Business and Management Journal of Nigeria (BMJN)

Impact of Intellectual Capital on the Performance of Small and Medium Enterprise (SMEs) in Kano State.

[1]Binta Aliyu, [2]Prof. Abdullahi Musa Abu-abdissamad, [3]Prof. Nasiru Abdullahi, [4]Dr. Auwal Yunusa

[1-4]Faculty of Management Sciences
Department of Business Administration
Ahmadu Bello University, Zaria
baliyu02@gmail.com, abuabdissamad@gmail.com, Nasiruabdullahi@abu.edu.ng, aygdanzaki@yahoo.com
+2348031131606, +2348037004466, +2348039684647, +2348069486493

Abstract

This study investigates the impact of Intellectual Capital (IC) human capital, structural capital, and relational capital on the performance of small and medium enterprises (SMEs) in Kano, Nigeria. The research employs a quantitative approach, utilizing cross-sectional survey data collected from SME owners and managers across manufacturing and agricultural sectors. Using a quantitative research approach. A stratified random sampling technique was employed to ensure representation across Manufacturing and Agricultural sectors totaling 389 SMEs, and a sample size of 196 was determined using Krejcie and Morgan's (1970) table for accuracy. Data was gathered through structured questionnaires designed to measure intellectual capital and SME performance, with responses recorded on a 5-point Likert scale. The data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) to explore the relationships between intellectual capital, and SME performance. The findings indicated that human capital, structural capital and relational capital underscore the importance of ensuring that Intellectual capital build customer trust, leveraging networks, supplier collaboration, innovation, knowledge management. However, the strength of the effect varies depending on industry type and market condition. The proposed framework aims to provide insights into how Kano SMEs can leverage intangible resources to achieve sustainable competitiveness. We argue that upgrading workforce skills, codifying processes/IT, and deepening customer supplier partnerships can raise revenue growth, productivity, and innovation outcomes among Kano SMEs. Policy recommendations target talent development incentives, SME process-digitization grants, and cluster-based relationship platforms.

KEYWORDS: *Intellectual Capital, human capital, structural capital, relational capital and SMEs Performance.*

1.1 Introduction

Small and Medium Enterprises (SMEs) are globally acknowledged as essential contributors to economic development, innovation, employment generation, and poverty reduction. Across both developed and developing economies, SMEs account for the vast majority of businesses. According to the Organization for Economic Co-operation and Development (OECD, 2017), SMEs represent approximately 99% of all enterprises in OECD countries and contribute over 60% to total employment and up to 55% to GDP. Similarly, the International Finance Corporation (IFC, 2022) reports that SMEs in emerging markets provide more than 70% of total employment and account for around 40% of GDP. However, performance levels remain uneven due to challenges in resource mobilization, knowledge utilization, and competitive behaviors (Dansuleka et al., 2025). Intellectual capital (IC)—comprising human, structural, and relational capital—represents a critical resource for sustaining competitive advantage (Ojo, 2024).

Despite their recognized importance, the SME sector in Nigeria remains underutilized in its potential to drive structural transformation. Several institutional and contextual challenges continue to undermine the sector's capacity to perform optimally. These include poor knowledge sharing, limited management skills, weak ICT infrastructural adoption, limited access to finance,

regulatory bottlenecks, infrastructural deficits, skills mismatches, and vulnerability to macroeconomic shocks. Consequently, the high mortality rate of SMEs poses a significant threat to economic resilience and job security (Adegbuyi et al. 2018; Isichei et al. 2020).

Recent data suggests that more than 7.8 million SMEs ceased operations between 2021 and 2023, amounting to nearly one-fifth of all registered MSMEs (Ikpoto, 2023). Earlier reports also noted that between 2017 and 2021, over two million nano, micro, and small enterprises closed down due to adverse economic conditions, security challenges, and institutional inefficiencies (SMEDAN & NBS, 2021). The failure of SMEs in Nigeria is not merely a function of exogenous macroeconomic shocks but also reflects long-standing structural and operational weaknesses within the sector.

