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Influence of Entrepreneurial Competencies on the Performance of SMEs in Northwest Nigeria

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Abstract

Drawing on the resource-based view (RBV) of the firm and the human capital theory (HCT), this study tested the direct influence of entrepreneurial competencies (i.e., attitudes, skills and knowledge) on the performance of small-scale enterprises (SMEs) operating in Northwest Nigeria. A total of 38 male SME owners (Mean Age = 40.53, $SD = 5.94$) and 17 female SME owners (Mean Age = 39.35, $SD = 4.55$) participated in pilot cross-sectional survey. The data collected from the entrepreneurs were analysed using IBM SPSS Statistics 27. The results of the linear regression analysis surprisingly revealed that the relationships between skills ($B = 0.18$, $SE = 0.19$, $p = 0.36$), attitude ($B = -0.09$, $SE = 0.16$, $p = 0.57$), and age ($B = 0.03$, $SE = 0.02$, $p = 0.11$) are not significant. However, the relationship between knowledge and SME performance is significant ($B = 0.77$, $SE = 0.21$, $p < 0.001$), and also accounted for 65% of the variance in firm performance. This is consistent with the assumptions of the RBV and HVT that placed basic entrepreneurial knowledge as a key driver of firm performance. Thus, the study recommends strengthening entrepreneur capabilities to promote better performance among SMEs.

Keywords: Entrepreneur, Attitudes, Skills, Knowledge, SME Performance.

Introduction

Small and medium-sized enterprises (SMEs) are universally recognised as seedbeds for economic growth and development. In Europe, SMEs create 70% of employment openings and contribute about 50% to 60% of global productivity (Ibidunni *et al.*, 2021). In Nigeria, SMEs are the largest employers of labour (Matthew *et al.*, 2020) and contribute significantly to the development of the economy (Okoi *et al.*, 2022). SMEs achieve these laudable contributions despite their small sizes and limited entrepreneurial competencies. Afolabi *et al.* (2021) observe that while entrepreneurial competencies are necessary for business success, the lack of such competencies significantly hampers SME performance in Nigeria.

Entrepreneurial competencies refer to entrepreneurs' attributes, characters and behaviour, which enable them to accomplish SMEs' objectives. It includes good qualities, motives, self-image, attitudes, behaviour, skills, and knowledge that make an organisation perform exceptionally well (Ikupolati *et al.*, 2017). These competencies cover the technical,

human, and socio-economic skills as well as personality and knowledge competencies that promote SME performance. The combined utilisation of these competencies affords SMEs some measure of competitive advantage as well as the chance to survive, thrive and achieve high performance. Entrepreneurial competencies assist SME owners in recognising industry opportunities, marshalling resources and delivering products and services effectively and efficiently (Ibidunni *et al.*, 2021).

However, the role of entrepreneurial competencies in SME performance remains contradictory in the literature. For instance, Pulka *et al.* (2021) reported that entrepreneurially competent SME owners from the Northeast region of Nigeria generally make an informed decision regarding using their scarce resources and thus tend to record higher performance. However, the 2021 report on the start-up SMEs in Northwest Nigeria (Odunowo *et al.*, 2021), while capturing the promising SMEs' potential, especially in the digital and technology entrepreneurship, identified a general lack of entrepreneurial skills among the region's 36 million people as one of the four challenges facing SMEs in the Northwest. In view of this, the current study seeks to revisit the entrepreneurial competencies–SME performance relationship to confirm and provide further evidence on the contested relationship. Thus, operationalising entrepreneurial competencies to include the attitudes, skills and knowledge of SME owners, the current study seeks to answer the following research questions:

- What role do knowledge of SME owners play in the performance of SMEs in Northwest Nigeria?
- What role do the skills of SME owners play in the performance of SMEs in Northwest Nigeria?
- What role do attitudes of SME owners play in the performance of SMEs in Northwest Nigeria?

