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Effect of Entrepreneurial Development and its Dimensions on the Sustainability of Small and Medium-Sized Enterprises (SMEs) in Kwara State, Nigeria**Babatimilehin Olanipekun Ezekiel****Author's Affiliation**

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ABSTRACT

This study investigated the effect of entrepreneurial development and its key dimensions on the sustainability of SMEs. Utilizing a survey research design, data were collected through questionnaires from 154 SME owners and managers in Offa, Kwara State, Nigeria. The analysis identified 15 significant factors based on "Initial Eigenvalues," retaining those with eigenvalues greater than 1. These factors collectively account for 66.162% of the total variance in the observed variables, while post-rotation analysis explains 51.038% of the variance. Although the cumulative percentage before rotation is 66.162%, the note "When factors are correlated, sums of squared loadings cannot be added to obtain a total variance" clarifies the differences in cumulative percentages. The scree plot further supports the retention of 15 factors, indicating a distinct elbow where eigenvalues stabilize. The findings will aid SME managers in implementing entrepreneurial development strategies to achieve sustainable competitive advantage and provide guidance for regulatory agencies in formulating policies that promote the growth and survival of SMEs

Introduction

Small and medium enterprises (SMEs) play a crucial role in Nigeria's economic development, especially in Kwara State, where they make significant contributions to job creation, poverty alleviation, and overall economic growth. Despite their important function, many SMEs encounter ongoing challenges that threaten their sustainability, such as limited access to finance, inadequate management skills, and intense market competition. (Akinde & Alabi 2024). SMEs are essential drivers of economic growth and poverty reduction in Nigeria. They are widely recognized as the primary engine for economic advancement and a key catalyst for private sector development.

In defining SMEs, small enterprises typically employ between 10 and 40 workers and have a capital base ranging from N5 million to N50 million, while medium enterprises employ between 50 and 199 workers with a capital base ranging from N50 million to N500 million (Salome et al., 2014; SMEDAN, 2013). However, Albanus et al. (2022) observe that despite various government interventions and policy frameworks, a majority of newly established SMEs in Nigeria fail to survive beyond their first or second year, with many existing businesses either shutting down or operating below optimal capacity (Adeigbe et al., 2021; Koko et al., 2022).

Entrepreneurial development is a crucial factor in ensuring the sustainability of SMEs. It involves identifying and exploiting opportunities through creativity and innovation, alongside effective resource allocation strategies essential for launching and growing businesses (Kingsley, 2025). Entrepreneurs possess the vision and resilience to transform the business landscape by introducing new ideas and creative solutions that enable SMEs to thrive amid competitive markets, thereby fostering employment and stimulating economic growth (Babatimilehin et al., 2024; Adeyeye & Bello, 2023). Fundamentally, entrepreneurial development encompasses the initiation and management of new ventures by recognizing business opportunities aligned with government policies to ensure sustainable operations. Moreover, entrepreneurial development comprises multiple dimensions that significantly influence the performance and sustainability of SMEs. Key dimensions include skill acquisition, innovation and creativity, knowledge

sharing, government policy support, and entrepreneurial skills training (Kingsley et al., 2025; Vedantu, 2023; Zoltan & Audretsch, 2019; Adeigbe et al., 2020). These dimensions foster resilience and long-term viability by equipping SMEs with the ability to adapt to dynamic market conditions, seize emerging opportunities, and overcome operational challenges.

This study aims to empirically examine the eight entrepreneurial development dimensions proposed by Kingsley et al. (2025) within the Nigerian context and assess their impact on the sustainability of SMEs. Accordingly, the following research hypotheses will be tested:

Statement of the Problem

Despite the recognized importance of Small and Medium Enterprises (SMEs) in driving economic growth, job creation, and poverty alleviation in Kwara State, Nigeria, the sustainability of these enterprises remains a significant concern. Many SMEs in the region continue to face daunting challenges such as limited access to finance, inadequate managerial and entrepreneurial skills, weak infrastructure, and intense competition from larger firms. These issues have resulted in high failure rates, with a considerable number of SMEs unable to survive beyond their initial years of operation. (Adeigbe et al., 2020). While various government policies and interventions have been introduced to support SME growth, their effectiveness in fostering sustainable business practices is still in question. Existing research suggests that entrepreneurial development encompasses creativity, innovation, risk-taking, proactiveness, skill acquisition, and knowledge sharing, which play a critical role in enhancing the resilience and long-term viability of SMEs.