The relationship between Intellectual capital and SME performance is influenced by several key factors including human capital (knowledge, skills, and expertise of employees), structural capital (systems, processes, and databases), and relational capital (customer relationships, networks, and reputation). Empirical evidence suggests that IC significantly contributes to firm innovation, productivity, and financial performance (Khalique et al., 2021; Kim & Tran, 2024). However, some studies report inconsistent or sector-specific effects, prompting further investigation into the conditions under which IC translates into performance outcomes.

It focuses on SMEs in Kano State, and consistently ranks among the states with the highest concentration of enterprises, underscoring its strategic relevance for productivity and jobs. a commercial hub where SMEs face highly competitive and uncertain environments, in North-Western Nigeria, also known for its dense concentration of small businesses. Yet many firms underperform due to capability gaps, weak systems, and shallow market linkages—issues squarely within the remit of intellectual capital. The study aims to generate context-specific insights that will inform theory, policy, and practice in the field of strategic management and SME development seeking to enhance competitiveness and sustainability of SMEs in the region.

A systematic review approach, as suggested by Ojo and Adeyemo (2024), Agbaeze, and Odiba (2020), Adegbuyi et al., (2018) is particularly suitable for this study, as it enables a comprehensive synthesis of the existing body of literature. This method offers a structured way to collate and analyze relevant studies, providing a deeper and more holistic understanding of the factors influencing intellectual capital and its subsequent impact on SME performance within the Nigerian context. By reviewing and synthesizing a wide range of studies, this approach uncovers critical insights into the drivers of intellectual capital identifies gaps in the literature, and helps pinpoint this relationships. Drawing from various studies such as those by Chaudhary et al., (2023) and Ahmed, M. (2022), this approach allows for the identification of patterns, trends, and variations across different regions and sectors, emerging economies and further enhancing the validity and relevance of the findings to large firms in Nigeria. While studies link IC to firm outcomes in Nigeria, there is limited empirical evidence focused on Kano-based SMEs that simultaneously models the three IC dimensions and multiple performance metrics (financial, operational, innovation). This gap constrains evidence-based policies for Kano's SME hubs.

This study is guided by the following null hypotheses:

H01: Human capital has no significant effect on the performance of SMEs in Kano State, Nigeria.

H02: Structural capital has no significant effect on the performance of SMEs in Kano State, Nigeria.

H03: Relational capital has no significant effect on the performance of SMEs in Kano State, Nigeria.

2.0 Literature Review

2.1 Intellectual Capital and SME Performance

The total knowledge acquired by a company through human resources, relational capacity and structural competency is regarded as intellectual capital (Ahangar, 2020). Recent studies confirm that IC enhances innovation and performance in SMEs across emerging economies (Hariyono et al., 2024; Rahmawati et al., 2024). In modern companies, intellectual capital has become an important driver of financial growth (Anik et al., 2021). For this reason, managers of entities have discovered that one way of raising their financial performance indicators is to invest adequately and appropriately on the attributes of intellectual capital such as human capital and relational capital to improve upon the intellectual capacities of their entities.

Human capital (HC) captures employees' knowledge, skills, and expertise. Structural capital (SC) refers to processes, routines, and IT systems that support operations. Relational capital (RC) embodies networks, customer trust, and stakeholder ties.

Recent literature expands the concept of human capital beyond education and training to include emotional intelligence, creativity, leadership ability, and digital literacy. In the context of modern economies, especially in knowledge-driven sectors, human capital is seen as a strategic asset for innovation, resilience, and sustainable development. For instance, Nawaz and Gomes (2020) highlight that human capital is central to organizational performance and innovation, especially in dynamic environments. They emphasize the need for continuous learning, adaptability, and strategic workforce development. Structural capital refers to the non-human assets of an organization that support employees' productivity and knowledge application. According to world bank (2019). Ojo & Adeyemo (2024) stressed that innovation gains were stronger in SMEs that had invested in ICT adoption and knowledge management practices.

