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EFFECT OF KNOWLEDGE MANAGEMENT ON RETURN ON INVESTMENT OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN ZAMFARA STATE

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ABSTRACT

This paper investigates effect of knowledge acquisition and knowledge retention on return on investment of SMEs in Zamfara State. The paper obtained a sample of 386 SMEs using Krejcie and Morgan (1970) sampling table from the population of 10,003. Primary data was collected through closed-ended questionnaire and analyzed using linear regression with aid of SPSS Version 26. The findings of the study reveal that both Knowledge Acquisition and Knowledge Retention have significant effect on return on investment of SMEs. The results strongly support the Resource-Base-View (RBV) Theory, positioning knowledge as a critical strategic resource for SME competitiveness. It is recommended that SMEs in Zamfara State should invest in knowledge acquisition initiatives such as training, workshops, and conferences to enhance their financial performance. They should also prioritize knowledge retention mechanisms such as documentation, database, mini-libraries, mentoring, and employee development programs to sustain and improve their return on investment. Policy makers should mandate knowledge retention frameworks in critical sectors such as SMEs, education, and public administration. Integrate knowledge management into national development strategies to strengthen competitiveness and innovation.

Keywords: Knowledge Acquisition, Knowledge Retention, Return on Investment and SMEs.

1. INTRODUCTION

In today's dynamic business environment, performance of Small and Medium Enterprises (SMEs) is seen as playing a pivotal role in driving economic growth, innovation, and employment creation world-wide. In support of the aforementioned regarding SMEs' performance, World Bank (2022), stressed that approximately 90% of local businesses globally are classified as SMEs, contributed 48% to the GDP and accounted for 50% employment generation. Despite the fact that these enterprises were characterized by their limited resources and workforce, they face unique challenges that require optimum performance practices to thrive. SMEs' performance has been studied and most of these studies concentrated on examining causes of SMEs investment failure or success, in which quite a lot of constructs were recognized as the factors influencing SMEs financial performance. Traditional constructs like return on investment, return on assets, profitability, return on equity, including the most commonly used and modern construct example Tobin's Q. Therefore, return on investment can be seen as how firm provides

maximum gain or profit from its investments to its stakeholders.

However, in different parts of African continent, these SMEs faced numerous challenges including limited access to finance which affects their investment decisions, lack of skilled labor which limits their ability to acquire and retain knowledge for innovation, inadequate infrastructure which increases their investment costs, and unconducive environment affected by insecurity that disrupts business activities, leading to uncertainty and losses. Nevertheless, return on investment as one of the constructs of financial performance, it is used to evaluate the performance of an investment in determine net gain or loss by the cost of an investment. SMEs play a crucial role in transferring risks and mobilizing funds for stakeholders, making it essential to understand the factors that affect their return on investment.

In Nigeria, SMEs' financial performance is a critical issue due to ongoing challenges. Adebayo et'al., (2023), and Nigerian Association of Small and Medium Enterprise (NASME) (2023), noted significant financing barriers, with 70% of SMEs depending on personal savings and family funds rather than formal credit sources. Financial distress affects about 60% of SMEs, with poor financial management exacerbating the issue. In recent years, the financial performance of SMEs in Nigeria has gathered significant attention. Central Bank of Nigeria CBN (2022), has clarified that SMEs are entities with an asset base ranging from ₦5m to ₦500m, excluding land and buildings, and with a workforce of between 11 and 200 employees.

Knowledge acquisition and knowledge retention as key component of knowledge management (KM) and organizational Learning (OL) present a potential solution to these financial issues. OL encourages the development of a learning culture in organisation through individual and collective efforts, enabling SMEs to align their financial strategies with adaptive changes. Research shows that OL enhances SMEs' financial management, optimum decision-making, and innovation which boosts their competitiveness (Akintunde et al., 2023; Okeke et al., 2023; Ilori, et al., 2024). Moreover, Knowledge acquisition and retention, key constituent of KM, help SMEs acquire, accumulate, retain, and build upon valuable knowledge, thereby improving return on investment.