However, there is a lack of empirical evidence on how these specific dimensions of entrepreneurial development influence the sustainability of SMEs in Kwara State. Furthermore, most studies on SME sustainability in Nigeria tend to focus on general challenges and broad policy recommendations, often overlooking the nuanced impact of entrepreneurial orientation and development. As a result, there is a pressing need to investigate the relationship between entrepreneurial development and SME sustainability, particularly within the unique socio-economic context of Kwara State.

This study, therefore, seeks to address this gap by examining how the various dimensions of entrepreneurial development affect the sustainability of SMEs in Kwara State, Nigeria. The findings are expected to provide actionable insights for policymakers, business owners, and development agencies aiming to enhance the survival and growth prospects of SMEs in the region.

Research Hypotheses

H1: There is no significant relationship between skill acquisition and the sustainability of SMEs in Offa, Kwara State, Nigeria

H2: There is no significant relationship between business ideas and the sustainability of SMEs in Offa, Kwara State, Nigeria

H3: There is no significant relationship between Innovativeness and the sustainability of SMEs in Offa, Kwara State, Nigeria

H4: There is no significant relationship between Start-up motive and the sustainability of SMEs in Offa, Kwara State, Nigeria

H5: There is no significant relationship between Knowledge sharing and the sustainability of SMEs in Offa, Kwara State, Nigeria

H6: There is no significant relationship between Entrepreneurial education and the sustainability of SMEs in Offa, Kwara State, Nigeria

H7: There is no significant relationship between Government policies on the sustainability of SMEs in Offa, Kwara State, Nigeria

H8: There is no significant relationship between Entrepreneurial capabilities on the sustainability of SMEs in Offa, Kwara State, Nigeria

Literature Review

Conceptual Review

Sustainability of Small and Medium Enterprises (SMEs)

Small and Medium Enterprises (SMEs) play a crucial role in driving economic growth across both developed and developing nations. Their sustained performance is fundamental to long-term development, as they make significant contributions

to GDP, foster industrialization, reduce unemployment, and enhance overall living standards. Widely regarded as the backbone of the economy, SMEs are instrumental in promoting innovation, generating employment, and facilitating economic diversification. The sustainability of SMEs refers to their capacity to endure, expand, and effectively adapt to evolving business environments over time (Adebisi & Gbegi, 2023; Ighomereho et al., 2022; Olubiyi et al., 2019).

Entrepreneurial Development

Entrepreneurial development is broadly defined as the enhancement of entrepreneurial knowledge and skills through structured training initiatives (Abubakar et al., 2024). This concept encompasses not only the acquisition of competencies but also the processes that drive business growth and expansion. According to Akpor-Robaro et al. (2018), entrepreneurship involves establishing a business system that orchestrates a range of activities to meet societal expectations. It emphasizes the effective utilization of human and natural resources to produce and deliver goods and services that satisfy societal needs while generating profit.

Abubakar et al. (2024) further highlight that key dimensions of entrepreneurial development such as training and innovativeness are strategic factors that significantly impact the sustainability of SMEs. In this regard, entrepreneurial development is vital for the long-term success and resilience of enterprises, especially during their formative years (Adeigbe et al., 2021; Leverage & Edu, 2022; Vedantu, 2023).

Kingsley et al. (2025) identify seven fundamental dimensions of entrepreneurial development: skills acquisition, generation of new business ideas, innovation and creativity, start-up motivation, knowledge sharing, entrepreneurial education, and government policy. Building on this framework, Abubakar et al. (2024) introduce an eighth dimension: entrepreneurial training. For the purpose of this study, these eight dimensions endorsed by Olaolu & Abaji (2020) form the foundation for assessing the relationship between entrepreneurial development and the sustainability of SMEs.

