Innovations

Assessing the Effect of Entrepreneurial Ecosystem (EE) on Small and Medium-Sized Enterprises' Performance in Delta State, Nigeria

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Abstract : *The study investigated the effect of the entrepreneurial ecosystem (EE) on performance of small and medium-sized enterprises in Delta State. The selected research design for this study is the cross-sectional survey research design. Small and medium-sized enterprise (SME) owners in Delta State, Nigeria made up the study's population. The Cochran formula was used to determine the sample size of 384 participants. The study employed the judgmental sampling technique. The primary source provided the data for this study through the use of a structured questionnaire with a five-point Likert scale response format. The study employed internal consistency reliability as a means of assessing the efficacy of the questionnaire items. The acquired data were analyzed using descriptive and inferential statistical methods to arrive at a result. Findings showed that policy ($\beta = 0.421$, $p < 0.05$), finance ($\beta = 0.108$, $p < 0.05$), increased human capital ($\beta = 0.102$, $p < 0.05$), markets ($\beta = 0.350$, $p < 0.05$) and support ($\beta = 0.154$, $p < 0.05$) positively affects SMEs performance, while culture negatively affects SMEs performance ($\beta = 0.069$, $p > 0.05$). The study concluded that the combined effect of entrepreneurial ecosystem pillars creates a supportive environment that can significantly enhance the performance and sustainability of SMEs. The study recommended that the Delta State Government should promote a culture that values risk-taking, creativity and resilience through educational programs and public campaigns.*

Keyword*: Entrepreneurial Ecosystem, SMEs Performance, Innovation, Economic development.*

1. Introduction

In recent years, the role of entrepreneurial ecosystems (EEs) in fostering economic development and supporting the growth of small and medium-sized enterprises (SMEs) has gained significant attention worldwide. Entrepreneurship is a complex and diverse phenomenon that impacts and is impacted by various areas such as the economy, society, culture, and politics. Therefore, developing entrepreneurship relies on addressing diverse challenges from multiple viewpoints, emphasizing the necessity of utilizing the ecosystem approach. An ecosystem is a process of evolution in which both individual and communal learning take place over time, leading to innovation at a collective level (Acs, Stam, Audretsch & O'Connor, 2017). The ecosystem's success is demonstrated by the creation of innovative products and services, leading to the global expansion of successful start-ups. This, in turn, has a regional impact by fostering innovation and productive entrepreneurship (Cavallo et al., 2019; Thompson et al., 2018). An entrepreneurial ecosystem encompasses various components, including individuals, organizations, and institutions, that either foster or hinder an individual's choice to become an entrepreneur and impact their success in establishing an entrepreneurial venture (Aliabadi, Ataei, & Gholamrezai, 2022). These ecosystems create a conducive atmosphere that stimulates entrepreneurial initiatives (Rahimi, Abbasi, Bijani, Tahmasbi, & Azimi Dezfouli, 2020; Stam, 2015).

In recent years, the promotion of sustainable entrepreneurship is widely acknowledged as a driver of economic growth and environmental sustainability. However, there have been limited independent evaluation of these programs in non-developed nations. Despite the current excitement, companies must find a suitable and sustainable entrepreneurial ecosystem to ensure their long-term survival and success.

Undoubtedly, the interconnection of entrepreneurs, the external environment, institutions and other community members is essential for fostering creativity and promoting the establishment of new firms. Entrepreneurs must cultivate interdependent relationships with community members to obtain knowledge, material resources, human capital and regulatory approval from different government authorities. The entrepreneurial ecosystem enables the generation and acquisition of value through innovation, which can be challenging for an individual company to accomplish on its own.

1.1 Statement of the Problem

Nigeria's entrepreneurial ecosystem faces several significant challenges; ranging from policy, finance, culture, human capital, markets to support systems. The policy environment is often characterized by regulatory inconsistencies and bureaucratic hurdles that can stifle entrepreneurial activities. Entrepreneurs frequently grapple

with obtaining necessary permits, navigating complex tax regimes, and dealing with sudden policy shifts that create an unpredictable business environment. This lack of stability and clarity in the regulatory framework discourages both local and foreign investments, hampering the growth of new ventures. Additionally, access to finance remains a critical challenge. Despite various government initiatives aimed at providing financial support to small and medium-sized enterprises (SMEs), many entrepreneurs still find it difficult to secure adequate funding. High-interest rates, stringent collateral requirements, and limited availability of venture capital mean that many promising business ideas fail to materialize due to a lack of financial backing.

Cultural and human capital issues also pose significant barriers to the development of Nigeria's entrepreneurial ecosystem. Cultural attitudes towards entrepreneurship can be ambivalent; while there is a growing admiration for successful entrepreneurs, societal expectations often favour traditional career paths in established professions. This cultural bias can deter potential entrepreneurs from pursuing their business ambitions. Furthermore, the educational system in Nigeria has historically been geared towards producing graduates for the public and formal private sectors, rather than equipping them with the skills necessary for entrepreneurship. As a result, there is a skills gap with many entrepreneurs lacking the necessary business acumen, management expertise and technical skills to drive their ventures successfully.