Literature Review

SME Performance

Firm performance has been defined from various perspectives. For example, Mouzas and Bauer (2022) reviewed performance from the perspectives of market effectiveness (goal achievement) as performance, operational efficiency (using less input in achieving excellent output) as performance, and financial resilience (withstanding adverse experiences) as performance. Similarly, Ravelomanantsoa *et al.* (2018) defined performance from several perspectives: effectiveness, efficiency, relevance, and effectivity. However, a functional definition of the concept was given by Armstrong (2021), who defines performance as the degree to which resources are utilised for a positive result measured using sales profit, market size, output, employment, and investment. This definition is simpler, more straightforward (at least), and better aligned with the structural simplicity of SMEs (Salisu, 2005). Accordingly, this study utilised three indicators in measuring performance: namely, output, profit, and employment.

Entrepreneurial Competencies

Entrepreneurial competencies are crucial to SMEs' creation, management, and performance and their survival and growth (Utoyo *et al.*, 2019). Entrepreneurial competencies refer to a set of skills that are used in establishing and managing businesses (Riyanti *et al.*, 2022). The possessor of these competencies is an entrepreneur who adds and creates the business by organising resources and opportunities to make profits (Qiu, 2022).

In the context of initiating and upscaling an SME, Hudáková *et al* (2019) identified the requisite competencies to include “knowledge of the ecosystem, resource planning and use, and ability to move from the initial stages, awareness of communication methods, and lobbying” (p. 1). However, following Ibidunni *et al* (2021), this study operationalises entrepreneurial competencies as the entrepreneur's attitudes, knowledge/experience, and skills/abilities. A 2021 start-up survey, as noted in the introduction, shows challenges of entrepreneurial competencies in the Northwest region of Nigeria, including a lack of digital entrepreneurial skills and low levels of external exposure and awareness (experience) (Oduowo *et al.*, 2021). The question is, Do these challenges affect the performance of SMEs from the region?

Theoretical Background

Generally, scholars predicate a firm's performance on the resources at its disposal. This is the overarching proposition of the firm's resource-based view (RBV), as propounded by Barney (1991). According to the RBV, SME performance could be explained as a function of the possession, development, and use of resources available to the firm. The RBV further assumes that the resources must be valuable, rare, inimitable, and non-substitutable to give the SME an advantage over and above those enjoyed by other SMEs. Therefore, entrepreneurs' capabilities are critical assets to SMEs. These capabilities include knowledge, skills, and attitudes that are intangibles, while the tangible aspect includes the physical assets inform of offices, equipment, and other technology that will facilitate SMEs' smooth operations influence performance (Estensoro *et al.*, 2021). However, due to the primary characteristic of SMEs as tangible-resource deficit enterprises, this study follows Weaven *et al.* (2021) and focuses on the intangible aspects of the RBV as the primary leverage for performance in SMEs. An SME that effectively harnesses its intangible resources is expected to perform well.

While the RBV theory did not focus exclusively on the intangible assets as antecedents to firm performance, the human capital theory (HCT) emphasises the central role owner's characteristics (especially their skills, knowledge and attitudes) play in the performance of SMEs (see Figure 1). Mayr *et al.* (2021) used the HCT to underscore the deleterious consequences on SME survival arising from a deficit in owners' experience, knowledge, and educational qualification. Human capital, by way of owners' competencies, provides SMEs with the intangible resources required for strategic decision-making and the innovative potential needed in upscaling activities and ensuring the firms' long-term survival and sustainability (Ismail, 2018). Thus, the HCT not only addresses the need for competencies as valuable, rare, inimitable, and non-substitutable resources for attaining superior performance but also speaks to the main problem faced by SMEs in Northwest Nigeria, thereby significantly contributing to the performance of the SMEs.