Research on return on investment of Small and Medium Enterprises (SMEs) has become an area of owners/managers' interest and a field of academic research. In spite of its potential, proper investment decisions and structured KM practices are rarely adopted by Nigerian SMEs. Informal and inconsistent learning methods prevail, often due to limited resources and capacity constraints (Fang, 2014; Dada et al., 2014: Tam et al., 2016; Kumar, 2017). This issue is particularly critical in Nigeria more specifically in Zamfara State, where 80% of SMEs fail within five years due to financial difficulties, inadequate training, and unstable business environment (SMEDAN, 2022). Additionally, empirical evidence on how the spicific knowledge acquisition and retention directly influence core financial metrics like ROI within the unique resource-constrained settings of Northern Nigeria like Zamfara State remain scarce. However, to the best of researcher's quest and knowledge, the existing literature that investigates effect of return on investment on SMEs are still limited in Zamfara State, Nigeria. This study aims to fill these gaps. Rarify

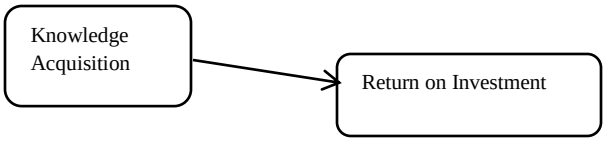
Thus, the underlying question is, to what extent does knowledge acquisition and knowledge retention have effect on return on investment of SMEs in Zamfara State? While the aims of this paper is, to examine the effect of knowledge acquisition and knowledge retention on the return on investment of SMEs in Zamfara State.

The paper formulated the following hypotheses:
H_{01}: Knowledge acquisition has no significant effect on the return on investment of SMEs in Zamfara State.
H_{02}: Knowledge retention has no significant effect on the return on investment of SMEs in Zamfara State.
Significantly, the findings of this study will offer valuable information to enhance financial efficiency and inform policy decisions to support SMEs in Zamfara State and similar regions. It will also contribute to existing research and provide a foundation for future studies. Furthermore, the findings will be relevant to other stakeholders such as investors and financial institutions for supporting SMEs in the challenging environments. The paper covers effect of knowledge acquisition and knowledge retention on SMEs in Zamfara State for period of 5 years from 2021 to 2025. It considers the impact of key events during the period under review such as the economic recession and economic recovery as well as the Naira-redesign-policy that caused inflation, fuel subsidy removal which negatively affecting financial performance of SMEs.

2. LITERATURE REVIEW

Conceptual Framework

Independent Variables
Dependent Variable
Knowledge Management
Financial Performance



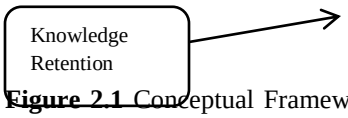


Figure 2.1 Conceptual Framework on the independent variables of Knowledge Acquisition (KA) and Knowledge Retention (KR) as well as Return on Investment (ROI) as the dependent variable of Small and Medium Enterprise (SMEs) Adapted from the Work of (Ha, et al., 2021).

Financial Performance

Financial performance is a company's ability to meet its financial goals and assess the effectiveness of its policies and operations in financial terms. Financial performance measures a firm's financial stability over a specific period, allowing for comparisons between firms, sectors, or industries (Lausten, 2018). Common indicators of financial performance include return on investment (ROI), return on assets (ROA), return on equity (ROE), and Tobin's Q. Lausten (2018), emphasised that there is no universally agreed-upon measure for performance since it is depend on the context. ROI, ROA and ROE are widely used traditional metrics, Tobin's Q offers a perspective based on market performance (Swartz et al., 2019). This study umploys ROI as proxy for performance. Therefore, financial performance is the capability of a firm to generate high return, manage costs, and maintain profitability optimally.

Return on Investment

Return on investment is a financial metric that measures the return or profit an investment generates in relation to its cost. The concept of return on investment (ROI) remains a critical concept in business and finance, helping investors, managers, and policy makers make informed decisions about investment and resource allocation. According to Meyer et al., (2023), profitability is the extent to which a business or investment generates earnings excess of its expenses. Ross, et al., (2020), describe Return on investment (ROI) as a performance measure that evaluates the financial return generated by an investment, expressed as a percentage of the investment's cost. Also Kimmel et al., (2020), emphasize the importance of ROI as a decision-making tool, helping investors and managers to evaluate the financial performance of investments and make informed decisions. Brigham et al., (2020) highlight the usefulness of ROI as a comparative metric, allowing investors to compare the performance of different investments and choose the most profitable ones.