Market access is another major challenge. Many SMEs struggle to penetrate local and international markets due to poor infrastructure, limited market information and intense competition from established players. Finally, support systems, including mentorship programs, business incubators and accelerators, are still in their infancy in Nigeria; while there are notable efforts to improve these support mechanisms, they are not yet sufficiently widespread or accessible to make a significant impact on the entrepreneurial landscape. Previous researches have predominantly concentrated on entrepreneurial ecosystems in developed countries, highlighting their emergence as a global phenomenon (Cao & Shi, 2021). This study is therefore focused on exploring the entrepreneurial ecosystem in Delta State and its influence on the performance of SMEs operating within the State. Delta State, located in Nigeria, represents a dynamic economic landscape with a burgeoning entrepreneurial spirit. By investigating various components of its ecosystem, from regulatory frameworks, access to finance, culture, and human capital to market access and support systems, this research seeks to uncover the underlying mechanisms that either facilitate or hinder SMEs' growth and success in the 21st century.

The primary aim of the study therefore is to investigate the effect of the entrepreneurial ecosystem on the performance of small and medium-sized

enterprises in Delta State. The specific objectives are to analyze the impact of policy, finance, culture, human capital, markets and support systems on the performance of SMEs in Delta State, Nigeria.

Furthermore, the significance of this research lies in its potential to provide empirical insights into how enhancing specific aspects of the entrepreneurial ecosystem can lead to improved outcomes for SMEs. By identifying strengths, weaknesses, opportunities and threats within Delta State's ecosystem, actionable recommendations can be formulated to bolster support mechanisms and foster a more conducive environment for entrepreneurial activities. Ultimately, this study aims to contribute to the broader discourse on entrepreneurship and regional development, offering practical implications for policymakers and stakeholders seeking to promote sustainable economic growth through SME empowerment.

2. Review of Related Literature

2.1 Conceptual Review

2.1.1 Concept of Entrepreneurial Ecosystem (EE)

An entrepreneurial ecosystem (EE) is a dynamic, interconnected network of individuals, organizations, institutions, and processes that collectively create an environment conducive to the creation, growth, and success of entrepreneurial ventures. Audretsch & Belitski (2017) provided a definition of an entrepreneurial ecosystem as a network including institutional and organizational players that collaborate to recognize and exploit entrepreneurial prospects. Spigel (2017) posited that an entrepreneurial ecosystem can be understood as the interplay of cultural perspectives, social networks, institutions, and governance mechanisms. This interplay creates an environment that fosters innovation-based companies. More so, prior studies indicated how an entrepreneurial ecosystem built on supportive policies and culture develops a social and economic framework enabling value creation and innovation (Autio et al., 2014; Mack & Mayer, 2016). In a similar vein, Isenberg (2010) categorized components of the entrepreneurial ecosystem into six distinct domains: institutional support, culture, leadership, access to finance, human capital, and markets. The supporting aspects encompass both tangible and intangible components. The tangible elements consist of organizations facilitating business-to-people connection, financial institutions, and universities. On the other hand, the intangible elements comprise cultural factors and regulatory frameworks (Theodoraki & Messeghem, 2017). The entrepreneurial ecosystem emphasises the implementation of ideas by individual entrepreneurs and entrepreneurial teams, with a bottom-up approach. The long-term viability of the entrepreneurial ecosystem depends on its diversity and variety of components (Cho et al., 2021).

Entrepreneurial enterprises are most adept at identifying opportunities inside the ecosystem by collaborating with other entities (Stam, 2015). The actors involved in

this context are innovation communities (Fichter, 2009), incubators (Hern´andez-Chea et al., 2021), and accelerators (Pustovrh et al., 2020).

The six pillars of EEs are briefly discussed below:

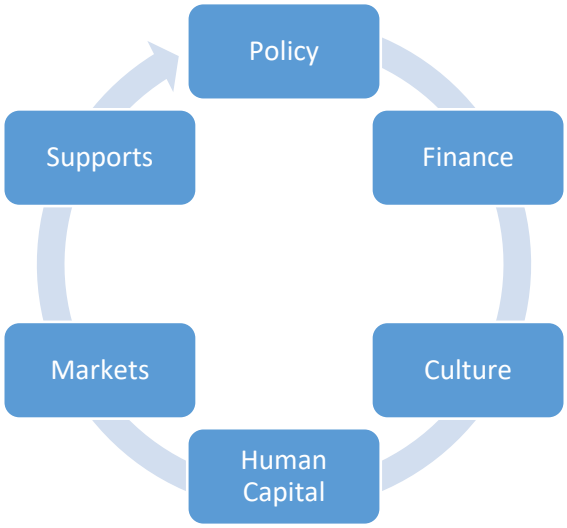

Figure 1: The Six Pillars of Entrepreneurial Ecosystems
Source: Isenberg (2016), Isenberg & Onyemah (2016).