Skills Acquisition

Skills acquisition is a vital component of entrepreneurial development, serving as a catalyst for business innovation, sustainability, and broader economic growth. By acquiring relevant skills, entrepreneurs are better equipped to navigate the complexities of business operations, capitalize on emerging opportunities, and effectively manage the risks inherent in entrepreneurial ventures (Becker, 2023; Bandura, 2019). Research by Olugbola (2017) and Kiggundu (2022) highlights that entrepreneurs who commit to continuous learning and skill enhancement tend to achieve greater profitability and enjoy longer business lifespans. Thus, skills acquisition stands as a fundamental driver of entrepreneurial development, significantly influencing both the sustainability of enterprises and economic advancement (Ayala & Manzano, 2014).

Business Ideas

Business ideas are a fundamental element of entrepreneurship and play a critical role in the sustainability of SMEs. They involve making strategic decisions amid uncertainty to drive growth and secure competitive advantage (Babatimilehin et al., 2024). SMEs demonstrate a willingness to invest in uncertain ventures such as developing new products or expanding into new markets even when faced with potential financial risks (Ekpoh et al., 2020). Entrepreneurs' capacity to take bold steps by exploring innovative business models, entering unfamiliar markets, or adopting cutting-edge technologies is essential for business success (Liberto, 2021; Covin & Slevin, 2019). Research by Ngodoo et al. (2022) confirms a positive relationship between the generation of new business ideas and the sustainability of SMEs in dynamic and competitive environments. Entrepreneurs who proactively manage risks associated with these ventures are more likely to achieve long-term viability and maintain competitiveness.

Creativity and Innovation

For SMEs to improve their resilience, stay competitive, and guarantee long-term sustainability, innovation and creativity strategies are crucial. (Gbegi & Adebisi, 2023). Economic development is significantly influenced by innovation, and SMEs are

essential to the introduction of disruptive innovations. Nonetheless, a human-centered approach encourages originality and creativity in problem-solving skills (Brown, 2019; Garba, 2022) (Nonaka & Takeuchi, 2020, Hossain, 2020), and Kim et al. (2019), SMEs that cultivate a culture of creativity are more adaptable to enterprise success. Creativity is a precursor to innovation, allowing SMEs to develop original ideas and promoting a culture of collaboration and knowledge exchange within the organization.

Start-Up Motive

The motivation behind a start-up is fueled by entrepreneurial intentions and self-efficacy, which eventually molds a person into an entrepreneur. This motivation is influenced by a number of things, such as the need for independence, the desire for innovation, the goal of creating a successful company, the efficient use of particular skills, and the desire to be one's boss. A start-up that is motivated by these factors is more likely to concentrate on building a successful company over the long term. (Ramadani and others, 2022).

Knowledge Sharing

A crucial organizational process, knowledge sharing entails individuals and teams exchanging information, abilities, and expertise. Employees who share their knowledge are thought to be better able to solve problems, be more creative, and make better decisions (Kingsley et al., 2024; God-power et al., 2019 & Ringo, 2018). Furthermore, knowledge sharing facilitates organizational learning, which helps SMEs adjust to changing conditions (Argote & Ingram, 2000). Furthermore, performance, flexibility, and long-term sustainability are all improved in SMEs through efficient knowledge sharing. The importance of knowledge flow in business creation is further highlighted by the knowledge spillover theory of entrepreneurship. (Noe & Wang 2010). This theory is supported by empirical research, which shows that industries with higher knowledge investments see more startups, while those with lower knowledge investments see fewer startups. Kingsley

Entrepreneurial Education

Entrepreneurial education is a continuous process that gives people the abilities and mentality they need

to start their own business. From elementary school to adult education, it emphasizes the development of the capacity to recognize opportunities, distribute resources, and establish businesses that add value. By encouraging job creation, incorporating entrepreneurial education into higher education raises awareness of socioeconomic and environmental issues, supports sustainable development, and lowers graduate unemployment (Emaikwu, 2011; Ekpoh et al., 2020; Godpower, 2025; Elliott et al., 2022; Taylor, 2023; Anekwe et al., 2018)).