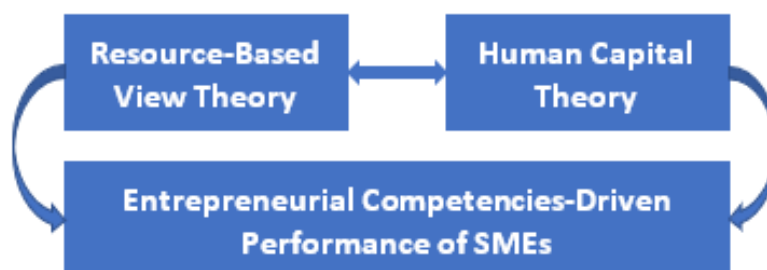


Figure 1. Theoretical Framework

Barpanda and Bontis (2021) argue that the interplay between HCT and the RBV in terms of the skills, knowledge and entrepreneurial attitude of the SME-owners can better explain the performance of SMEs. According to Mubarik *et al.* (2016), the RBV conception of firm performance treats human capital, the core referent of the HCT, as the prime source of capabilities SMEs need to advance their performance objectives. However, while the SME literature upheld human capital as the primary capability of SMEs (Barpanda and Bontis, 2021; Rehman *et al.*, 2021; Weaven *et al.*, 2021), there is a paucity of empirical studies investigating the interplay of the various facets of entrepreneurial competencies and SME performance. This study is a contribution toward bridging this gap.

Empirical Background and Study Hypotheses

The relationship between entrepreneurial competencies and firm performance has been widely investigated but with varying outcomes and much divergence. However, several researchers (e.g., Kar *et al.*, 2017; Randerson *et al.*, 2020; Stam *et al.*, 2014) attribute the divergence to contextual factors informing the entrepreneurs' attitudes, knowledge, and skill. Nevertheless, the importance of competencies in business success is generally recognised in the literature, especially on SMEs. SMEs owner must possess the required knowledge, skill, and attitude to run their businesses successfully. Thus, Bužavaitė and Korsakienė (2021) reported that the knowledge and skills of the business owner are fundamental to achieving business objectives. Also, Kovid *et al.*'s (2021) study confirm that an SME owner must demonstrate entrepreneurial behaviour to identify opportunities successfully, start up a business, and apply managerial skills to succeed. An earlier study on SME owner attitude and firm performance upheld a positive relationship between the variables (Choe *et al.*, 2013). However, these studies were conducted in climes wholly different from what is currently obtainable in the Northwest region of Nigeria. Hence, the need to evaluate the research framework in Figure 2 and test the three concomitant hypotheses.

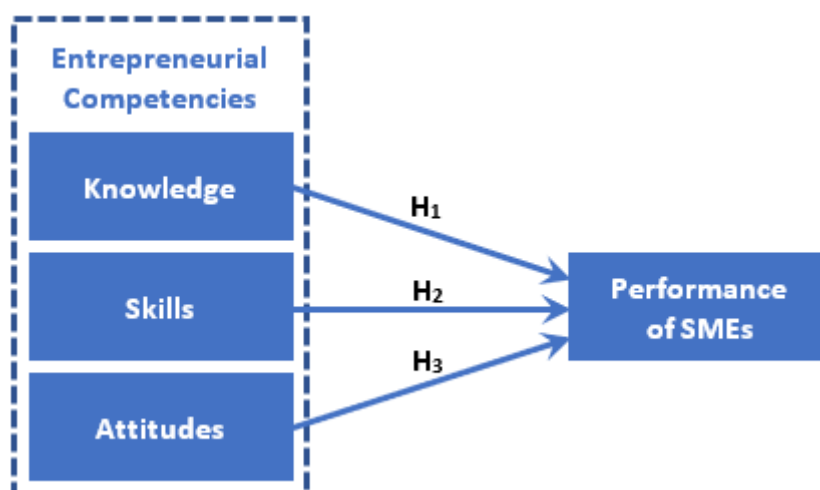


Figure 2. Research Framework

- H1: The business-related knowledge possessed by SME owners in Northwest Nigeria influences the performance of their SMEs.
- H2: The business-related skills possessed by SME owners in Northwest Nigeria influences the performance of their SMEs.

H3: The attitudes of SME owners in Northwest Nigeria influence the performance of their SMEs.

Methodology

The survey method was used. The survey method is a quantitative approach to collecting data from respondents by asking a series of questions on a particular research topic. Vomberg and Klarmann (2021, p. 1) describe it as a “flexible and powerful ways ... gain insights into customers and markets and for researchers to develop, test, and generalise theories.” In this study, a paper-and-pencil questionnaire was administered to the respondents at their places of work. The questionnaire consisted of three parts. Part I captured demographic data about the respondents. Part II contained the measure of the criterion variable (SME performance). Part II consisted of the measure for the predictor variable (entrepreneurial competencies).

