

Digital Financial Literacy, Entrepreneurial Resilience, Psychological Capital and the Performance of Small and Medium Enterprises in Jigawa State, Nigeria

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Abstract

This study examined the effect of digital financial literacy, entrepreneurial resilience, and psychological capital on the performance of Small and Medium Enterprises (SMEs) in Jigawa State, Nigeria. A cross-sectional survey design was adopted, and primary data were collected through a structured questionnaire administered to a sample of 400 owners and managers of SMEs, drawn from a population of 13,912 registered enterprises using the Taro Yamane (1967) formula and a simple random sampling technique. The data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with the aid of Smart PLS 4 software. The finding of the study shows that Digital financial literacy, entrepreneurial resilience and psychological capital each had a positive and statistically significant effect on SME performance, with psychological capital emerging as the strongest predictor, followed by entrepreneurial resilience and digital financial literacy. The study concludes that the psychological and behavioral capabilities of entrepreneurs are at least as consequential as their digital financial skills in shaping business performance in Jigawa State, and recommends that government agencies, financial institutions, and SME development organizations design integrated capacity-building programmes that combine digital financial training with resilience-building and psychological capital development for SME owners.

Keywords: Digital Financial Literacy, Entrepreneurial Resilience, Psychological Capital, SME Performance, PLS-SEM, Jigawa State.

1. Introduction

In both developed and emerging economies, small and medium-sized enterprises (SMEs) are universally acknowledged as a key force behind economic growth. In Nigeria, SMEs are estimated to number well over a million enterprises and contribute significantly to employment generation, income creation, poverty reduction, and industrial development (Small and Medium Enterprises Development Agency of Nigeria [SMEDAN], 2019; National Bureau of Statistics [NBS], 2021). They are the foundation of economic activity in

areas with little large-scale industry, and they are especially important in raising household living standards nationwide. Despite its significance, a significant percentage of Nigerian SMEs continue to report low productivity, poor performance, and high failure rates; these trends have been connected to inadequate financial management, restricted access to financing, and a low uptake of contemporary financial technologies (NBS, 2021). One factor that has attracted increasing research attention as a determinant of

business performance is digital financial literacy the ability of individuals to understand and effectively use digital financial services such as mobile banking, internet banking, automated teller machines, and point-of-sale systems (Shuaibu & Mohammed, 2023). Having sufficient digital financial skills has become a practical requirement rather than an option for entrepreneurs as financial transactions shift more and more from cash-based systems to digital channels (Lyons & Kass-Hanna, 2021). Entrepreneurs who are digitally financially literate are better able to manage their finances, make informed decisions, and improve operational efficiency (Ojeleye & Mustapha, 2024), yet many SME owners in Nigeria still lack sufficient knowledge of digital financial tools, which constrains their business operations.

Entrepreneurial resilience, or the ability of business owners to endure, adjust to, and recover from adversity like financial hardship, market competition, and economic instability, is a second factor of increasing interest (Fatoki, 2018). The business environment in Nigeria is frequently unexpected, and entrepreneurs frequently face challenges that jeopardize the survival of their companies. Resilient entrepreneurs are more likely to remain persistent, adjust their strategies, and sustain their businesses through difficult periods (Isichei et al., 2024), and empirical evidence indicates that resilience plays a significant role in business survival and performance, particularly in challenging economic environments (Fatoki, 2018; Isichei et al., 2024). Psychological capital, or a person's positive psychological state that includes resilience, optimism, hope, and self-efficacy, is a third factor (Luthans & Youssef-Morgan, 2017). Entrepreneurs with high psychological capital tend to have a strong belief in their own talents, sustain an optimistic view, and remain driven to achieve company goals even

under tough conditions (Newman et al., 2018). This positive orientation supports better decision-making, calculated risk-taking, and sustained business growth, and recent research links psychological capital to positive and significant effects on entrepreneurial and organisational performance (Luthans & Youssef-Morgan, 2017; Newman et al., 2018).

Within Jigawa State especially, SMEs play a significant role in sustaining local economic activities throughout trading, agriculture, manufacturing, and services. Despite a growing enterprise base, many SMEs in the state continue to record weak performance, a pattern that plausibly reflects limited digital financial knowledge, low resilience in the face of business setbacks, and underdeveloped psychological capacity among entrepreneurs. These limitations make it more difficult for local companies to grow sustainably and compete successfully. Although psychological capital, entrepreneurial resilience, and digital financial literacy have all been empirically studied separately, the majority of current research looks at them separately. Ojeleye and Mustapha (2024), for instance, found that digital financial knowledge significantly improves the performance of female entrepreneurs in Nigeria through better access to and use of digital financial platforms; Fatoki (2018) and Isichei et al. (2024) established that entrepreneurial resilience positively influences business survival and growth by strengthening entrepreneurs' capacity to respond to uncertainty; and Newman et al. (2018), building on Luthans and Youssef-Morgan (2017), demonstrated that self-efficacy, optimism, hope, and resilience jointly strengthen entrepreneurial decision-making and persistence. However, limited research has examined the combined effect of these three capabilities one financial-technological, one behavioural, and one psychological on SME performance within

a single model, and virtually none has done so in the context of a less-commercialised, largely rural state such as Jigawa, where the operating environment and constraints facing SMEs may differ markedly from those documented in studies conducted in Lagos, Abuja, Kano, or other major commercial centres. This study addresses that gap by providing integrated empirical evidence on how digital financial literacy, entrepreneurial resilience, and psychological capital jointly shape SME performance in Jigawa State.