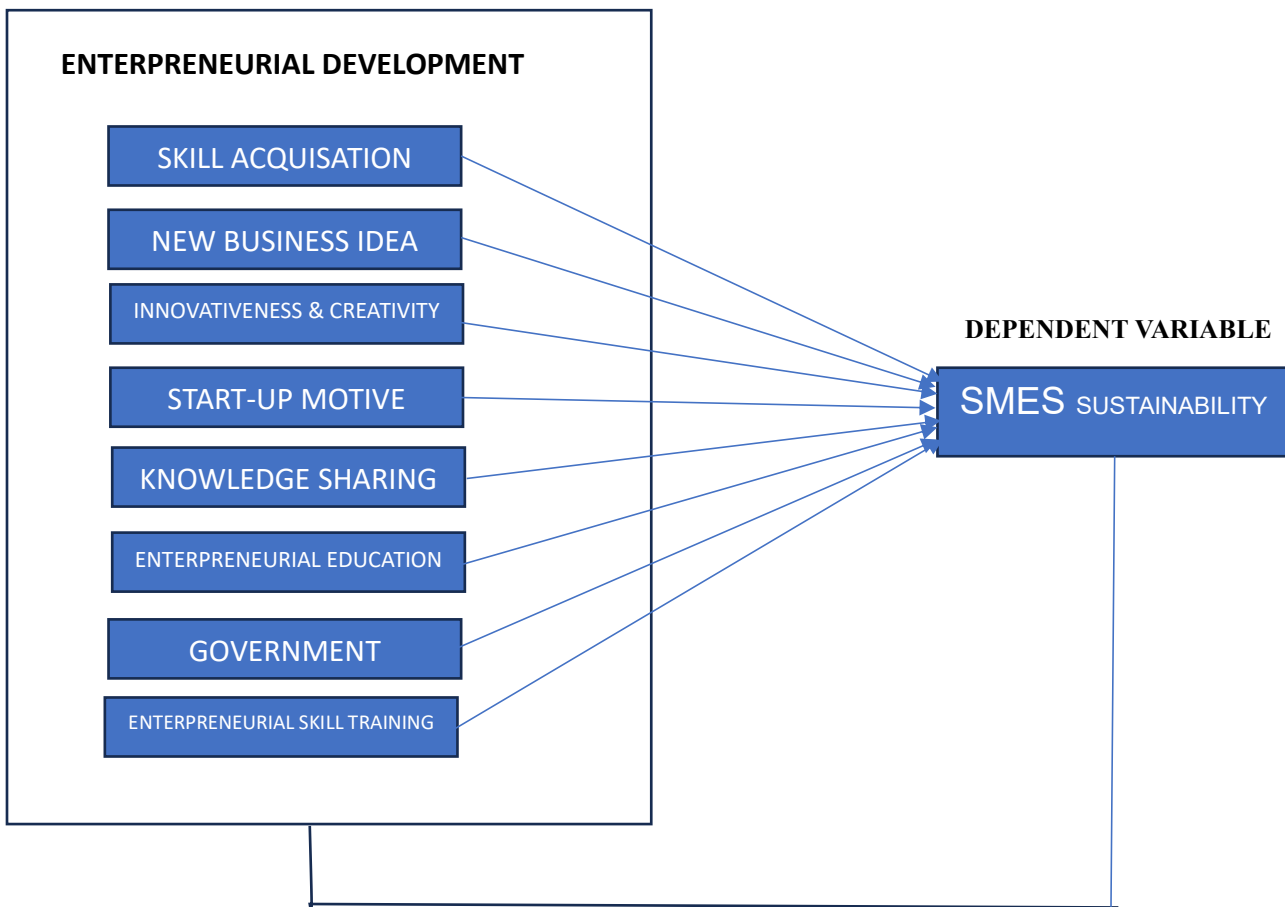
Government Policy

Government regulations play a crucial role in fostering entrepreneurial growth globally. Many countries have introduced initiatives aimed at supporting entrepreneurship by providing access to capital, resources, and a conducive business environment. These supportive policies are designed to drive industrialization and strengthen small and medium-sized enterprises (SMEs). Notably, countries such as China, Brazil, Saudi Arabia, and Malaysia

have made significant investments in the development of high-tech industries through targeted government initiatives (Gangi et al., 2014; Nkem et al., 2014; Ajagbe et al., 2014; Ahmed et al., 2015; Cullen et al., 2014).