2.1.2 The concept of Policy and SMEs' Performance

Policy refers to the set of guidelines and regulations established by governments and other supportive organizations to promote and encourage entrepreneurial activities (Brooks et al., 2019). These policies vary across different countries, as there is no single policy solution that can address all entrepreneurial challenges (Isenberg, 2011). In industrialized nations such as Australia, Ireland, Canada, the UK, Estonia, New Zealand, Finland, Poland, the Netherlands, and Denmark, policies strongly endorse the concept of entrepreneurial ecosystems (Brown & Mawson, 2019). These policies prioritize the establishment and support of entrepreneurial ecosystems to foster entrepreneurial activities within their economies. Within this policy framework, leadership and governance are critical components. The influence of policy on business success is further supported by research conducted by Ascarya & Rahmawati (2018). Policies set by governments and other regulatory bodies establish the legal and institutional framework within which SMEs operate. Effective policies can:

i. **Enhance Business Environment**: Streamlined regulations, ease of doing business, and supportive legal frameworks reduce administrative burdens and compliance costs.

ii. **Provide Incentives**: Tax holidays, grants, and subsidies can lower operational costs and increase profitability.
iii. **Promote Innovation**: Policies that encourage R&D and innovation through grants and tax incentives can help SMEs develop competitive advantages.
iv. **Stabilize the Economy**: Sound macroeconomic policies provide a stable environment that supports business planning and growth.

2.1.3 The concept of Finance and SMEs' Performance

Finance encompasses the availability and access to financial resources necessary for entrepreneurs to start, sustain and grow their businesses. This includes funding from banks, venture capital firms, angel investors, microfinance institutions, and public funds, which provide the capital needed for investment, operations, and expansion. It includes the initiatives undertaken by governments to establish conducive conditions that enable entrepreneurs to access financial resources for their firms. For entrepreneurs to cultivate thriving businesses within a network, they require convenient and expeditious access to financial resources (Brooks et al., 2019). Developed economies typically have robust financial systems that facilitate financial inclusion, thereby enabling entrepreneurs to obtain the necessary financial resources. In these economies, various financial actors, including angel investors, venture capital firms, microfinance institutions, banks, and public fund providers, engage with entrepreneurs to supply the required financial capital. These robust financial markets are essential for the advancement of economic entities (Lux et al., 2020). Access to finance is critical for the establishment, survival and growth of SMEs. The financial pillar affects SMEs by:

i. **Providing Capital**: Adequate access to funding through banks, venture capital, angel investors, and microfinance institutions allows SMEs to invest in growth opportunities.
ii. **Facilitating Cash Flow**: Lines of credit and trade finance help manage working capital needs.
iii. **Supporting Innovation**: Investment in high-risk ventures, particularly in technology sectors, is often underpinned by robust financial support systems.
iv. **Enabling Scalability**: Financial backing is crucial for SMEs to scale operations and expand into new markets.

2.1.4 The concept of Culture and SMEs' Performance

Culture shapes the entrepreneurial mindset, risk-taking propensity, innovation, and overall support for entrepreneurship. A supportive culture encourages creativity, resilience, and the celebration of entrepreneurial success. Culture encompasses the collective values, conventions, traditions, rituals, beliefs, knowledge, stories, cuisine, language, music, arts, and broader societal elements that significantly shape

behavior and cognitive processes (Brooks et al., 2019). In 1980, Hofstede made a significant contribution to the understanding of culture by providing a comprehensive definition. He defined culture as the shared mental programming that distinguishes individuals belonging to a particular group or category, such as nations, regions, ethnic groups, religions, occupations, organizations, or genres (Castillo-Palacio et al., 2017). Cultural diversity between nations gives rise to distinct environments for entrepreneurial endeavors. It influences the entrepreneurial mindset, direction, propensity for risk-taking, and other crucial elements of entrepreneurship. Thus, culture is a crucial factor in determining the level of entrepreneurial activity within a society. Accounts of tangible achievements, wealth generation, risk-taking abilities, the introduction of new ideas and originality, a strong drive for success, and the attainment of high social standing by entrepreneurs foster an appealing atmosphere in a specific setting, thereby encouraging the development of entrepreneurial activities within communities (Morant-Martínez et al., 2019). The cultural context shapes entrepreneurial attitudes and behaviors. Its impact on SMEs includes:

i. **Encouraging Risk-Taking**: Cultures that value innovation and risk-taking are more likely to see higher rates of entrepreneurship and SME activity.
ii. **Fostering Creativity**: A culture that celebrates creativity and innovation can lead to more dynamic and competitive SMEs.
iii. **Building Resilience**: Cultural norms that support perseverance and resilience help SMEs navigate challenges and setbacks.
iv. **Creating Networks**: Cultures that value relationships and networks can facilitate business partnerships and market access.