Accordingly, the main objective of this study is to examine the effect of digital financial literacy, entrepreneurial resilience, and psychological capital on the performance of Small and Medium Enterprises in Jigawa State. The specific objectives are to:

- i. Examine the effect of digital financial literacy on the performance of SMEs in Jigawa State;
- ii. Determine the effect of entrepreneurial resilience on the performance of SMEs in Jigawa State; and
- iii. Examine the influence of psychological capital on the performance of SMEs in Jigawa State.

2. Literature Review

2.1 Conceptual Review

2.1.1 Concept of Small and Medium Enterprises

Small and Medium Enterprises (SMEs) are seen as a vital factor in economic progress throughout developed and developing nations (SMEDAN, 2019; World Bank, 2021). They provide significantly to employment, innovation, income generation, and poverty alleviation. In Nigeria, they also boost economic activity in regions with little large-scale industry. According to SMEDAN (2019), SMEs are generally categorized based on factors including the number of employees, the amount of capital invested, and the yearly

turnover. In Nigeria, they usually have a moderate production capacity, employ a small number of workers, and operate with relatively little capital. In Jigawa State, small and medium-sized enterprises offer employment prospects for numerous families and bolster economic endeavors in both rural and urban areas. Nigerian SMEs encounter ongoing difficulties, including restricted access to capital, insufficient managerial expertise, minimal technology utilization, and low levels of financial literacy, which hinder their performance and often jeopardize their survival in the initial years of operation (NBS, 2021; SMEDAN, 2019).

2.1.2 Concept of Digital Financial Literacy

The knowledge, abilities, and self-assurance needed to access and utilize digital financial services, such as mobile banking, internet banking, automated teller machines, point-of-sale systems, digital wallets, and other online financial platforms, are referred to as digital financial literacy (Lyons & Kass-Hanna, 2021; Ojeleye & Mustapha, 2024). It reflects the reality that financial transactions are increasingly carried out through digital channels rather than just cash-based ones by extending traditional financial literacy into the digital sphere (Shatima et al., 2026). In addition to increasing access to services like online credit, mobile payments, and digital savings platforms that facilitate business expansion, digital financial literacy helps SME owners record transactions more accurately, monitor cash flow more effectively, and make better financial decisions (World Bank, 2021).

Inadequate digital infrastructure, low levels of formal education, low awareness, and worries about the security and reliability of digital financial systems are some of the obstacles that many Nigerian SME owners still encounter when trying to adopt digital financial tools, despite their

significance (Lyons & Kass-Hanna, 2021). In less urbanized states like Jigawa, where financial education and technological exposure are still scarce in comparison to large commercial centers, these limitations are usually more noticeable. Because entrepreneurs who are proficient in using digital financial tools are better equipped to manage risk, lower transaction costs, and spot business opportunities, this study treats digital financial literacy as a key independent variable that is anticipated to have a positive effect on the performance of SMEs (Ojeleye & Mustapha, 2024).

2.1.3 Concept of Entrepreneurial Resilience

Entrepreneurial resilience denotes the ability of business proprietors to endure, adjust to, and recuperate from unfavorable circumstances faced during business operations, such as financial limitations, market rivalry, economic volatility, and unforeseen disruptions (Shepherd & Patzelt, 2011; Fatoki, 2018). Shepherd and Patzelt (2011) conceptualize resilience as not only the ability to endure challenges but also the proficiency to derive insights from failures and adapt strategies accordingly to continue seeking commercial prospects. In economies marked by instability and inadequate institutional backing, like Nigeria's, this ability is essential for sustaining corporate operations. Resilient entrepreneurs exhibit characteristics including perseverance, flexibility, and emotional equilibrium, enabling them to handle stress, sustain motivation, and make judicious choices in high-pressure situations (Fatoki, 2018). Empirical evidence from Nigeria supports the view that resilience contributes materially to business survival: Isichei et al. (2024), analysing data from 260 Nigerian entrepreneurs using PLS-SEM, found that entrepreneurial resilience had a significant positive effect on business survival, an effect partly transmitted through entrepreneurs' self-compassion. In

this study, entrepreneurial resilience is regarded as an independent variable expected to positively influence SME performance in Jigawa State, where restricted access to finance, poor technological development, and market volatility make resilience more crucial for business continuity.

2.1.4 Concept of Psychological Capital

Psychological capital refers to an individual's positive psychological state, characterised by four interrelated components: self-efficacy (confidence in one's ability to succeed at a given task), optimism (a positive outlook about future outcomes), hope (the motivation and pathways to pursue goals), and resilience (the capacity to bounce back from setbacks) (Luthans & Youssef-Morgan, 2017). Unlike financial or human capital, psychological capital concerns the internal mental resources that determine how individuals think, behave, and respond to adversity, and it has become an influential construct in organisational behaviour and entrepreneurship study (Newman et al., 2018). In the entrepreneurial setting, psychological capital impacts how firm owners embrace opportunity, handle uncertainty, and sustain effort over time. Entrepreneurs rich in psychological capital are more likely to regard failure as a source of learning rather than a reason to disengage, which enhances both resilience and long-run persistence (Newman et al., 2018; Luthans & Youssef-Morgan, 2017). Psychological capital is treated in this study as complementary to, rather than independent of, digital financial literacy and entrepreneurial resilience because it is conceptually linked to entrepreneurs' ability to adopt digital financial tools and manage financial risk. Nevertheless, it is modeled here as a distinct independent variable expected to positively affect SME performance in Jigawa State.