Entrepreneurial Skill and Training

Entrepreneurship training and skill development foster a new culture and productive environment that emphasizes independence (Costa, 2018). Similarly, such training equips individuals with the tools necessary for continuous innovation and improvement in their pursuits (Arogundade, 2011; Anekwea et al., 2018). In support of this, Olaolu (2021) asserts that entrepreneurial training and skills are key factors in venture creation, which involves launching a business and taking calculated risks to generate income using the competencies gained through training (Omolayo, 2023). This perspective is further supported by Gupta (2023), Abubakar (2024), and Singh et al. (2023).



Conceptual Model of Entrepreneurial Development, Dimensions and Sustainability of SMEs

Human Capital Theory

Human capital theory typically posits that experience contributes to the development of knowledge and skills, thereby enhancing a founder's ability to improve a small firm's chances of survival (Brüderl, et al, 2024). Skills are acquired not only through formal education but also through on-the-job training. The theory highlights the importance of both formal and informal learning in improving productivity and income potential. Furthermore, it emphasizes that investing in entrepreneurship education yields benefits beyond the individual, positively impacting the broader economy (Amin, 2018; Becker, 2024).

Methodology

This study employs a quantitative research approach to examine the factor analysis of the dimensions of entrepreneurial development and their impact on the sustainability of small and medium-sized enterprises (SMEs) in Offa Local Government Area, Kwara State, Nigeria. Offa was chosen due to its notable commercial growth, ranking second only to the state capital, Ilorin, and its high concentration of SMEs. The target population comprises owners and managers of all licensed SMEs operating within the manufacturing, trading, and service sectors in Offa.

A sample size of 154 respondents was determined using Taro Yamane's sample size determination formula, based on a total population of 250 SMEs (Kwara State Ministry of Enterprise and Business, 2021–2024). Data was collected through a structured survey questionnaire designed using a Likert scale format and divided into four sections: Section A addresses the demographic profiles of the respondents and their businesses; Section B captures responses related to the eight dimensions of entrepreneurial development.

The data was analyzed using factor analysis through the Statistical Package for the Social Sciences (SPSS). Although the total population was known, the Taro Yamane formula was applied at a 5% margin of error to derive the sample size. The formula is expressed as:

$$n = \frac{N}{1 + N(e)^2}$$

n=sample size

N=the finite population

e=error term or level of significance

$$\frac{250}{1 + 250(0.05)^2}$$

$$\frac{250}{1 + 250(0.025)}$$

$$\frac{250}{1 + 0.625}$$

$$\frac{250}{1.625} = 153.8 \text{ or } 154$$

Results

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.757
Bartlett's Test of Sphericity	Approx. Chi-Square	2359.207
	Df	990
	Sig.	.000

Firstly, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.757. According to generally accepted guidelines, a KMO value between 0.7 and 0.8 is considered good, indicating that the data is suitable for factor analysis. This suggests that the correlations between variables are strong enough to warrant a factor analytic approach and that shared variance among the items is substantial. Complementing this, Bartlett's Test of Sphericity yielded a Chi-Square value of 2359.207 with 990 degrees of freedom, and a significance level (Sig.) of 0.000. The statistically significant p-value ($p < 0.001$) for Bartlett's test rejects the null hypothesis that the correlation matrix is an identity matrix, further confirming the existence of significant relationships among the variables, and thus making factor analysis an appropriate technique.