According to Davis, et al., (2023), the ability of a firm to generate revenues in excess of its cost. Therefore, this paper describes return on investment as a financial return on business and it is calculated or measured as a gain or return generated in order to help managers and investors assess the effectiveness of their business performance. Return or profitability also is ability of a business or investment to generate earnings and maintain a sustainable financial position in which its earnings mostly exceed its expenses resulting in a net profit.

Small and Medium Enterprise (SMEs)

Small and Medium Enterprises (SMEs) are the catalyst of economic growth and development globally. They play a pivotal role in driving economy, innovation and employment generation of a given country. According to State of State ranking for SMEs (2020), small and medium enterprises (SMEs) are non-subsidiary, independent firms which employ fewer than a given number of employees and this made SMEs to be important segment of every economy. In the same way, SMEs are small and medium enterprises which include Agro-allied business, Bread bakery, Rice processing, welding, carpentry, soft drink and Ice cream making, Package water production, Restaurants, consulting, wholesale, Retail shops, street vending, artisanal manufacturing, blacksmithing, among others. These conceptualizations are applicable to the scope of this study.

However, World Bank (2022), demarcated small and medium enterprises (SMEs) to be distinct based on three criteria, of which a company must meet at least two: number of employees, annual turnover, and investment levels. The specific thresholds for these criteria can vary by country and even within different regions of the same country. Central Bank of Nigeria CBN (2022), has clarified that small and medium enterprises (SMEs) as entities with an asset base ranging from N5 million to N500 million, excluding land and buildings, and with a workforce of between 11 and 200 employees.

Table 2.1 Classification of Micro, Small and Medium Enterprises (SMEs)

S/N	Category	Capital Excluding Fixed Asset Value 'N'	No. of Staff
1.	Micro Enterprise	1-4.9m	1-10
2.	Small Enterprise	5-49m	11-49
3.	Medium Enterprise	50-500m	50-200

Source: CBN, (2022).

Therefore, SMEs are enterprises that are owned and operated independently with relative number of 10 employees minimum and maximum number of 200 employees with total assets between N5 million to N500 million excluding their fixed assets such as land and building. Their sales volume or turnover is relatively small and mostly average volume typically serving local markets, regional markets or within a country market.

Knowledge Acquisition

knowledge acquisition is the process of obtaining, creating, or constructing new knowledge, skills and competencies through various means such as experience, learning and innovation. Knowledge is a crucial organizational resource, and knowledge acquisition (KA) is vital for success, business continuity, and goal achievement. Knowledge acquisition, the first stage in knowledge management, has historical roots, with figures like Azaki, (2022), recognizing knowledge as a tradable asset. Philosophers like Plato and Aristotle examined knowledge through rationalism and empiricism, exploring its societal role (Plato, 380 BCE; Aristotle, 350 BCE; Idowu, 2013). In modern views, knowledge is structured as data, transformed into information and actionable knowledge (Luca, et al., 2016). Knowledge fuels learning, problem-solving, and innovation, forming the foundation for individual and organizational competencies. Explicit knowledge, which can be easily codified and shared, is found in books and patents, while tacit knowledge, based on personal experience, requires direct interaction for transfer (Nonaka et al., 1995; Kikoski et al., 2004; Alwis et al., 2008).

However, combining tacit and explicit knowledge supports organizational learning and operational efficiency. This process helps businesses adapt to market changes and find competitive advantages (Inkpen, 1998). Research shows that effective KA enhances organizational performance. For example, Daud and Yusoff (2010) found that superior KA practices improve SME performance by embedding knowledge into organizational routines. McDougall et al., (1995) also stress that acquiring new knowledge is essential for firms to navigate new markets and ensure long-term survival and effectiveness. KA enables innovation, process improvement, and new product development, ensuring companies stay competitive in rapidly evolving markets (Daud et al., 2010).

Therefore, knowledge acquisition is the process of obtaining new knowledge and information from internal environment of the organisation and external environment through formal training and development, research activities, experiential learning, and external collaboration that will benefit both individual and organization. This component is vital to organisational learning as it ignite the process of knowledge management to hence learning and improve organisational performance.

