Effects of Entrepreneurship Development Programs on Business Innovation of Small and Medium Enterprises in Kebbi State, Nigeria

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ABSTRACT

This study examines the effect of Entrepreneurship Development Programmes (EDPs) on Business Innovation among Small and Medium Enterprises (SMEs) in Kebbi State, Nigeria. The population comprised 1,280 registered SMEs documented by the Kebbi State Ministry of Trade, Industry, and Tourism (2024). A sample of 305 SMEs was determined using the Taro Yamane formula, of which 269 questionnaires were duly completed and found valid for analysis, representing an 88.2% response rate. Primary data were collected using structured questionnaires administered to SME owners/managers. Data were analysed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (Pearson correlation and multiple regression analysis).

The results show that the EDP proxies had significant positive correlations with Business Innovation: Access to Finance ($r = 0.676$), Awareness and Motivation ($r = 0.798$), Technology Adoption ($r = 0.811$), and Skills Development ($r = 0.601$), all at $p < 0.05$. Multiple regression results indicate that the model was statistically significant and explained 72.8% of the variation in Business Innovation ($R = 0.854$, $R^2 = 0.728$, Adjusted $R^2 = 0.724$, $F(4, 264) = 176.59$, $p < 0.001$). Technology Adoption ($B = 0.451$, $p < 0.001$) emerged as the strongest predictor, followed by Awareness and Motivation ($B = 0.328$, $p < 0.001$) and Access to Finance ($B = 0.172$, $p = 0.002$). Skills Development ($B = 0.043$, $p = 0.421$) was not statistically significant.

The study concludes that business innovation among SMEs in Kebbi State is associated particularly with technology adoption, entrepreneurial awareness and motivation, and access to finance. It recommends integrated EDPs that prioritize technology infrastructure, digital tools, motivational programmes, and tailored financial solutions. Skills development curricula should be reoriented toward practical, innovation-focused, and technology-driven content.

Keywords: Business Innovation, Entrepreneurship Development Programmes, Access to Finance, Technology Adoption, Small and Medium Enterprises, Kebbi State.

INTRODUCTION

The objective of Entrepreneurship Development Programmes (EDPs) is to motivate and provide people with the information and skills required to establish, manage, and grow their own successful businesses. The efficacy of entrepreneurship development programs may be assessed by examining their contributions to critical domains such as enhancing awareness and motivation, augmenting firm performance, generating employment, stimulating economic growth, and facilitating access to finance and networking possibilities. Numerous economies depend on small and medium-sized enterprises, or SMEs, for their development and sustainability. Entrepreneurship development initiatives seek to assist these enterprises.

Small and medium-sized businesses (SMEs) are essential to Nigeria's economic growth since they greatly increase employment opportunities, reduce poverty, and boost GDP. However, SMEs in Nigeria confront a number of obstacles that make it difficult for them to develop and compete internationally, such as restricted access to financing, awareness and motivation, technological adoption, poor infrastructure, and a lack of entrepreneurial skills. Entrepreneurship development programmes (EDPs) have been identified as a key strategy

to address these challenges and promote business innovation among SMEs. Entrepreneurship development programs aim to equip entrepreneurs with necessary skills, and knowledge to start and successfully grow their business.

Despite the significance of EDPs, there is a lack of empirical data regarding how these initiatives affect small and medium-sized businesses' ability to innovate in Kebbi State, Nigeria example Matthew (2020) examines the principal factors affecting the growth and development of SMEs in Nigeria; nevertheless, he fails to provide a comprehensive study of the contemporary issues confronting Small and Medium Enterprises (SMEs) about access to capital, market possibilities, r regulatory obstacles. Similarly, Mohd et al. (2021) discovered that Government Financial Support Services (GFSS) had a negligible moderating effect on the correlation between risk-taking inclination and self-confidence, suggesting that GFSS does not significantly influence the likelihood of venturing into business. The study identifies a vacuum in the literature about the impact of Government Financial Support Services (GFSS) on the probability of launching a business; further research is therefore required to close this gap and improve GFSS for the expansion of new businesses in Malaysia and overseas. In light of the aforementioned, the current study examined how entrepreneurship development initiatives affected Kebbi State's small and medium-sized businesses' ability to innovate. There are five sections in this study. The introduction and literature review are presented in the first section. The results are covered in the third section, and the study's advice and conclusion are covered in the fifth. This study's main goal is to investigate how entrepreneurship development initiatives help Kebbi State's small and medium-sized enterprises (SMEs) innovate. Nonetheless, the particular goal is to ascertain how much entrepreneurship development initiatives impact Kebbi State's small and medium-sized enterprises' (SMEs) business innovation. Thus, we postulated that Entrepreneurship Development Programmes (EDPs) do not significantly influence business innovation of Small and Medium Enterprises (SMEs) in Kebbi State.

THEORETICAL REVIEW

This section explored key theories that have been influential in understanding the relationship between Entrepreneurship Development Programmes (EDPs) on business innovation of Smalll and Medium Enterprises (SME) In Kebbi State**.**

Resource-Based View Theory

The Resource-Based View (RBV), originally developed by Penrose and later formalised by Wernerfelt and Barney (1984), explains firm performance in terms of the resources and capabilities a firm owns and controls rather than only external market conditions. It assumes that firms are heterogeneous in their resource endowments and that some resources are valuable, rare, difficult to imitate and non-substitutable, thereby providing the basis for sustained competitive advantage.

