EFFECT OF ENTREPRENEURIAL COMPETENCIES ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN THE NORTHWESTERN NIGERIA

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ABSTRACT
This study examines the effect of entrepreneurial competencies on the performance of small and medium enterprises in the North West, Nigeria. This study adopts a survey research design, the population of the study comprised of 137,648 registered SMEs in North West, Nigeria, Data was collected using a questionnaire that was administered to 413 owners/managers of SMEs in northwest Nigeria. The respondents were selected using the convenience sampling technique-only available and willing owners/managers were surveyed. The data was analyzed using partial least square structural equation modeling. The study found that opportunity competency and entrepreneurial skills competency have positive and significant effects on the performance of SMEs in North West, Nigeria. Conceptual competency has a positive but insignificant effect on performance of SMEs in North West, Nigeria. The study concludes that entrepreneurial competencies components of opportunity competency, entrepreneurial skills competency and conceptual competency influence the performance of SMEs in North West, Nigeria. The study recommends among others that SMEs in North West, Nigeria, should improve on their conceptual competency by way of encouraging long-term strategic thinking, scenario planning, and problem-solving exercises among business leaders. This can be achieved through integration of conceptual skills with practical execution capabilities to better align strategies with operational goals and adapt to changing market conditions.
Keywords: Entrepreneurial, Competencies, Conceptual, Opportunity, Performance, Skills, Small and Medium Enterprises,

INTRODUCTION
Small and Medium Enterprises (SMEs) are recognized globally as critical drivers of economic growth, employment generation, and innovation. SMEs account for about 90% of businesses and more than 50% of employment worldwide. In Africa, SMEs play a significant role in addressing poverty and inequality, contributing approximately 60% of GDP and 80% of employment in many countries (Agyapong et al., 2021). Despite their potential, African SMEs face numerous challenges, including limited access to financing, infrastructural deficits, and weak managerial competencies, which hinder their performance and growth. In Nigeria, SMEs are pivotal to the economy, accounting for nearly 96% of businesses, 48% of GDP, and 84% of employment (SMEDAN, 2022). However, their performance remains suboptimal due to weak entrepreneurial competencies. This issue is particularly pronounced in the North West region, where SMEs struggle with low survival rates, limited innovation, and inadequate capacity to leverage market opportunities effectively.

Entrepreneurial competencies, which encompass opportunity competency, entrepreneurial skills competency, and conceptual competency, are essential for enhancing the performance of SMEs. Opportunity competency refers to the ability to identify, evaluate, and exploit market opportunities, which is crucial for SMEs operating in competitive and resource-constrained environments (Barney, 1991). Entrepreneurial skills competency, including innovation, adaptability, problem-solving, and leadership, enables SMEs to navigate dynamic business conditions and sustain growth (Rehman et al., 2023). Conceptual competency, which involves strategic thinking and long-term planning, provides SMEs with the ability to develop and implement effective strategies to achieve their goals (Kusa et al., 2021). In the North West region of Nigeria, the development of these competencies is critical for improving SME performance, driving economic growth, and addressing unemployment.

Statement of Problem

Small and medium-sized enterprises (SMEs) are crucial to the economic development of countries, including Nigeria. However, in the North West region, the performance of SMEs has become a pressing concern for owners and managers, given the intense competition in the sector. In response, SME managers have adopted various strategies, including leveraging entrepreneurial competencies, to enhance performance. Despite these efforts, many SMEs in North West Nigeria continue to underperform, with some struggling to sustain operations and achieve growth. A critical factor potentially influencing these performance challenges is the entrepreneurial competencies of their owners and managers, highlighting the need for further investigation.

Different researchers have made different submissions with regard to entrepreneurial competencies and SMEs performance. For instance, Gwadabe and Amirah (2017), submitted that business activities have become more competitive, and this has increased the failure of SMEs in Nigeria due to the environment and the increased competition. Entrepreneurial competencies have become very important to the survival of SMEs in Nigeria. Entrepreneurial competencies are vital to the achievement of competitive advantage in business through different measures, like proper management of relationships (Shehnaz & Ramayah, 2015). Lampadarios (2016) submitted that low performance rate with the low level of entrepreneurial competencies among small businesses as the crucial threats to small business as a competitive enterprise.

Furthermore, studies in both emerging and advanced economies have recognized the vital role-played and still being playing by small business in the development process of modern economies (Folorunso et al., 2015). Unfortunately, a well-known challenge with small businesses is their poor performance that most a time led to high exit rate (Abeer, 2014). In addition, there is always a level of risk involved in managing small business. However, well they may be performing, poor performance will prevail particularly where the owners/managers lack the requisite entrepreneurial competencies. Although, the owners/managers may, without any fault, sink his fortune and in some extent the entire business.

Although studies have been conducted in this area but most of them focused more on other dimensions. For instance, Mitchelmore and Rowley (2013) focused on entrepreneurial competencies and women-owned SMEs in the UK and their impact on business growth; Tehseen and Ramayah (2015) focused on the impact of entrepreneurial competencies on the business success of SMEs in Malaysia, considering the moderating role of external integration; Botha et al. (2019) focused on the relationship between entrepreneurial competencies, emotional intelligence, and entrepreneurial intentions of students at a rural university in South Africa.

While there is a growing body of research on the relationship between entrepreneurial competencies and SME performance, the majority of these studies have been conducted in developed economies or other regions of Nigeria (Mitchelmore & Rowley, 2013; Tehseen & Ramayah, 2015). There is limited empirical evidence on the specific impact of entrepreneurial competencies on the performance of SMEs in the North West region of Nigeria. The limited research that has been conducted in the North West region has primarily focused on other factors influencing SME performance, such as access to finance (Olusegun et al., 2021) and entrepreneurial orientation (Olusegun et al., 2021). It is in the light of the above problems and the desire to fill the identified gaps that this study seeks to investigate the effect of entrepreneurial competencies of the performance of SMEs in North West, Nigeria. It is in the light of the above problem and the desire to fill the identified gaps that this study seeks to examine the effect of entrepreneurial competencies on performance of SMEs in the North West, Nigeria. In line with the above, the specific objectives of this study are to:

i. determine the effect of opportunity competency on performance of SMEs in North West Nigeria;
ii. examine the effect of entrepreneurial skills competency on performance of SMEs in North West Nigeria; and

iii. assess the effect of conceptual competency on performance of SMEs is North West Nigeria.

In line with the above objectives, this study addresses the following hypotheses:

$H0_1$: Opportunity competency has no significant effect on performance of SMEs in North West, Nigeria.

$H0_2$: Entrepreneurial skills competency has no significant effect on performance of SMEs in North West, Nigeria.

$H0_3$: Conceptual competency has no significant effect on performance of SMEs in North West, Nigeria.