Knowledge Retention

Knowledge retention is the process of storing and retrieving knowledge over time to improve organisational performance. Knowledge retention refers to the ability to recall previously acquired knowledge, processes, or skills (Semb et al., 1994). It is distinct from knowledge transfer, which involves not only remembering information but also applying it in new situations. Retention is an essential prerequisite for transfer, enabling individuals to recall knowledge before using it in different contexts. Knowledge retention is critical to organizational learning and memory. It contributes significantly to innovation, competitiveness, and overall performance. For example, Khan, et al., (2023), emphasize that knowledge retention is vital for fostering organizational innovation, while Lee et al., (2024), linked it to enhanced performance and employee satisfaction.

Davenport et al. (1998), stress the importance of creating a culture that promotes knowledge sharing and application, which is fundamental to retention. According to Wang, et al., (2024), retention relies heavily on motivation, leadership, and technology. Chen, et al., (2023), also highlight retention's role in organizational adaptability and resilience, with digital tools playing a supportive role (Patel, Singh, Kumar, & Sharma, 2024). Therefore, knowledge retention refers to the organisational ability to retain and recall knowledge, skills, and expertise over a stipulated time. It involves consolidating information from short-term memory to long-term memory, making it easily accessible and applicable in order to facilitate processes and decision making in organisation thereby improve overall performance.

Empirical Review

Knowledge Acquisition and Performance

Koliby et al., (2022), examine the impact of knowledge acquisition and dissemination on the sustainable performance of small- and medium-sized enterprises (SMEs) taking knowledge application as a mediator. Data collected from 428 manufacturing SMEs in Malaysia were analyzed using the partial least squares structural equation modeling approach. The results reveal that knowledge acquisition significantly impacts the sustainable performance of manufacturing SMEs. This study was conducted outside Nigeria with different economic issue not in Zamfara State. According to KipngenoKirui et al., (2021), explored the link between knowledge acquisition and financial performance in micro and small enterprises (MSEs) in Sotik Sub-county. Their study, was based on a sample of 267 MSEs, showed a significant positive relationship between knowledge acquisition and financial performance. The study used 267 MSEs to generalised all the MSEs in

Sotik Sub-county which is bias and conducted not in Zamfara State.

Similarly, Kim, Booranabanyat, and Kim (2021), examined how knowledge acquisition affects the financial performance of E-E firms collaborating with advanced international partners. Their study of 127 Thai manufacturing firms found that knowledge acquisition significantly boosted financial performance in terms of growth and profitability. Osayande (2021), assessed the impact of knowledge management on the performance of deposit money banks. Using a sample of 400 employees, the study found a significant positive relationship between knowledge acquisition practices and bank performance. The study was on Banking sector while this paper is on SMEs in Zamfara state. Wang et al., (2014), studied knowledge sharing and firm performance in Chinese high-tech firms, showing that tacit knowledge sharing influenced human, structural, and relational capital, while explicit knowledge sharing had a stronger effect on financial performance. The study should have used moderating variable to find the strength of the relationship and it was conducted in another country not in Nigeria.

Akpotu et al., (2014), investigated the role of knowledge acquisition in enhancing administrative employee performance in South-South Nigerian tertiary institutions, confirming that it significantly influenced functional capabilities and performance. Idowu (2013), found that knowledge acquisition, along with system orientation and information sharing, positively predicted financial performance of SMEs in Osun State, emphasizing the critical role of knowledge acquisition in driving organizational success. These studies underscore the importance of knowledge acquisition in improving financial and operational performance across various sectors but were not conduct in Zamfara State, Nigeria.

Knowledge Retention and Performance

Lee et al., (2024) found a positive link between knowledge retention, organizational performance, and employee satisfaction. Davenport, et al., (2023), propose that knowledge retention encompasses not only the capturing and storing of knowledge but also the establishment of a culture that promotes knowledge sharing and application. This holistic approach emphasizes the importance of fostering an environment where knowledge is actively exchanged and utilized, rather than merely archived. One limitation of this perspective is the challenge in measuring the effectiveness of cultural initiatives aimed at promoting knowledge sharing, as such cultural attributes can be subjective and vary significantly across organizations.