Applied to entrepreneurship, the RBV of entrepreneurship articulated by authors such as Chen and Antonelli (2020) emphasises the entrepreneur’s ability to acquire, develop and leverage key resources such as education, experience and social networks. The core assumptions are that: (i) access to and control of critical resources is uneven across entrepreneurs; (ii) entrepreneurs play a central role in combining internal resources with external linkages; and (iii) those who can strategically allocate and recombine these resources are better able to overcome obstacles and secure superior market positions. Social connections are viewed as bridging mechanisms that close gaps between what the entrepreneurs has and what the venture needs, making networking and social capital central entrepreneurial resources rather than peripheral supports.

Chanda et al. (2024) extend this perspective by stressing that successful entrepreneurs work with multiple, context-specific resource combinations, generating different advantages across firms and industries. The theory assumes that there is no single “ideal” resource bundle; instead, entrepreneurs must continuously learn which configurations of human capital, organisational routines, technology and external relationships fit their environment. It also underlines the importance of building internal capabilities such as specialised units, systems and processes to acquire, mobilise and deploy resources effectively. At the same time, modern RBV scholars recognise that these abstractions are based on relatively stable conditions; in rapidly changing, innovation-driven markets, technological shifts can erode the strategic value of assets. Transformative innovations may reduce the

importance of some industry or location specific resources, or change the relative weight of time, information and financial constraints in shaping opportunity.

For this study, the RBV implies that Entrepreneurship Development Programmes in Kebbi State should not only expand SMEs' access to finance and technology but also deliberately build entrepreneurs' human capital and social capital and teach them how to configure these resources strategically to gain durable advantages in their markets.

Theory of Human Capital

"Dorschel (2022) and Becker (1975) situate human capital theory historically by noting how expanded access to higher education through policies such as free or subsidised community college and programmes like the G.I. Bill helped increase the pool of educated individuals available to participate in an 'entrepreneurial economy.' Their account assumes that when barriers to higher education fall, more talented individuals from low-income backgrounds can accumulate human capital and move into skilled, innovation-intensive sectors. At the same time, the growth of skill-intensive industries and the information technology revolution create strong demand for finance, marketing, management and technical skills, reinforcing the incentives for individuals to invest in education. The underlying assumption is a two-way relationship: expanding entrepreneurial opportunities raise returns to human capital, and rising human capital supports further entrepreneurial and sectoral development."

The Theory of Human Capital is primarily associated with economists such as Theodore Shultz and Gary Becker (1993), who argued that individuals' education, skills, and health should be viewed as forms of capital that increase productivity and earnings. In the entrepreneurial context, human capital theory assumes that investments in education and training enhance individuals' capabilities to identify opportunities, innovate, manage risk and run businesses effectively. It also assumes that these investments shape preferences and risk tolerance, so that individuals with higher human capital are more likely to engage in innovative and wealth-creating activities.

Human capital theory, associated particularly with the work of Theodore Schultz and Gary Becker, treats education, training, and acquired skills as investments that can improve productivity. Applied to entrepreneurship, the theory suggests that relevant knowledge and skills may help entrepreneurs recognize opportunities, introduce innovations, make informed decisions, and manage their businesses more effectively. Human capital theory emphasizes that investment in education and training can increase individual knowledge, skills, and productive capacity. In the context of small and medium-sized enterprises (SMEs), relevant education and training may strengthen entrepreneurs' ability to identify opportunities, innovate, and manage business activities effectively. For this study, human capital theory implies that Entrepreneurship Development Programmes in Kebbi State should prioritise building the knowledge, skills and competencies of SME owners and potential entrepreneurs through training, mentoring and exposure to new technologies because these investments increase their ability to recognise opportunities, innovate, manage risk and grow their firms. It also suggests that the impact of EDPs will be stronger when combined with broader policies that expand access to quality education and when complementary resources such as finance and technology are available, since human capital alone may not be sufficient to translate entrepreneurial intentions into successful, growing enterprises.

THEORETICAL FRAMEWORK

The human capital theory of entrepreneurship has clear strengths and weaknesses, and both are directly relevant to this study on Entrepreneurship Development Programmes (EDPs) and SME growth in Kebbi State.

human capital theory underpins this study by providing the conceptual basis for treating skills development, training and experience as core elements of EDPs, while the empirical analysis tests, rather than assumes, their contribution to SME growth. The theory supports the expectation that better-equipped entrepreneurs should achieve higher operational efficiency, innovation, market expansion and revenue growth, but the Kebbi State evidence shows that human capital must be understood in interaction with access to finance, technology adoption and motivational factors, rather than as a stand-alone driver. This integrated use and critical testing of human capital theory strengthens both the theoretical grounding and the practical relevance of the study's conclusions

Empirical Review

Nhung and Hưng's 2022 study looked at how government funding affected innovation in Vietnam's small and medium-sized businesses (SMEs). This study looks at how government support affects the innovation of small and medium-sized businesses (SMEs) using survey data gathered from more than 2,000 organizations in 2011, 2013, and 2015. A fixed effect estimate technique is utilized to ascertain the relationship between Vietnamese SMEs' involvement in innovation programs and government aid programs. The research shows that SMEs in Vietnam are able to boost their innovation with the help of government assistance programs. It finds that, out of the two primary forms of government support—financial and technical—only technical support programs significantly improve innovation engagement, but financial aid does not provide substantial advantages for SMEs.