LITERATURE REVIEW

Performance of Small and Medium Enterprises

Performance in SMEs is generally defined as the achievement of organizational goals and objectives, often measured through indicators such as profitability, growth, productivity, and market competitiveness. According to the European Commission (2015), SME performance can be assessed through various dimensions, including financial performance, operational efficiency, and strategic positioning. Performance frameworks often involve both quantitative metrics, such as return on assets and revenue growth, and qualitative measures, such as customer satisfaction and employee engagement (Gimenez & Ventura, 2020). This multifaceted approach underscores the complexity of evaluating SME performance and the need for a comprehensive understanding of various influencing factors such as organizational culture and employee/entrepreneurial competencies.

Financial and operational performance are critical aspects of SME success. Financial outcomes are often quantified through metrics like revenue and profit margins, but qualitative assessments, such as evaluating strategic budgeting, financial planning, and risk management practices, provide deeper insights into financial health (Gimenez & Ventura, 2020). Leadership approaches to financial challenges and stakeholder perceptions also contribute to understanding financial stability and growth. Operational efficiency, on the other hand, focuses on optimizing processes and resources to achieve productivity and cost-effectiveness. Metrics like production costs, cycle times, and resource utilization are key indicators of efficiency. SMEs with high operational efficiency are more competitive, as they can deliver products and services cost-effectively, leveraging practices like lean manufacturing and process optimization (Cheng & Shiu, 2017; Wang & Ahmed, 2019).

According to Shahbandi and Farrokhshad (2019), SME performance encompasses various aspects such as revenue and sales growth targets, maintaining or improving profitability and financial stability, managing business costs and operational efficiency effectively, attracting and retaining a talented and motivated workforce, expanding market share and customer base, and fostering innovation. This study will adopt the performance measurement framework proposed by Kihara et al. (2016) and Shahbandi and Farrokhshad (2019), as it offers a more comprehensive approach and utilizes profit as a key performance proxy.

Small and Medium Enterprises

n Nigeria, SMEs are defined by various institutions based on criteria such as investment, workforce size, and turnover. According to the Federal Ministry of Commerce and Industry, SMEs are categorized as firms with investments (excluding land) not exceeding N750,000 and employing between 10 and 300 people (Federal Ministry of Commerce and Industry, 2015). The National Bureau of Statistics (NBS) defines SMEs as businesses with fewer than 200 employees and assets (excluding land) valued at less than N50 million (NBS, 2017). The Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), in its National Policy on MSMEs, classifies SMEs as firms employing 10–49 people and generating an annual turnover between N5 million and N49.9 million (SMEDAN, 2021). Similarly, the Central Bank of Nigeria (CBN) defines SMEs as enterprises with an asset base ranging from N5 million to N500 million and a workforce of 11–300 employees (CBN, 2020).

Entrepreneurial Competencies

According to Gupta et al., (2019) entrepreneurial competencies are the specific knowledge, skills, and attributes that lead to superior performance in entrepreneurial activities. This definition emphasizes that certain competencies are linked directly to performance outcomes, suggesting a clear connection between competencies and entrepreneurial success. Entrepreneurial competencies are the knowledge, skills, and attributes that enable an entrepreneur to perform effectively in their entrepreneurial role (Man et al., 2020). This definition emphasizes the combination of knowledge, skills, and personal attributes necessary for entrepreneurs to succeed. It highlights the multifaceted nature of competencies that go beyond mere technical skills. Entrepreneurial competencies are defined as the underlying characteristics of an entrepreneur that enable them to achieve desired outcomes in entrepreneurial endeavors (Cacciotti et al., 2020). This definition highlights the inherent characteristics and traits that entrepreneurs possess, which are crucial for achieving success in their ventures.

Evers et al. (2020) defined entrepreneurial competencies as the skills and attributes that facilitate the entrepreneurial process, including opportunity recognition, resource mobilization, and risk management. This definition focuses on the practical application of competencies within the entrepreneurial process, highlighting key activities such as opportunity recognition and resource management. Entrepreneurial competencies are the combination of knowledge, skills, and personal attributes that empower individuals to recognize and pursue new business opportunities (Kuckertz et al., 2020). This definition highlights the empowering nature of competencies, illustrating how they enable individuals to recognize and seize entrepreneurial opportunities.

According to Kaigama (2023), entrepreneurial competencies components comprise of opportunity seeking competency, entrepreneurial skills competency, conceptual entrepreneurial competency, entrepreneurial motive competency, entrepreneurial strategies competency, entrepreneurial commitment competency and entrepreneurial relationship building competency. Therefore, this study adapts the components of entrepreneurial competencies as offered by According to Kaigama (2023) and used opportunity competency, entrepreneurial skills competency and conceptual competency. However, this study sees entrepreneurial competencies as the specific skills, knowledge, and attributes that enable individuals to effectively start, manage, and grow a business. These competencies can significantly influence the success of entrepreneurs and their ventures.

Opportunity Competency

Man et al. (2020), defined opportunity competency as the ability to recognize and evaluate potential business opportunities to create value. This definition emphasizes the dual aspects of opportunity competency: recognizing potential opportunities in the market and evaluating their viability for creating value. This skill is crucial for entrepreneurs to innovate and succeed. Opportunity competency encompasses the skills and knowledge required to identify, assess, and exploit new business opportunities effectively (Cacciotti et al., 2020). This definition highlights the comprehensive nature of opportunity competency, which includes not only identification but also assessment and exploitation of opportunities. It underscores the importance of a strategic approach in utilizing opportunities for business growth.

Opportunity competency refers to an entrepreneur's capacity to identify and act upon potential opportunities in the business environment (Tiwari et al., 2021). This definition focuses on the entrepreneur's ability to not only recognize opportunities but also take decisive action. It emphasizes the proactive aspect of opportunity competency, which is essential for entrepreneurial success. Opportunity competency is the combination of skills and knowledge that enables entrepreneurs to discover and leverage business opportunities effectively (Ranjan, 2021). This definition highlights the integrative nature of opportunity competency, emphasizing that it is not just about discovery but also about effectively leveraging those opportunities for business success. This dual focus is crucial for entrepreneurial effectiveness.

Entrepreneurial Skills Competency

Entrepreneurial skill competency is the collection of specific skills that enable individuals to effectively initiate and manage new ventures (Pruett et al., 2019). This definition underscores the importance of a diverse set of skills that are essential for both starting and running a business. It emphasizes that entrepreneurial success requires a blend of technical, managerial, and interpersonal skills. Entrepreneurial skill competency encompasses the practical skills and knowledge that facilitate effective decision-making and resource management in entrepreneurial contexts" (Hsu et al., 2020). This definition highlights the practical aspects of entrepreneurial skills, focusing on how they enable entrepreneurs to make informed decisions and manage resources efficiently, which are critical for the success of any venture.

