ENTREPRENEURIAL SKILLS AND JOB CREATION AMONG GRADUATES OF STATE-OWNED TERTIARY INSTITUTION IN KANO STATE: MODERATING EFFECT OF OPPORTUNITY RECOGNITION

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ABSTRACT

This study examines how entrepreneurial skills entrepreneurial attitude, innovation, and risk-taking influence job creation among graduates of state-owned tertiary institutions in Kano State, Nigeria, and investigates whether opportunity recognition moderates these relationships. A quantitative cross-sectional survey design was adopted. Data were collected from 384 entrepreneurial graduates of three state-owned tertiary institutions in Kano State using structured questionnaires. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test direct and moderating effects. Entrepreneurial attitude, risk-taking, and innovation all significantly predict job creation. Opportunity recognition directly predicts job creation and significantly moderates the relationships between innovation and job creation and entrepreneurial attitude and job creation. However, opportunity recognition does not significantly moderate the risk-taking–job creation relationship. The model explains 60.4% of variance in job creation. Entrepreneurship education should integrate opportunity recognition training alongside skill development, particularly for enhancing the employment outcomes of innovation and entrepreneurial attitude. Policy interventions targeting graduate unemployment should prioritize experiential learning, market scanning, and feasibility assessment modules. This study is among the first to empirically test opportunity recognition as a moderator of multiple entrepreneurial skill dimensions on graduate job creation in Northern Nigeria, resolving inconsistencies in prior literature and providing context-specific evidence for curriculum and policy design.

Keywords: Entrepreneurial skills, opportunity recognition, job creation, graduate entrepreneurship, PLS-SEM, Nigeria, Kano State

Introduction

Youth unemployment remains one of the most persistent socio-economic challenges globally. Despite gradual economic recovery in some regions, young people continue to face disproportionate barriers to securing decent work (International Labor Organization, 2024). In Africa, the continent's rapidly expanding youth population enters labor markets that are structurally unable to absorb them into formal employment. Although economic

growth has occurred in several countries, it has not translated into proportional job creation (World Bank, 2023). Scholars argue that many African education systems remain overly theoretical, producing graduates who are academically qualified but insufficiently equipped with practical entrepreneurial capabilities (Iwara, 2025).

Nigeria reflects these continental pressures in particularly stark ways. Each year, hundreds of thousands of tertiary graduates enter a labor market that lacks adequate formal job opportunities. Many young Nigerians experience prolonged unemployment or are pushed into informal and precarious work (National Bureau of Statistics, 2024). In response, entrepreneurship education has been institutionalized across tertiary institutions as a strategic intervention aimed at equipping graduates with competencies for self-employment and job creation. Empirical studies suggest that entrepreneurship training enhances management skills, innovative thinking, and risk-taking capacity, which can reduce unemployment by encouraging venture creation (Nwaogu, 2024).

Yet, despite these policies and curricular reforms, unemployment levels remain troublingly high. The National Bureau of Statistics (2024) reports that Nigeria's youth unemployment rate stood at 33.3% in Q4 2023, with graduate unemployment particularly pronounced in Northern states. Similarly, the World Bank (2023) notes that despite the expansion of entrepreneurship training programs across sub-Saharan Africa, youth unemployment has continued to rise, suggesting that training alone does not guarantee employment outcomes. Empirical evidence from Nigeria further supports this: Nwaogu (2024) found that while entrepreneurship education enhanced management skills among graduates, it did not significantly reduce unemployment rates in the short term. This persistence suggests that entrepreneurship education alone may not be sufficient. It raises deeper questions about how different entrepreneurial skill dimensions interact and whether additional cognitive mechanisms are required for those skills to translate into sustainable job creation.

Within Nigeria, Kano State offers a particularly relevant setting for examining these dynamics. Three critical gaps in the existing literature justify this focus. First, while prior studies have examined entrepreneurial skills and job creation as separate constructs (Akinadewo, 2025; Okafor, 2025), few have tested the simultaneous effects of multiple skill dimensions (attitude, innovation, and risk-taking) within a single integrated model, leaving questions about their relative contributions unresolved. Second, the mechanisms

through which entrepreneurial skills translate into actual job creation remain undertheorized, with inconsistent findings across contexts: some studies show positive effects (Meyer & de Jongh, 2023), while others reveal conditional or even negative relationships when skills are misapplied (Khanna & Agarwal, 2023; Kritikos, 2024). Third, and most importantly, no study has examined opportunity recognition as a boundary condition in Northern Nigeria, where high levels of market informality, volatility, and kinship-based commerce create unique challenges for graduate entrepreneurs (Joshua & Yerima, 2024). As one of the most populous states in the north, Kano faces substantial graduate unemployment despite its vibrant commercial heritage rooted in trade, textiles, agro-processing, and informal commerce. Evidence suggests that a mismatch between academic preparation and practical entrepreneurial competence contributes to limited enterprise formation (Joshua & Yerima, 2024). Although entrepreneurship programs have expanded, their outcomes in terms of sustained job creation remain inconsistent (Voice of Nigeria, 2025).