Muyideen (2023), examined the performance of small and medium-sized businesses in Ado-Ekiti Metropolis and their knowledge retention strategy employing descriptive survey research design. The population of the study were 11,663 owners and managers of small and medium-sized businesses in the Ado-Ekiti Metropolitan Area. Yamane was used to collect 387 sample size. The data were gathered through primary source via a standardised questionnaire. Regression was used to examine the data collected. The finding show that Knowledge retention strategy significantly impacts the performance of small and medium-sized businesses in Ado-Ekiti Metropolis. This study has similar variable with the current study but was conducted in Ado-Ekiti not Zamfara State the results may varies.
Sumbal, et al., (2023), explored the impact of contextual factors on knowledge retention in the banking sector of a developing country, noting the influence of collectivist culture, gender differences, power distance, and limited job opportunities. Azaki (2022), highlighted the importance of integrating heterogeneous knowledge resources for retention and operational efficiency in South African public organizations. Enakrire et al., (2022), found that knowledge retention supports career development and growth in higher education, emphasizing the need for conducive income, structure, and work environments. Kumar (2017), showed that knowledge retention positively affects employee performance and organizational growth in the biotechnology sector. Burmeister et al., (2016), developed a framework for retaining knowledge from older employees, focusing on individual, relational, and contextual elements. Levy (2011) proposed a three-stage process for minimizing business loss through knowledge retention: defining scope, documenting, and reintegrating knowledge. The findings of these studies may be different if the research was conducted in a different location like Zamfara which is facing insecurity that undermine the performance of SMEs.

Theoretical Review and Theoretical Framework

Resource-Based View (RBV) Theory
Resource-Based View (RBV), was developed by Wernerfelt (1984) and later popularized by Barney (1991). RBV argues that organizational success depends not merely on external market conditions but on the firm's ability to acquire, develop, and deploy **unique internal resources and capabilities** that are valuable, rare, inimitable, and non-substitutable (VRIN). RBV provides a useful lens for understanding how firms can achieve and sustain superior performance. Therefore, RBV suggests that when SMEs successfully acquire and retain knowledge, they create a **bundle of resources and capabilities** that are not only difficult for competitors to imitate but also essential for sustaining superior performance. This theoretical grounding positions

knowledge management practices as central to achieving **sustainable competitive advantage** in the SME sector (Enakrire et al., 2022).

In the context of this study, acquired knowledge is the valuable and rare resource, while the organisational capability to retain knowledge, makes it inimitable and non-substitutable, thus creating a sustainable competitive advantage that translates to higher ROI. **knowledge** is conceptualized as a **strategic intangible resource** that aligns with RBV principles. **Knowledge Acquisition as a Resource** represents the firm's ability to obtain new insights, skills, and information from both internal and external sources. From an RBV perspective, this process enables firms to build **valuable and rare resources**, equipping them with fresh competencies that competitors may lack. SMEs that prioritize knowledge acquisition gain access to innovative practices, which can enhance financial performance and long-term competitiveness. However, **Knowledge Retention as a Resource** involves preserving critical expertise, experiences, and institutional memory within the organization. Under RBV, retained knowledge is considered an **inimitable and non-substitutable capability**, as it is deeply embedded in routines, culture, and human capital. Effective knowledge retention ensures continuity, reduces dependency on individual employees, and strengthens organizational resilience against environmental changes.

Thus, RBV underpins this study by providing a lens through which **knowledge acquisition and retention are conceptualized as strategic resources** that can generate and sustain superior organizational performance. In line with RBV, the study argues that SMEs that effectively acquire and retain knowledge will create a robust bundle of resources that enhances competitiveness, resilience, and long-term success. This explanation positions RBV as the **anchor theory** of your thesis.

3. METHODOLOGY

The paper employed survey research design and adopted a quantitative technique to investigate the effect of knowledge acquisition and retention on the return on investment of Small and Medium Scale Enterprises (SMEs) in Zamfara State. Linear regression was selected for its suitability in modelling the relationship between continuous independent and dependent variables for its interpret ability in establishing direct effect. The method data collection was primary data source. Structured questionnaire with closed-ended questions on a 5-point Likert-scale was utilised and it was adapted from the work of (Lin, et al., 2019: Huang et al., 2019: Kun et al., 2020). The questionnaire was administered directly to SMEs' owners/managers to analyse the effect of KA and KR on the ROI.