Entrepreneurial skill competency refers to the set of skills that allow entrepreneurs to effectively navigate challenges and capitalize on opportunities in the business environment" (Gorman et al., 2021). This definition emphasizes the adaptive nature of entrepreneurial skill competency, which is essential for overcoming challenges and seizing opportunities in a dynamic market landscape. Entrepreneurial skill competency is the amalgamation of technical, managerial, and interpersonal skills that empower entrepreneurs to achieve their business objectives" (Gupta et al., 2022). This definition highlights the comprehensive nature of entrepreneurial skill competency, integrating various types of skills that are crucial for achieving business goals, thus underscoring the multifaceted capabilities of successful entrepreneurs.

Conceptual Competency

Conceptual competency is the ability to understand complex concepts and frameworks that inform decision-making and problem-solving in a business context (Matzler et al., 2020). This definition emphasizes the importance of grasping complex ideas and theories, which are critical for making informed decisions and addressing challenges in business environments. Conceptual competency allows entrepreneurs to connect theoretical knowledge with practical applications. Conceptual competency refers to the ability to integrate and apply knowledge from various domains to develop innovative solutions and strategies (Hsu et al., 2021). This definition highlights the integrative aspect of conceptual competency, focusing on the ability to synthesize knowledge from different fields to foster innovation and strategic thinking, essential for successful entrepreneurship.

Conceptual competency encompasses the cognitive abilities required to formulate and evaluate ideas, theories, and models in a business setting (Zhao et al., 2021). This definition underscores the cognitive dimensions of conceptual competency, emphasizing the skills necessary for idea generation and evaluation, which are crucial for strategic planning and innovation. Conceptual competency is the ability to understand and apply abstract concepts to real-world scenarios, facilitating effective problem-solving and decision-making (Gorman et al., 2022). This definition highlights the practical application of abstract ideas in real-world situations, which is essential for effective entrepreneurship. It emphasizes the need for entrepreneurs to translate theoretical knowledge into actionable strategies.

Conceptual competency is often defined by strategic thinking and vision, which involves the ability to formulate long-term goals and plans while anticipating future trends and challenges. According to Mintzberg (2014), strategic thinking is the process of understanding the dynamic and competitive nature of the business environment. It allows entrepreneurs and managers to develop visions that guide the direction of their enterprises and respond to changing conditions effectively. This definition emphasizes the importance of foresight and the ability to craft strategies that align with long-term objectives.

Opportunity Competency and Performance of SMEs

Yuceol and Can (2023) explored the relationship between opportunity competency and firm performance in SMEs using an empirical review. The study retrieved 40 articles from the Web of Science and Scopus databases, focusing on entrepreneurial competencies such as innovative thinking, opportunity recognition, and resource mobilization. The review found that opportunity competency

significantly impacts firm performance and contributes to economic development by enhancing financial growth, market share, and adaptability. However, the study did not conduct a statistical analysis, limiting the generalizability of its findings.

Hamzah and Othman (2023) examined the effect of opportunity competency on business success in Malaysia using a survey design. The study targeted 102 small-sized firms across various sectors, employing structured surveys for data collection and structural equation modeling (SEM) for analysis. The findings revealed a positive and significant effect of opportunity competency on business success, highlighting the roles of innovation and analytical thinking. Limitations include the small sample size, which affects generalizability, and the use of a structured survey instead of an adapted questionnaire. Sarwoko and Nurfarida (2023) investigated how entrepreneurial competencies, including opportunity competency, influence SME performance through entrepreneurial orientation in Malang City, Indonesia. The study used an explanatory research approach with a sample of 80 SMEs, employing closed questionnaires for data collection and path analysis for analysis. The results showed that opportunity competency significantly mediates the relationship between entrepreneurial orientation and SME performance, enhancing growth and profitability. Limitations include the small sample size and the sole reliance on quantitative data, which might overlook qualitative nuances.

Kusa et al. (2021) explored the interaction between opportunity competency, entrepreneurial orientation, and motivation in SME performance in Poland's Lesser Poland region. Using a purposive sample of 61 SMEs, the study employed fuzzy-set qualitative comparative analysis (fsQCA) to identify combinations of variables that enhance performance. The findings revealed that opportunity competency, when combined with proactiveness, significantly improves SME outcomes. However, the study's small sample size limits its broader applicability, and the qualitative approach may lack the precision of quantitative methods.

Entrepreneurial Skills Competency and Performance of SMEs

Esomu (2024) evaluated the entrepreneurial skills of graduates from technology incubation centers in Lagos State, Nigeria, focusing on financial management and social capital. Using a cross-sectional design, the study surveyed 127 SME owners from two technology incubation centers, employing proportional random sampling. Data were collected using a validated 5-point Likert scale questionnaire and analyzed with SPSS. The findings revealed that graduates possessed moderate-to-high entrepreneurial skills, with financial management and social capital rated higher. However, the study's small sample size and limited scope excluded other competencies like marketing and digital skills, limiting generalizability.

Oraya and Maina (2023) examined the influence of entrepreneurial skills on the performance of micro and small enterprises (MSEs) in Machakos County, Kenya. Using a descriptive survey design, the study targeted 5,624 MSE managers, selecting 373 participants through probability sampling. Data were collected via questionnaires and analyzed using Pearson correlation and regression analysis with SPSS. The findings highlighted that management skills, risk-taking, creativity, and opportunity-seeking positively influenced organizational performance. However, the study's focus on a single county and reliance on quantitative methods limited the generalizability and depth of understanding.

Aliyu (2023) investigated the impact of entrepreneurial skills, personality, and knowledge on SME performance in Zaria, Nigeria. The study employed a survey design, distributing questionnaires to SME owners, though the sample size was not specified. Data were analyzed using descriptive statistics and multiple regression via SPSS. Findings revealed that entrepreneurial skills, personality, and knowledge positively impacted SME performance, with personality having the strongest effect ($\beta = .249$, $p = 0.00$). Limitations included reliance on self-reported data, lack of a clearly defined sample size, and restricted focus on a specific area, affecting generalizability.

Widji et al. (2019) explored the influence of entrepreneurial skills on the business performance of SMEs in the culinary sector in Malang City, Indonesia. The study employed a quantitative design, using structured questionnaires to collect data from a population of 300 entrepreneurs, with a sample of 181 selected through simple random sampling. Data were analyzed using a simple linear regression model after conducting classic assumption tests. The findings revealed a weak but significant relationship between entrepreneurial skills and business performance ($R^2 = 0.026$, $p < 0.05$), indicating that entrepreneurial skills explained only 2.06% of business performance, with personal maturity skills contributing the most. The study was limited by its focus on one city and subsector, restricting the generalizability of the findings

Conceptual Competency and Performance of SMEs

Wirda et al. (2023) examined the effect of conceptual competency on business success within the culinary sector in Padang City, Indonesia. The study adopted a survey research design, targeting managers of creative industry SMEs, with a sample of 86 managers from traditional Padang restaurants, selected through simple random sampling. Data were collected using questionnaires and analyzed using Structural Equation Modeling (SEM) with Second Order Confirmatory Factor Analysis (CFA) via Amos software. The findings indicated that conceptual competency had a positive and significant effect on business success. However, the limited sample size and reliance on quantitative methods restricted the generalizability and depth of understanding.