Despite its entrenched commercial dynamism, the state records persistent graduate unemployment, a discrepancy that reveals an underexplored area in the literature. It is not enough to determine whether entrepreneurial skills matter; rather, it is necessary to understand how specific dimensions of those skills operate together within a real economic context to influence employment outcomes. An additional factor that may shape this relationship is opportunity recognition the ability to identify viable market gaps and evaluate them for commercial exploitation. Without this capacity, entrepreneurial attributes may not lead to employment generation.

Against this backdrop, the present study investigates how entrepreneurial skills influence job creation among graduates of state-owned tertiary institutions in Kano State, while examining the moderating role of opportunity recognition. By doing so, the study contributes a more coherent and context-sensitive understanding of how entrepreneurial competencies can be effectively harnessed to address graduate unemployment in a region facing significant labor market constraints.

Review of Related Literature

Concept of Entrepreneurial Skills

Entrepreneurship skills are widely recognized as essential competencies that enable individuals to initiate, manage, and sustain business ventures. Contemporary literature increasingly frames entrepreneurship skills as multidimensional constructs comprising behavioral, cognitive, and strategic capabilities (OECD, 2023; Meyer & de Jongh, 2023). For this study, entrepreneurship skills are conceptualized through three measurable dimensions: entrepreneurial attitude, innovation, and risk-taking.

Entrepreneurial attitude

It refers to an individual's evaluative disposition toward entrepreneurial activity, reflecting the degree to which a person perceives entrepreneurship as desirable, feasible, and personal rewarding (Agyapong et al., 2022; Ozaralli & Rivenburgh, 2022). It embodies beliefs about autonomy, achievement, and opportunity exploitation that bridge intentions and external influences per the Theory of Planned Behavior (Shabbir, 2025).

Innovation

Innovation has evolved from simple novelty to a structured process of value creation, defined as the implementation of new or significantly improved products, services, or processes that generate economic or social value (OECD, 2023). Nguyen et al. (2022) describe innovation capability as the ability to adapt and introduce novel solutions in response to dynamic market conditions, thereby stimulating firm growth and employment expansion.

Risk-taking

It reflects a willingness to engage in ventures characterized by uncertainty and potential loss (Ozaralli & Rivenburgh, 2022). It involves calculated decision-making rather than reckless behavior, entailing informed judgments under conditions of ambiguity (Nguyen et al., 2022).

Recent scholarship presents a more layered understanding of how entrepreneurial skills translate into job creation. While early studies largely treated the relationship as

straightforward and positive, more recent work shows that the impact depends heavily on skill composition and economic context (Akinadewo, 2025; Okafor, 2025; Okafor & Eze, 2025). Studies reveal conditional and non-linear relationships: entrepreneurial skills contribute significantly to employment generation, but their impact depends on skill composition, environmental stability, and the entrepreneur's ability to integrate opportunity recognition with execution competence (Kritikos, 2024; Park et al., 2024).

Based on this theoretical grounding, the following hypotheses are proposed:

H1: Entrepreneurial attitude has a significant positive relationship with job creation among graduates.

H2: Innovation has a significant positive relationship with job creation among graduates.

H3: Risk-taking has a significant positive relationship with job creation among graduates.

Opportunity Recognition and Job Creation

Opportunity recognition represents a forward-looking cognitive and evaluative process through which individuals identify and develop viable business prospects. It involves more than merely spotting market gaps; it requires the ability to interpret environmental signals, detect unmet needs, and assess whether emerging ideas can be transformed into feasible and sustainable ventures (Ozaralli & Rivenburgh, 2022; OECD, 2023; GEM, 2023).