Table 2: Communalities

	Initial	Extraction
B1	.166	.109
B2	.308	.291
B3	.208	.116
B4	.501	.570
B5	.496	.461
B6	.519	.558
B7	.539	.520
B8	.424	.522
B9	.210	.154
B10	.351	.380
B11	.475	.666
B12	.593	.637
B13	.331	.182
B14	.550	.787
B15	.478	.534
B16	.123	.085
B17	.222	.166
B18	.498	.624
B19	.442	.480
B20	.562	.649
B21	.560	.629
B22	.521	.580
B23	.343	.350
B24	.324	.270
B25	.553	.624
B26	.551	.647
B27	.432	.732
B28	.580	.643
B29	.633	.797
B30	.510	.673

B31	.527	.594
B32	.428	.445
B33	.230	.079
B34	.535	.493
B35	.547	.632
B36	.448	.463
B37	.561	.637
B38	.637	.648
B39	.638	.746
B40	.577	.571
C1	.591	.629
C2	.625	.686
C3	.565	.627
C4	.608	.643
C5	.617	.638
Extraction Method: Principal Axis Factoring.		

Secondly, the "Communalities" table provides insights into how much variance in each observed variable is explained by the extracted factors. The communalities of the extractions range from a low of 0.079 for B33 to a high of 0.797 for B29. Generally, communalities above 0.5 are considered good, indicating that more than half of the variance in those items is accounted for by the common factors. Items with very low communalities (e.g., B16 at 0.085, B1 at 0.109, B3 at 0.116, B9 at 0.154, B17 at 0.166, B13 at 0.182) suggest that a substantial portion of their variance is unique and not captured by the derived factors. This might warrant further investigation into these specific items, potentially indicating they do not load strongly on any factor or have low shared variance with other items in the scale.

Table 3: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.522	18.938	18.938	8.112	18.028	18.028	4.643
2	2.494	5.542	24.479	2.098	4.662	22.690	4.905
3	2.101	4.668	29.148	1.653	3.673	26.363	4.380
4	1.884	4.187	33.334	1.500	3.334	29.697	2.635
5	1.863	4.140	37.474	1.413	3.140	32.837	4.710
6	1.734	3.852	41.327	1.302	2.894	35.731	3.116
7	1.551	3.446	44.772	1.063	2.363	38.094	3.689
8	1.372	3.049	47.821	.958	2.129	40.222	2.151
9	1.334	2.965	50.786	.928	2.062	42.284	2.248
10	1.295	2.879	53.665	.832	1.849	44.133	2.913
11	1.225	2.723	56.387	.764	1.698	45.831	1.808
12	1.208	2.684	59.071	.699	1.553	47.383	3.389
13	1.095	2.434	61.505	.612	1.359	48.742	1.427
14	1.064	2.365	63.870	.537	1.193	49.936	.992
15	1.032	2.292	66.162	.496	1.102	51.038	.867
16	.985	2.190	68.352				
17	.941	2.090	70.442				
18	.907	2.015	72.457				
19	.891	1.979	74.436				
20	.854	1.897	76.333				
21	.833	1.851	78.184				

22	.793	1.762	79.946				
23	.706	1.569	81.514				
24	.683	1.517	83.031				
25	.649	1.442	84.474				
26	.630	1.399	85.873				
27	.597	1.327	87.200				
28	.554	1.231	88.430				
29	.470	1.044	89.474				
30	.452	1.005	90.479				
31	.420	.934	91.413				
32	.408	.908	92.321				
33	.393	.874	93.195				
34	.367	.815	94.010				
35	.338	.750	94.760				
36	.323	.717	95.477				
37	.311	.691	96.168				
38	.281	.625	96.793				
39	.275	.611	97.404				
40	.232	.516	97.920				
41	.228	.507	98.427				
42	.212	.470	98.897				
43	.177	.393	99.291				
44	.168	.372	99.663				
45	.152	.337	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Thirdly, the "Total Variance Explained" table is crucial for determining the number of factors extracted and their collective explanatory power. The analysis extracted 15 factors based on the "Initial Eigenvalues," retaining those with eigenvalues greater than 1. These 15 factors account for a total of 66.162% of the variance in the observed variables. Following rotation, they still account for 51.038% of the variance. While the "Cumulative %" before rotation is 66.162%, the note "When factors are correlated, sums of squared loadings cannot be added to obtain a total variance" clarifies why the cumulative percentage after rotation (51.038%) is presented differently. The scree plot visually supports the 15-factor solution, showing a distinct elbow at the 16th factor, beyond which the eigenvalues significantly level off. This provides an empirical justification for retaining 15 factors, although the large number might suggest a need to re-evaluate the scale or consider a more parsimonious solution if theoretically justified.