Research Location

The current study was conducted on selected SMEs from the seven states of Northwest Nigeria (Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara states: see Figure 3). The Northwest is rich in history and pre-eminent in commerce. The Sokoto caliphate of recent history had its seat in Sokoto state (Zehnle, 2018). Since colonial times, Kaduna state has been the regional administrative centre for all of Nigeria (Bununu *et al.*, 2015). Most importantly, Kano has been the commercial nerve centre of the entire region and even the neighbouring Republic of Niger since the days of trans-Saharan trade (Ross, 2011). Kano is the pre-eminent commercial centre among the seven states, followed by Kaduna. However, Kaduna leads in the region in tech start-ups (Odurowo *et al.*, 2021).



Figure 3. Map of Nigeria Showing the Northwest Region

Respondents

Data were collected from 55 owners of 55 SMEs who have registered with the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and operate within the manufacturing sector of the regional economy. SMEDAN is a statutory agency of the government responsible for developing the SME sector in Nigeria to serve as the seedbed for economic growth and development (Ilori *et al.*, 2018). Registration with SMEDAN is an

indicator of proper practices in managing the registered SMEs. Also, the manufacturing sector was selected because most of the policies rolled out by the states and federal governments target the manufacturing sector (Onyeje *et al.*, 2020). The 55 respondents were purposively selected based on Campbell *et al.*'s (2020) suggestion. This sampling technique enables the author to target SME owners who can read and write and could therefore engage well with the questionnaire. The sample is made up of 38 male and 17 female SME owners.

Instruments

Following the suggestion given in Salisu *et al.* (2020) that a researcher can develop and validate an instrument from items pooled from several sources, the current study abstracted items from the published instrument and adapted them to assess the entrepreneurial competencies of the respondents and their perceptions of SME performance. Items used in assessing SME performance were abstracted from Pulka *et al.* (2021). The scale used in this study is unidimensional and consists of 6 items. Sample items include: "Are you satisfied with the sales volume of your business?" The All items were evaluated using the 5-point Likert-type satisfaction scale (1 = *Very dissatisfied*; 2 = *Dissatisfied*; 3 = *Unsure*; 4 = *Satisfied*; 5 = *Very satisfied*). A recent study (Robie *et al.*, 2022) further supports the psychometric adequacy of Likert-type scales.

For entrepreneurial competencies, items with excellent psychometrics were adapted from several sources. Robinson *et al.* (1991) was the primary source for indicators of entrepreneurial attitude, while Mamun *et al.* (2018) was the primary source for items on entrepreneurial knowledge and skill. The scale used consisted of 10 items divided into three factors: knowledge (3 items), skills (3 items), and attitude (4 items). The items were evaluated using the 5-point Likert agreement scale (1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neither agree nor disagree*; 4 = *Agree*; 5 = *Strongly agree*) developed by Likert (1932) for measuring attitudes. Sample items used in this study include: "I possess adequate knowledge of the SME sector in which I do business" (knowledge dimension); "I have an adequate set of skills relevant to my business" (skills dimension); "I am confident in making my business successful" (attitude dimension).

The entrepreneurial competencies measure was factor analysed to explore its structure using the oblimin type of oblique rotation type. Considering the number of respondents ($N = 55$) used in the study, JASP's default pattern coefficient of 0.40 was considered salient. The results returned a three-factor solution that explains 56% of the cumulative variance. The scale's factor loadings were good, ranging from 0.54 to 0.97.

Analysis

The descriptive statistics of this study were computed using JASP. Following the procedures documented in Goss-Sampson (2022), we first establish the normality of the data used in the study using the Shapiro-Wilk test functionality. The means, standard deviations, and reliability were also calculated. Finally, we did a correlation analysis to establish the strength of the relationship between the three dimensions of entrepreneurial competencies (knowledge, skills, and attitudes) and SME performance and used linear regression analyses to test the hypotheses.