The population comprises 10,003 registered SMEs as reported by the Ministry of Commerce, Industry, and Tourism Zamfara State see (Appendix II). Additionally, multi-stage sampling method which included stratified simple random sampling and proportionate sampling techniques were employed. It was suggested by Dillman et al., (2014), that multi-stage sampling method can increase response-rate and also minimize non-response errors to reach participants.

However, utilising the stratified simple random sampling technique, the paper followed the stratification of three Senatorial District in the State namely: (Zamfara Central, Zamfara North and Zamfara West) which served as primary sampling units (PSUs). To ensure proportional representation from SMEs in each of the 14 local governments, the sample size of the SMEs were apportioned using the proportional formular of sampling technique see (Appendix III). Acknowledging the dynamic nature of Zamfara State, this paper can not be able to cover all the SMEs in the 14 Local Governments areas of Zamfara State. Therefore, the method guides random selection from each stratum with highest number of SMEs indicating numerous economic activities in their geographical location. Thus, nine (9) Local Governments with the total population of 9,211 were simply selected from the target population see (Appendix III).

Afterwards, through Krejcie and Morgan's (1970), Population and Sample Size Table, this paper obtained a sample size of 370 from the total population of 9,211 see (Appendix I). The sample size normally is computed with a margin of error 5% (0.05) and a confidence level of 95% (Conhran, 1973; Lohr, 2010). According to Dillman et al., (2014), suggests that researchers should account for non-responses by increasing the initial sample size either by 5% or 10%, with the extent of the increase based on the anticipated response-rate. In light of this recommendations, the paper added 10% to the sample size to achieve the desired number of responses to account for non-responses. The sample size was increased by 10%, bringing the total to 407. Subsequently, out of the 407 distributed questionnaires, 386 were returned, representing a significant portion of the population.

Similarly, a pilot test was conducted in this study using Content Validity Index (CVI) the significant proportion of experts agreed that the items were valid and appropriate for capturing the desired information from respondents. The reliability of the research instrument was also assessed using a test-retest reliability method, indicating internal consistency reliability. Cronbach's Alpha is approximately 0.85 for the 1st time-test and

approximately 0.82 for 2nd time-test. This reveals that the Cronbach's Alpha values are similar, indicating internal consistency reliability. The correlation coefficient of 0.8 and 0.7 indicate that good test-retest reliability of the instrument.

Model Specification

$$ROI_{it} = \beta_0 + \beta_1 KAC_{it} + \beta_2 KRT_{it} + \mu\varepsilon_{it}$$

Where, ROI= Return on Investment, β0 = Regression constant, KAC = Knowledge Acquisition, KRT = Knowledge Retention, με= random error term that takes care of the effects of other factors which are not fixed in the model on dependent variable. *i* = Firm Subscript, t = Year, Subscript, β1 and β2= Regression coefficients associated with independent variables (knowledge acquisition and knowledge retention).

Finally, descriptive statistics were used for summarizing the key variables using percentages, mean, and standard deviation while inferential statistics, including correlation and regression analysis were applied to assess the effect of relationships and statistically significant differences, enabling a quantitative evaluation of knowledge acquisition and retention on SMEs' return on investment.

4. DATA PRESENTATION, AND DISCUSSION OF FINDINGS

Data Screening and Preliminary Analysis

It is of utmost important to conduct some preliminary data screening before the regression analysis. According to Pallant, (2007), the quality and significant outcomes of data collected by the researcher rely heavily on its initial cleaning and screening. As such, preliminary analysis is relevant (Hair, et al., 2014). The data collected was then screened and diagnostic test was conducted. Based on the preliminary analysis there were no missing values, outliers, collinearity and the data was also normality distributed. Therefore, the result deemed suitable for further analysis without the risk of inflated standard errors or unstable coefficient estimates due to outliers or collinearity.