2.1.5 The concept of Human Capital and SMEs' Performance

In small- and medium-sized organizations (SMEs), the significance of human capital is even more pronounced. In these businesses, the dedication of the owners has a greater impact on the performance of overseas market expansion compared to larger enterprises (Onkelinx et al., 2016). According to Allameh (2018), intellectual capital can be divided into three distinct dimensions: organizational, human and societal. Both aspects, namely the human capital dimension and the owner's personal supervision, play significant roles in determining a firm's strategic decision outcomes. However, in the case of small and medium-sized enterprises (SMEs), the human capital dimension acquires a crucial role, as control is often focused on the owner's personal supervision. Human capital encompasses the collective abilities, expertise, skills, creativity, mindset, dedication, wisdom and past experiences of employees. It represents the intellectual assets of an organization (Campbell et al., 2012).

Human capital refers to the skills, education, experience, and networks possessed by individuals within the entrepreneurial ecosystem. This includes the quality of education and training available to entrepreneurs and their employees, which enhance their capabilities to innovate, manage businesses effectively, and adapt to changing environments. Human capital refers to the combination of labor, education, and networks that individuals can access (Morant-Martínez et al., 2019). Colleges and universities play a crucial role in providing educational opportunities for entrepreneurs to enhance their commercial acumen. They offer customized academic and professional degrees tailored to meet the educational requirements of entrepreneurs. Business schools often provide specialized entrepreneurship training programs to deepen individuals' understanding and expertise in entrepreneurship. Public policy shapes the way educational institutions impart knowledge to the entrepreneurial sphere by endorsing customized curricula (O'Brien et al., 2019). Entrepreneurial training enhances the competencies of entrepreneurs and their employees in managing typical turbulent situations associated with start-ups, as described by Lux et al. (2020) and Morant-Martínez et al. (2019). Thus, the skills, knowledge, and networks of the workforce are crucial for SME performance. This pillar influences SMEs by:

i. **Enhancing Competencies**: Access to education and training improves the skills and capabilities of entrepreneurs and their employees.
ii. **Driving Innovation**: Well-educated and skilled individuals are better equipped to develop innovative solutions and drive business growth.
iii. **Improving Productivity**: Skilled labor increases operational efficiency and productivity.
iv. **Facilitating Knowledge Transfer**: Networks and collaborations among skilled professionals can lead to knowledge spillovers and improved business practices.

2.1.6 The concept of Markets and SMEs' Performance

Markets consist of the systems and structures that enable SMEs to reach their customers and generate profits. This includes market research, customer segmentation, branding, distribution channels, and access to both local and global markets. Effective market mechanisms support the long-term viability and growth of businesses. Markets are comprised of reference customers and distribution channels that help businesses make a profit and support their long-term viability (Morant-Martínez et al., 2019). Training and coaching assist entrepreneurs in understanding different marketing aspects, including the necessity for market research, market segmentation, branding, customer service, and the marketing mix, often known as the Ps of marketing (4Ps or 7Ps). The traditional 4Ps encompass pricing, product, place, and promotion. The additional 3Ps—physical evidence,

processes and people—are particularly well-suited for delivering services. Policy also plays a crucial role in fostering a favorable environment for the growth and expansion of markets for entrepreneurs' products and services. By supporting market development initiatives and ensuring a conducive regulatory framework, policies can help entrepreneurs effectively reach and serve their target customers. Market structures and access are vital for the viability and growth of SMEs. They impact SMEs performance through:

i. **Customer Access**: Effective market research and segmentation enable SMEs to identify and reach their target customers.
ii. **Distribution Channels**: Robust distribution networks ensure that products and services reach the market efficiently.
iii. **Branding and Positioning**: Strong marketing strategies help SMEs build brand awareness and loyalty.
iv. **Global Reach**: Access to international markets can significantly expand the customer base and growth potential of SMEs.

2.1.7 The concept of Support Systems and SMEs' Performance

Supports encompass the provision of physical infrastructure, professional services, and actions by non-governmental organizations, all aimed at fostering entrepreneurial activities (Brooks et al., 2019). Infrastructural assistance includes telecommunication infrastructure, transport and logistics facilities, energy resources and designated areas such as clusters, research or business parks, export processing zones, incubation centers, and business hubs (Morant-Martínez et al., 2019). Also, professional supports encompass a range of occupations such as legal, accounting, and financial practitioners, insurance providers, real estate specialists, technical experts and consultants (Lux et al., 2020). These professionals are crucial components of an entrepreneurial ecosystem as they actively support the development and long-term viability of both new and established businesses. Advanced economies provide robust support structures that facilitate the expansion of firms within emerging economies. For instance, highly advanced ecosystems like Silicon Valley in the USA, Tel Aviv in Israel, and Shenzhen in China have strong support systems that foster the growth of high-technology companies. In contrast, emerging economies often lack these comprehensive support structures, hindering the growth and development of their entrepreneurial ventures. Infrastructure and professional services support the day-to-day operations and strategic growth of SMEs. This pillar includes:

i. **Physical Infrastructure**: Access to reliable transport, telecommunications and energy is essential for operational efficiency.