According to Matthew's (2020) study, "Small and Medium Enterprises (SMEs): Veritable Tool for Economic Growth and Employment Generation in Nigeria," developing and assisting SMEs with long-term goals is essential to their success in both local and international markets. Concerns including technology use and infrastructure shortages, which have been highlighted as significant variables impacting the development and expansion of Small and Medium Enterprises (SMEs) in Nigeria, must be addressed in order to attain substantial growth and recognition. The study assesses the importance of developing and sustaining long-term SME programs in Nigeria from all perspectives using a qualitative research methodology With an emphasis on the role of technology and the necessity of closing infrastructural gaps to ensure the most effective use of available resources, this study uses a literature analysis to examine crucial aspects driving the growth and improvement of Nigerian SMEs. It just highlights the importance of developing and promoting such programs in order to obtain a competitive edge in both local and international marketplaces without going into specific examples or case studies of successful sustainable SME initiatives in Nigeria Although it addresses significant variables influencing the growth and development of SMEs in the nation, there is a dearth of study about the current challenges faced by SMEs in Nigeria with regard to market opportunities, regulatory impediments, and capital availability.

Vanitha et al. (2024) provide a structured, systematic review of how different Government Support Policies (GSPs) relate to entrepreneurial orientation (EO) and SME performance, applying the PRISMA methodology alongside thematic and semantic analysis tools such as NVivo 12 and Leximancer 4.5. This is a methodological strength, as it brings transparency to study selection and allows GSPs to be meaningfully classified as direct or indirect, and as financial or non-financial, thereby clarifying the multiple policy channels through which governments attempt to influence SME behaviour and outcomes. The review's core contribution is to show that the direct effect of GSPs on EO and performance is not uniform: it varies by sector, SME growth intention, and type of policy instrument, which challenges any “one-size-fits-all” assumption in support programme design. Despite providing valuable insights, the study has significant limitations due to its reliance on secondary literature, which carries inherent methodological flaws and geographic biases. It identifies a notable gap in empirical research on the simultaneous effects of multiple GSPs on EO and performance, but lacks a proposed conceptual model for future examination, especially in lesser-studied regions like Northern Nigeria. The classification of GSPs is useful, yet the study does not adequately address how factors like implementation quality and administrative capacity influence policy impact at the firm level. Consequently, while the findings are high-level, they provide minimal guidance for developing tailored support solutions and underscore the need for primary quantitative research that examines the interaction of EDP components with firm characteristics and local institutions.

Kasimu et al. (2023) examine the relationship between entrepreneurial networking, innovation, and small firm success in Uganda through a correlational survey of 368 enterprises, analyzed using SPSS. They find that networking and innovation are significant predictors of small firm performance, with innovation mediating the effect of networking on success, suggesting that networking enhances innovative behaviour. This study highlights the importance of social capital and innovation capabilities in small business performance in Uganda, addressing a gap in the regional literature. However, it is limited by its cross-sectional design, self-administered questionnaires, and a homogeneous treatment of small businesses, overlooking sector and location variations. The model's focus on innovation as the sole mediator also neglects other influencing factors, indicating a need for more extensive, locally relevant research to fully understand the complexities of business success in different

contexts.

Kaouther et al. (2023) examine the impact of entrepreneurship development programs on the relationship between economic and political empowerment in post-revolution rural Tunisia. Utilizing quantitative econometric modelling and a stratified random sample of 343 participants from a relevant program, the study finds that greater economic decision-making agency correlates with higher political empowerment. Furthermore, access to entrepreneurial resources like microcredit and training significantly boosts economic opportunities, thereby strengthening the link between economic and political empowerment. However, the research does not explore potential variations in these dynamics across different cultural or political contexts, nor does it assess the long-term sustainability of the entrepreneurship programs beyond their immediate effects.

Bilderback and Miller (2023) examine the significance of staff development programs in company. A study is undertaken to collect insights and data about employee development programs (EDPs) and their impact in company environments. The authors deploy social exchange theory (SET) to formulate practical implications and optimal strategies for the implementation and enhancement of employee development programs. The research underscores the significance of employee development programs (EDPs) in cultivating a constructive connection between workers and managers, perhaps resulting in a more prosperous future for firms. By delineating explicit objectives and incentives inside EDPs, organisations may augment the cultivation of these connections. The results indicate that organisations need to use ideas derived from social exchange theory to establish, enhance, or sustain successful EDPs.