Table 4.1 Age Distribution of Respondents

Response	No of Respondents	Percentage
20-29	83	21.5%
30-39	87	22.5%
40-49	93	24.1%
50 above	123	31.9%
Total	386	100%

Source: Field Survey, 2025.

The majority of respondents (55.6%) are between 40-49 and 50-above age groups, indicating experienced and mature owners/managers, with the largest group being 50 and above. This suggests potential knowledge retention issues/problems if not addressed through knowledge transfer or succession planning. However, younger managers also made up 21.5% (20-29) and 22.5% (30-39) offering opportunities for knowledge acquisition and fostering collaboration between different age groups for knowledge sharing.

Table 4.2 Gender Distribution of Respondents

Response	No of Respondents	Percentage
Male	269	69.7%
Female	117	30.3%
Total	386	100%

Source: Field Survey, 2025.

The gender distribution shows that 269 respondents occupying (69.7%) are male, indicating a male-dominated workforce among owners/managers of SMEs in Zamfara State. However, 117 respondents for (30.3%) are female, reflecting a significant level of gender equality and diversity in the organisation.

Table 4.3 Descriptive Statistics of variables

Variables	Obs	Min	Max	Mean	Std Deviation
Knowledge Acquisition	386	1.00	5.00	3.81	0.4944
Knowledge Retention	386	1.00	5.00	3.76	0.3757
Return on Investment	386	1.00	5.00	3.91	0.5765
Valid N (listwise)	386				

Source: SPSS Version 26, (2025).

The descriptive statistics for Knowledge Acquisition, Knowledge Retention, and Return on Investment provided a detailed overview of the data collected. The number of observations (N) is 386, with the minimum and maximum values for all variables being 1.00 and 5.00 respectively, indicating that the data follows a 5-point Likert scale. For Knowledge Acquisition, the mean score is 3.81, suggesting that SMEs in the State generally acknowledge the importance of acquiring knowledge. Knowledge Retention has a mean of 3.76, indicating that while retention is moderately addressed, there is room for improvement. Return on Investment shows a mean of 3.91, suggesting that SMEs are performing relatively well.

However, the standard deviations for Knowledge Acquisition is (0.4944) and Knowledge Retention is (0.3757) which shows that the difference is relatively narrow, indicating consistent responses. However, Return on Investment has a higher standard deviation of (0.5765), indicating more variation in responses across the sample. These results show that the data is fairly

consistent and normally distributed, with no extreme outliers.

Table 4.4 Model Summary

Model	R	R quare (R^2)	Adjusted R Square (R^2)	Std. Error of the Estimate
1	0.926[a]	0.858	0.857	0.293

Source: SPSS Versin 26, (2025).

Model Summary

The model summary statistics presented in Table 4.3 shows how the regression analysis produced a multiple correlation coefficient (R) of 0.926, indicating a very strong positive relationship between the knowledge acquisition and knowledge retention on return on investment. The coefficient of determination (R^2) is 0.858, which means that approximately 85.8% of the variance in the return on investment is explained by the knowledge acquisition and knowledge retention included in the model. This reflects a high explanatory power, demonstrating that the independent variables account for most of the observed variation.

The adjusted R^2 value of 0.857 further confirms the robustness of the model by adjusting for the number of predictors. Since the adjusted R^2 is very close to the R^2, it indicates that the model is not over fitted and that the inclusion of the predictors is justified. Furthermore, the standard error of the estimate (SEE) is 0.293, which is relatively small, signifying that the model's predictions are close to the actual observed values. In other words, the residuals (unexplained errors) are minimal, and the model demonstrates a good fit to the data. In summary, the high R, R^2, and adjusted R^2 values, coupled with the low standard error of the estimate, confirm that the regression model provides a strong and reliable explanation of the relationship between the independent and dependent variables in line with the research objectives.

Table 4.5 Analysis of Variance (ANOVA) Result

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	135.391	2	45.130	124.593	0.000[b]
Residual	22.368	383	0.086		
Total	157.759	385			

Source: SPSS Version 26, (2025).