Human capital not only contributes to individual productivity but also plays a crucial role in national economic development. Structural capital enables knowledge to be stored, shared, and used efficiently within the organization, even when individuals leave. In SMEs, strong structural capital enhances internal efficiency, innovation, and long-term sustainability by creating an environment where human capital can thrive. Inkinen et' al (2017). Relational capital refers to the intangible value embedded in a firm's relationships with external stakeholders such as customers, suppliers, strategic partners, government bodies, and communities. It encompasses elements like trust, customer loyalty, brand

reputation, collaborative networks, and social capital. Strong external networks and trust with partners facilitate the exchange of valuable knowledge, improve collaboration, and lead to better decision-making and innovation. Wang, et al (2018). Effective relational networks allow SMEs to tap into external knowledge and technologies, foster joint problem-solving, and co-develop new products or services. (Sharabati, & Fuqaha, 2022).

Recent studies confirm that SMEs that effectively develop and utilize IC tend to achieve superior outcomes in productivity, innovation, and market competitiveness (Khattak, Saeed, & Arshad, 2024; Hashim, Mahmood, & Zainal, 2023). For example, Aljuboori, Fadzil, and Alkubaisi (2022) found that all three IC components positively and significantly influenced SMEs' sales growth and market share in the Middle East, underscoring IC's role in resource optimization.

Importantly, several recent Nigerian studies (Salisu, 2023; Aigboje, 2020) indicate that while SMEs acknowledge the strategic importance of IC, inadequate management structures, limited ICT use, and weak inter-firm networks often hinder its effective deployment. The literature broadly supports a positive IC–performance.

2.2 Empirical Review

The empirical literature on Intellectual Capital in Small and Medium-sized Enterprises (SMEs) highlights various factors that influence the relationship between Intellectual Capital and SME performance. This section reviews existing studies that provide insights into how Intellectual Capital impacts SMEs, particularly in the Nigerian context. A significant body of research has focused on the benefits of Intellectual Capital for SMEs.

For example, Recent studies confirm that SMEs that effectively develop and utilize IC tend to achieve superior outcomes in productivity, innovation, and market competitiveness (Khattak, Saeed, & Arshad, 2024; Hashim, Mahmood, & Zainal, 2023). For example, Aljuboori, Fadzil, and Alkubaisi (2022) found that all three IC components positively and significantly influenced SMEs' sales growth and market share in the Middle East, underscoring IC's role in resource optimization.

Several studies have explored the dimensions of Intellectual Capital and their influence on SME performance. First, human capital emerges as the most frequently cited determinant of SME performance, linked to employees' skills, creativity, and adaptability (Yusliza et al., 2021; Almuslamani & Yusoff, 2022). Second, structural capital in the form of robust systems, processes, and knowledge repositories enhances operational efficiency and supports long-term growth, but its benefits are often indirect and realized over time (Sardo & Serrasqueiro, 2018). Third, relational capital builds customer loyalty and access to external resources, which can provide SMEs with competitive advantages in volatile markets (Sharabati & Fuqaha, 2022).

A significant body of research has focused on the benefits of Intellectual Capital for SMEs. For example, study by Rufus et al. (2022) conducted a study on intellectual capital and organizational performance of the financial sector, organizational performance was proxied by return on assets, return on equity, leverage, assets turnover and market to book ratio. SMEs that effectively develop and utilize IC tend to achieve superior outcomes in productivity, innovation, and market competitiveness (Khattak, Saeed, & Arshad, 2024; Hashim, Mahmood, & Zainal, 2023).

However, despite these positive outcomes, the literature also points to various barriers to intellectual capital among SMEs, particularly in developing countries. These barriers highlight the need for institutional support for ICT adoption, deepen customer-supplirt ties, establish structured knowledge management systems, strengthen managerial competence through training learning culture, and improve access to finance. Under these conditions, IC can be fully harnessed performance relationship.