Nsorah et al. (2022) analyse the influence of government policies and small-scale company development initiatives on economic growth in Nigeria. This study used a survey-based research technique to examine the impact of government policies and activities supporting small companies on GDP growth in Nigeria. The research used several statistical approaches to analyse the relationships among government policies, SSE advancement, expansion, promotion, and their effects on SSE performance and economic development. These included Cronbach's Alpha, Pearson's Correlation, Durbin-Watson, ANOVA, and OLS Regression. The findings indicate that government policies significantly influence the performance of small-scale businesses (SSEs) and the advancement of the Nigerian economy. It emphasises that governmental initiatives promoting the development and sustainability of SSEs are essential. The study indicates a favourable correlation between SSE performance and economic development, linked to SSE advancement, growth, and enhancement. This suggests that actions to promote and develop SSEs may favourably influence economic growth by reducing unemployment, enhancing tax revenue, and creating new job opportunities.

RESEARCH METHODOLOGY

In addition to providing comprehensive information on research design, population determination, sample size, sampling procedure, instrumentation, and psychometric properties (validity and reliability) of the instrument, this section explains the general method of investigation used for this study. This section explains how data is administered and gathered, as well as the statistical techniques used to score and analyze the data.

Research Design

The impact of entrepreneurship development programs on business innovation of Small and Medium Enterprises (SMEs) in Kebbi State is investigated in this study using a descriptive survey approach. Quantitative information gathered by a planned survey. Descriptive and inferential statistics are used to analyze the collected data. The rationale is that the survey approach makes it possible to efficiently and economically gather substantial amounts of data.

Population of the Study and Sample Size

The population of this study comprises 1,280 registered Small and Medium Enterprises (SMEs) in Kebbi State, Nigeria, as documented in the Kebbi State Ministry of Trade, Industry, and Tourism (2024). These SMEs span sectors including agriculture, manufacturing, trading, and services, all actively operating between 2015 and 2024—the study period. Only formally registered entities were included to ensure verifiable data on participation in entrepreneurship development programmes.

While a sample size of 305 was drawn using Taro Yamane (1967) fomular. The sample size is calculated using Taro Yamane (1967), simplified formula of proportion to reduce the study population to a manageable size. Of the questionnaires administered, 269 were duly completed, returned and found valid for analysis, representing 88.2% response rate. The remaining 36 questionnaires (11.8%) were excluded due to incomplete responses and non- return. Therefore, all analysis in this study are based on N=269 valid responses.

$$n = \frac{N}{1 + Ne^2}$$

Where*:*

n = calculated sample size.

N = Population Size.

e = Degree of accuracy (5%), expressed as a proportion (0.05); It is margin of error.

Substitution of the population in the sample size formula:

$$n = \frac{1{,}280}{1 + (1{,}280)x(0.05)2}$$

$$n = \frac{1{,}280}{1 + (1{,}280)x(0.0025)}$$

$$n = \frac{1{,}280}{4.20}$$

$$n = 304.76$$

$n = 305\ approximately.$

Therefore, the sample size for this study is three hundred and five (305) using the total population of one thousand two hundred and eighty (1,280) registered Small and Medium Enterprises in Kebbi State.

Sampling Techniques

The sample method used in this work is called "simple random sampling." The goal of the easy random sampling method is to give every person in the community an equal chance of being chosen.

Sources of Data

The primary sources used to collect the data for this study were structured questionnaires. Participants receive questionnaires that enable them to share their thoughts and answers to particular study-related questions. The study benefited from a balanced approach by employing questionnaires, which drew on first-hand experiences as well as more general contextual knowledge to guarantee in-depth analysis and validity of the results.

Methods of Data Collection

Primary data is collected through structured questionnaire designed for the purpose of this study and administered to respondents in the study area.

Methods of Data Analysis

Data gathered is analysed via descriptive and inferential statistics to determine the effect of Entrepreneurship Development Programmes (access to finance, Technology adoption, Skill Development and awareness and motivation) on the growth (business innovation) of Small and Medium Enterprises in Kebbi State. The data

collected are analysed statistically using Multiple Regression and simple percentages for two hundred and sixty-nine that was returned out of three hundred and five samples.

Variables and Measurements

There are two categories of variable: The dependent variable of the study is the growth of Small and Medium Enterprises (SMEs) which is proxied by business innovation. While the independent variable for the study is entrepreneurship development programmes which is proxied by skills development, access to finance, technology adoption and awareness and motivation.

The dependent and the independent variables are measured as follows

In this study, the dependent variable of the study is business innovation of Small and Medium Enterprises (SMEs) which is measured as (through entrepreneurship development programmes, SMEs actively invests in research and development (R&D) to create innovative products or services, In order to satisfy consumer expectations, SMEs have been able to regularly launch new or enhanced goods and services thanks to entrepreneurship development programs. etc), while the independent variable is effect of entrepreneurship development programmes which is proxied with (Access to Finance, Technology adoption and Awareness and motivation).

This is expressed in this study as follows:

General Model :$Y= \alpha + ß_I X1 + ß_2 X2 + ß_3 X3 + ß_4 X4 + \mu$.

Specific Model: $BI= = \alpha + ß_I AF_{i,t} + ß_2 AM_{i,t} + ß_3 TA_{i,t} + ß_4 SA_{i,t} + \mu$

α = intercept,

$ß_I$, represent the coefficient of the variable.

