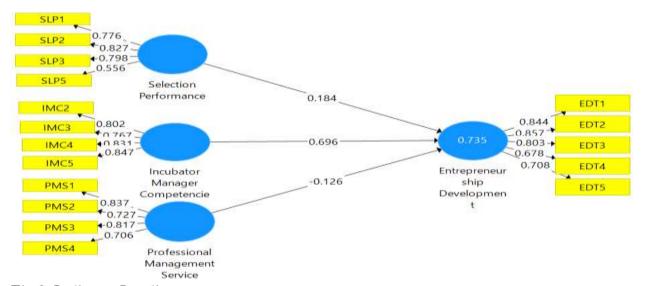


Fig 2: Indicator Loadings

Table 4.2: Reliability of study scale

S/N	Variables		Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance	No of Items	
			10 maningo	111p1111	remasiney	Extracted (AVE)	201110	
1	Selection Performance	SLP1	0.776	0.731	0.832	0.558	5	
	(SLP)	SLP2	0.827					
		SLP3	0.798					
		SLP5	0.556					
2	Incubator Manager	IMC2	0.802	0.828	0.886	0.660	5	
	Competencies (IMC)	IMC3	0.767					
	, ,	IMC4	0.831					
		IMC5	0.847					
2	Professional	PMS1	0.837	0.792	0.856	0.599	5	
	Management Service	PMS2	0.727					
	(PMS)	PMS3	0.817					
		PMS4	0.706					
3	Entrepreneurship	PERF1	0.844	0.838	0.826	0.601	5	
	Development (EDT)	PERF2	0.857					
	1 , ,	PERF3	0.803					
		PERF4	0.678					
		PERF5	0.708					

Source: SmartPLS Output, 2024

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair, et al., (2019) rating of good consistency. The Cronbach alpha value were above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Heterotrait-Monotrait Ratio (HTMT)

Tieterotrait Monotrait Ratio (111M1)								
	EDT	IMC	SLP	PMS				
EDT	1.000							
<b>IMC</b>	0.843	1.000						
<b>PMS</b>	-0.153	-0.055	1.000					
SLP	0.707	0.763	0.062	1.000				

Source: SmartPLS Output, 2024

The variance inflation factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

## Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual's (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu & Bentler (1998) suggestion that a value of

less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

#### Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t-values, p-values and coefficient of determination (R<sup>2</sup>). The bootstrapping procedure was conducted using a resample of 5000.

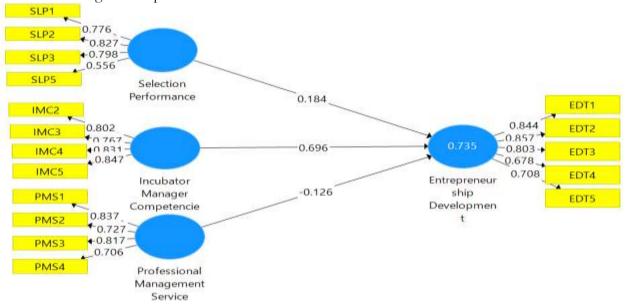


Fig. 3: Path Coefficients of the Regression Model.

The R-square value stood at 74% indicating that multiple taxation proxied by corporate income tax and value added tax are responsible for 74% variation in performance of SMEs. The remaining 26% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered moderate but doesn't negate the findings of the study. The result of the path analysis is presented in the table below:

**Table 4.4: Path Coefficients** 

Hypothesis	Variable	Path Coefficient ***(Beta)	t-value	p-value	Findings
Ho <sub>1</sub>	Incubator Manager Competencies	0.696	8.053	0.000	Rejected
Ho <sub>2</sub>	Professional Management Service	-0.126	1.873	0.061	Accepted
Но3	Selection Performance	0.184	2.025	0.043	Rejected

Source: SmartPLS Output, 2024

#### Test of Hypotheses

The result from the analysis indicates that incubator manager competencies has positive and significant effect on entrepreneurship development in Northeast. The decision was reached based on the t-value of 8.053 which is greater than 1.964 and a beta value of 0.696 with a p-value of 0.000. Thus, implying that the null hypothesis lacks sufficient ground to be accepted and as such the alternate hypothesis which states that incubator manager competencies has significant effect on entrepreneurship development is accepted.

The result from the analysis indicates that professional management service has negative and insignificant effect on entrepreneurship development in Northeast, Nigeria. The decision was reached based on the t-value of 1.873 which is lesser than 1.964 and a beta value of -0.126 with a p-value of 0.061. Thus, implying that the alternative hypothesis lacks sufficient ground to be accepted and as such the null hypothesis which states that professional management service has insignificant effect on entrepreneurship development is accepted.

Lastly the result from the analysis indicates that selection performance has positive and significant effect on entrepreneurship development. The decision was reached based on the t-value of 2.025 which is greater than 1.964 and a beta value of 0.187 with a p-value of 0.043. Thus, implying that the null hypothesis lacks sufficient ground to be accepted and as such the alternative hypothesis which states that selection performance has significant effect on entrepreneurship development is accepted.