Kanaan-Jebna et al. (2022) explored the impact of conceptual competency on SME performance through a conceptual framework grounded in the resource-based view, emphasizing the role of entrepreneurial education in developing competencies. The study proposed that conceptual competency mediates the relationship between education and SME performance, helping businesses achieve a sustainable competitive advantage. While insightful, the study lacked empirical data collection and statistical analysis, limiting its practical applicability.

Kusa et al. (2021) investigated the relationship between conceptual competency, entrepreneurial orientation (EO), and SME performance in Poland. The study targeted non-financial sector SMEs using stratified random sampling, though the sample size was not disclosed. Data were collected via surveys and analyzed using multiple regression. The findings revealed that conceptual competency, alongside EO dimensions like innovativeness, proactiveness, and risk-taking, positively influenced SME performance. The study's limitation included a lack of industry-specific focus and the exclusion of other entrepreneurial competencies.

Ahmad Yani et al. (2020) studied the impact of conceptual competency on SME performance in Bekasi City, Indonesia, focusing on food vendors. Using a survey design, 315 respondents were selected through purposive sampling. Data were collected via self-reported questionnaires and analyzed with SEM using SmartPLS. The study found a significant positive effect of conceptual competency on business performance (T-statistic = 0.874). However, reliance on a single sector and self-reported data introduced limitations in generalizability and potential response bias.

Resource Based View (RBV) Theory

This study is anchored on The Resource-Based View (RBV) theory. The Resource-Based View (RBV) theory, developed by Wernerfelt (1984) and expanded upon by Barney (1991), highlights the importance of internal resources and capabilities in achieving a firm's sustained competitive advantage. According to RBV, firms gain an edge when they possess resources that are valuable, rare, inimitable, and non-substitutable (VRIN). These resources can be tangible, such as equipment and physical assets, or intangible, like knowledge, skills, and organizational processes. The theory emphasizes that by leveraging these unique resources, firms can achieve superior performance and long-term success. Particularly for startups and SMEs, entrepreneurial competencies like leadership, innovation, and decision-making serve as critical internal resources that drive growth and competitive advantage.

RBV asserts that these unique resources must be integrated and applied effectively to create value. For example, intangible assets such as specialized human capital, embedded knowledge, and unique organizational capabilities are considered key drivers of performance. By combining these resources in innovative ways, firms can outperform competitors who lack similar resources. However, RBV has faced criticism for its limited application in dynamic environments and its failure to explain how resources translate into competitive advantage. Critics also point out that the theory often undervalues the synergistic effects of combining different resources.

Despite these limitations, RBV remains a widely accepted framework for understanding firm performance. It is particularly relevant for SMEs, where internal resources like entrepreneurial competencies play a pivotal role in overcoming resource constraints and achieving sustainable growth. The theory underscores that firms with well-developed, hard-to-imitate competencies are better equipped to adapt to changing market conditions, innovate, and create value, thereby securing a competitive edge. Thus, RBV provides a strong foundation for analyzing how internal resources drive the success of entrepreneurial ventures and small businesses.

METHODOLOGY

This study adopts a survey research design. The population of this study comprised of 137,648 registered SMEs in the North West, Nigeria (SMEDAN, 2022). The sample size of 399 was determined using Taro Yamane (1967) sample size determination formular, however, an alteration rate of 25% of the sample size determined (25% of 399 = 100) was added to increase the sample size used to 499 registered SMEs in the North West, Nigeria. Taro Yamane (1967) sample size determination formular is given as $n = \frac{N}{1+N(e)2}$ where: 'n' is the sample size, 'N' is the finite population size, 1 is constant and 'e' is the level of precision. This study used convenience sampling technique to select the respondents. The target respondents of the study were owner/managers of registered SMEs in North West (Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto and Zamfara), Nigeria. Questionnaire was used as the instrument for data collection. The sample size was proportionately allocated to each state in North West based on their respective population. Where 50 copies of questionnaire were administered in Jigawa State, 78 copies of questionnaire were administered in Kaduna State, 156 copies of questionnaire were administered in Kano State, 78 copies of questionnaire were administered in Katsina State, 37 copies of questionnaire were administered in Kebbi State, 51 copies of questionnaire were administered in Sokoto and 49 copies of questionnaire were administered in Zamfara State. Data collection for this study utilizes a structured questionnaire adapted from the works of Kihara, et al. (2016); Shahbandi and Farrokhshad (2019); Bendary and El Minyawi, (2015); Sakib, et al. (2022); Bendary and El Minyawi, (2015); Kaigama (2023). A validated, pre-existing instrument was employed to enhance the reliability and validity of the data collected. The reliability of the instrument was evaluated using Cronbach's alpha, which produced a value of 0.904, indicating strong internal consistency, as values above 0.7 are deemed acceptable (Hair et al., 2022). The questionnaire was designed to assess dimensions of entrepreneurial competencies along with performance indicators for small and medium enterprises. Before its full deployment, a pilot test was conducted with a small group of SME owners and managers to ensure the questionnaire's clarity, relevance, and suitability for the local context. Feedback from the pilot test informed necessary adjustments, further improving the quality and applicability of the instrument.

Out of 499 copies of questionnaire distributed, 413 were correctly completed and returned, resulting in a response rate of 83%. These valid responses formed the basis for analysis. To ensure a high response rate and accurate data collection, the questionnaires was administered in person by seven research assistants, each assigned to a different state. This approach minimized potential misunderstandings and enhanced data reliability.

For analysis, Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized. This advanced statistical technique is well-suited for examining complex models with multiple constructs and relationships. PLS-SEM accommodates smaller sample sizes and does not require strict data distribution

assumptions, making it particularly suitable for the census approach used in this research. Its flexibility ensured robust analysis despite the characteristics of the sample.