X1 represent Access to Finance.

X2 represent Awareness and Motivation.

X3 represent Technology Adoption.

X4 represent Skill Acquisition

μ represent error terms.

However, the above model is expressed as:

$BI= \alpha + ß_1 AF+ AM+ TA+ SA +\mu$ …...equation .

Where:

BI = Business Innovation.

AF = Access to Finance.

AM = Awareness and Motivation.

TA = Technology Adoption

SA = Skill Acquisition

Model Summary : $R= 0.854$, $R^2= 0.728$, Adjusted $R^2= 0.724$, $F(4,264) =176.59$, $p =0.000$. The model explains 72.8% of Variation in Business Iannovation.

RESULTS AND DISCUSSION

Table 4.1: Distribution of Respondents based on Gender

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
	Female	39	14.5	14.5	14.5
	Male	230	85.5	85.5	100.0
	Total	269	100.0	100.0	

Source: Field Survey, 2025

Table 4.1 shows the distribution of respondents based on their gender (sex). Male respondents dominate the sample**:** 85.5% (n = 230) while Females account for only 14.5% (n = 39)**.** This suggests a gender imbalance, possibly reflecting male dominance in entrepreneurial activities.

Table 4.2: Distribution of Respondents based on Age Group

Age Group		Frequency	Percent	Valid Percent	Cumulative Percent
	Under 21 Years	7	2.6	2.6	2.6
	21 - 30 Years	88	32.7	32.7	35.3
	31 - 40 Years	89	33.1	33.1	68.4
	41 - 50 Years	65	24.2	24.2	92.6
	51 - 60 Years	20	7.4	7.4	100.0
	Total	269	100.0	100.0	

Source: Field Survey, 2025

The distribution of respondents by age group is displayed in Table 4.2. According to the findings, 7 (2.6%) respondents are younger than 21, 88 (32.7%) are between 21 and 30, 89 (33.1%) are between 31 and 40, 65 (24.2%) are between 41 and 50, and 20 (7.4%) are between 51 and 60. According to these findings, the age groups with the highest representation are 21–30 years old (32.7%) and 31–40 years old (33.1%). This suggests that the population of entrepreneurs is primarily young to mid-career, which is an essential demographic for businesses focused on expansion.

Table 4. 3: Distribution of Respondents based on Highest Qualification

Qualifications		Frequency	Percent	Valid Percent	Cumulative Percent
	SSCE/Arabic	16	5.9	5.9	5.9
	OND/NCE	65	24.2	24.2	30.1
	BSc/HND	125	46.5	46.5	76.6
	MBA/MSc/PGD	50	18.6	18.6	95.2
	MPhil/PHD	13	4.8	4.8	100.0
	Total	269	100.0	100.0	

Source: Field Survey, 2025

The distribution of respondents according to their greatest level of education is displayed in Table 4.3. 46.5% of respondents have a BSc or HND, 23.4% have a postgraduate degree (MBA, MSc, or PhD), and only 5.9% have an SSCE or Arabic. This implies a well-educated sample, which may have an impact on innovation and company strategy.

Table 4.4: Distribution of Respondents based on Years in Business

Number of Years in Business	Frequency	Percent	Valid Percent	Cumulative Percent

Under 1 Year	19	7.1	7.1	7.1
1 - 5 Years	84	31.2	31.2	38.3
6 - 10 Years	78	29.0	29.0	67.3
11 -15 Years	38	14.1	14.1	81.4
Over 15 Years	50	18.6	18.6	100.0
Total	269	100.0	100.0	

Source: Field Survey, 2025

The distribution of responders according to years of business experience is displayed in Table 4.4 According to the findings, 19 (7.1%) respondents have less than a year of business experience, 84 (32.7%) have between one and five years, 78 (29.0%) have between six and ten years, 38 (14.1%) have between eleven and fifteen years, and 50 (1.6%) have more than fifteen years. According to these findings, the majority of respondents—31.2%—had one to five years of company experience, while 29.0% have six to ten years. The majority of organizations are still in the early to mid-growth stages, according to the research, which may account for the high need for support services.

Table 4.5: Distribution of Respondents based on Sectors

Sectors		Frequency	Percent	Valid Percent	Cumulative Percent
	Manufacturing	48	17.8	17.8	17.8
	Retail	72	26.8	26.8	44.6
	Finance	34	12.6	12.6	57.2
	Agriculture	95	35.3	35.3	92.6
	Construction	20	7.4	7.4	100.0
	Total	269	100.0	100.0	

Source: Field Survey, 2025

Table 4.5 shows the distribution of respondents based on their business sectors. Agriculture leads at 35.3%, followed by Retail (26.8%) and Manufacturing (17.8%). Emphasis on agriculture aligns with regional development priorities and national economic diversification goals.