#### Discussion of Findings

Effective outcome of incubation centers, training and mentoring should be assessed periodically by an external evaluator using an outcome-based approach. This finding is in agreement with that of (Ndagi, 2018) who both found incubator manager competencies to be positive and significant effect on entrepreneurship development survival.

The incubators should seek professional service providers including human resources management services to meet the demands of the incubatees will be an essential strategy. This finding disagrees with the findings of Jibrin (2022) and Scott & Twomey (2018) who assert that professional management service improves entrepreneurship development but however agrees with Zaidi et al. (2023) who found professional management services to be detrimental to entrepreneurship development.

The study findings show that the genesis and dynamics of incubator growth, as well as the functionality of the incubation process, depend on the mechanisms applied at every stage of the incubation process, the first of which is the Selection Performance. This finding agrees with the finding of Sohail et al. (2023) who found statistical positive effect of selection performance on entrepreneurship development but however it disagrees with the findings of Nobuyo (2023) who found negative effect of selection performance on entrepreneurship development.

# CONCLUSION AND RECOMMENDATIONS

The study examined the effect of technology business incubation (TBI) proxied by incubator manager competencies, professional management service and selection performance on entrepreneurship development in Northeast, Nigeria. Based on the findings of this research the study concluded that there is significant relationship that exist between technology business incubation and entrepreneurship development. Entrepreneurial opportunities exist after incubation training which has a positive and significant relationship on the participants'; and the findings also confirmed that a positive and significant relationship exist between technology business incubation awareness on entrepreneurial opportunities of participants at the centres.

From the result of this study, some policy recommendations were suggested with a view to improving effective service delivery at the Technology Business Incubation Centres to enhance patronage in the business Incubation Centre for shared knowledge in nation building and economic development.

- Incubators should focus more on what kind of incubatees they are accepting into the program
  and lay more emphasis on accepting incubatees that are somewhat in the same sector to ease
  collaboration among them.
- ii. It also recommends that professional services such as access to finance as well as out-sourced managerial services are key to the success of the entrepreneurial ecosystem and hence, should be made available to the incubatees.
- iii. Government should encourage the development of business incubators in order to promote the development of technology entrepreneurs and domestic innovation performance, but more focus should be on creating free knowledge transfer platforms.

#### References

- Aernoudt, R. (2020). Incubators tool for entrepreneurship growth. *Journals of Small Business Economics*, 23(2), 127-135.
- Afolabi, M. (2020). Challenges facing technology entrepreneurs in Nigeria: A focus on incubators. *African Journal of Business Management*, 14(6), 123-130.
- Ayatse, F.A., Kwahar, N. & Iyortsuun, A. S. (2017): Business incubation process and firm performance: An empirical review, *Journal of Global Entrepreneurship Research*. 7 (2), 1-17.
- Calza, F., Aliane, N., Cannavale, C., & Tutore, I. (2021). Incubator manager competencies and their impact on incubator performance. *Journals of Environment and Planning*, 39(3), 554-573.
- Franke, N., & Lüthje, C. (2024). Entrepreneurial intentions of business students: A benchmarking study', International Journal of Innovation and Technology Management, 1(3): 269-288.
- Greve, H. R., & Salaff, J. W. (2023). The social networks of entrepreneurs. *Journals of Sociological Perspectives*, 46(2), 89-110.
- Hewitt, L.M.M., Janse, V. & Rensburg, L.J., (2020). The role of business incubators in creating sustainable small and medium enterprises. *Southern African Journal of Entrepreneurship and Small Business Management* 12(1), 1-10.
- Hite, J. M., & Hesterly, W. S. (2021). The evolution of firm networks: From emergence to early growth of the firm. *Entrepreneurship Theory and Practice*, 25(3), 93-111.
- Jibrin, M. U. (2022). Performance evaluation of some selected incubated enterprises at technology incubation centre, Kano, Nigeria. *European Journal of business and management*, 4(20): 84-89.
- Klapper, R., & Léger-Jarniou, C. (2016). Entrepreneurial intension among French Grande École and university students: *Journals of Industry & Higher Education*, 20(2): 97-110.
- Kuratko, D.F., Hornsby, J.S., & Goldsby, M.G., (2017). The relationship of stakeholder salience, organizational posture, and entrepreneurial intensity to corporate entrepreneurship. *J. Leadership Organizational Studies*, 13 (4), 56–72.
- Lubica, L. (2022). The role of business incubators in supporting the SMEs start-ups. Acta Polytechnica Hungarica. *Journal of Management*, 3(2), 1-9.
- Mian, S. A. (2014). The role of incubators in fostering entrepreneurship. *Journal of Business Venturing*, 29(3), 276-296.
- Mian, S., Klofsten, M., & Naudé, W. (2021). Depth and breadth of business incubation: *International Journals Management Research*, 1(1), 20-27.
- Ndagi, A. (2018). Effect of technology incubation programme on entrepreneurship development in Nigeria. *World Journals Technopolis Review*, 7(1), 15-43.
- Nkem, O. O. (2016). Supportive government policy as a mechanism for business incubation performance. *International Journal of Information system and social Change*. 2(1), 20-27.
- Nobuyo, F. (2023). Which factors do affect business in incubation activities in Nigeria? *Journal of Advance Management Studies*, 1(1), 23-28.
- Nwachukwu, J., & Nneji, C. (2022). Building a sustainable entrepreneurial ecosystem in Nigeria through technology incubation. *Journal of Small Business and Enterprise Development*, 29(5), 743-760.
- Nwankwo, C. (2021). The impact of technology incubators on startup success in Nigeria. *International Journal of Entrepreneurship*, 25(3), 1-15.
- Obaji, N. O., Olugu, M. U., & Balogun, K. O. (2014). Innovative policies in technology business incubation: Key elements for sustainable entrepreneurship development in Nigeria. *International Journal of Scientific and Research Publications*, 4(11), 1-7.
- Ojo, A. (2018). Technology business incubation and entrepreneurship development: A study of selected incubators in Nigeria. *Journal of Entrepreneurship in Emerging Economies*, 10(4), 500-516.
- Scott, M. G., & Twomey, D. F. (2018). The long-term supply of entrepreneurs: students' career aspirations in relation to entrepreneurship. *Journal of Small Business Management*, 26(4): 5-13.
- Seam, C. & Faye, A. S. (2016). Business incubators as driver of development in China. *Journal of Global Business Management*, 12 (2), 45-55.
- Sohail K., Belitski M. & Christiansen L.C, (2023), Developing business incubation process frameworks. *International Journals of Management*, 1(1), 10-18.