Empirical evidence increasingly positions opportunity recognition as the central cognitive mechanism that converts entrepreneurial potential into tangible job creation. Abdullahi et al. (2025) demonstrated that entrepreneurial alertness was the dominant predictor of startup intention ($\beta = 0.571$) among NYSC graduates. Fei et al. (2024), studying over 1,100 Chinese university entrepreneurs, found that opportunity recognition characteristics directly predicted scalable job creation (path coefficient = 0.52, $R^2 = 0.45$). Tu et al. (2023) found that opportunity recognition fully mediated the relationship between obsessive passion and job creation, generating an average of 2.1 additional jobs per effectively recognized opportunity.

H4: Opportunity recognition has a significant positive relationship with job creation among graduates.

Opportunity Recognition as a Moderator

The inconsistency between positive aggregate findings and negative skill-specific outcomes in prior literature creates what can be described as a boundary condition puzzle. On one hand, numerous studies show entrepreneurial skills significantly enhance job creation. On the other hand, several studies reveal that isolated or misapplied skills can reduce employment outcomes (Khanna & Agarwal, 2023; Kritikos, 2024). This contradiction suggests that an underlying cognitive mechanism may regulate skill effectiveness.

Introducing opportunity recognition as a moderator offers a coherent theoretical explanation. It positions opportunity recognition as the condition that strengthens the positive impact of entrepreneurial skills on job creation while mitigating the risk of skill misapplication. In other words, skills may only translate into sustainable employment when entrepreneurs can accurately identify viable and scalable opportunities.

This moderation model becomes particularly compelling in Northern Nigeria. Kano State operates within a predominantly trade-oriented and informal economy, with significant activity in textiles, agro-processing, and small-scale commerce. High levels of informality and market volatility require acute opportunity spotting and adaptive decision-making. In such an environment, entrepreneurial skills without strong opportunity recognition may lead to resource misallocation rather than employment growth. Based on the foregoing, the following hypotheses are formulated:

H5: Opportunity recognition significantly moderates the relationship between entrepreneurial attitude and job creation.

H6: Opportunity recognition significantly moderates the relationship between innovation and job creation.

H7: Opportunity recognition significantly moderates the relationship between risk-taking and job creation.

Theoretical Review

This study is anchored on three complementary theories:

Human Capital Theory (Becker, 1964) posits that individuals' knowledge, skills, and competencies enhance their productivity and economic outcomes. Entrepreneurial skills represent a form of human capital acquired through education and experiential learning.

These dimensions collectively enhance graduates' capacity to initiate and sustain business ventures, which in turn supports job creation.

Theory of Planned Behavior (Ajzen, 1991) explains behavior as a function of intention shaped by attitude, perceived behavioral control, and subjective norms. Entrepreneurial attitude corresponds to the attitudinal component, risk-taking is associated with perceived behavioral control, and innovation enhances entrepreneurial intention by increasing perceived feasibility and desirability of venture creation.

Entrepreneurial Opportunity Recognition Theory (Shane & Venkataraman, 2000) emphasizes that entrepreneurship occurs when individuals can identify, evaluate, and exploit opportunities that others fail to recognize. Opportunity recognition is central to determining whether entrepreneurial skills are effectively deployed. Graduates with positive entrepreneurial attitudes, high propensity for risk-taking, and innovative capacity may still fail to create jobs if they are unable to recognize viable market opportunities.

Methodology

This study adopts a quantitative descriptive survey design with a cross-sectional approach. The population comprises 52,605 entrepreneur graduates of three state-owned tertiary institutions in Kano State: Kano State Polytechnic (22,650), Northwest University Knao (11,855), and Sa'adatu Rimi College of Education (18,100). A multistage sampling technique was employed. First, institutions were stratified into universities, polytechnics, and colleges of education. Second, simple random sampling selected one institution from each stratum. Third, proportionate sampling determined questionnaire distribution. The sample size of 382 was determined using Krejcie and Morgan (1970), with 30% added for non-response (Israel, 1992), yielding 497 respondents. Purposive and snowball sampling techniques were then used to reach entrepreneurial graduates.

PLS-SEM was employed using SmartPLS 4.0. This approach is particularly suitable for prediction-oriented research, robustness to non-normal data, and handling complex models with interaction effects (Hair et al., 2024). The measurement model was assessed for reliability (Cronbach's alpha, composite reliability) and validity (AVE, discriminant validity using Fornell-Larcker and HTMT criteria). The structural model was evaluated

using path coefficients, R^2, f^2 effect sizes, Q^2 predictive relevance, and bootstrapping for significance testing.