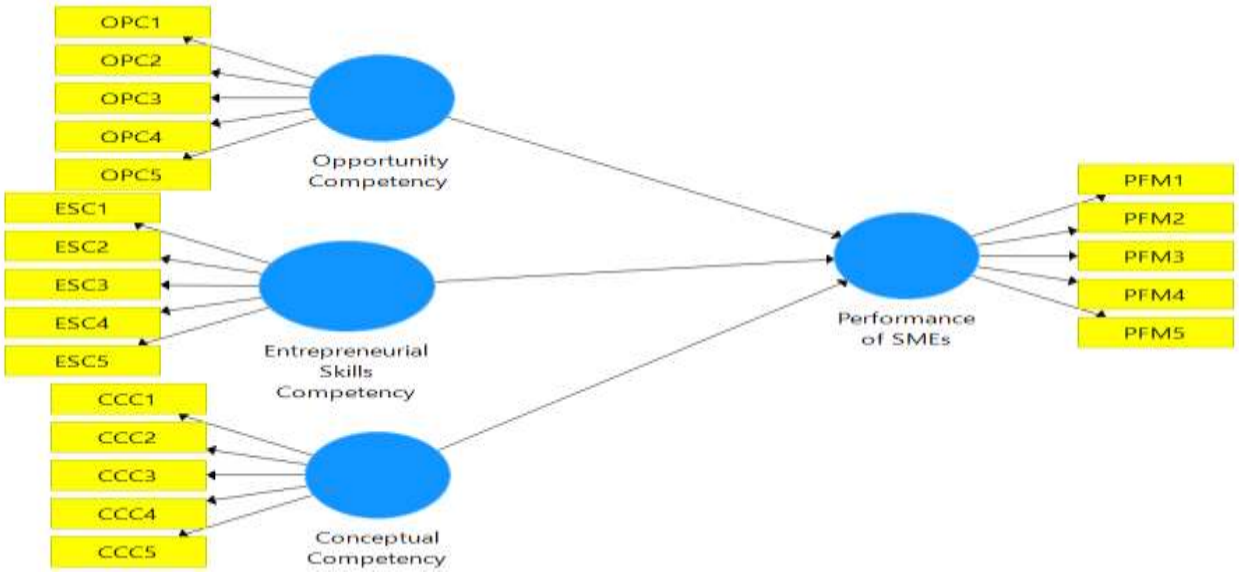

Fig. 1 The Model of the Study

The PLS-SEM analysis was conducted using SmartPLS software, following a two-step process. The first step involved evaluating the measurement model to establish the reliability and validity of the constructs. This process ensured that the measurement items effectively captured opportunity competency, entrepreneurial skills competency, conceptual competency, and the performance of SMEs. The second step focused on assessing the structural model to test the hypotheses regarding the effect entrepreneurial competencies proxied by opportunity competency, entrepreneurial skills competency, conceptual competency on performance of SMEs in North West, Nigeria. Additionally, the study adhered to stringent ethical standards throughout the research process. Informed consent was obtained from all participants, ensuring they fully understood the study's objectives and their right to withdraw at any time without repercussions. Participants' responses were treated with confidentiality, and all data were anonymized and securely stored to protect their privacy. These measures were implemented to maintain the integrity and ethical rigor of the research.

RESULT AND DISCUSSIONS

Assessment of Measurement Model

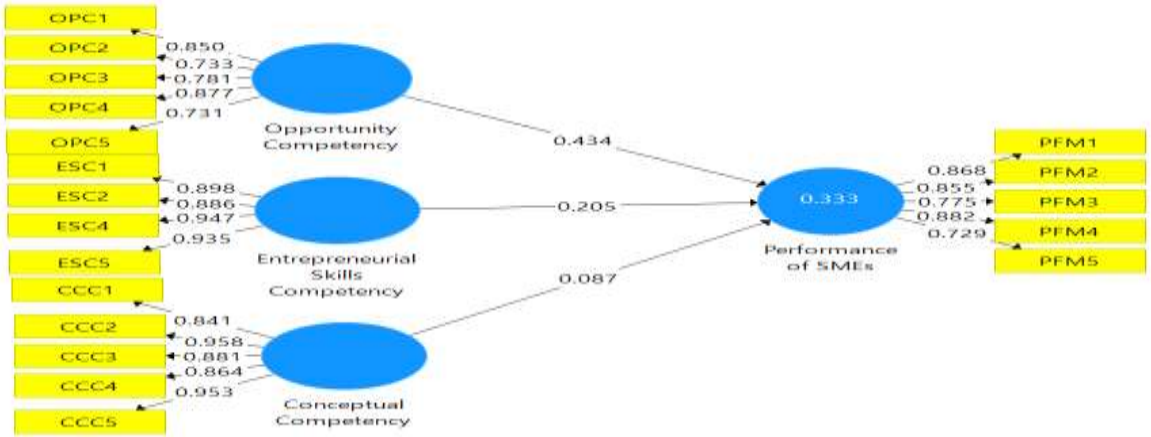

Fig. 2: Measurement model of the study constructs and indicators.
Source: SmartPLS Output, 2025

Table 1: Factor Loadings

Items	Loadings

OPC1	0.850
OPC2	0.733
OPC3	0.781
OPC4	0.877
OPC5	0.731
ESC1	0.898
ESC2	0.886
ESC4	0.947
ESC5	0.935
CCC1	0.841
CCC2	0.958
CCC3	0.881
CCC4	0.864
CCC5	0.953
PFM1	0.868
PFM2	0.855
PFM3	0.775
PFM4	0.882
PFM5	0.729

Source: SmartPLS Output, 2025

Table 1 is the result of factor loading for all the variables used in this study. It indicates how well an individual item contributes to and reflects the construct it is intended to measure. High factor loadings (typically above 0.70) suggest that the item strongly represents the construct, ensuring the reliability and validity of the measurement. Factor loadings are crucial in confirming that the measurement items effectively capture the intended dimensions of the construct and enhancing the robustness of the model. The factor loadings for Opportunity Competency (OPC) show strong and acceptable values, ranging from 0.731 to 0.877. This indicates that the items used to measure OPC reliably contribute to the construct. OPC4 has the highest loading (0.877), suggesting it is the most influential indicator for assessing opportunity competency. In contrast, OPC5 has the lowest loading (0.731), but it still meets the threshold of above 0.70 as recommended by Hair et al. (2019). The results suggest that the selected items effectively represent the opportunity competency of SMEs.

The factor loadings for Entrepreneurial Skills Competency (ESC) are exceptionally high, ranging from 0.886 to 0.947. Item ESC4 (0.947) and ESC5 (0.935) exhibit the highest contributions to the construct. However, Item ESC3 was deleted due to a low loading, indicating it did not adequately contribute to the competency's measurement. The remaining items demonstrate strong reliability and validity as they have exceeded the threshold of above 0.70 as recommended by Hair et al. (2019), showing that the selected items effectively capture entrepreneurial skills competency for SMEs.

Conceptual Competency (CCC) demonstrates high factor loadings, ranging from 0.841 to 0.958. Item CCC2 (0.958) and CCC5 (0.953) are the strongest contributors, indicating their critical importance in assessing conceptual competency. All items surpass the acceptable threshold of above 0.70 as recommended by Hair et al. (2019), suggesting the construct is well-measured by the chosen indicators. This reflects that the CCC items effectively capture the conceptual abilities necessary for SMEs' strategic thinking and decision-making.