ii. **Professional Services**: Legal, accounting, and consulting services help SMEs navigate complex regulatory environments and optimize their business strategies.
iii. **Business Ecosystems**: Incubators, accelerators, and business hubs provide resources, mentorship, and networking opportunities that are critical for growth.
iv. **Non-Governmental Support**: NGOs and industry associations can offer additional resources, advocacy, and support services.
v. **Digital actors**: This includes digital players (Elia et al., 2020), governance mechanisms (Li et al., 2017) and digital infrastructure (Wibisono, 2023). Digitization enables the restructuring of activities that generate value around digital platforms, regardless of their physical location (Tilson et al., 2010). Digitization fosters trust-building among individuals and facilitates the exchange of knowledge, experimentation, and the exploration of opportunities that extend beyond physical distance. Entrepreneurs can acquire new knowledge, establish innovative directions, and provide novel products and services (Autio et al., 2018).Also, digital technologies help to improve the effectiveness of developing new products by facilitating the sharing of knowledge among individuals involved (Endres et al. (2022).

2.2 Theoretical Framework

2.2.1 The System Theory

Based on Bertalanffy's system theory (1996), the majority of organizations, including businesses and other forms of organizations, depend on their external settings to function to some extent (Chikere & Nwoka, 2014). They may depend on their environment as a source of raw resources, a reservoir of labour, or a market for the selling of goods. Most nations have open systems because they engage in international trade (Bertalanffy, 1969). MSEs are not exceptional in this aspect. These systems are open and receive input from the external environment, as well as transmit their output to the environment. The total success of MSEs is determined by the interaction of various aspects within the ecosystem, as stated by Subhadrammal (2019). This interaction goes beyond the internal efforts of MSEs to enhance their capabilities and be competitive in the market. Each system consists of interconnected sub-systems that interacts with and collaborate towards a shared objective and engage openly with the external world (Chikere & Nwoka, 2014; Sahgal, 2018). This interaction is characterized by mutual benefit, where the organization obtains inputs from the environment and provides outputs to the environment (Teece, 2018). Within the framework of Micro and Small Enterprises (MSEs), the typical interaction involves obtaining resources from the external environment and generating employment possibilities, which in turn benefit the

community. The current research examines the components that contribute to the political-legal system inside the entrepreneurial ecosystem. These components include the government's policies, business support services provided by various stakeholders and other factors within the business environment. This political-legal system is a sub-system that is interconnected with the larger entrepreneurial ecosystem (Chikere & Nwoka, 2014). It is presumed that each subsystem interacts with one another and exerts an influence on the overarching system (Lai & HuiliLin, 2017; Teece, 2018). The performance of SMEs is influenced by factors such as policy, business support services and the overall business climate.

2.3 Empirical Review

Chaudhary et al. (2024) established a correlation between the entrepreneurial ecosystem and innovation. Their content analysis identifies three main themes: (1) the function of universities, (2) the involvement of entrepreneurial individuals, and (3) the emergence of innovation as a result of the entrepreneurial environment. The findings emphasize the scholarly focus on the interactions among components of the business ecosystem and demonstrate the vital role of entrepreneurial actors in stimulating innovation. Wube & Atwal (2023) investigated the relationship between the entrepreneurial ecosystem and the performance of micro and small enterprises (MSEs) in the Amhara area of Ethiopia, specifically focusing on the political and legal factors. A sample of 499 MSE operators from a population of 4,086 operators in three metropolitan cities of Amhara National Regional State, Ethiopia, was selected using proportional stratified sampling. These operators were involved in three key sectors: manufacturing, construction, and urban agriculture. While the political and legal factors of the entrepreneurial ecosystem greatly influence both entrepreneurial competency and the success of MSEs, the study discovered no substantial association between entrepreneurial competencies and MSE performance. The influence of entrepreneurial competency in mediating the links between policy and business performance, as well as other business settings and company performance, was shown to be negligible. The study suggests that government policies on MSEs should be practical and appealing, including the provision of various incentives.

Ibijoju & Akeke (2022) examined the impact of cultural values on the operational efficiency of small and medium-sized firms (SMEs) in the southwestern region of Nigeria. Data were gathered by administering a structured questionnaire randomly to a specifically chosen sample of 400 owners, managers, and supervisors of small and medium-sized enterprises (SMEs) that have been operating for at least five years. The sampling technique used was multi-stage. Data analysis was conducted using hierarchical regression. The study findings indicate that cultural values, including masculinity/femininity, power distance, individualism/collectivism, and

uncertainty avoidance, have a significant and beneficial impact on the performance of small and medium-sized enterprises (SMEs) in southwest Nigeria. The study determined that cultural values have a crucial role in the success of small and medium-sized enterprise (SME) owners in southwest Nigeria.