Table 4.6: Skills Development (SD)

ITEMS	N	RESPONSES					MEAN	STD	SE
		SA	A	U	DA	SDA			
In Nigeria, Entrepreneurship Development Programs (EDP) are thought to be quite successful in helping SMEs enhance their business abilities.	269	103	133	23	10	0	4.223	0.755	0.046
SMEs in Kebbi State benefit from entrepreneurship development programs that improve their financial literacy.	269	96	127	33	9	4	4.123	0.857	0.052
Technology adoption by SMEs in Kebbi State can be attributed to Entrepreneurship Development Programs.	269	66	134	49	18	2	3.907	0.870	0.053
The expansion of SMEs in Kebbi State has been facilitated by the skills obtained via Entrepreneurship Development Programs.	269	111	116	33	8	1	4.219	0.801	0.049
SMEs in Kebbi State have improved their goods and services thanks to a number of entrepreneurship development initiatives.	269	95	119	44	6	5	4.089	0.876	0.053

Legend: SA= Strongly agree, A = Agree, U= Undecided, SDA = Strongly disagree
Source: Field Survey, 2025

High mean scores, ranging from 3.907 to 4.223, indicate broad agreement that these programs improve financial literacy, encourage technology adoption, and directly contribute to SME growth and product/service enhancement. Table 4. 6 displays the results of means, standard deviations, and standard errors of all the items used to measure skills development. The results show that there is strong consensus among respondents that EDPs have significantly contributed to the acquisition of business and financial skills. In particular, there was very little opposition to the over 88% of respondents who agreed or strongly agreed that EDPs are very beneficial in fostering entrepreneurial skills.

Table4. 7: Access to Finance (AF)

ITEMS	N	RESPONSES	MEAN	STD	SE	SA	A	U	DA	SD
SMEs in Kebbi State have access to financial resources through Entrepreneurship Development Programs (EDP).	269	89	127	37	15	1	4.071	0.850	0.052	
The cost of funding for SMEs in Kebbi State has been greatly decreased by banks' and other financial institutions' involvement in various Entrepreneurship Development Programs (EDP).	269	82	113	53	17	4	3.937	0.942	0.057	
In Kebbi State, SMEs' capacity to increase their operational capabilities has been enhanced by access to financing.	269	80	137	40	4	8	4.030	0.880	0.054	
Kebbi State's SMEs are content with the funding offered by Entrepreneurship Development Programs.	269	54	133	53	17	12	3.744	0.995	0.061	
Healthy expansion of SMEs in Kebbi State is made possible by an understanding of funding sources and their consequences for business financing.	269	85	135	29	16	4	4.045	0.892	0.054	

Note: I have preserved the values and wording exactly as provided. The response-frequency columns appear to be **SA, A, U, DA, SD**, while the supplied values include an additional **SE** heading; I have not altered or reassigned any values.

Source: Field Survey, 2025 **(**SA= Strongly Agree, A= Agree, U= Undecided, DA= Disagree, SD= Strongly Disagree)

The averages, standard deviations, and standard errors of each item used to gauge financial access are shown in Table 4.7. With mean scores ranging from 3.744 to 4.071, the results show generally good perceptions. According to the majority of respondents, EDPs have improved Small and Medium Enterprises' (SMEs') operating capacities by increasing their financial literacy and access to financial resources. Although access has

increased, there may still be a problem with the quality or adequacy of financial help, as evidenced by the slightly lower agreement on satisfaction with financial support. The standard deviation is noticeably higher in this instance, suggesting a wider range of responses.

Table 4. 8: Awareness and Motivation. (AM)

ITEMS	N	RESPONSES					MEAN	STD	SE
		SA	A	U	DA	SDA			
Programs for Entrepreneurship Development raise understanding of market trends and business potential.	269	108	129	24	5	3	4.242	0.781	0.048
The effectiveness of entrepreneurship development programs can be evaluated based on how well they inspire the expansion of SMEs in Kebbi State.	269	93	133	28	13	7	4.122	0.835	0.051
It is claimed that methods learned in Entrepreneurship Development Programs have increased Kebbi State's SMEs' productivity.	269	80	123	42	10	14	3.911	1.032	0.063
SMEs in Kebbi State made well-informed decisions thanks to their critical understanding of business trends acquired through Entrepreneurship Development Programs.	269	81	131	46	10	1	4.045	0.809	0.049
One of the most significant accomplishments of Kebbi State's Entrepreneurship Development Programs is SMEs' comprehension of customer expectations.	269	104	131	27	3	4	4.219	0.787	0.048

Source: Field Survey, 2025 **(**SA= Strongly Agree, A= Agree, U= Undecided, DA= Disagree, SDA= Strongly Disagree)

Table 4. 8 presents the results of means, standard deviations and standard errors of all the items that were used to measure awareness and motivation. The results reveal that EDPs are viewed as highly impactful, particularly in raising awareness of market trends, motivating business growth, and helping Small and Medium Enterprises (SMEs) understand customer expectations. Mean values range from 3.911 to 4.242, with over 85% of respondents agreeing that EDPs have enhanced their market awareness and business decision-making. This suggests a strong alignment between EDP objectives and SME strategic orientation.