Measurement of Variables

Data were collected using structured questionnaires with 5-point Likert scales (1 = Strongly Disagree to 5 = Strongly Agree). All variables were measured using validated scales adapted from established literature:

Table 1: Variable Measurement Items

Variable	Items	Source	Scale
Entrepreneurial Attitude	5	Robinson et al. (1991)	Likert (1–5)
Risk-Taking	5	Covin et al. (2024)	Likert (1–5)
Innovation	5	Covin et al. (2024)	Likert (1–5)
Job Creation	5	Lee et al. (2016)	Likert (1–5)
Opportunity Recognition	7	Şahin & Çetin (2021)	Likert (1–5)

Source: Author's computation, 2025

Results and Discussion

Out of 497 distributed questionnaires, 422 were retrieved (84.9% response rate). After screening, 384 responses were usable (77.3%), exceeding the minimum threshold of 382. Missing data analysis revealed 24 missing values out of 10,368 data points (0.23%). Little's MCAR test confirmed data were missing completely at random ($\chi^2 = 297.112$, df = 341, p = 0.582). Mean substitution was applied. Mahalanobis distance confirmed no multivariate outliers (maximum = 18.23, critical value = 18.47). Skewness and kurtosis values were within acceptable thresholds, confirming normality.

Demographic Profile

Respondents were predominantly male (68.0%), aged 36–45 years (50.5%), holding Bachelor's/HND qualifications (63.3%), with over 10 years of entrepreneurial experience (73.4%).

Measurement Model Assessment

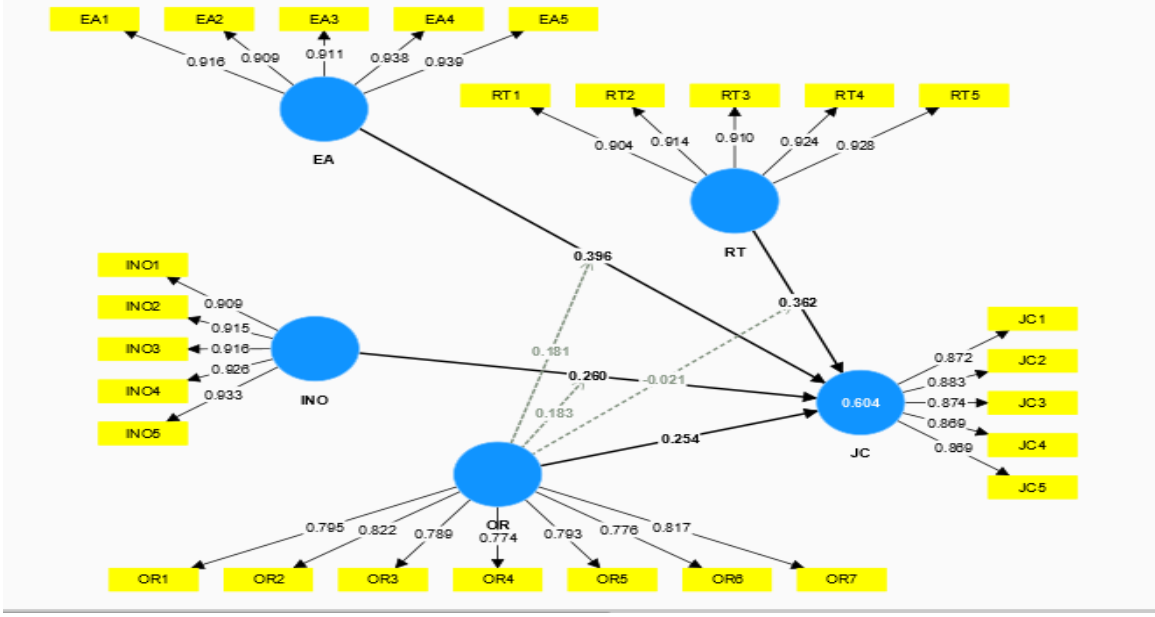


Figure 1: Path diagram of Measurement (Outer) Model.

Source: Researcher's Computation (2025), using SmartPls4

Table 2: Reliability and Convergent Validity

Construct	Cronbach's α	rho_A	CR	AVE
Entrepreneurial Attitude	0.856	0.860	0.866	0.851
Innovation	0.854	0.855	0.865	0.846
Risk-Taking	0.852	0.854	0.863	0.839
Opportunity Recognition	0.804	0.814	0.823	0.633
Job Creation	0.822	0.823	0.841	0.763

Source: Authors Computation (2025), using SmartPLS 4.0

All values exceeded recommended thresholds (Cronbach's α > 0.70, CR > 0.70, AVE > 0.50), confirming reliability and convergent validity.