Results and Discussion

Descriptives and Assumption Checks

The 55 respondents were recruited from across the seven states of the Northwest region (i.e., Jigawa = 4, Kaduna = 12, Kano = 18, Katsina = 4, Kebbi = 6, Sokoto = 7, and Zamfara = 4). Most of the participants are middle-aged (Mean Age = 40.16, $SD = 5.53$, $SE = 0.75$). Also, the respondents seem to be “unsure” (therefore not really satisfied) with the performance of their SMEs (Mean = 3.46, $SD = 0.91$, $SE = 0.12$). This is reflected in the respondents’ assessments of their competence, indicating lack of confidence in their entrepreneurial skills (Mean = 3.34, $SD = 0.85$, $SE = 0.11$), knowledge (Mean = 3.34, $SD = 0.74$, $SE = 0.10$), and attitude (Mean = 3.53, $SD = 0.66$, $SE = 0.09$).

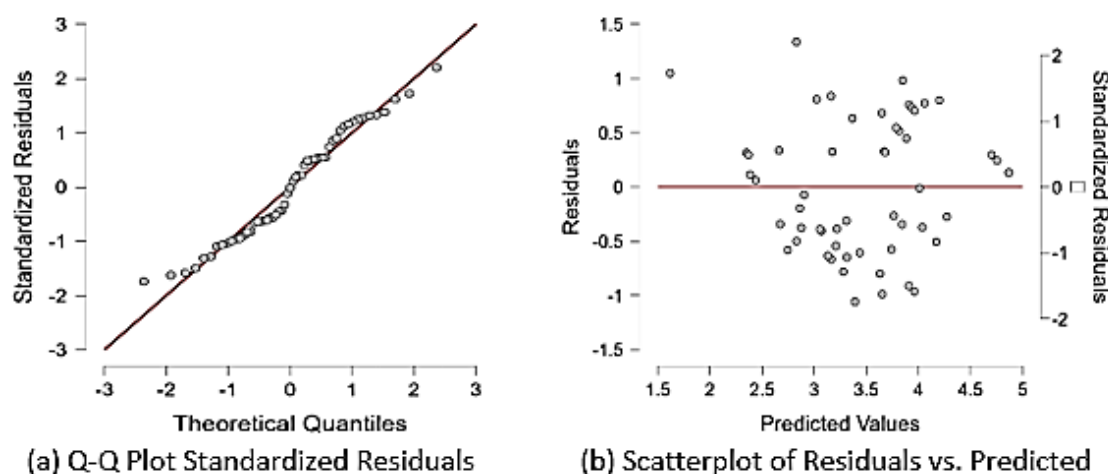


Figure 4. Assumption Diagnostics

We also conducted the assumption checks (Figure 4) to ensure the data collected are suitable for correlation and regression analyses. First, a casewise diagnostic was conducted to check for outliers, which returned an empty table, indicating that none of the observations had residual $\geq 3 SD$ (Goss-Sampson, 2022). Second, Figure 4(a) suggests that the data used in this study met the assumptions of normality and linearity. Third, the scatterplot of residuals vs predicted [Figure 4(b)] is elliptical, suggesting that the assumption of homoscedasticity has not been violated. Fourth, the result of the Durbin-Watson test ($d = 1.15$) in Table 3 shows that the correlation between the residual is within the required limits of 1 and 3 (Goss-Sampson, 2022). Fifth, the model summary shows that the four predictors can predict 55% of the criterion variable. Sixth and finally, there is no evidence of multicollinearity as the Variance Inflation Factors (VIF) for all predictors are < 10 , and the Tolerance Indices (TI) are > 0.1 : Knowledge (VIF = 3.30, TI = 0.30), Skills (VIF = 3.67, TI = 0.27), Attitude (VIF = 1.55, TI = 0.65).