However, despite these positive outcomes, the literature also points to various negative outcomes. For example, Omiunu et al., 2021 study examines that SMEs predominantly use basic ICT tools, with low adoption of sophisticated digital technologies for managing intellectual capital. While managers understand the importance of IC, limited technology skills and poor digital infrastructure hamper effective IC management. Adegbayibi, (2021) identified key barriers such as infrastructural deficit, irregular power supply, skills mismatch-particularly poor quality of education and lack of trained labor. These conditions constrain human capital efficiency and hinder the full exploitation of IC for firm performance. Haris et al. (2019) documented that HC exhibits a positive impact on bank profitability while SC has a negative impact. Several recent Nigerian studies (Salisu, 2023; Aigboje, 2020) indicate that while SMEs acknowledge the strategic importance of IC, inadequate management structures, limited ICT use, and weak inter-firm networks often hinder its effective deployment.

These negative outcomes highlight the need for targeted interventions, including entrepreneurial orientation dimensions such as risk taking, innovativeness, and proactiveness to ensure that SMEs can fully benefit from these dimensions.

2.5 Theoretical Framework

This study is anchored on one theoretical framework: the Resource-Based View (RBV) Theory. It provides a strong foundation for understanding how intellectual capital (IC) and entrepreneurial orientation influence SME performance in Kano state.

The Resource-Based View (RBV) theory by (Barney, 1991). posits that a firm's sustained competitive advantage through the use and management of valuable, rare, inimitable, and non-substitutable (VRIN) resources. In the context of SMEs, intellectual capital comprising human, structural, and relational capital represents critical intangible resources that enable innovation, efficiency, and performance growth.

According to Iredele et al. (2025), intellectual capital comprising human, structural, and relational capital represents strategic intangible resources that fulfill the VRIN criteria. For instance, human capital provides unique skills and expertise, structural capital embeds organizational knowledge within processes and systems, while relational capital strengthens networks with customers and stakeholders. These collectively enable

SMEs to enhance innovation, productivity, and competitiveness.

The RBV theory emphasizes that SMEs must have the necessary resources skills, knowledge, experience of employees, databases, knowledge management systems, relationships with customers, suppliers, partners; trust networks Strong networks, market access, collaborations to capitalize on intellectual capital. By leveraging these resources effectively, SMEs can improve their financial management, expand their market reach, and enhance operational efficiency, thus gaining a competitive advantage in the market.

2.4 Conceptual Framework for the Study

Conceptualization of Variables

Dependent Variable (DV): SME Performance

Independent Variable (IV): Intellectual Capital. Dimension of Intellectual Capital used in this study are; Human Capital, Structural Capital and Relational Capital.

Conceptual Model: Intellectual Capital and SME Performance

Conceptual model diagram:

Intellectual Capital (IV) → directly influences SME Performance (DV)

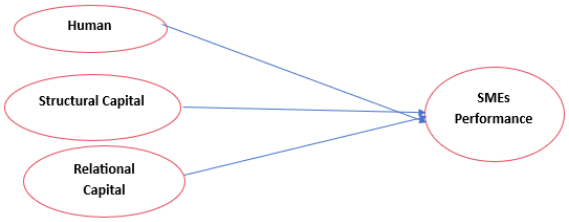

Figure 1: Research Framework

3. Methodology

This study will adopt a quantitative research approach with a cross-sectional survey design to collect data from SME owners and managers in Kano State, Nigeria. The study is going to look at manufacturing and agricultural sectors only. The population of the study is from KACCIMA kano state with 389 registered manufacturing and agricultural SMEs. A stratified random sampling technique will be use to ensure representation across both sectors totaling 389 SMEs, and a sample size of 196 was determined using Krejcie and Morgan's (1970) table for accuracy. Data will be use through structured questionnaires designed to measure intellectual capital and SME performance, with responses recorded on a 5-point Likert scale. The data analysis will be conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) to explore the relationships between intellectual capital, and SME performance.

Data Analyses

Data was analyzed using for measurement and structural model using Structural Equation Modelling. The measurement mode was utilized to ascertain the constructs validity and reliability. While, the structural model was used to ascertain the hypothesized relationships.