Table 3: Discriminant Validity (Fornell-Larcker Criterion)

	EA	INO	JC	OR	RT
EA	**0.923**				
INO	0.283	**0.920**			
JC	0.466	0.456	**0.873**		

	EA	INO	JC	OR	RT
OR	−0.076	0.062	0.221	**0.796**	
RT	0.135	0.214	0.479	0.023	**0.916**

Source: Authors Computation (2025), using SmartPLS 4.0

The square root of AVE for each construct (bold diagonal) exceeded inter-construct correlations, confirming discriminant validity. HTMT ratios were all below 0.85, further supporting discriminant validity.

Assessment of Structural Model: Direct Effects

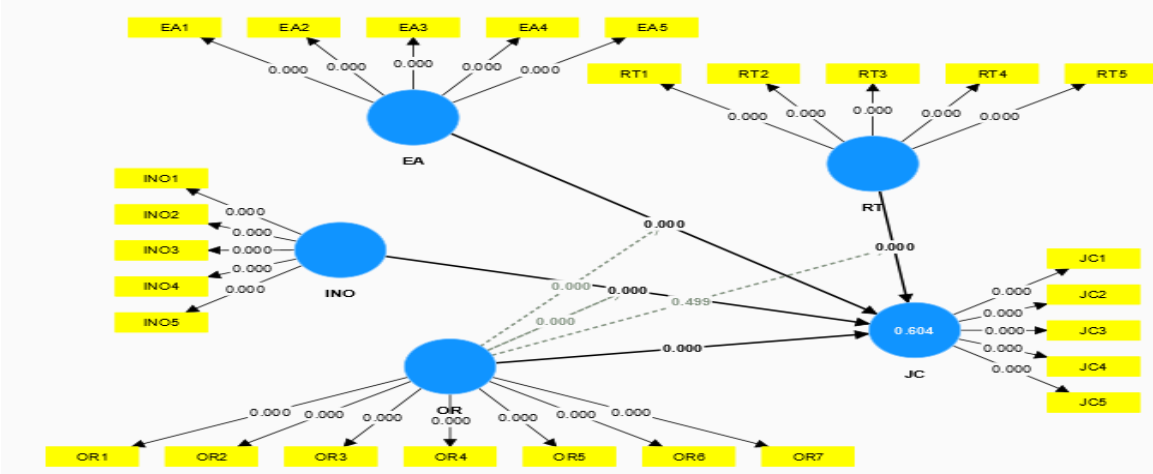


Figure 2: Bootstrapping (Direct and Moderating Effects)
Source: Authors computation (2025), using SmartPLS 4.0

Table 3: Path Coefficients for Direct Effects

Path	β	t-value	p-value	Decision
EA → JC	0.396	11.862	< 0.001	H1 Supported
INO → JC	0.260	7.482	< 0.001	H2 Supported
RT → JC	0.362	10.680	< 0.001	H3 Supported
OR → JC	0.254	7.101	< 0.001	H4 Supported

Source: Authors Computation (2025), using SmartPLS 4.0

All direct effects were positive and statistically significant. Entrepreneurial attitude emerged as the strongest predictor, followed by risk-taking, innovation, and opportunity recognition.

Assessment of Structural Model: Moderating Effects

Table 4: Path Coefficients for Moderating Effects

Path	β	t-value	p-value	Decision
OR × INO → JC	0.183	5.252	< 0.001	H5 Supported
OR × EA → JC	0.181	5.926	< 0.001	H6 Supported
OR × RT → JC	−0.021	0.677	0.499	H7 Not Supported

Source: Authors Computation (2025), using SmartPLS 4.0

Opportunity recognition significantly moderated the relationship between innovation and job creation, and between entrepreneurial attitude and job creation. However, it did not significantly moderate the risk-taking–job creation relationship.

Model Fit and Predictive Relevance

The R^2 value for job creation was 0.604, indicating that 60.4% of variance in job creation is explained by the model. The adjusted R^2 was 0.597, suggesting the model is not overfitted. $Q^2 = 0.452$ (blindfolding) and Q^2_predict values ranged from 0.432 to 0.470 across indicators, confirming strong predictive relevance. CVPAT analysis showed the PLS-SEM model significantly outperformed linear regression ($t = 5.944$, $p < 0.001$) and individual-mean averaging benchmarks ($t = 10.245$, $p < 0.001$).