Reliabilities

The study employed the Cronbach alpha to test for construct reliabilities (Cronbach, 1947). A scale is reliable when it repeatedly yields the same results, and this is indicated when a scale's $\alpha \geq 0.70$ (Nunnally, 1975). The outcomes of the internal consistency tests for the two variables are good. Entrepreneurial competencies ($\alpha = 0.93$). The factor reliabilities for the construct are equally good: knowledge ($\alpha = 0.84$), skills ($\alpha = 0.90$), and attitudes ($\alpha = 0.72$). Finally, SME performance has an excellent Cronbach's alpha score ($\alpha = 0.92$).

Correlation Results

A correlation coefficient is a measure of the strength and direction of the linear association between a predictor and an outcome variable on a range of scores from -1 (perfect negative association) to 0 (no association) to +1 (perfect positive association) (Taylor, 1990). However, the interpretation of the correlation coefficients varies widely based on disciplinary specialities (Cohen, 1988; Hemphill, 2003; Taylor, 1990). In this study, we followed Turan (2020) and used the decision criteria in Table 1 in interpreting the correlation coefficients.

Table 1. Interpretation of Pearson's Correlation Coefficients

Pearson's Value	r	$0 < r < 0.1$	$0.1 < r < 0.3$	$0.3 < r < 0.5$	$0.5 < r < 0.7$	$0.7 < r < 0.9$	$0.9 < r < 0.99$	$0.99 < r < 1$
Interpretation		None	Weak	Moderate	Noticeable	Close	Strong	Perfect

The results of the correlation analysis (Table 2) revealed that with the exception of the age–SME performance relationship ($r = 0.12$, $p = 0.37$) which was statistically non-existent, all the others were significant at varying degrees of association. The knowledge–SME performance relationship ($r = 0.72$, $p < 0.001$) was close, the skills–SME performance association ($r = 0.66$, $p < 0.001$) was noticeable; and the attitude–SME performance correlation ($r = 0.37$, $p < 0.01$) was moderate.

Table 2. Pearson's Correlation Results

Relationships	Pearson's r	p -Value	Lower 95% CI	Upper 95% CI
Knowledge – SME Performance	0.72***	< 0.001	0.56	0.83
Skills – SME Performance	0.66***	< 0.001	0.47	0.78
Attitude – SME Performance	0.37**	< 0.01	0.11	0.58
Age – SME Performance	0.12	0.37	-0.15	0.38

* $p < .05$, ** $p < .01$, *** $p < .001$

However, while the attitude–SME performance relationship is statistically significant, the scatter plot of the Pearson's correlation coefficients [Appendix I (c)] shows that its confidence interval is unacceptably wide, suggesting the possibility of other widely divergent degrees of associations than the one reported.

Regression Results

Multiple linear regression analyses were conducted to examine how well entrepreneurial competencies (knowledge, skill, and attitude) and the age of the SME owners influence the level of performance in SMEs across the Northwest region of Nigeria. The overall model predicted approximately 55% of the variance in SME performance [$R^2 = 0.55$, $F_{4,50} = 15.52$, $p < 0.001$]. However, even though this ANOVA result shows that the overall relationship between entrepreneurial competencies and SME performance is significant, the regression coefficients of the predictor variables indicate otherwise, save for entrepreneurial knowledge. Specifically, the linear regression results in Table 3 showed that there was no association between skills and SME performance ($B = 0.18$, $SE = 0.19$, $p = 0.36$, $95\%CI = -0.21$ to 0.56), nor was there an association between attitudes of SME owners and the performance of their businesses ($B = -0.09$, $SE = 0.16$, $p = 0.57$, $95\%CI = -0.42$ to 0.23). Indeed, the attitude of SME entrepreneurs has a negative influence on the performance of their businesses. Also,

there was no association between entrepreneur's age and SME performance ($B = 0.03$, $SE = 0.02$, $p = 0.11$, $95\%CI = -0.01$ to 0.06). Finally, there was a significant association between knowledge and SME performance ($B = 0.77$, $SE = 0.21$, $p < 0.001$, $95\%CI = 0.35$ to 1.19).