Measurement Model

The Outer loading of the constructs was explored. Hair et al. (2022) suggested the retention of outer loadings of 0.70 and above, while those below this threshold should be removed. However, Hulland (1999), observed that, in social science research, it is often impractical to achieve exclusively high loadings of 0.7 and above alone. Hulland (1999) recommend retaining loadings of 0.50 and above. Based on this recommendation, the present study retained indicators with loadings of 0.50 and above, deleting those below this level, while also considering the potential impact on reliability and convergent validity, as suggested by Hair et al. (2022). As a result, the following indicators were removed: RC5 and SC2 (see Figure 2 for details).

Convergent validity was assessed using the Average Variance Extracted (AVE). Hair et al. (2022) state that an AVE value of 0.50 or higher signifies adequate convergent validity. The AVE values in Table 1 show that all constructs exceeded this benchmark, thereby confirming convergent validity. Construct reliability was further evaluated using composite reliability and Cronbach's alpha coefficients. In line with Hair et al.'s (2022) recommendation, a threshold of 0.70 or higher indicates that a construct is both credible and internally consistent. Table 1 clearly demonstrates that the composite reliability and Cronbach's alpha values for all constructs surpass this standard, confirming that the study's constructs are reliable and consistent.

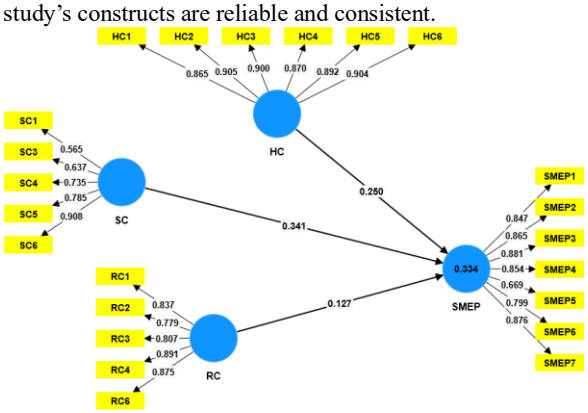

Figure 2: Path Coefficient

As presented in Figure 1, the coefficient of determination (R^2) for firm performance as the endogenous variable is 0.334 (33.4%). This indicates that the exogenous variables, along with the mediating variable, collectively explain 33.4% of the variation in SMEs performance. According to Cohen (1988), an R^2 value within this range can be considered to have a modest explanatory power.

Table 1: *Factor loadings, Reliability and Convergent Validity*

Constructs	Indicators	Outer loadings	Cronbach's alpha	Composite Reliability	AVE
Human Capital	HC1	0.865	0.947	0.958	0.791
	HC2	0.905			
	HC3	0.900			
	HC4	0.870			
	HC5	0.892			
	HC6	0.904			
Relational Capital	RC1	0.837	0.896	0.922	0.704

	RC2	0.779			
	RC3	0.807			
	RC4	0.891			
	RC6	0.875			
Structural Capital	SC1	0.565	0.803	0.852	0.541
	SC3	0.637			
	SC4	0.735			
	SC5	0.785			
	SC6	0.908			
SMEs Performance	SMEP1	0.847	0.924	0.939	0.689
	SMEP2	0.865			
	SMEP3	0.881			
	SMEP4	0.854			
	SMEP5	0.669			
	SMEP6	0.799			
	SMEP7	0.876			

Source: Smart-PLS output (2025)

Discriminant validity was further evaluated using the Heterotrait-Monotrait (HTMT) correlation ratio. Considering the conceptual dissimilarity among the constructs, this study adopted the HTMT threshold of 0.85 recommended by Kline (2011), rather than the 0.90 benchmark proposed by Henseler, Ringle, and Sarstedt (2015) for conceptually similar constructs. As shown in Table 2, all HTMT values fall below the 0.85 threshold, thereby confirming that discriminant validity is achieved.