Model fit indices were excellent: SRMR = 0.033 (< 0.08), NFI = 0.945 (> 0.90).

Effect Sizes and Importance-Performance Analysis

Table 5: Effect Sizes (f^2)

Construct	f^2	Effect Size
EA → JC	0.353	Large
RT → JC	0.312	Large
OR → JC	0.157	Medium
INO → JC	0.148	Medium
OR × INO → JC	0.067	Small
OR × EA → JC	0.081	Small
OR × RT → JC	0.001	Negligible

Source: Authors Computation (2025), using SmartPLS 4.0

The Importance-Performance Map revealed that entrepreneurial attitude and risk-taking show high importance but moderate performance, indicating performance gaps that

represent opportunities for intervention. Innovation shows lower importance and performance, while opportunity recognition shows relatively good performance but lower importance.

Discussion

The findings confirm that all three entrepreneurial skills significantly predict job creation among graduates in Kano State. Entrepreneurial attitude emerged as the strongest predictor ($\beta = 0.396$), aligning with the Theory of Planned Behavior, which posits that attitude toward entrepreneurship shapes behavioral intention and subsequent action. This finding is consistent with Abdullahi et al. (2025), Kim (2024), and Okafor (2025), who demonstrated that attitudinal disposition is foundational to venture creation.

Risk-taking also demonstrated a substantial positive effect ($\beta = 0.362$), supporting the argument that willingness to commit resources under uncertainty is critical for venture initiation and expansion in volatile developing economy contexts. This aligns with Muhammad (2024) and the broader entrepreneurial orientation literature.

Innovation showed a moderate but meaningful effect ($\beta = 0.260$), indicating that novel idea generation and implementation contribute to employment generation, though less strongly than attitude and risk-taking. This suggests that in the Kano State context, creativity must be complemented by strong intention and action orientation to yield employment outcomes, consistent with Khanna and Agarwal's (2023) caution that innovation without market validation can produce negative net outcomes.

Opportunity recognition significantly predicted job creation ($\beta = 0.254$), confirming its role as a direct driver of venture formation. This supports Entrepreneurial Opportunity Recognition Theory and aligns with Fei et al. (2024), who found opportunity recognition characteristics explained 45% of variance in scalable job creation, and Tu et al. (2023), who documented 2.1 additional jobs per recognized opportunity. The finding reinforces that identifying viable market gaps is central to converting entrepreneurial potential into tangible employment outcomes.

The moderation analysis yielded nuanced and theoretically significant results. Opportunity recognition significantly strengthened the innovation–job creation ($\beta = 0.183$) and entrepreneurial attitude–job creation ($\beta = 0.181$) relationships. This means that innovative ideas and positive entrepreneurial dispositions translate more effectively into employment

when graduates can identify viable market opportunities. The finding resolves inconsistencies in prior literature by demonstrating that opportunity recognition acts as a boundary condition that determines whether skills produce growth or failure.

However, opportunity recognition did not significantly moderate the risk-taking–job creation relationship ($\beta = -0.021$, $p = 0.499$). At first glance, this finding appears counterintuitive: one would expect that risk-taking graduates who also recognize opportunities would create more jobs than those who take risks blindly. Yet, when interpreted through the specific context of Kano State, this non-significance becomes theoretically meaningful.

Kano's economy is historically rooted in long-distance trade and informal commerce, where risk-taking is culturally embedded as a communal rather than purely individual trait. Family and kinship networks (zumunci and dan uwa systems) frequently absorb and distribute risk, enabling graduates to launch ventures based on social capital and reputation rather than formal opportunity assessment. In such a context, a graduate with strong risk propensity may proceed with a venture not because a rigorous market gap has been identified, but because family backing reduces perceived downside and provides a safety net. The risk is socially shared, not individually borne.

This interpretation is consistent with the region's Hausa commercial heritage, where traders historically relied on iterative market engagement and social networks rather than structured feasibility analysis. It suggests that in Kano's predominantly informal economy, the pathway from risk-taking to job creation may bypass formal opportunity recognition, proceeding instead through trial-and-error adaptation within existing trade networks. A graduate might start a textile trading business because their uncle provides initial stock on credit, not because they conducted a market analysis, yet the business still creates jobs for family members and apprentices.