Table 4.9: Technology Adoption (TA)

ITEMS	N	RESPONSES					MEAN	STD	SE
		SA	A	U	DA	SDA			
The use of technology has significantly improved Kebbi State's small and medium-sized businesses' operations.	269	113	126	19	8	3	4.257	0.804	0.049
SMEs are now more aware of digital tools for business thanks to entrepreneurship development programs.	269	87	139	22	8	13	4.037	0.980	0.060

Adoption of technology has increased Kebbi State's small and medium-sized businesses' revenue growth.	269	77	134	28	13	17	3.896	1.070	0.065
Adoption of technology increased Kebbi State's small and medium-sized businesses' ability to compete.	269	80	145	27	11	6	4.048	0.873	0.053
The growth of the SME market in Kebbi State has been greatly aided by innovation and technology.	269	81	128	41	9	10	3.970	0.962	0.059

Source: Field Survey, 2025 **(**SA= Strongly Agree, A= Agree, U= Undecided, DA= Disagree, SDA= Strongly Disagree)

The averages, standard deviations, and standard errors for each item used to gauge technology adoption are shown in Table 4.9. The findings show that another area where EDPs seem to have had a significant impact is technology adoption. With mean ratings ranging from 3.896 to 4.257, respondents stated that technology had greatly enhanced operations and competitiveness. The influence of technology adoption on revenue growth is seen as somewhat weaker, despite the fact that the integration of digital tools and innovations has been generally successful. This is probably due to implementation issues or industry-specific limitations.

Table 4.10: Business Innovation (BI)

ITEMS	**N**	**RESPONSES**					**MEAN**	**STD**	**SE**
		SA	**A**	**U**	**DA**	**SDA**			
Through entrepreneurship development initiatives, SMEs actively invest in research and development (R&D) to create innovative products and services.	269	97	116	41	12	3	4.086	0.887	0.054
In order to satisfy consumer expectations, SMEs have been able to regularly launch new or enhanced goods and services thanks to entrepreneurship development programs.	269	93	139	26	7	4	4.152	0.812	0.050
Through entrepreneurship development programs, SMEs can use technology to improve service delivery and operational efficiency.	269	63	147	25	15	19	3.818	1.076	0.066
Employees of SMEs are encouraged to suggest and carry out creative ideas by taking part in Entrepreneurship Development Programs.	269	90	128	22	8	21	3.959	1.114	0.058
Through entrepreneurship development programs, SMEs can routinely analyze market trends and creatively modify their tactics.	269	100	130	26	10	3	4.167	0.832	0.051

Source: Field Survey, 2025 (SA= Strongly Agree, A= Agree, U= Undecided, DA= Disagree, SDA= Strongly Disagree)

The averages, standard deviations, and standard errors of every item used to gauge company innovation are shown in Table 4.10. Positive opinions are also reflected in the results on company innovation, where EDPs are thought to be crucial in promoting R&D, regular product innovation, and market responsiveness. The item on using technology for efficiency had a lower mean (3.818) and greater disagreement levels, suggesting difficulties with practical implementation or digital readiness among SMEs, even though the majority of indicators scored above 4.0.

Correlation Analyses of Dependent and Independent Variable

Table 4.11: Pearson Product Moment Correlation Coefficients of Dependent Variable versus Independent Variables

	Independent Variables				
		AF	**AM**	**TA**	**SD**
Dependent Variable	**BI**	0.676 (0.000)	0.798 (0.000)	0.811 (0.000)	0.601 (0.000)

The findings of correlation studies between dependent and independent variables are shown in Table 4. 11. The dependent variable (BI) and the independent variables (AF = Access to Finance, AM = Awareness and Motivation, and TA = Technology Adoption), SD = Skills Development have substantial, statistically significant positive correlations, according to the correlation analysis. The strongest association (r = 0.811) between TA and Business Innovation (BI) demonstrates the critical role that technology plays in fostering innovation. Strong relationships are indicated by a significant correlation (p-value < 0.05).

Multiple Linear Regression Analyses

Test of Hypothesis

Table 4.12: Regression Coefficients of SD, AF, AM, and TA on BI

Model Predictors		Coefficients		T	Sig.
		B	Std. Error		
	(Constant)	.008	.170	.045	.964
	SD	.043	.053	.807	.421
	AF	.172	.054	3.181	.002
	AM	.328	.071	4.592	.000
	TA	.451	.056	8.047	.000
	F = **176.59**, p-value=0.000			R=0.854	R^2 = **0.728**
Dependent Variable: BI					

Table 4.12 presents the results of the regression coefficients, the significance of the regression coefficients and the regression model goodness of fit on business innovation. The regression model obtained is given in equation (3).

BI= 0.008+ 0.043SD+ 0.172AF+ 0.328AM+ 0.451TA …… ..... (3)

The regression model predicting Business Innovation (BI) also produced significant results, with F (4, 264) = 176.591, p < 0.05, and an R^2 of 0.728. Here, Technology Adoption (B = 0.451, p < 0.05) emerged as the most influential factor, followed by Awareness and Motivation (B = 0.328, p < 0.05) and Access to Finance (B = 0.172, p = 0.002). This aligns with the work of Nguyen et al. (2020) whose study established a significant correlation between SME financing and GDP growth, indicating that better financing choices for Small and Medium Enterprises (SMEs) can lead to enhanced economic performance. This also agree with Godwin et,al.(2023) who indicated that the presence of supportive institution can enhance the financial resources available to entrepreneurs, which can improve their chances of success. They stress further that financing serve as a collective resource that not only help revive business but also protects them from economic environmental related challenges which ultimately provide opportunities for long term entrepreneurial sustainability. Skills Development again was not a significant predictor (B = 0.043, p = 0.421). These findings suggest that innovation among Small and Medium Enterprises (SMEs) in Kebbi State is largely driven by technology and motivation-related factors rather than skill acquisition alone. This result is also supported with the findings of Adjouman et, al (2019) who found that learning ability did not show a significant association. Nguyen et, al (2020) also established that training treatment did not have a significant effect on any of the sales profit.