Table 3. Regression Coefficients

Model	Unstandardised	SE	Standardised	t	p	95% CI	
						Lower	Upper
H ₀ (Intercept)	3.46	0.12		28.23	< .001	3.22	3.71
H ₁ (Intercept)	-0.43	0.81		-0.53	0.60	-2.06	1.20
Knowledge	0.77	0.21	0.63	3.65	< .001	0.35	1.19
Skills	0.18	0.19	0.17	0.91	0.36	-0.21	0.56
Attitude	-0.09	0.16	-0.07	-0.56	0.57	-0.42	0.23
Age	0.03	0.02	0.16	1.62	0.11	-0.01	0.06

Further, the standardised coefficients in Table 3 indicate that knowledge was the most important among the four predictors of SME performance, accounting for 65% of the variance in the criterion. This was followed by skills (17%) and age (16%). However, attitude surprisingly attenuated firm performance up to 7%.

The regression results are visualised in Appendix II using the marginal effects plots (Brambor *et al.*, 2006). The prediction intervals (indicated with broken lines) shown in the marginal effects plots [Figure 5(a)-(d)] indicate the likely future condition of the entrepreneurial competencies (knowledge, skills, attitude) and age of SME owners and how these variables respectively influence the performance of their businesses. Visually, it can be seen that the predictive interval range for the knowledge–SME performance relationship is narrower (and hence more accurate and specific) than for the skills–, attitude–, and age–SME performance relationships.

Conclusion and Recommendation

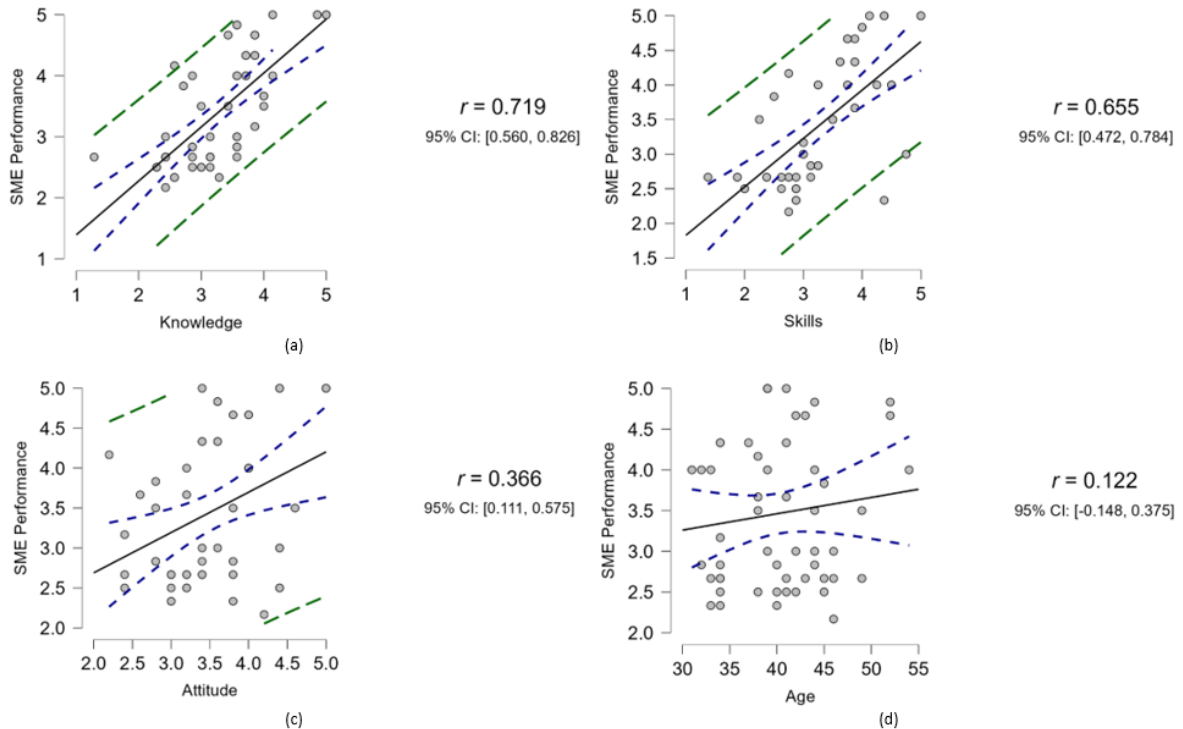
This pilot study investigated the relationship between entrepreneurial competencies (knowledge, skill, and attitudes) and SMEs' performance in the seven Northwest states of Nigeria. While the three variates are correlated with SME performance, the regression results indicate that only entrepreneurial knowledge significantly relates to firm performance. It is, therefore, provisionally recommended that SMEDAN, as the government's agency for SME development in Nigeria, should place greater emphasis on training to boost SME owners' competencies.