Table 2: *Discriminant validity using HTMT correlations*

Constructs	HC	RC	SC	SMEP
HC				
RC	0.292			
SC	0.419	0.698		
SMEP	0.437	0.411	0.498	

Source: Smart-PLS output (2025)

The effect size results indicate varying degrees of influence of the independent constructs on SMEs performance (SMEP). Based on Cohen (1988), small, medium and large effect sizes respectively correspond to f^2 values of 0.02,0.15 and 0.35. Based on Cohen's (1988) guidelines for interpreting effect sizes, the results indicate that human capital (HC) has a small to medium effect on SMEs' performance (f^2 = 0.079), suggesting that the knowledge, skills, and competencies of individuals within SMEs contribute meaningfully to performance outcomes. Relational capital (RC) shows a very small effect (f^2 = 0.015), implying that relationships with external stakeholders such as customers, suppliers, and partners have only a marginal influence on performance in this context. Structural capital (SC), with an effect size of 0.100, demonstrates a medium effect, highlighting that organizational structures, processes, and systems play a more substantial role in enhancing SMEs' performance compared to human and relational capital. Overall, the findings emphasize the relative importance of structural capital, followed by human capital, while relational capital appears to be less influential in determining SMEs' performance.

Table 3: *Effect Size (f^2)*

Constructs	(f^2)
HC -> SMEP	0.079
RC -> SMEP	0.015
SC -> SMEP	0.100

Source: Smart-PLS output (2025)

Structural Model

The structural model was utilized to test the hypothesized relationships through a bootstrapping procedure with 5,000 resamples.

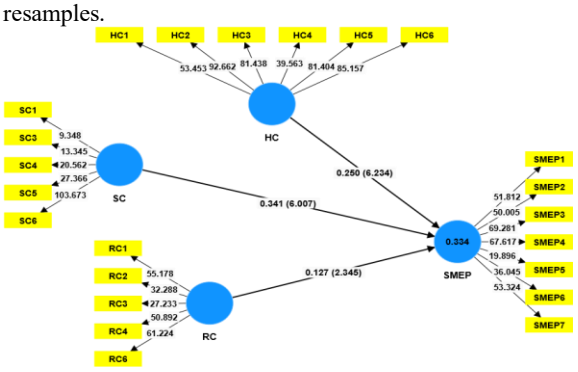

Figure 3: Structural Model

Table 4: *Hypothesised Relationship*

Hypotheses	Relationship	Beta	STDEV	T Statistics	P values	Decision
H01	HC -> SMEP	0.250	0.040	6.234	0.000	Rejected
H02	SC -> SMEP	0.341	0.057	6.007	0.000	Rejected
H03	RC -> SMEP	0.127	0.054	2.345	0.019	Rejected
		Q^2= 0.216				

Source: Smart-PLS output (2025)

The results of the structural model reveal that all three null hypotheses were rejected, indicating significant relationships between the intellectual capital dimensions and SMEs' performance.

The results for **H_{01}: Human Capital does not influence SME performance** the path coefficient between human capital (HC) and SMEs' performance (SMEP) is β = 0.250 with a t-value of 6.234 and p < 0.001, suggesting that human capital significantly enhances SMEs' performance, thus rejecting the null hypothesis of no relationship.

For **H_{02}: Structural Capital does not influence SME performance** the result shows that structural capital (SC) has a stronger positive effect on SMEs' performance (β = 0.341, t = 6.007, p < 0.001), leading to the rejection of the null hypothesis and confirming that organizational systems, processes, and structures substantially drive performance.

For **H_{03}: Relational Capital does not influence SME performance** the result indicate a relational capital (RC) demonstrates a significant positive effect on SMEs' performance (β = 0.127, t = 2.345, p = 0.019), though weaker compared to HC and SC, thereby rejecting the null

hypothesis that relational capital does not affect performance.

Furthermore, the predictive relevance of the model, as indicated by Q^2 = 0.216, shows that the exogenous constructs (HC, SC, and RC) collectively have a moderate predictive capacity for SMEs' performance. According to Hair et al. (2019), a Q^2 value above 0 suggests predictive relevance, with values of 0.02, 0.15, and 0.35 representing small, medium, and large predictive relevance, respectively. Therefore, the Q^2 value of 0.216 indicates that the model has a medium level of predictive relevance, meaning that intellectual capital dimensions meaningfully contribute to explaining the performance outcomes of SMEs.