The factor loadings for Performance of SMEs (PFM) range from 0.729 to 0.882, indicating strong reliability. PFM4 (0.882) and PFM1 (0.868) are the most influential indicators of SME performance, while PFM5 (0.729) has the lowest contribution but still meets the acceptable threshold of above 0.70 as recommended by Hair et al. (2019). These results imply that the items effectively measure the

performance construct, providing a comprehensive evaluation of SMEs' operational outcomes and success.

Table 2: Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Opportunity Competency	0.855	0.959	0.955	0.811
Entrepreneurial Skills Competency	0.937	0.943	0.967	0.841
Conceptual Competency	0.942	0.867	0.896	0.635
Performance of SMEs	0.880	0.891	0.913	0.679

Source: SmartPLS Output, 2025

The reliability and validity metrics for Opportunity Competency (OPC) indicate strong internal consistency and construct validity. Cronbach's Alpha (0.855) and Composite Reliability (0.955) both exceed the recommended threshold of 0.70, suggesting high reliability (Hair et al., 2019). The Average Variance Extracted (AVE) is 0.811, surpassing the 0.50 benchmark, confirming that the construct explains a substantial proportion of variance in its indicators. These results demonstrate that the items effectively measure opportunity competency as a reliable and valid construct.

The metrics for Entrepreneurial Skills Competency (ESC) reflect excellent reliability and validity. Cronbach's Alpha (0.937) and Composite Reliability (0.967) are significantly above the 0.70 threshold, indicating strong internal consistency (Sarstedt et al., 2021). The AVE of 0.841 further supports convergent validity, as it surpasses the 0.50 criterion. These results confirm that the ESC construct is both reliable and valid in capturing the entrepreneurial skills necessary for SMEs' success.

The reliability and validity results for Conceptual Competency (CCC) are moderately strong. Cronbach's Alpha (0.942) and Composite Reliability (0.896) exceed the acceptable threshold, indicating good internal consistency (Sarstedt et al., 2021; Fornell & Larcker, 1981). However, the AVE is 0.635, which, while above the 0.50 benchmark, is lower compared to the other constructs, suggesting that some variance in the indicators may not be fully explained by the construct. Overall, CCC demonstrates acceptable reliability and validity.

The metrics for Performance of SMEs (PFM) show strong reliability and acceptable validity. Cronbach's Alpha (0.880) and Composite Reliability (0.913) confirm high internal consistency, meeting the recommended thresholds (Hair et al., 2019). The AVE of 0.679 exceeds the 0.50 benchmark, confirming convergent validity. These results suggest that the items reliably and validly measure the performance construct for SMEs.

Discriminant Validity

Table 3: Heterotrait-Monotrait Ratio (HTMT)

	Performance of SMEs	Opportunity Competency	Entrepreneurial Skills Competency	Conceptual Competency
Performance of SMEs				
Opportunity Competency	0.537			
Entrepreneurial Skills Competency	0.310	0.422		
Conceptual Competency	0.336	0.350	0.592	

Source: SmartPLS Output, 2025

The Heterotrait-Monotrait Ratio (HTMT) values in Table 3 provide an assessment of discriminant validity, which evaluates whether the constructs are sufficiently distinct from one another. According to

Hair et al. (2019), HTMT values below the threshold of 0.85 (or 0.90 in some contexts) indicate good discriminant validity. In this table, the HTMT values for all pairs of constructs are below the acceptable threshold, with the highest value being 0.592 between Entrepreneurial Skills Competency and Conceptual Competency. This indicates that the constructs Performance of SMEs, Opportunity Competency, Entrepreneurial Skills Competency, and Conceptual Competency are conceptually distinct and measure different aspects of the underlying framework. Such results confirm that the constructs used in the model do not overlap significantly, supporting the reliability of the model for theoretical and practical application in assessing SME performance and competencies.

Assessment of the Structural Model and Hypotheses Testing

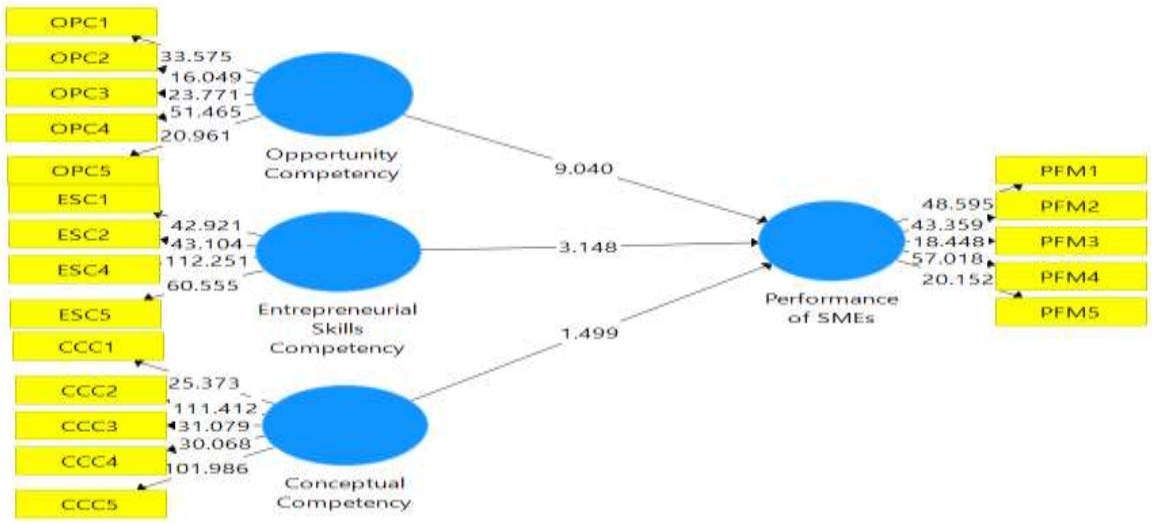

Fig. 3: Measurement model of the study constructs and indicators.
Source: SmartPLS Output, 2025

Path Coefficients

Table4: Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H_{O1} OPC -> PFM	0.434	0.107	0.048	9.040	0.000	Rejected
H_{O2} ESC -> PFM	0.205	0.210	0.065	3.148	0.002	Rejected
H_{O3} CCC -> PFM	0.087	0.086	0.058	1.499	0.135	Accepted

Source: SmartPLS Output, 2025

The Figure 3 and table 4 show that standard beta and the corresponding t-values were used in assessing the structural model in this study. It was done through the bootstrapping procedure.

$H0_1$: Opportunity competency has no significant effect on the performance of SMEs in North West, Nigeria.