A study conducted by Ardito, D'Angelo, Petruzzelli, & Peruffo (2021) investigated how human capital influences the foreign market performance of small and medium-sized enterprises (SMEs) in the United States. The analysis was conducted using a sample of 10,326 small- and medium-sized US high-tech manufacturing businesses. The results demonstrate the significance of intellectual capital in the leadership position of small and medium-sized enterprises (SMEs), particularly in relation to the ownership of persons from often marginalized groups. Policymakers play a vital role in promoting the participation of ethnic minorities in small and medium-sized enterprise (SME) ownership by providing favourable treatment within enterprises, among other measures.

3. Methodology

3.1 Research Design

The selected research design for this study is the cross-sectional survey research design. Cross-sectional surveys provided the researchers with the benefit of revealing the real incidents within an organization, rather than just depending on reported data. Having a full awareness of the difficulties that companies are confronting is advantageous for developing a foundation or conducting preliminary research.

3.2 Population and Sample Size

Small and medium-sized enterprise (SME) owners in Delta State, Nigeria made up the study's population. This limited the extent of the study. The study achieved a thorough understanding of the particular obstacles and opportunities in enhancing the performance of SMEs in the Delta State region by exclusively concentrating on them. The researchers have an uncertain understanding of the precise overall population of small and medium-sized enterprise proprietors in the state. Studies where the population size is uncertain commonly employ the Cochran (1977) formula to determine the sample size. It entails making assumptions about the required level of precision, the desired level of confidence, and the expected proportion of the population displaying a particular attribute or habit.

The formula for the Cochran sample size calculation is as follows:

$$n = z^2(PQ) / e^2 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

Where:

n = sample size

z = z-score corresponding to the desired level of confidence
p = estimated proportion of the population with the characteristic of interest
q = 1 - p
e = level of precision desired (margin of error)

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

$$n = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}$$

$$n = 384$$

3.3 Sampling Technique

The study employed the judgmental sampling technique. The study used judgmental sampling to intentionally choose specific groups for inclusion in the sample based on the researchers' knowledge of the community and the specific characteristics they were looking for. The researchers used their expertise to identify individuals who are most likely to provide relevant and significant data for the study.

3.4 Sources of data

The primary source provided the data for this study through the use of a structured questionnaire with a five-point Likert scale response format. The questionnaire enabled the researcher to assess public opinion at a certain point in time. Surveys were chosen because they are the most effective method for conducting scientific research. We administered validated questionnaires to participants in a face-to-face setting. The accompanying letter provided a comprehensive explanation of the study's goal and the imperative need to obtain reliable data from it. The objective of the covering letter was to motivate respondents to provide honest and essential responses to the survey instrument.

We conducted a pilot study to thoroughly scrutinize the research instrument and detect any possible difficulties before its complete implementation. The preliminary study involved disseminating 12 copies of the survey to a group of participants in Edo State, Nigeria. The objective was to administer a preliminary test of the questionnaire and make assessments of its validity and reliability. Mitchell & Jolley (2013) assess reliability using three main factors: internal consistency reliability, inter-rater reliability and test-retest reliability. The study employed internal consistency reliability as a means of assessing the efficacy of the questionnaire items. If there is a significant connection between these objects, then there is a noteworthy degree of internal consistency. We computed the Cronbach alpha coefficients to assess internal consistency. If a construct's criterion has a minimum composite reliability value of 0.7 and a Cronbach's alpha value higher than 0.6, it can be considered reliable (Ghozali, 2015).

Table 1
Reliability coefficients of study constructs

Dimension of study constructs	Items	Cronbach's Alpha
Policy	5	0.714
Finance	5	0.725
Culture	5	0.734
Human Capital	5	0.713
Markets	5	0.743
Supports	5	0.746
SMEs' performance	5	0.738

Source: Field Survey, 2024.

We can infer from Table 1's data that each variable has a Cronbach's alpha value exceeding 0.7. These results indicate that each variable has met the required criteria, suggesting that the indicators used to measure the variables are considered reliable.

3.5 Method of Data Analysis

The acquired data were analyzed using descriptive and inferential statistical methods to arrive at a result. We analyzed the demographic features of the respondents using basic percentages as descriptive statistics. The statistical techniques employed were correlation and multiple regression analysis, both of which are inferential in nature. We employed correlation analysis to quantify the degree of association between the variables under investigation. We used multiple regression to evaluate the statistical significance of the associations between the variables. We performed the analysis using the SPSS for Windows programme, specifically version 25.

Model Specification

The following model specification was developed for the study:

$$Y = F(X) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

$$SMEP = F(POL, FIN, CUL, HC, MK, SUP) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

$$SMEP = \beta o + \beta 1POL + \beta 2FIN + \beta 3CUL + \beta 4HC + \beta 5MK + \beta 6SUP + \varepsilon \ldots\ldots\ldots\ldots\ldots (4)$$

Where:

β_o = Constant Coefficient ; β_1- β_6 = Coefficients

SMEP = Small and Medium-sized Enterprises' Performance

POL = Policy; FIN = Finance; CUL = Culture; HC =Human Capital; MK =Markets

SUP = Supports

4. Results of Data Analysis

This section is dedicated to the analysis of the data obtained from the participants.