- Taiwo S. A. & Esomu S. E. (2022). The role of technology incubation centres for small and medium enterprises in Nigeria, *Iconic Research and Engineering Journals*, 6(6), 230-235.
- Watad, M., & Ospina, S. (2019). A Program for strategic management development. *Journals of Public Personnel Management* 28(2): 185-196.
- Yahaya, K. (2019). Government initiatives for promoting technology business incubation in Nigeria. *Nigerian Journal of Entrepreneurship Studies*, 5(1), 45-59.
- Zaidi, R.A., Khan, M.M., Khan, R.A. & Mujtaba, B.G. (2023). Do entrepreneurship ecosystem and managerial skills contribute to start-up development? *South Asian Journal of Business Studies*, 12 (1), 25-53.

# Appendix: Questionnaire

**Instruction:** Please, fill in or indicate your opinion by ticking  $(\sqrt{})$  against the most appropriate option. **Key:** SA = Strongly Agree; A = Agree; UD = undecided; D = Disagree; SD = Strongly Disagree.

#### Section A

Items	Statement					
	Selection Performance (SLP)	Options				
		SA	Α	UD	D	SD
		5	4	3	2	1
SLP1	The incubator has a clear and transparent selection process for startups.					
SLP2	The selection criteria effectively identify high-potential technology ventures.					
SLP3	The incubator considers the innovative potential of startups during selection.					
SLP4	The selection process includes a thorough evaluation of the startup team's capabilities.					
SLP5	The incubator's selection process aligns with its overall mission and goals.					
	Incubator Manager Competencies (IMC)	SA 5	A 4	UD 3	D 2	SD 1
IMC1	Incubator managers demonstrate strong leadership skills.					
IMC2	Managers have relevant industry experience in technology and entrepreneurship.					
IMC3	The management team effectively communicates with startups and stakeholders.					
IMC4	Incubator managers show adaptability in addressing diverse startup needs.					
IMC5	The management team demonstrates strong problem-solving skills.					
	Professional Management Services (PMS)	SA 5	A 4	UD 3	D 2	SD 1
PMS1	The incubator provides high-quality mentoring services to startups.					
PMS2	There is access to a diverse network of industry experts and advisors.					
PMS3	The incubator offers valuable training programs on various aspects of business management.					
PMS4	Startups receive adequate support in legal and intellectual property matters.					
PMS5	The incubator provides assistance with financial management and accounting.					
	Entrepreneurship Development (EDT)	SA 5	A 4	UD 3	D 2	SD 1
EDT1	Participation in the technology business incubation program has significantly improved my entrepreneurial skills.					
EDT2	The incubation experience has enhanced my ability to identify and exploit new business opportunities.					
EDT3	My capacity to innovate and develop new products or services has increased as a result of the incubation program.					
EDT4	The incubation program has improved my ability to secure funding and manage financial resources effectively.					
EDT5	My network of professional contacts and potential business partners has expanded considerably through the incubation program.					