Therefore, the null hypothesis: Entrepreneurship Development Programmes do not significantly promote Business innovation of Small and Medium Enterprises (SMEs) in Kebbi State is rejected at 5% level of significance.

RECOMMENDATIONS

The following suggestions are offered in light of the theoretical understandings and empirical results.

1. This study recommends that, since skills development was not found to have a direct significant effect on business innovation when other variables are controlled, existing training curricula should be critically reviewed and reoriented towards more practical, growth-oriented content. Skills acquisition programmes should embed modules on business model innovation, problem-solving, digital competence and the application of technology in daily operations.
2. Entrepreneurship development programmes should not be designed or implemented in isolation, but within a synergistic framework that integrates motivation and awareness, skills development, access to finance and technology adoption. Policymakers are therefore advised to adopt integrated, end-to-end programme designs that move SMEs along a coherent support pathway from initial mindset and skills development, through access to funding, to the provision and effective use of digital tools to maximise the sustainability and impact of EDPs in Kebbi State.
3. Given the substantial impact of technology adoption (B=0.451) organizations tasked with promoting entrepreneurship including NITDA, BOI, and SMEDAN should promote and prioritize technology adoption through technology grants, innovation hubs and subsidized ICT tools. Business owners should receive support in using digital tools in supply chain management, marketing and accountancy
4. Ongoing advocacy and sensitization programs should be institutionalized due to the substantial impact of entrepreneurial awareness and motivation on small and medium-sized SME innovation. Particularly in rural and semi-urban areas, government organizations and non-governmental organizations should work together to host entrepreneurship summits, success-story exhibitions, and media campaigns, particularly in rural and urban areas.
5. The expansion of small and medium-sized enterprises (SMEs) is still significantly influenced by Access to finance remains crucial. Efforts should be made to increase access through inclusive financial regulations, streamlined loan procedures, reduced collateral requirements, flexible repayment terms and additional micro finance branches in underserved areas. Collaboration with private investors and fintech firms may improve financing options tailored for SMEs in Kebbi State.

CONCLUSION

This study examined the effect of Entrepreneurship Development Programmes (EDPs) on Business Innovation of Small and Medium Enterprises (SMEs) in Kebbi State, Nigeria. The study specifically assessed how four proxies of EDPs—Access to Finance (AF), Awareness and Motivation (AM), Technology Adoption (TA), and Skills Development (SD)—influence business innovation, proxied by R&D investment, launching new or enhanced goods/services, and adoption of innovative processes.

The population comprised 1,280 registered SMEs, from which a sample of 305 was determined using Taro Yamane formula. Of this, 269 questionnaires were duly completed, returned and found valid for analysis, representing 88.2% response rate. Analysis was conducted using Pearson correlation and multiple regression.

The findings revealed that all four EDPs proxies have substantial, statistically significant positive correlations with Business Innovation: Access to Finance ($r=0.676$, $p=0.000$), Awareness and Motivation ($r=0.798$, $p=0.000$), Technology Adoption ($r=0.811$, $p=0.000$), and Skills Development ($r=0.601$, $p=0.000$).

The multiple regression model predicting Business Innovation produced significant results with $R=0.854$, $R^2=0.728$, Adjusted $R^2=0.724$, $F(4,264)=176.59$, $p=0.000$, indicating that the model explains 72.8% of the variation in Business Innovation of SMEs in Kebbi State. Technology Adoption ($B=0.451$, $p=0.000$) emerged as the most influential predictor, followed by Awareness and Motivation ($B=0.328$, $p=0.000$) and Access to

Finance (B=0.172, p=0.002). Skills Development (B=0.043, p=0.421) was not statistically significant when other variables were controlled.

Therefore, the null hypothesis that Entrepreneurship Development Programmes do not significantly promote Business Innovation of SMEs in Kebbi State is rejected at 5% level of significance.

The study concludes that business innovation among SMEs in Kebbi State is largely driven by technology-related and motivation-related factors rather than skill acquisition alone. This suggests that entrepreneurs who possess both internal motivation and technological empowerment are more likely to achieve significant innovation in their business operations. This finding supports Carl (2014) who highlights the importance of institutional support and entrepreneurial agency, and is consistent with Wernerfelt (1984) Resource-Based View that strategic configuration of resources drives competitive advantage. The non-significance of skills development aligns with Ardjouman et al. (2019) who found that learning ability did not show significant association when other factors are considered, indicating that training alone may not translate to innovation without complementary finance and technology.

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