Table 4: Pattern Matrix^a

	Factor														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C3	.890			.101		.128	.125				-.131	-.196		.222	
C4	.817							-.148				-.149			
C5	.498	.156	.273	-.124		-.139					.369	-.154			.119
B4	.417		-.204	.237			-.144		.244			.154	-.107		.220
B36	.287			.203			.266		-.144	.134	-.230		-.104	-.216	
B17	-.264	.182	.135		.137		.115	-.167							
B16	.144						.118		.103						
B39		.976			-.150		-.205				.121		.117		.124
B37		.756							.179		-.215	-.185	.118	-.208	
B38		.730		-.103	-.132	.139						.195	-.113	-.110	
B40		.414		-.108	.214	.226		-.229		-.154			-.101	.204	-.167

B8	-.157		.786	.139	-.149				.144		-.150			.150
B7	.185		.646				-.140			.161				
B6			.644	-.205				-.115		-.138	.108			.130
B26	.158			.767	.156					-.125	-.113			-.308
B18		.117		.422	.292	.400					-.252		.107	.230
B15			.212	.406			.406		.201	-.151			.108	
B1		-.122		.343					-.129					
B32		-.132			.732			.291				-.196	.110	
B31			.179	.223	.617	-.103	-.167	.146			-.314			-.196
C1			-.157	.136	.582		.139	-.138		.208		.146		.141
C2		.123	-.203		.532	-.107					.441	.215		
B20				.152	-.299	.743		.115				.127	.179	
B19		.100				.626								
B35	.102			-.205		.256	.693	.132						
B34	.138	-.120		.259			.657							
B24		.123	-.325			-.120	.420	.123	.120		-.240			
B29				-.181	.340			.828				.105	.146	.309
B28				.263			.235	.598		-.158	.357		-.247	
B30	-.151				.167	.195		.451	.226			-.139	.139	-.282
B14				-.149			.168		.893		-.292			.141
B21		-.154	-.159			.273		-.112	.484	.161	.251	.127	.152	
B11							-.129			.898	-.212			.122
B12			.159	.274		.198			-.212	.560				.128
B13								.132		-.121	.506			.148
B5	.287	.130	.187	.221		-.128					.302			
B33		.120			.132						.146			
B9	-.193											.489		
B2	-.140			.195		-.120	.219		-.106		.147	.442		
B22			.178	-.115		.327			.131	-.125	.155	.411		-.200
B25	.153		.162	.145				.181			-.196	.352	.156	.324
B3		.131					-.123					.180		
B27													.849	-.236
B10	.193					.168								.621
B23			.192	-.260				.186	.137	.133	.241		-.164	.728

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

Table 5: Factor Correlation Matrix

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.000	.377	.399	.257	.436	.161	.303	.127	.292	.177	.030	.610	.283	-.092	.181
2	.377	1.000	.373	.238	.488	.252	.501	.190	.081	.359	.241	.346	.076	.099	-.111
3	.399	.373	1.000	.103	.465	.314	.379	.343	.208	.283	.092	.313	.173	.069	-.204
4	.257	.238	.103	1.000	.183	.072	.140	.074	.276	.110	.136	.189	.022	.062	.246
5	.436	.488	.465	.183	1.000	.411	.340	-.005	.179	.373	.134	.405	.208	.030	-.026
6	.161	.252	.314	.072	.411	1.000	.070	.071	.126	.313	.318	.234	.146	.035	.079
7	.303	.501	.379	.140	.340	.070	1.000	.170	.148	.367	.296	.258	.172	.173	-.172
8	.127	.190	.343	.074	-.005	.071	.170	1.000	.003	.173	-.054	.228	.030	-.118	-.226
9	.292	.081	.208	.276	.179	.126	.148	.003	1.000	.181	.227	.147	.073	.218	-.122
10	.177	.359	.283	.110	.373	.313	.367	.173	.181	1.000	.448	.177	-.132	.108	-.307