The path coefficient for the effect of opportunity competency (OPC) on performance of SMEs (PFM) is 0.434, with a T-statistic of 9.040 and a P-value of 0.000. The path coefficient value means that as SMEs enhance their opportunity competency such as identifying and leveraging business opportunities their performance improves proportionally. Specifically, for every unit increase in opportunity competency, the performance of SMEs increases by 0.434 units, assuming all other factors remain constant. This result revealed that opportunity competency has positive and statistically significant effect on performance of SMEs in North West, Nigeria as the P-value is less than 0.05, and the T-statistic is well above the critical value of 1.96. The null hypothesis (HO1) is rejected, confirming that opportunity competency has positive and significant effect on SME performance in North West, Nigeria at the 5%

level. This implies that SMEs with well-developed opportunity competencies, such as the ability to identify and exploit market opportunities, are likely to achieve better performance outcomes. Businesses should focus on enhancing their opportunity recognition and exploitation skills to improve their operational and strategic success.

The finding is in line with the finding of Yuceol and Can (2023), Hamzah and Othman (2023), Sarwoko and Nurfarida (2023), and Kusa et al. (2021). Yuceol and Can (2023) found that opportunity competency significantly impacts firm performance by enabling SMEs to leverage innovative thinking and resource mobilization. Similarly, Hamzah and Othman (2023) identified a significant positive relationship between opportunity competency and business success, with emphasis on innovation and analytical thinking. Sarwoko and Nurfarida (2023) demonstrated that opportunity competency mediates the relationship between entrepreneurial orientation and SME performance, emphasizing its role in enhancing growth and profitability. Kusa et al. (2021) also supported this finding by showing that opportunity competency, combined with proactiveness and motivation, leads to improved SME outcomes.

The finding is aligning with the Resource-Based View (RBV) theory. RBV emphasizes that firms achieve competitive advantage and superior performance by leveraging valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). Opportunity competency, as a strategic internal resource, fits the VRIN criteria by enabling SMEs to identify and exploit market opportunities effectively, which competitors may struggle to replicate. This highlights the role of firm-specific competencies, such as opportunity recognition and exploitation, as critical drivers of sustained competitive advantage and improved performance, as proposed by the RBV theory.

$H0_2$: Entrepreneurial skills competency has no significant effect on performance of SMEs in North West, Nigeria.

For the hypothesis 2, the result from the Smart PLS reveals that path coefficient of entrepreneurial skills competency and performance of SMEs (ESC->PFM) is positive and statistically significant at 5% level of significant. The path coefficient for the effect of entrepreneurial skills competency (ESC) on performance of SMEs (PFM) is 0.205, which means that as SMEs enhance their entrepreneurial skills competency such as innovation, adaptability, problem-solving, and leadership their performance improves proportionally. Specifically, for every unit increase in entrepreneurial skills competency, the performance of SMEs increases by 0.205 units, assuming all other factors remain constant. The T-statistic of 3.148 is greater than 1.96 and a P-value of 0.002 is less than 0.5, which means that entrepreneurial skills competency has positive and statistically significant effect on performance of SMEs in North West, Nigeria at 5% level of significant. This positive and statistically significant result leads to the rejection of the null hypothesis (HO2). The findings indicate that entrepreneurial skills competency significantly influences SMEs performance, suggesting that skills like innovation, adaptability, and problem-solving are essential for achieving competitive advantage and sustained growth.

This finding is aligning with the reviews of Esomu (2024), Oraya and Maina (2023), and Aliyu (2023), but contrasts with the findings of Widji et al. (2019). Esomu (2024) found that entrepreneurial skills, particularly financial management and social capital, contributed positively to SME performance, supporting the notion that specific competencies enhance business outcomes. Similarly, Oraya and Maina (2023) demonstrated that entrepreneurial skills like risk-taking, creativity, and opportunity-seeking positively influenced MSE performance, reinforcing the importance of such competencies for organizational success. Aliyu (2023) also highlighted the significant positive effect of entrepreneurial skills on SME performance, further validating the current study's result. However, Widji et al. (2019) reported a weak relationship between entrepreneurial skills and business performance ($R^2 = 0.026$), which may be due to their focus on a single subsector (culinary SMEs) and limited sample scope, potentially underestimating the broader impact of entrepreneurial skills. This discrepancy suggests that the influence of entrepreneurial skills may vary across sectors, contexts, and the specific skills assessed.

This finding aligns with the Resource-Based View (RBV) theory, which posits that firms achieve sustained competitive advantage by leveraging valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). Entrepreneurial skills such as innovation, adaptability, problem-solving, and leadership are intangible resources that fit the VRIN framework, as they are unique to the firm and difficult for competitors to replicate. By enhancing these skills, SMEs can develop strategic capabilities that improve operational efficiency, adaptability, and competitive positioning, driving superior performance. This alignment underscores the RBV's emphasis on internal resources, particularly human and skill-based assets, as critical drivers of organizational success.

$H0_3$: Conceptual competency has no significant effect on performance of SMEs in North West, Nigeria. For the hypothesis 3, the result from the Smart PLS reveals that path coefficient of conceptual competency and performance of SMEs (CCC->PFM) is positive but statistically insignificant at 5% level of significant. The path coefficient of 0.087 indicates a weak positive effect, the T-statistic of 1.499 is less than the critical value of 1.96, and the P-value of 0.135 is greater than the significance threshold of 0.05. the result did not provide sufficient evidence to confirm that conceptual competency, which includes skills like strategic thinking, long-term planning, and problem-solving, has a significant direct effect on SME performance in this study. The path coefficient for the effect of conceptual competency (CCC) on performance of SMEs (PFM) is 0.087, with a T-statistic of 1.499 and a P-value of 0.135. These results indicate that the effect is not statistically significant, and the null hypothesis (HO3) is accepted. This suggests that conceptual competency, while important, does not have a direct impact on performance of SMEs in North West, Nigeria.

This finding contrasts with the studies by Wirda et al. (2023), Kusa et al. (2021), and Ahmad Yani et al. (2020), which found a significant positive effect of CCC on business success and SME performance. These studies, conducted in different geographical and sectoral contexts, emphasize the role of conceptual competency in strategic thinking and planning for improving business outcomes. The inconsistency may stem from differences in sample characteristics, sectoral focus, and regional business environments. For instance, Wirda et al. (2023) and Ahmad Yani et al. (2020) focused on specific industries (culinary and food vendors), where conceptual skills may play a more pronounced role in performance, while Kusa et al. (2021) highlighted the synergy of CCC with entrepreneurial orientation, which was not a factor in the present study. Conversely, the result aligns with Kanaan-Jebna et al. (2022), who emphasized the theoretical importance of CCC but did not empirically validate its direct impact.

From the perspective of the Resource-Based View (RBV) theory, conceptual competency can be seen as an intangible resource that contributes to a firm's competitive advantage by enabling strategic decision-making and long-term planning. However, the insignificant result in this study suggests that CCC alone may not meet the VRIN (valuable, rare, inimitable, and non-substitutable) criteria in this specific context. Instead, CCC might require integration with other resources or competencies, such as opportunity or technical skills, to create a meaningful impact on performance. This aligns with RBV's emphasis on leveraging combinations of resources for competitive advantage rather than relying on a single resource in isolation.