2.1.5 Concept of SME Performance

SME performance refers to the extent to which a business meets its objectives, sustains growth, and maintains its operations throughout time (Richard et al., 2009). It is a multidimensional construct frequently evaluated by metrics such as sales growth, client base, profitability, business expansion, and financial stability (Venkatraman & Ramanujam, 1986). In the Nigerian context, SME performance has remained generally weak despite the sector's economic importance, a pattern attributed to inadequate access to capital, weak managerial capacity, and low adoption of contemporary business techniques (SMEDAN, 2019; NBS, 2021). Performance is determined by both external elements economic conditions, government policy, market rivalry and internal factors, including managerial competence, financial literacy, entrepreneurial skill, and the psychological qualities of business owners (Richard et al., 2009). Recent research increasingly emphasises the internal, capability-based determinants of performance: digital financial literacy improves financial decision-making and resource management (Ojeleye & Mustapha, 2024); entrepreneurial resilience strengthens adaptive capacity under uncertainty (Fatoki, 2018; Isichei et al., 2024); and psychological capital sustains motivation, confidence, and persistence (Luthans & Youssef-Morgan, 2017; Newman et al., 2018). In Jigawa State, where SMEs confront restrictive access to financing, low technology adoption, and weak managerial skill, knowing how these three qualities together influence performance is directly important to policy and practice. This study thus treats SME success as the dependent variable explained by digital financial literacy, entrepreneurial resilience, and psychological capital.

2.2 Empirical Review and Hypothesis Development

In this section, previous empirical research on each of the three explanatory variables in connection to SME or entrepreneurial performance is reviewed. The design, methodology, and conclusions of each study are noted, along with any gaps they left and how the current study fills them. Formal hypotheses are presented at the end of each subsection.

2.2.1 Digital Financial Literacy and SME Performance

Ojeleye and Mustapha (2024) examined the relationship between entrepreneurial knowledge dimensions digital knowledge, financial knowledge, awareness of digital finance risk, digital finance risk control, and knowledge of digital finance systems and the performance of 94 female entrepreneurs in Kaduna State, Nigeria, using a cross-sectional survey design. Their results demonstrated that all five knowledge categories had a favorable and significant effect on entrepreneurial performance, underlining the practical relevance of digital financial competence for business outcomes. The study, however, focused primarily on female entrepreneurs in a particular state and did not address resilience or psychological variables, leaving open the question of how digital financial literacy performs alongside these capabilities in a more general SME community. Complementing this, Lyons and Kass-Hanna (2021) provide a methodological synthesis of how digital financial literacy has been conceptualised and measured in the literature, arguing that digital financial literacy is best understood as a distinct construct from traditional financial literacy because it requires both financial and digital competence simultaneously. Their research reaffirms the theoretical basis for treating digital financial literacy as a concept that can meaningfully be evaluated and related to downstream outcomes such

as business success, but it does not itself provide primary empirical data from a SME community. Taken together, these studies support the expectation that digital financial literacy positively influences performance, while leaving a gap regarding its relative importance alongside resilience and psychological capital, and regarding SMEs generally (rather than a specific demographic subgroup) in a semi-urban Northern Nigerian setting such as Jigawa State. On this basis, the following hypothesis is proposed:

***H₁:** Digital financial literacy has a significant positive effect on the performance of SMEs in Jigawa State.*

2.2.2 Entrepreneurial Resilience and SME Performance

Fatoki (2018) evaluated the effect of entrepreneurial resilience on the success of SMEs in South Africa utilizing survey data from 170 small business owners and the Connor-Davidson Resilience Scale to measure resilience. The study discovered that entrepreneurial resilience was significantly and positively associated to both organisational and individual indicators of SME success, demonstrating that resilience is a valued strategic capability rather than solely a personal quality. Because the study was undertaken in South Africa, its conclusions, while instructive, may not fully generalise to the Nigerian institutional and economic situation.

More directly relevant to the Nigerian context, Isichei et al. (2024) evaluated the association between entrepreneurial resilience and business survival among 260 Nigerian entrepreneurs using SmartPLS. They found that entrepreneurial resilience had a significant favorable influence on business survival, and that this link was partly mediated by entrepreneurs' self-compassion. Their study, however, focused on survival among small-scale firms nationally and did not assess performance results simultaneously with

digital financial literacy or psychological capital, nor did it focus on Jigawa State. This gives leeway for the present study to explore whether resilience continues to exhibit a significant, independent influence on performance once digital financial literacy and psychological capital are modelled alongside it. Accordingly, the following hypothesis is proposed:

***H₂:** Entrepreneurial resilience has a significant positive effect on the performance of SMEs in Jigawa State.*

2.2.3 Psychological Capital and SME Performance

Avey, Reichard, Luthans, and Mhatre (2016) conducted a meta-analysis of research exploring the relationship between psychological capital and employee attitudes, behaviours, and performance across a wide range of organisational settings. Aggregating results from numerous primary studies, they found that psychological capital was significantly and positively related to desirable employee attitudes (e.g., job satisfaction, organisational commitment), desirable behaviours, and performance outcomes, while being negatively related to undesirable attitudes and behaviours such as cynicism, turnover intentions, and workplace deviance. Although the meta-analysis draws mostly on employee rather than entrepreneur data, it provides strong overall support for the performance-relevance of psychological capital.