Result and Discussion

The results from the hypothesis testing indicate that human capital, structural capital and relational capital all significantly influence SME performance in Nigeria. The positive relationship between human capital and SME performance is supported by various studies, including the work of Adeyemo et al., (2020) the study found a positive and significant impact of human capital on SME innovativeness, the result shows that human capital significantly boost SME performance through innovation. Similarly, the significant relationship between structural capital and SME performance is consistent with findings by Nawaz and Gomes (2020) highlight that human capital is central to organizational performance and innovation, especially in dynamic environments. They emphasize the need for continuous learning, adaptability, and strategic workforce development. The significant effect of relational capital is in line with Hurtado-Palomino et al., (2024) which show a direct positive effect on business performance, and relational capabilities strengthened the impact, also SMEs rely on networks for resilience. These findings underscore the importance of ensuring that Intellectual capital build customer trust, leveraging networks, supplier collaboration, innovation, knowledge management. However, the strength of the effect varies depending on industry type and market condition.

5. Conclusion and Recommendations

This seminar paper examines the impact of Intellectual Capital (IC) and the performance of Small and Medium Enterprises (SMEs) in Kano State, Nigeria. The findings reveal that IC, comprising human, structural, and relational capital, positively impacts SME performance. However, several barriers including limited ICT adoption, inadequate access to finance, weak managerial capacity, poor knowledge management practices, and weak external networkscontinue to hinder SMEs from leveraging IC effectively, it can be mitigated through investing in IC to achieve sustainable performance.

Recommendations

To mitigate the highlighted barriers and enhance IC contributions to SME performance, the following are recommended:

1. Strengthen Knowledge Management: SMEs in Kano should invest in people by formal knowledge-sharing systems, training, digital skills, and mentorship programs to maximize human capital effectiveness.
2. Enhance ICT Adoption: Government and business support agencies should facilitate affordable ICT infrastructure and training for SMEs to improve structural capital utilization.
3. Improve Access to Finance: Financial institutions should develop tailored funding schemes for SMEs that reward knowledge-based practices and innovation. There is need to build long term partnerships with customers, suppliers and financial institutions to enhance relational capital.

Contributions to Knowledge

This study contributes to the growing body of knowledge on SME performance in Nigeria by empirically linking IC dimensions with performance outcomes. It advances the literature by highlighting how key dimensions of intellectual capital such as human capital, structural capital, relational capital. The findings also underscore the need for policies that encourage Intellectual capital while recognizing the critical role of human capital, structural capital and relational capital for business success, offering practical insights for stakeholders such as policymakers, financial institutions, and business owners aiming to foster digital transformation SME in Kano manufacturing and agricultural sector.

Reference:

Adegbayibi, O. (2021). Intellectual capital and firms' performance measures of listed non-financial companies in Nigeria. International Journal of Economics and Business Administration, 9(3), 21–38. *https://www.researchgate.net/publication/366580663_Intellectual_Capital_and_Firms%27_Performance*

Adeyemo, S. A, Gbadeyan, R. A., & Birmah, A. N. (2020). Impact of human capital on the performance of small and medium enterprises in south west, Nigeria. The International J ournalofBusiness&Management,8(3)*http://doi.org/10.24930/theijbm/2020/v8/13/BM200* 3-063

Aigboje, D. O. (2020). Intellectual capital and SMEs' performance in Nigeria: Evidence from selected manufacturing firms. International Journal of Economics and Business Research, 19(3), 276–289. *https://doi.org/10.1504/IJEBR.2020.106372*

Al-Debei, M. M., Masa'deh, R. E., & Tarhini, A. (2020). The impact of intellectual capital on business performance. Journal of Intellectual Capital, 21(6), 1113–1133. *https://doi.org/10.1108/JIC-05-2019-0105*

Aljuboori, A., Fadzil, F., & Alkubaisi, M. (2022). Intellectual capital and SMEs performance. Journal of Intellectual Capital.