Table 2

Response rate

S/N	Description of Response	Number	Ratio (%)
1	Total questionnaires administered	384	100
2	Questionnaires retrieved	379	98.7
3	Questionnaires rejected	2	0.5
4	Questionnaires analyzed	377	98.2

Source: Field Survey (2024)

Table 2 displayed a response rate of 98%. The researchers considered a 98% response rate sufficient to continue with the analysis.

Table 3

Sample demographics (n= 377).

Variable	Category	Number	Ratio (%)
Gender	Male	103	27.3
	Female	274	72.7
Age	18-28	12	3.2
	29-38	65	17.2
	39-48	211	56. 0
	49-58	57	15.1
	59-68	32	8.5
Marital status	Single	167	44.3
	Married	177	46.9
	Divorced	33	8.8
Education level	SSCE	55	14.6
	OND	58	15.4
	HND/ B.Sc.	251	66.6
	Postgraduate degree	13	3.4

Source: Field Survey, 2024.

According to Table 3, 44% of the samples were classified as male, while the remaining 56% were classified as female. The poll revealed that 23% of the respondents fell within the age range of 18 to 28, while 24% were aged between 29 and 38. Additionally, 23% of the participants were between the ages of 39 and 48, 17% were aged between 49 and 58, and 13% were in the age group of 59 to 68. The

poll revealed that 53% of the participants were not married, 44% were married, and 3% were divorced. 52% of the participants have an educational background that includes either a Higher National Diploma (HND) or a Bachelor of Science (B.Sc.) degree.

Table 4

Effect of entrepreneurial ecosystem on SMEs' performance

Predictors	Standardized Coefficients			Collinearity Statistics		ANOVA[a]		Model Summary	
	Beta	T	Sig.	Tolerance	VIF	F	Sig.	R Square	Adjusted R Square
		-4.079	.000			80.361	.000[b]	.566	.559
Policy	.421	10.220	.000	.692	1.445				
Finance	.108	2.986	.003	.889	1.125				
Culture	.069	1.773	.077	.768	1.303				
Human Capital	.102	2.460	.014	.685	1.460				
Markets	.350	9.409	.000	.847	1.180				
Supports	.154	4.249	.000	.895	1.118				

a. Dependent Variable: Small and medium-sized enterprises' performance

Source: Field Survey (2024)

Table 4 shows that policy ($\beta = 0.421$, $p < 0.05$), finance ($\beta = 0.108$, $p < 0.05$), increased human capital ($\beta = 0.102$, $p < 0.05$), markets ($\beta = 0.350$, $p < 0.05$) and support ($\beta = 0.154$, $p < 0.05$) positively affects SMEs performance, while culture negatively affects SMEs performance ($\beta = 0.069$, $p > 0.05$). Policy (1.445), finance (1.125), culture (1.303), human capital (1.460), markets (1.180), and support (1.118) in relation to SMEs performance are all below 10. This means there is no multicollinearity. Policy has a tolerance of 0.692, finance 0.889, culture 0.768, human capital 0.685, markets 0.847, and supports 0.895, all above 0.1.

However, independent variables accurately measured the entrepreneurial ecosystem. This was supported by the F value of 80.361 and p value (0.000), both below 0.05. The model was statistically significant. An adjusted R square value of 0.559 showed that the entrepreneurial ecosystem's dimensions explained SMEs performance variances. Entrepreneurial ecosystem components explained 56% of SME performance variances.

Table 5

Relationship between the variables

S/N	Predictors	POL	FIN	CUL	HC	MK	SUP	SMEP
1	Policy	1						
2	Finance	0.307**	1					
3	Culture	0.289**	0.151**	1				
4	Human Capital	0.438**	0.124*	0.449**	1			
5	Markets	.195**	.147**	-.114*	-.064	1		
6	Supports	.192**	.116*	.044	.075	.289**	1	
7	Small and medium-sized enterprises' performance	.617**	.330**	.220**	.320**	.478**	.359**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 showed that policy positively affects SME performance (r = 0.617). Finance positively correlates with SME performance (r = 0.330). Culture positively correlated with SME performance (r = 0.220). Small and medium-sized firms perform better with human capital (r = 0.320). Market performance is positively correlated with SME performance (r = 0.478). Also, support was positively correlated with SME performance (r = 0.359).

4.1 Discussion of results

The findings indicated that policy has a statistically significant positive effect on the performance of small and medium-sized firms ($\beta = 0.421$, $p < 0.05$). The result indicated that there is a significant positive relationship between policy and the performance of small and medium-sized firms (r=0.617). The findings of Hutahayan's (2019) study were disputed by the outcome, which suggests that government policy has a limited influence on the relationship between entrepreneurial approaches and firm success. The research undertaken by Ascarya and Rahmawati (2018) provides additional evidence of the influence of policy on business success. The result implies that effective policies can streamlined regulations, ease of doing business, and supportive legal frameworks reduce administrative burdens and compliance costs. Policies thatencourage R&D and innovation through grants and tax incentives can help SMEs develop competitive advantages.