Focusing more explicitly on entrepreneurship, Newman, Ucbasaran, Zhu, and Hirst (2018) evaluated and synthesised the growing corpus of work on psychological capital in entrepreneurial settings. They concluded that entrepreneurs with higher psychological capital that is, greater self-efficacy, optimism, hope, and resilience are more likely to identify opportunities, persist through setbacks, and achieve superior venture performance, and they called for further primary research examining

psychological capital's role in specific, under-studied entrepreneurial contexts such as those in developing economies. Building on Luthans and Youssef-Morgan (2017), who established the theoretical architecture of psychological capital, these studies jointly support treating psychological capital as a strong predictor of performance, but neither provides evidence from a Nigerian SME sample, nor examines psychological capital's effect alongside digital financial literacy and entrepreneurial resilience in a single model. This work tackles that gap immediately. Accordingly, the following hypothesis is proposed:

H₃: Psychological capital has a significant positive effect on the performance of SMEs in Jigawa State.

Overall, the examined literature offers consistent, if fragmented, empirical support for each of the three explanatory variables considered individually. What remains under-examined is their collective effect inside a single explanatory model, particularly outside Nigeria's major commercial cities. By integrating digital financial literacy, entrepreneurial resilience, and psychological capital into a single PLS-SEM model applied to SMEs in Jigawa State, this study adds empirical evidence that speaks directly to this gap.

2.3 Theoretical Framework

This study draws on three complementary theories to explain the hypothesised relationships: Human Capital Theory (for digital financial literacy), Resilience Theory (for entrepreneurial resilience), and Psychological Capital Theory (for psychological capital).

2.3.1 Human Capital Theory

The Human Capital Theory popularized by Becker (1993) posits that the knowledge, skills, and competencies of individuals are productive assets that enhance economic outcomes in a similar way to physical and financial capital. When people invest in education training and experience they

tend to be able to do better. Digital financial literacy can be understood as a specific form of human capital: it represents an acquired competence the ability to understand and use digital financial tools that entrepreneurs can deploy to manage their businesses more effectively. As a result, human capital theory provides the theoretical foundation to expect the entrepreneurs who invest in, or otherwise acquire, better digital financial knowledge will be better equipped to manage cash flow, access financial services and make good financial decisions, thereby improving business performance.

2.3.2 Resilience Theory

Resilience Theory, as articulated by Shepherd and Patzelt (2011) in the entrepreneurship literature, explains how individuals and organisations adapt, recover, and grow in the face of adversity. In an entrepreneurial setting, resilience is understood not simply as the capacity to withstand shocks, but as an active process of learning from failure and adjusting strategy to continue pursuing viable opportunities. The theory further holds that resilience is not a fixed trait but can be developed through experience and exposure to challenge, which is consistent with capacity-building interventions aimed at strengthening entrepreneurs' resilience. Applied to this study, Resilience Theory supports the expectation that entrepreneurs who are better able to withstand and adapt to the volatility characteristic of the Nigerian business environment will record stronger business performance.

2.3.3 Psychological Capital Theory

Psychological Capital Theory, developed by Luthans and colleagues (Luthans, Youssef, & Avolio, 2007; Luthans & Youssef-Morgan, 2017), holds that individuals possess psychological resources self-efficacy, optimism, hope, and resilience that, like financial or human capital, can be developed and deployed to

improve performance. The theory emphasises that these psychological resources are state-like rather than fixed traits, meaning they can be strengthened through training, coaching, and experience. In the entrepreneurial context, the theory explains why some entrepreneurs facing similar external conditions achieve substantially better outcomes than others: those with greater psychological capital are better able to sustain motivation, tolerate uncertainty, and persist toward their goals. This theory provides the primary theoretical foundation for the hypothesis that psychological capital positively affects SME performance in Jigawa State.

3. Methodology

This study uses survey research design with a cross-sectional study because it intends to collect data from different small and medium enterprises operating in Jigawa State at one point in time. The study populations were small and medium enterprises operating in Jigawa State, which are thirteen thousand nine hundred and twelve (13,912) registered with SMEDAN as of December 31, 2025. Therefore, 400 sample size was drawn from the total population using the formula of Taro Yamane (1967). The following is the applied formula:

$$n = \frac{N}{1 + Ne^2} \text{ therefore, } n = \frac{13912}{1 + 13912(0.05)^2} = 400$$

Table 1: Outer Loadings of Measurement Items

Construct	Item	Loading	Cronbach's alpha	Composite Reliability (rho_c)	Composite Reliability (rho_a)	AVE
Digital Financial Literacy	DFL1	0.868	0.920	0.938	0.946	0.753
	DFL2	0.897				
	DFL3	0.866				
	DFL4	0.826				

Where n = number of samples, N = total population, e = error tolerance, and 1 = adjusted constant.

Therefore, the required sample size is approximately 400.

The study adopts a random sampling approach. Questionnaires were utilized as an instrument for data collection in this study. The data was analyzed using SMART Partial Least Squares (PLS)-Structural Equation Modeling (SEM).

4. Results and Discussion

Out of the 400 surveys distributed to SME owners and managers on a random sampling approach, only 359 were returned and 352 were valid and preserved for analysis. Data were analysed in SmartPLS 4 following the two-stage PLS-SEM procedure: assessment of the measurement model, followed by assessment of the structural model.