The main theoretical contribution of this study lies in confirming the importance of intangible assets in facilitating firm performance. This finding further supports the principal assumptions of the RBV framework where performance of the firm is predicated on their unique assets, including intangible human capital. In this connection, and consistent with the human capital theory in its assumption that investment in human capital translates into higher productivity, this study provides the intellectual basis for the government's intervention in promoting SMEs through training and development. Finally, the results highlight the need to support SME owners in Northwest Nigeria through skill and attitudinal training as areas they study identified as lacking in the region.

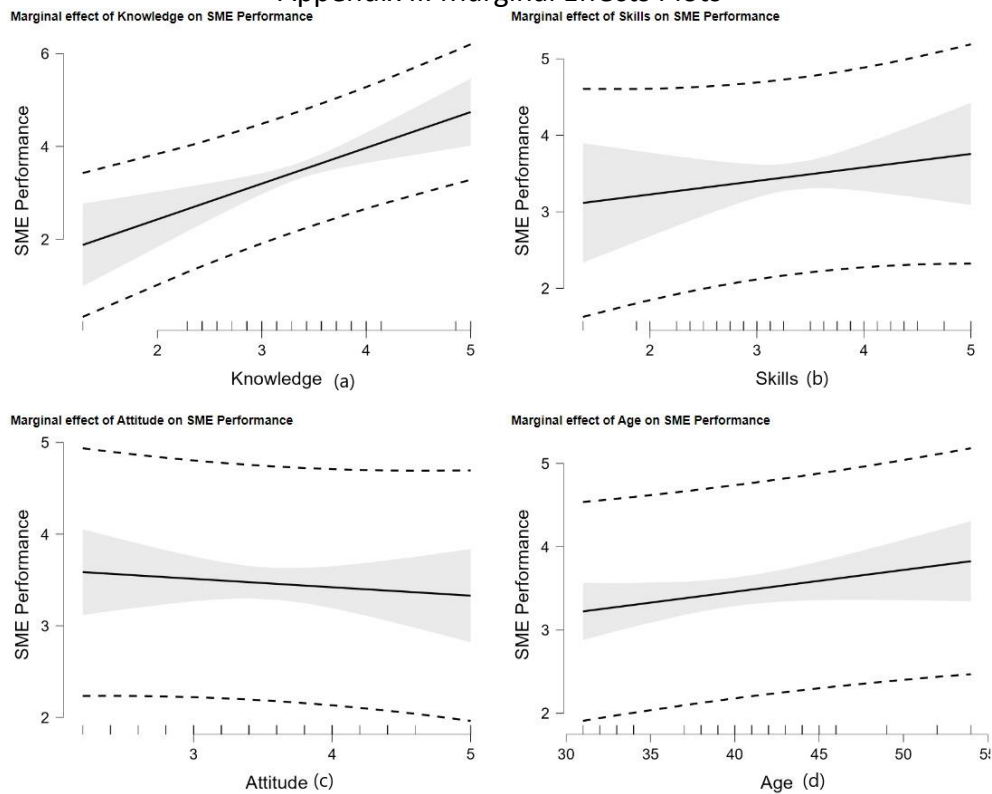
Limitation and Further Research

The small pilot sample used may have influenced the results and thus limits generalisation across the Northwest. It is therefore suggested that a larger sample be utilised in future research. This could, for example, improve the predictive intervals in the linear regression to arrive at more accurate parameter estimates.

Appendix I: Scatter Plots of Correlation Results



Appendix II. Marginal Effects Plots



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