Finance has a significant and beneficial impact on the performance of small and medium-sized enterprises (SMEs) ($\beta = 0.108$, $p < 0.05$). Additionally, there is a strong correlation between finance and SMEs' performance (r = 0.330). The findings

of the study by Jarchow & R¨ohm (2018) confirm the crucial significance of funding efforts in overcoming financial deficiencies during the early stages of technology innovation. The result implies that adequate access to funding through banks, venture capital, angel investors, and microfinance institutions allows SMEs to invest in growth opportunities.

The effect of culture on the performance of small and medium-sized enterprises is shown to be negative, as evidenced by a beta value of 0.069 ($p > 0.05$). Moreover, the findings revealed a significant and positive relationship between culture and the performance of small and medium-sized firms ($r=0.220$). The findings contradicted the study conducted by Ibijoju & Akeke (2022), which demonstrated that cultural values, including masculinity/femininity, power distance, individualism/collectivism, and uncertainty avoidance, positively and significantly impact the performance of small and medium-sized enterprises (SMEs) in southwest Nigeria. The outcome suggests that societies that prioritize innovation and willingness to take risks are more inclined to experience elevated levels of entrepreneurship and small and medium-sized enterprise (SME) activity. An environment that values and promotes creativity and innovation can result in more dynamic and competitive small and medium-sized enterprises (SMEs).

The presence of human capital has a beneficial impact on the performance of small and medium-sized firms ($\beta = 0.102$, $p < 0.05$). The success of small and medium-sized firms shows a significant positive link with human capital ($r=0.320$). The findings of the study conducted by Ardito et al. (2021) support the notion that intellectual capital plays a crucial role in the leadership position of small and medium-sized enterprises (SMEs), particularly in terms of having owners from traditionally marginalized groups. The findings suggest that having access to education and training enhances the proficiency and talents of entrepreneurs and their staff. Individuals who have received a high level of education and possess advanced skills are more capable of creating original and effective solutions, as well as promoting the expansion of businesses.

The presence of markets has a positive effect on the performance of small and medium-sized firms, as indicated by a positive beta coefficient of 0.350, with statistical significance at a p-value of less than 0.05. Markets exhibit a favourable link with the performance of small and medium-sized firms ($r=0.478$). Consistent with the findings of Igwe et al. (2020), the outcome supports the notion that resources, market access, and family connections exert a substantial influence on frugal innovation. The result implies that access to international markets can significantly expand the customer base and growth potential of SMEs. Effective market research and segmentation enable SMEs to identify and reach their target customers.

Support provided to small and medium-sized firms has a statistically significant positive effect on their performance ($\beta = 0.154$, $p < 0.05$). Moreover, the findings revealed that there is a significant association between support and the performance of small and medium-sized firms (r=0.359). Thus, it is imperative to build a conducive environment that facilitates access to information resources and fosters linkages with many stakeholders within a specific region or geographic area. Ensuring the continuance of innovation and entrepreneurship is crucial for maintaining progress and development (Cao & Shi, 2020). The result implies that access to reliable transport, telecommunications, and energy is essential for operational efficiency. Legal, accounting, and consulting services help SMEs navigate complex regulatory environments and optimize their business strategies.

5. Conclusion

Sustainable entrepreneurs serve as catalysts for change by recognizing and seizing opportunities, processes, activities, and industrial markets to enhance social and ecological impacts and accountability for the environment. Therefore, it is crucial to have a supportive ecosystem that allows access to information resources and facilitates connections with many stakeholders in a certain region or geographic area. This is essential for the long-term sustainability of innovation and entrepreneurship. The study therefore concludes that the combined effect of entrepreneurial ecosystem pillars creates a supportive environment that can significantly enhance the performance and sustainability of SMEs.Sustainable entrepreneurial ecosystems are found to be critical to a company's business strategy and crucial for effectively bringing any technology to market. Effective policies and access to finance provide the foundational support, while a conducive culture, skilled human capital, robust market access, and comprehensive support structures enable SMEs to innovate, grow, and compete effectively in both local and global markets.

6. Recommendations

Based on the findings above, the study recommended as follows:

i. That the government should simplify regulatory processes and offer tax incentives and grants to reduce operational costs and encourage innovation.
ii. That the government should improve access to funding through diverse financial institutions, including banks, venture capital, and microfinance, to support SME growth and scalability.
iii. Also, the government should promote a culture that values risk-taking, creativity, and resilience through educational programs and public campaigns.

iv. In addition, the government should develop and support education and training programs to enhance the skills and competencies of entrepreneurs and their workforce.
v. Again, the study recommends that the government should facilitate market research, develop robust distribution channels and encourage branding strategies to help SMEs reach their target customers and expand globally.
vi. Lastly, the government should build and maintain infrastructure, provide access to professional services and support business hubs, incubators, and accelerators to foster SME development

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