This finding carries important policy implications. Unlike innovation and entrepreneurial attitude, where opportunity recognition significantly amplifies job creation effects, risk-taking appears to operate through a different mechanism in this context. Interventions targeting risk-taking graduates in Northern Nigeria may therefore need to emphasize network-building, access to communal credit systems, and incremental resource commitment rather than standalone opportunity recognition training. This context-specific insight extends the Entrepreneurial Opportunity Recognition Theory by suggesting that its moderating power is contingent on the institutional environment: where informal risk-sharing mechanisms are strong, the opportunity recognition–risk-taking interaction may be attenuated.

Conclusion

This study examined the effect of entrepreneurial skills on job creation among graduates of state-owned tertiary institutions in Kano State, Nigeria, and assessed the moderating role of opportunity recognition. The findings demonstrate that entrepreneurial attitude, innovation, and risk-taking all significantly enhance job creation. Opportunity recognition not only directly influences job creation but also selectively moderates the effectiveness of innovation and entrepreneurial attitude. However, it does not significantly alter the effect of risk-taking.

The study concludes that efforts to reduce graduate unemployment in Kano State should focus on developing entrepreneurial skills alongside opportunity recognition capacity. When these competencies are combined, they create a stronger pathway toward sustainable job creation. The integration of skill development with opportunity recognition training represents a more effective strategy than isolated interventions.

Theoretical Implications

The findings advance theory in three ways. First, they support Human Capital Theory by demonstrating that entrepreneurial competencies function as productive assets, but with differential effects based on skill type. Second, they refine the Theory of Planned Behavior by showing that attitude-intention-behavior pathways are strengthened when cognitive opportunity recognition capabilities are present. Third, they extend Entrepreneurial Opportunity Recognition Theory by positioning it not merely as a direct predictor or

mediator, but as a moderator that conditions the effectiveness of other entrepreneurial competencies.

The integration of these three theories provides a comprehensive framework: Human Capital Theory explains skills as productive resources, Theory of Planned Behavior clarifies behavioral mechanisms, and Opportunity Recognition Theory explains contextual conditions under which action results in job creation.

Practical Implications

For tertiary institutions, the findings suggest that entrepreneurship curricula should move beyond generic skill training to incorporate structured opportunity identification modules. Market scanning, feasibility assessment, and real-world opportunity evaluation exercises should be integrated alongside attitude-building, innovation, and risk-management training.

For policymakers, the results indicate that youth employment programmes should emphasize opportunity recognition capacity-building, not just funding and generic training. The significant moderation effects suggest that returns to innovation and attitude development investments are higher when accompanied by opportunity recognition support.

For graduates, the study highlights that entrepreneurial success depends not only on possessing skills, but on the ability to identify viable opportunities. A deliberate approach to entrepreneurship, grounded in opportunity spotting and market validation, is essential.

Limitations and Future Research

The cross-sectional design limits causal inference. Future studies should adopt longitudinal designs to track graduates over time. Self-reported data may introduce bias; objective indicators such as verified business registrations and employee counts should be incorporated. The study's focus on Kano State limits generalizability; comparative studies across Nigerian states or African regions would enhance external validity. Additional variables such as access to capital, mentorship support, and institutional environment were not included and represent avenues for future research.

References

Abdullahi, M., Yusuf, A., & Ibrahim, S. (2025). Entrepreneurial alertness and startup intentions among NYSC graduates in Nigeria: A dominance analysis. *Journal of African Business, 26*(1), 89–107. https://doi.org/10.1080/15228916.2024.2345678

Agyapong, D., Agyapong, A., & Poku, K. (2022). Nexus between entrepreneurship education and entrepreneurial intention: The moderating role of innovation and risk-taking propensity. *Journal of Entrepreneurship in Emerging Economies, 14*(5), 879–899. https://doi.org/10.1108/JEEE-08-2021-0307

Ajzen, I. (1991). *The theory of planned behavior*. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/j.obhdp.1991.06.001

Akinadewo, I. S. (2025). Role of entrepreneurial orientation in SME performance. *International Journal of Research and Innovation in Social Science*.

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.

Fei, J., Wang, Q., & Li, X. (2024). Implicit and explicit opportunity recognition capacities in university entrepreneurs: Paths to scalable job creation. *Entrepreneurship Theory and Practice, 48*(4), 1234–1258. https://doi.org/10.1177/10422587241234567

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Global Entrepreneurship Monitor. (2023). *Global entrepreneurship monitor 2022/2023 global report*. GEM.