4.1 Measurement Model Assessment

4.1.1 Indicator Reliability

Indicator (outer) loadings were assessed to assess how well each observed item matched its underlying construct. Following Hair et al. (2022), a loading of 0.70 or above is regarded acceptable, while loadings as low as 0.60 may be preserved provided composite reliability and average variance extracted (AVE) satisfy recommended levels. Table 1 provides the outer loadings for all 23 maintained elements across the four structures.

Entrepreneurial Resilience	DFL5	0.879				
	ERS1	0.858	0.930	0.945	0.936	0.741
	ERS2	0.847				
	ERS3	0.878				
	ERS4	0.877				
	ERS5	0.851				
Psychological Capital	ERS6	0.851				
	PCP1	0.861	0.930	0.945	0.932	0.740
	PCP2	0.873				
	PCP3	0.865				
	PCP4	0.848				
	PCP5	0.852				
SME Performance	PCP6	0.862				
	SMEP1	0.837	0.905	0.927	0.906	0.679
	SMEP2	0.829				
	SMEP3	0.820				
	SMEP4	0.814				
	SMEP5	0.824				
	SMEP6	0.818				

Source: SmartPLS 4.0 Output (2026).

All 23 items loaded above the 0.70 threshold, ranging from 0.814 (SMEP4) to 0.897 (DFL2), indicating that the items are reliable indicators of their respective constructs. Figure 1 presents the estimated

measurement model, showing all constructs, their indicators, and the corresponding outer loadings and path coefficients.

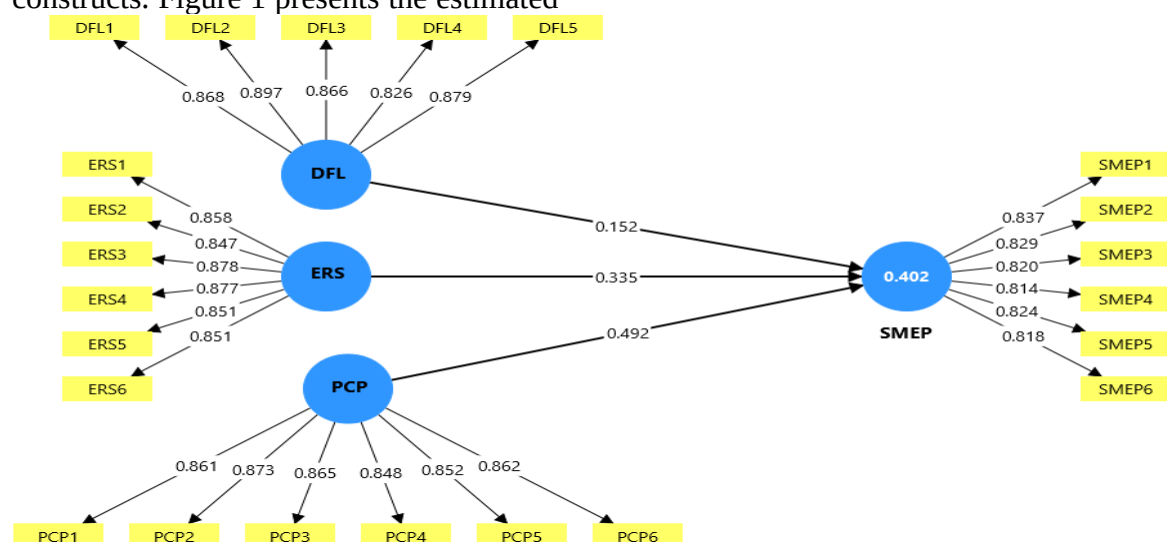


Figure 1: PLS-SEM Measurement and Structural Model

Source: SmartPLS 4.0 Output (2026).

4.1.2 Internal Consistency Reliability and Convergent Validity

Internal consistency reliability was examined using Cronbach's alpha and two kinds of composite reliability, rho_a and rho_c, while convergent validity was

assessed using the Average Variance Extracted (AVE). Current PLS-SEM guidance suggests presenting both composite reliability coefficients alongside Cronbach's alpha, since alpha tends to understate, while rho_c is usually recognized as the more robust sign of internal consistency for reflective constructs (Hair et al., 2022). Table 1 summarizes the results. All constructs exceeded the required thresholds. Cronbach's alpha ranged from 0.905 to 0.930, composite reliability (rho_c) ranged from 0.927 to 0.945, and AVE ranged from 0.679 to 0.753, comfortably over the minimum acceptable value of 0.50 (Hair et al., 2022). These results demonstrate that the measuring items consistently and reliably measured their intended constructs, and that each construct explained a considerable amount of the

variance in its indicators, satisfying the conditions for convergent validity.

4.2 Discriminant Validity

Discriminant validity assesses the extent to which each construct is empirically distinct from the others in the model. This study assessed discriminant validity using two complementary criteria: the traditional Fornell-Larcker criterion and the more recently recommended Heterotrait-Monotrait ratio of correlations (HTMT), which simulation evidence shows detects discriminant validity problems that the Fornell-Larcker criterion can miss (Henseler et al., 2015).

4.2.1 Fornell-Larcker Criterion

Under the Fornell-Larcker criterion, discriminant validity is established when the square root of a construct's AVE (shown on the diagonal in Table 2) exceeds its correlation with every other construct in the model (Fornell & Larcker, 1981).

Table 2: Fornell-Larcker Criterion for Discriminant Validity

Construct	DFL	ERS	PCP	SMEP
Digital Financial Literacy (DFL)	0.868			
Entrepreneurial Resilience (ERS)	-0.007	0.861		
Psychological Capital (PCP)	0.031	0.063	0.860	
SME Performance (SMEP)	0.165	0.365	0.518	0.824

Source: SmartPLS 4.0 Output (2026).