Dansuleka, S. U., Ibrahim, Y., & Abubakar, S. (2025). Technological innovation, MIS, entrepreneurship, and SME performance in Kano Metropolis. International Journal of Business Research.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3rd ed.). Sage.

Hariyono, A., Susanto, B., & Nurhayati, N. (2024). The value of intellectual capital in improving MSMEs' competitiveness and performance. Cogent Economics & Finance, 12(1), 1–18. *https://doi.org/10.1080/23322039.2024.2325834*

Hurtado-Palomino, A., Gonzalez-Lopez, O. Romero, J. E. (2024). Intellectual capital and business performance: The moderating role of absorptive and relational capabilities. Journal of Intellectual Cappital, 25(3), 512-533 https://doi.org/10.1108/JIC-07-2023-0174

Iredele, O. O., Okpala, O. P, & Abiola, T. B. (2020). International capital disclosure, financial performance and value of listed manufacturing companies in Nigeria. Lagos Journal of Banking and Finance & Economic Issue, 6(1). Retrieved from URPR, University of Lagos.

Isichei, E. E., Agbaeze, E. K., & Odiba, M. O. (2020). The impact of knowledge management process and intellectual capital on entrepreneurial orientation and innovation in Nigeria. International Journal of Emerging Markets, 15(6), 1211–1234. *https://doi.org/10.1108/IJOEM-08-2019-0663*

Jasimuddin, S. M., Zhang, Z., & Li, J. (2022). Intellectual capital and firm performance: The role of entrepreneurial orientation and absorptive capacity. Journal of Knowledge Management, 26(4), 845–865. *https://doi.org/10.1108/JKM-05-2021-0406*

Khattak, M. S., Shah, S. Z. A., & Arif, M. (2024). Intellectual capital efficiency and SME performance: The moderating role of entrepreneurial orientation. Journal of Small Business Management, 62(1), 56–74. *https://doi.org/10.1080/00472778.2022.2093645*

Kuckertz, A., Brändle, L., Gaudig, A., Hinderer, S., Morales Reyes, C. A., Prochotta, A., & Steinbrink, K. M. (2020). Startups in times of crisis – A rapid response to the COVID-19 pandemic. Journal of Business Venturing Insights, 13, e00169. *https://doi.org/10.1016/j.jbvi.2020.e00169*

OECD (2017), Small, Medium, Strong. Trends in SME Performance and Business Conditions, *OECD Publishing*, Paris.

Omiunu, O. G., Omotayo, F. O., & Longe, O. B. (2021). Adoption and use of information and communication technologies for intellectual capital management among SMEs in Ibadan, Nigeria. Asian Journal of Management, 12(1), 9–14. *https://ajmjournal.com/HTML_Papers/Asian%20Journal%20of%20Management__PID__2021-12-1-2.html*

Ojo, A. J., & Adeyemo, S. A. (2024). Impact of intellectual capital on the Small and Medium Enterprises' innovation activities in South-West Nigeria. European Journal of Arts, Humanities and Social Sciences, 1(4), 45–61. *https://doi.org/10.59324/ejahss.2024.1(4).09*

Qasim, D., et al. (2025). The impact of EO on innovation performance via knowledge sharing (PLS-SEM). Journal of Innovation and Entrepreneurship.

Rahmawati, T., et al. (2024). Intellectual capital and financial performance before/during/after COVID-19. Journal of Accounting, Business and Finance Research.

Rufus, O., Salisu, M., & Adebayo, S. (2022). Intellectual capital and innovation performance of SMEs in sub-Saharan Africa: Empirical insights. Journal of African Business, 23(4), 589–606. *https://doi.org/10.1080/15228916.2021.1894115*

SMEDAN. (2021). National MSME Survey. Abuja: Small and Medium Enterprises Development Agency of Nigeria.

Sucena, A., et al. (2024). Intellectual capital in construction SMEs: A systematic review. Journal of Innovation & Knowledge.

Yaseen, M., et al. (2024). EO and SME efficiency with government incentives as moderator. SAGE Open. *https://doi.org/10.1177/21582440241281259*