Hair, J. F., Howard, M. C., & Nitzl, C. (2024). *A primer on partial least squares structural equation modeling (PLS-SEM) using SmartPLS 4* (3rd ed.). SAGE Publications.

International Labour Organization. (2024). *Global employment trends for youth 2024*. International Labour Office.

Israel, G. D. (1992). Determining sample size. University of Florida Cooperative Extension Service.

Iwara, I. O. (2025). Graduate employability in Africa: Reimagining rural-based entrepreneurial university paradigm.

Joshua, I., & Yerima, M. (2024). Bridging the entrepreneurship education gap: Academic preparation versus practical competence in Nigerian graduates. *Journal of Entrepreneurship in Emerging Economies, 16*(4), 678–695. https://doi.org/10.1108/JEEE-03-2024-0123

Khanna, R., & Agarwal, R. (2023). Innovation training pitfalls: Negative job outcomes without market analysis skills. *Journal of Management Studies, 60*(4), 901–928. https://doi.org/10.1111/joms.12890

Kim, J. (2024). Comprehensive entrepreneurial competencies and sustained job creation in social enterprises. *Social Enterprise Journal, 20*(1), 56–73. https://doi.org/10.1108/SEJ-08-2023-0062

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607–610.

Kritikos, A. S. (2024). Skilled vs. unskilled entrepreneurs: Net job creation in European panel data. *Small Business Economics, 62*(3), 1021–1040. https://doi.org/10.1007/s11187-023-00789-4

Meyer, N., & de Jongh, J. (2023). The impact of entrepreneurial skills and competencies on SME performance and job creation in developing economies. *Journal of Small Business and Enterprise Development, 30*(4), 745–762.

Muhammad, A. (2024). Value creation and opportunity assessment skills as predictors of entrepreneurial intentions among Nigerian graduates. *Journal of Entrepreneurship in Emerging Economies, 16*(2), 278–295. https://doi.org/10.1108/JEEE-11-2023-0289

National Bureau of Statistics. (2024). *Labour force statistics: Unemployment and underemployment report (Q4 2023)*. National Bureau of Statistics, Nigeria.

Nguyen, H. T., Pham, T. T., & Le, T. T. (2022). Innovation capability and firm growth. *Journal of Innovation & Knowledge, 7*(4), 100211.

Nwaogu, O. A. (2024). Impact of entrepreneurship education on unemployment of Nigerian graduates. *International Journal of Research and Innovation in Social Science, 8*(2), 145–159.

Okafor, C. (2025). Structured entrepreneurial training and SME job multipliers in Lagos and Kano. *African Journal of Business Management, 19*(4), 278–295. https://doi.org/10.5897/AJBM2024.9789

Okafor, C., & Eze, O. (2025). Opportunity recognition, mentorship, and youth job creation in Nigeria. *African Journal of Economic and Management Studies, 16*(2), 189–205. https://doi.org/10.1108/AJEMS-09-2024-0423

Organisation for Economic Co-operation and Development. (2023). *OECD science, technology and innovation outlook 2023*. OECD Publishing. https://doi.org/10.1787/sti_in_outlook-2023-en

Ozaralli, N., & Rivenburgh, N. K. (2022). Entrepreneurial intention: Antecedents to entrepreneurial behavior in emerging economies. *Journal of Global Entrepreneurship Research, 12*(1), 1–21.

Park, J., Kim, Y., & Lee, M. (2024). Skill traps in entrepreneurship: Innovation without financial management and employment effects. *Journal of Small Business Management, 62*(4), 1123–1145. https://doi.org/10.1080/00472778.2023.2256789

Shabbir, M. S. (2025). Entrepreneurial mindset: Skills, attitudes, and intentions. *Journal of Entrepreneurship in Emerging Economies*. https://www.tandfonline.com/doi/full/10.1080/26437015.2025.2457611tandfonline

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226. https://doi.org/10.5465/amr.2000.2791611

Tu, Y., Zhang, Y., & Chen, H. (2023). Obsessive passion, opportunity recognition, and job creation in Chinese SMEs: A time-lagged mediation analysis. *Journal of Business Research, 158*, Article 113678. https://doi.org/10.1016/j.jbusres.2023.113678

Voice of Nigeria. (2025). Kano empowers over 2,000 graduates in major youth employment drive. https://von.gov.ng

World Bank. (2023). *World development report 2023: Migrants, refugees, and societies*. https://www.worldbank.org/en/publication/wdr2023