Multicollinearity Test

Table 5: Inner VIF Values

	Performance of SMES
Opportunity Competency	1.136
Entrepreneurial Skills Competency	1.398
Conceptual Competency	1.373

Source: SmartPLS Output, 2025

The Inner Variance Inflation Factor (VIF) values in Table 5 measure multicollinearity among the predictor variables in the model. The VIF values for opportunity competency (1.136), entrepreneurial skills competency (1.398), and conceptual competency (1.373) are all well below the commonly accepted

threshold of 5, as recommended by Hair et al. (2019). This indicates that multicollinearity is not a concern in the model, meaning that the predictor variables are not highly correlated with one another. As a result, the regression coefficients for these variables can be reliably interpreted without the risk of inflated standard errors, ensuring the robustness of the model in explaining the performance of SMEs.

R Square

Tabe 6: R Square

	R Square	R Square Adjusted
Performance of SMEs	0.333	0.326

Source: SmartPLS Output, 2025

The R Square value of 0.333 indicates that the predictor variables (Opportunity Competency, Entrepreneurial Skills Competency, and Conceptual Competency) collectively explain 33.3% of the variance in the Performance of SMEs. The R Square Adjusted value of 0.326, which accounts for the number of predictors in the model, shows a slight decrease, reflecting a more conservative estimate of the explained variance. These results suggest that while the model provides a moderately strong explanation of SME performance, 66.7% of the variance is influenced by other factors not included in the model. This highlights the need to consider additional variables that may impact SME performance for a more comprehensive understanding.

Effect Size

Table 7: F Square

	Performance of SMES
Opportunity Competency	0.248
Entrepreneurial Skills Competency	0.045
Conceptual Competency	0.018

Source: SmartPLS Output, 2025

The F Square values in Table 7 measure the effect size of each predictor variable on the Performance of SMEs, indicating the relative contribution of each variable to the overall model. Opportunity Competency has an F Square value of 0.248, suggesting a medium to large effect on SME performance, making it the most impactful predictor in the model. Entrepreneurial Skills Competency has an F Square value of 0.045, indicating a small effect, while Conceptual Competency has an F Square value of 0.018, representing a very small effect on SME performance. These results imply that Opportunity Competency plays a significantly larger role in driving SME performance compared to the other two competencies. The findings emphasize the need for SMEs to prioritize developing opportunity-related skills while recognizing that entrepreneurial and conceptual competencies contribute modestly to performance.

Model Fit

Table 8: Fit Summary

	Saturated Model	Estimated Model
SRMR	0.054	0.054
d_ULS	0.546	0.546
d_G	1.002	1.002
Chi-Square	1123.572	1123.572
NFI	0.787	0.787

Source: SmartPLS Output, 2025

The model fit summary in Table 8 evaluates how well the hypothesized model aligns with the observed data. The Standardized Root Mean Square Residual (SRMR) value of 0.054 for both the saturated and estimated models is below the threshold of 0.08, indicating a good fit (Hair et al., 2019). Similarly, the d_ULS (0.546) and d_G (1.002) values are within acceptable ranges, further supporting model adequacy. The Chi-Square value of 1123.572 reflects the overall discrepancy between the observed and predicted

covariances, though it is sensitive to sample size. The Normed Fit Index (NFI) of 0.787 is below the ideal threshold of 0.90, suggesting room for improvement in model fit. Overall, the results demonstrate that the model achieves an acceptable fit, particularly based on SRMR, but there may be minor areas for refinement to improve overall fit indices.

CONCLUSION AND RECOMMENDATIONS

Base on the findings the study concludes that entrepreneurial competencies components of opportunity competency, entrepreneurial skills competency and conceptual competency influences the performance of SMEs in North West, Nigeria. Where opportunity competency and entrepreneurial skills competency positively and significantly influences the performance of SMEs in North West, Nigeria indicating that SMEs with well-developed abilities to identify and exploit opportunities, innovate, adapt, and solve problems achieve better performance outcomes. This underscores the importance of fostering these specific competencies to enhance competitiveness, drive growth, and sustain business success in the dynamic business environment of North West, Nigeria. Conversely, while conceptual competency positively but insignificantly influences the performance of SMEs in North West, Nigeria, suggesting it may require integration with other skills or external factors to effectively contribute to SME performance in this region.

Based on the findings and conclusion made in this study, the following recommendations are proposed:

i. SMEs in North West, Nigeria, should maintain opportunity competency by way of continuing investing in training programs that enhance skills in market analysis, opportunity identification, and strategic planning. Business owners and managers should actively monitor market trends, customer preferences, and competitor activities to uncover new opportunities and adapt their strategies accordingly, ensuring sustained growth and competitive advantage.

ii. SMEs in North West, Nigeria, should focus on fostering entrepreneurial skills such as innovation, adaptability, problem-solving, and leadership. This can be achieved through workshops, mentorship programs, and industry collaborations. By enhancing these skills, SMEs can improve decision-making, effectively manage resources, and navigate the challenges of a dynamic business environment, ultimately driving better performance.

iii. SMEs in North West, Nigeria, should improve on their conceptual competency by way of encouraging long-term strategic thinking, scenario planning, and problem-solving exercises among business leaders. This can be achieved through integration of conceptual skills with practical execution capabilities to better align strategies with operational goals and adapt to changing market conditions.

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QUESTIONNAIRE

Opportunity Competency

OPC1 Our enterprise often looks for new trends and chances in the market
OPC2 Our enterprise has a clear way to judge and choose the best opportunities.
OPC3 Our enterprise gather ideas and information about potential business opportunities
OPC4 Our enterprise spend time and resources to learn about new markets and what customers want
OPC5 Our enterprise is quick to respond to changes in the market that offer new chances

Entrepreneurial Skills Competency

ESC1 Our enterprise is good at spotting new business opportunities
ESC2 Our enterprise creates effective plans to reach our business goals
ESC3 Our enterprise handle risks and uncertainties well for our business
ESC4 Our enterprise communicates our ideas clearly to our worker and customers
ESC5 Our enterprise is skilled at managing our time and resources effectively

Conceptual Competency

CCC1 Our enterprise easily understand complex business ideas and concepts
CCC2 Our enterprise connect different ideas to solve problems in my business
CCC3 Our enterprise explains our business strategies clearly to the workers
CCC4 Our enterprise is good at thinking critically about business challenge
CCC5 Our enterprise regularly seeks new ideas to enhance our understanding of the business world

PERFORMANCE OF SMEs

PFM1 Our enterprise has achieved its revenue and sales growth targets over the past year
PFM2 Our enterprise has been able to maintain or improve its profitability and financial stability over the past year
PFM3 Our enterprise is able to create new product/service over the past year.
PFM4 Our enterprise has been able to attract and retain a talented and motivated workforce over the past year
PFM5 Our enterprise has successfully expanded its market share and customer base over the past year