As indicated in Table 2, the square root of AVE for every construct (diagonal values, 0.860-0.868) exceeds its connection with any other construct. Digital Financial Literacy (0.868) exceeds its highest correlation of 0.165 with SME Performance; Entrepreneurial Resilience (0.861) exceeds its highest correlation of 0.365 with SME Performance; Psychological Capital (0.860) exceeds its highest correlation of 0.518 with SME Performance; and SME Performance itself

records the highest diagonal value (0.824). The Fornell-Larcker criterion is therefore satisfied.

4.2.2 Heterotrait-Monotrait Ratio (HTMT)

As a further, more conservative check, the HTMT ratio was computed for each pair of constructs. Values below 0.85 (or the more liberal 0.90 threshold for conceptually similar constructs) indicate that discriminant validity is not a concern (Henseler et al., 2015).

Table 3: Heterotrait-Monotrait Ratio (HTMT) of Correlations

Construct Pair	HTMT
Entrepreneurial Resilience ↔ Digital Financial Literacy	0.055
Psychological Capital ↔ Digital Financial Literacy	0.071
Psychological Capital ↔ Entrepreneurial Resilience	0.072
SME Performance ↔ Digital Financial Literacy	0.173
SME Performance ↔ Entrepreneurial Resilience	0.391
SME Performance ↔ Psychological Capital	0.561

Source: SmartPLS 4.0 Output (2026).

All HTMT values fall well below the conservative 0.85 threshold, ranging from 0.055 to 0.561. Since both the Fornell-Larcker criterion and the HTMT ratio confirm adequate discriminant validity, the four constructs digital financial literacy, entrepreneurial resilience, psychological capital, and SME performance can be treated as empirically distinct, and the measurement model is confirmed suitable for structural model assessment.

4.2.3 Relationship Among the Constructs

The inter-construct correlations in Table 2 also provide preliminary evidence on the strength and direction of association between each predictor and SME performance ahead of formal hypothesis testing. Psychological capital showed the strongest association with SME performance ($r = 0.518$), followed by entrepreneurial resilience ($r = 0.365$) and digital financial literacy ($r = 0.165$); all three associations were positive. The three predictor variables were only weakly correlated with one another (r ranging from -0.007 to 0.063), well below the 0.90 threshold associated with multicollinearity

concern (Hair et al., 2022), confirming that they represent conceptually and empirically distinct entrepreneurial capabilities rather than overlapping measures of a single underlying trait. These patterns are consistent with, and are formally tested in, the structural model results presented in Section 4.3.

4.3 Structural Model Assessment

Having confirmed the reliability and validity of the measurement model, the structural (inner) model was assessed for collinearity, explanatory power, effect size, overall model fit, and the significance of the hypothesised path relationships, using a bootstrapping procedure with 10,000 subsamples (Hair et al., 2022).

4.3.1 Collinearity Assessment

Before interpreting path coefficients, the inner Variance Inflation Factor (VIF) was examined to rule out collinearity among the three predictor constructs. As shown in Table 4, all inner VIF values were close to 1.00 and well below the conservative threshold of 3.3 (and the more liberal threshold of 5.0), confirming that collinearity is not a concern in the structural model.

Table 4: Inner Model Collinearity Statistics (VIF)

Path	VIF
Digital Financial Literacy → SME Performance	1.001
Entrepreneurial Resilience → SME Performance	1.004
Psychological Capital → SME Performance	1.005

Source: SmartPLS 4.0 Output (2026).

4.3.2 Coefficient of Determination (R^2) and Effect Size (f^2)

The coefficient of determination (R^2) indicates the proportion of variance in SME performance jointly explained by the

three predictors, while the f^2 effect size indicates each predictor's individual contribution to that explained variance, net of the other predictors (Cohen's

benchmarks: 0.02 = small, 0.15 = medium, 0.35 = large).

Table 5: R² and f² Effect Sizes

Statistic	Value	Interpretation
R ² (SME Performance)	0.402	Moderate explanatory power
Adjusted R ²	0.396	
f ² : Digital Financial Literacy → SMEP	0.039	Small effect
f ² : Entrepreneurial Resilience → SMEP	0.187	Medium effect
f ² : Psychological Capital → SMEP	0.402	Large effect

Source: SmartPLS 4.0 Output (2026).

The model explains 40.2 percent of the variance in SME performance ($R^2 = 0.402$; adjusted $R^2 = 0.396$), which represents moderate explanatory power according to the PLS-SEM benchmarks proposed by Hair et al. (2022). The f^2 results show that psychological capital makes a large individual contribution to explained variance ($f^2 = 0.402$), entrepreneurial resilience makes a medium contribution ($f^2 = 0.187$), and digital financial literacy makes a small but non-trivial contribution ($f^2 = 0.039$). This pattern, obtained independently of the path-coefficient

results reported below, corroborates the finding that psychological capital is the dominant predictor of SME performance in this model, with entrepreneurial resilience second and digital financial literacy third.

4.3.3 Model Fit

Overall model fit was assessed using the Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI). An SRMR value below 0.08 indicates acceptable fit (Hu & Bentler, 1999, as commonly applied in PLS-SEM), and an NFI value above 0.90 indicates a good fit relative to the null model.