11	.030	.241	.092	.136	.134	.318	.296	-.054	.227	.448	1.000	-.037	-.019	.202	-.311
12	.610	.346	.313	.189	.405	.234	.258	.228	.147	.177	-.037	1.000	.258	-.103	.212
13	.283	.076	.173	.022	.208	.146	.172	.030	.073	-.132	-.019	.258	1.000	-.018	.213
14	-.092	.099	.069	.062	.030	.035	.173	-.118	.218	.108	.202	-.103	-.018	1.000	-.105
15	.181	-.111	-.204	.246	-.026	.079	-.172	-.226	-.122	-.307	-.311	.212	.213	-.105	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

Finally, Table 4 "Pattern Matrix" and Table 5 "Factor Correlation Matrix" provide details about the factor loadings and the relationships between the extracted factors. The Promax rotation, being an oblique rotation, allows the factors to be correlated, which is evident in the "Factor Correlation Matrix." For instance, Factor 1 and Factor 12 show a strong correlation of 0.610, while Factor 2 and Factor 5 correlate at 0.488. These correlations indicate that the underlying constructs represented by these factors are not entirely independent but share some common variance. The "Pattern Matrix" displays the unique contribution of each variable to each factor, controlling for the relationships among the factors. Variables with high loadings (e.g., C3 on Factor 1 at 0.890, B39 on Factor 2 at 0.976, B8 on Factor 3 at 0.786) are strongly associated with that particular factor. Researchers typically look for a simple structure, where each item loads highly on one factor and minimally on others. Items loading significantly on multiple factors or exhibiting low loadings across all factors may require reconsideration or refinement. The rotation converged in 18 iterations, suggesting a stable solution.

Discussion of Findings

The study explored how entrepreneurial development and its various dimensions impact the sustainability of small and medium enterprises (SMEs). Results indicate that entrepreneurial development is crucial for SME sustainability. This finding aligns with research by Abubakar et al. (2024) and Leverage & Edu et al. (2022), which showed a positive and significant relationship between entrepreneurial development and enterprise sustainability. The analysis identified 15 factors using "Initial Eigenvalues," retaining those with eigenvalues greater than 1. These factors collectively explain 66.162% of the total variance in the observed variables. After rotation, they account for 51.038% of the variance. The cumulative percentage before rotation is 66.162%, but the note "When factors are correlated, sums of squared loadings cannot be added to obtain a total variance" clarifies why the post-rotation figure differs.

The scree plot supports the 15-factor solution, revealing a distinct elbow at the 16th factor, where eigenvalues level off significantly. This provides empirical justification for maintaining 15 factors, though the substantial number may suggest a need to reconsider the scale or pursue a more streamlined solution if theoretically warranted. Consequently, SME owners should focus on acquiring and

implementing these skills in their operations (Kingsley et al., 2025).

Additionally, the research found that entrepreneurial training positively impacts SME sustainability, supporting claims by Gupta (2023), Abubakar (2024), and Singh et al. (2023) that entrepreneurial development offers a competitive advantage in a dynamic environment. Innovation and creativity were also identified as significant dimensions, corroborating the findings of Adebisi & Gbegi (2023), Nonaka & Takeuchi (2020), Hossain (2020), and Kim et al. (2019), which highlight their importance for SME sustainability. Finally, government policy emerged as a key factor influencing SME sustainability, echoing the findings of Gangi et al. (2014). This suggests that government policies and regulations are critical drivers of SME performance.

Conclusion

Numerous studies have highlighted the dimensions of entrepreneurial development and their influence on the sustainability of SMEs. This research specifically examined the effects of entrepreneurial development and its dimensions on the sustainability of SMEs in Kwara State, Nigeria. The findings indicate that entrepreneurial development significantly affects SME sustainability. To thrive and maintain their sustainability, small and medium enterprises must continuously engage their staff in skills acquisition

and training. The study identifies eight dimensions of entrepreneurial development that SMEs can adapt to enhance their business operations.

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