Table 6: Model Fit Summary

Fit Index	Value	Threshold	Assessment
SRMR	0.050	< 0.08	Acceptable fit
NFI	0.930	> 0.90	Good fit

Source: SmartPLS 4.0 Output (2026).

Both fit indices fall within acceptable ranges, indicating that the estimated model reproduces the observed correlation structure of the data reasonably well and supporting confidence in the structural model results reported below.

derived from bootstrapping with 10,000 subsamples. A path is considered statistically significant where the t-statistic exceeds 1.96 and the p-value is below 0.05 (two-tailed, 5 percent significance level). Table 7 and Figure 2 present the results.

4.3.4 Hypothesis Testing

The significance of each hypothesized path was assessed using t-statistics and p-values

Table 7: Structural Model Hypothesis Testing Results

Hypothesis	Path	β	t-value	p-value	Decision
H ₁	DFL → SMEP	0.152	3.588	0.000	Supported
H ₂	ERS → SMEP	0.335	8.104	0.000	Supported
H ₃	PCP → SMEP	0.492	11.910	0.000	Supported

Source: SmartPLS 4.0 Bootstrapping Output, 10,000 subsamples (2026).

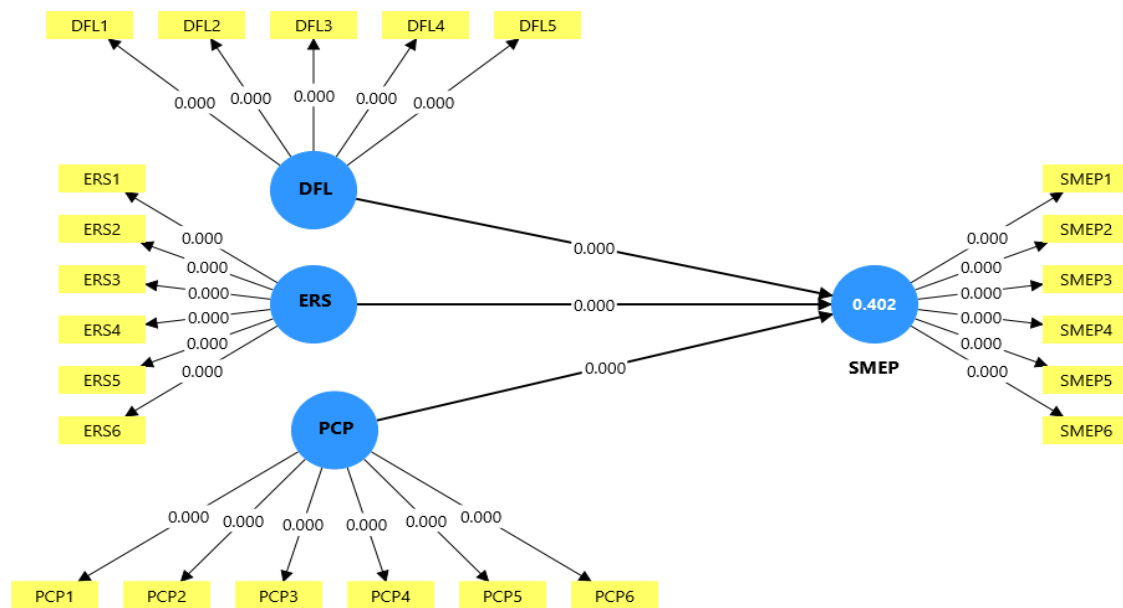


Figure 2: PLS-SEM Structural Model Path Coefficients

Source: SmartPLS 4.0 Output (2026).

Hypothesis H_1 tested whether digital financial literacy has a significant positive effect on SME performance. The result ($\beta = 0.152$, $t = 3.588$, $p = 0.000$) supports H_1 : digital financial literacy has a statistically significant positive effect on SME performance in Jigawa State.

Hypothesis H_2 tested whether entrepreneurial resilience has a significant positive effect on SME performance. The result ($\beta = 0.335$, $t = 8.104$, $p = 0.000$) supports H_2 : entrepreneurial resilience has a statistically significant positive effect on SME performance in Jigawa State.

Hypothesis H_3 tested whether psychological capital has a significant positive effect on SME performance. The result ($\beta = 0.492$, $t = 11.910$, $p = 0.000$) supports H_3 : psychological capital has a statistically significant positive effect on SME performance in Jigawa State, and psychological capital is the strongest of the three predictors examined.

4.4 Discussion of Findings

4.4.1 Digital Financial Literacy and SME Performance

The first objective examined the effect of digital financial literacy on SME

performance. The result ($\beta = 0.152$, $p < 0.001$) indicates that SME owners with stronger digital financial knowledge and skills tend to achieve better business performance, plausibly through more efficient use of mobile banking, electronic payment systems, and other digital financial technologies that lower transaction costs and widen access to financial services. This finding is consistent with Ojeleye and Mustapha (2024), who found that digital knowledge and related competencies significantly improved the performance of Nigerian female entrepreneurs, and with the conceptual account of digital financial literacy offered by Lyons and Kass-Hanna (2021). It is also consistent with Human Capital Theory (Becker, 1993), which frames acquired financial-technological competence as a productive asset. Relative to entrepreneurial resilience and psychological capital, however, digital financial literacy exerted the smallest effect ($f^2 = 0.039$, a small effect size), suggesting that in Jigawa State's SME environment, digital financial skill, while valuable, is a less powerful lever on performance than the entrepreneur's behavioural and psychological capacity plausibly because binding constraints such as limited digital infrastructure and low

transaction volumes in this setting cap the returns to digital financial competence relative to more commercially developed states.

4.4.2 Entrepreneurial Resilience and SME Performance

The second objective examined the effect of entrepreneurial resilience on SME performance. The result ($\beta = 0.335$, $p < 0.001$) shows that entrepreneurs who are better able to adapt to challenges, recover from setbacks, and remain persistent under difficult conditions achieve stronger business performance, with a medium effect size ($f^2 = 0.187$). This finding is consistent with Fatoki (2018), who found that entrepreneurial resilience significantly improved SME success in South Africa, and with Isichei et al. (2024), whose Nigerian evidence linked entrepreneurial resilience directly to business survival. It also supports Resilience Theory (Shepherd & Patzelt, 2011), which frames resilience as an active, learnable capability rather than a fixed trait implying that resilience-building interventions for SME owners in Jigawa State are plausible and worthwhile, not merely aspirational.

4.4.3 Psychological Capital and SME Performance

The third objective examined the influence of psychological capital on SME performance. The result ($\beta = 0.492$, $p < 0.001$) shows that psychological capital exerts the strongest effect on SME performance among the three predictors, with a large effect size ($f^2 = 0.402$) that alone approaches the model's total explained variance. This indicates that SME owners with higher levels of self-efficacy, optimism, hope, and resilience are markedly more capable of making sound business decisions, sustaining motivation, and achieving superior performance. This finding is consistent with Luthans and Youssef-Morgan (2017) and Newman et al. (2018), and with the broader meta-analytic evidence assembled

by Avey et al. (2016) linking psychological capital to performance across organisational contexts. It also directly supports Psychological Capital Theory, which treats these psychological resources as being at least as consequential for performance as financial or human capital. The magnitude of this effect, relative to the other two predictors, suggests that programmes aimed solely at improving entrepreneurs' technical or financial skills, without addressing their underlying psychological capacity, are likely to under-deliver on performance gains in this setting.

Taken together, the results support all three hypotheses and confirm that digital financial literacy, entrepreneurial resilience, and psychological capital each make a distinct, statistically significant, positive contribution to SME performance in Jigawa State, jointly explaining 40.2 percent of the variance observed. The relative ordering of effects psychological capital strongest, followed by entrepreneurial resilience, then digital financial literacy is a substantive finding in its own right: it suggests that, in this setting, who the entrepreneur is psychologically and behaviourally matters more to business outcomes than what digital financial tools the entrepreneur has learned to use, a nuance that is easily missed in studies that examine digital financial literacy in isolation.

5. Conclusion and Recommendation

Conclusion

This study set out to examine the effect of digital financial literacy, entrepreneurial resilience, and psychological capital on the performance of SMEs in Jigawa State, Nigeria. Using PLS-SEM on survey data from 400 SME owners and managers, the study found that all three constructs exert a statistically significant, positive effect on SME performance, jointly explaining 40.2 percent of the variance in performance.

Psychological capital emerged as the strongest predictor, followed by entrepreneurial resilience, with digital financial literacy contributing a smaller but still significant effect. The study concludes that improving SME performance in Jigawa State requires more than technical or financial-skill interventions alone. While digital financial competence remains a relevant and worthwhile target for policy, the evidence here indicates that entrepreneurs' psychological resources confidence, optimism, hope, and resilience and their behavioural capacity to withstand and adapt to adversity are, in this setting, more powerful levers on business performance. Government agencies, financial institutions, and SME development organisations should therefore treat digital financial literacy, resilience-building, and psychological capital development as complementary, rather than competing, priorities in designing support programmes for SME owners.

Recommendations

Based on the conclusion of this research, the research recommends the following.

- i. It is recommended that SMEDAN, Central Bank of Nigeria, Bank of Industry, commercial banks and entrepreneurship development institutions, organise regular practical training for owners of SMEs in Jigawa on digital payment solutions, mobile and online banking, record keeping and cyber-security awareness.
- ii. Entrepreneurship support organizations should design capacity-building programmes covering risk management, adaptation to market change, crisis response, and strategic planning specifically targeted at strengthening SME owners' resilience, as resilience was shown to be developable and not fixed.
- iii. Public and private sector support programmes should consist of

structured coaching, mentoring and leadership development designed specifically to develop entrepreneurs' self-efficacy, optimism, hope and resilience, and avoid making this psychological development incidental to technical training.

- iv. Financial institutions and government agencies should enhance SME access to affordable financing such as low-interest loans, digital credit facilities, flexible financing schemes. This is important to complement the skills and psychological capacity that digital financial literacy and psychological capital training will build in SMEs.

Suggestions for Future Studies

Using a cross-sectional design, this study assesses relationships at one point in time, and therefore cannot give direction of causation; longitudinal designs would allow researchers to examine how digital financial literacy, resilience and psychological capital develop and interact with performance over time. Second, this study only covered SMEs in Jigawa State but widening the cover to other states and geopolitical zones will also improve the generalisability of the research outcome across the heterogeneous SMEs landscape in Nigeria. The model-like capability of SMEs explains 40.2 percent of the performance variance, which is a substantial unexplained share. Thus, future research must include other variables such as access to finance, entrepreneurial orientation, innovation capability, government support, and organizational culture, as well as inspect mediating or moderating roles among them. In the end, future studies can blend both qualitative and quantitative techniques. They can measure the relationship between adversity experienced and digital adoption. They can also investigate the meaning behind these term through the use of qualitative approach used by the entrepreneurs.

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