The ANOVA (Analysis of Variance) table evaluates the relationship between the dependent variable (Return on Investment) and the independent variables (Knowledge Acquisition and Knowledge Retention). The model's Sum of Squares (SS) is 135.391, with a Mean Square (MS) of 45.130. The F-statistic of 124.593 and a significant p-value of 0.000 indicates that the model is statistically significant. The residual SS is 22.368, and the degrees of freedom (df) is 383, with a mean square of 0.086. The total SS is 157.759, and the degrees of freedom is 385. The model explains 85.8% of the variance in Return on Investment (R-squared = 135.391 / 157.759). The findings suggest that Knowledge Acquisition and Knowledge Retention significantly have effect on Return on Investment, indicating that the model is a good fit for the data and supports these factors as important predictors.

Table 4.6 Regression Result

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
(Constant)	0.872	0.256		3.045	0.003
Knowledge Acquisition	0.526	0.047	0.514	11.201	0.000
Knowledge Retention	0.386	0.048	0.404	8.064	0.000

Source: SPSS Version 26, (2025).

The regression results in Table 4.6 reveal the individual contributions of the predictors (knowledge acquisition and knowledge retention) to the return on investment. The constant (0.872) represents the expected value of Return on Investment when Knowledge Acquisition and Knowledge Retention were zero. It is statistically significant (Sig. = 0.003), indicating a baseline level of Financial Performance even without these variables. The unstandardized coefficient for Knowledge Acquisition (0.526) indicates that for every one-unit increase in Knowledge Acquisition, Return on Investment increases by 0.526 units, with a standardized coefficient (Beta) of 0.514, explaining 51.4% of the variation and a strong and positive effect on the Financial Performance. Its t-value (11.201) and significance level ($p < 0.001$) indicate that this effect is highly statistically significant.

Knowledge Retention, the unstandardized coefficient (0.386) suggests that a one-unit increase in Knowledge Retention results in a 0.386-unit increase in return on investment, all else being equal. The standardized coefficient (Beta = 0.404) i.e 40.4% suggests a positive and substantial effect. The t-value (8.064) and p-value (p

< 0.001) confirm that the effect of knowledge retention is also highly significant. The mature age profile of owners underscores the critical importance of the recommended retention strategies, such as mentorship and succession planning, to prevent significant knowledge loss. The model suggests both knowledge acquisition and knowledge retention positively impact Return on Investment in SMEs.

Comparing the standardized Beta values, knowledge acquisition (β = 0.514) exerts a stronger influence on the dependent variable than knowledge retention (β = 0.404). The stronger effect of knowledge acquisition may reflect the urgent need for SMEs in a volatile environment to constantly import new knowledge to survive, whereas the benefits of retention mechanisms may manifest more over the long term. Therefore both predictors significantly and positively affect the dependent variable, with knowledge acquisition emerging as the stronger predictor. These findings highlight the critical role of both acquiring and retaining knowledge in influencing the outcome variable, aligning with the study's objectives.

Hypotheses Testing

The decision rule regarding the null hypothesis is that, the null hypotheses (H0) would be rejected if the calculated value is greater than the critical value, while the null hypotheses (H0) would not be rejected if the calculated value is less than the critical value at 5% level of significance.

H_{01}: Knowledge acquisition has no significant effect on the return on investment of SMEs in Zamfara State.

The regression results show that knowledge acquisition has an unstandardized coefficient of **B = 0.526**, with a standardized Beta of **0.514**. The t-value is **11.201** with a significance level of **p < 0.001**. Since the p-value is below 0.05, there is sufficient evidence to reject the null hypothesis, showing that Knowledge Acquisition significantly affects return on investment. This supports the findings and share common similarity in variables measurement with the studies by Kipngeno et al. (2021), Kim et al. (2021), Osayande (2021), Akpotu and Lebari (2014), and Idowu (2013). The result aligns with Resource Based View (RBV) Theory, emphasizing knowledge acquisition's positive effect on performance.

H_{02}: Knowledge Retention has no significant effect on the return on investment of SMEs in Zamfara State.

The regression coefficient for knowledge retention is **B = 0.386**, with a standardized Beta of **0.404**. The t-value is **8.064** and the significance level is **p < 0.001**. Once again, the p-value is below 0.05, there is sufficient evidence to reject the null hypothesis and conclude that Knowledge Retention significantly affects return on investment of SMEs in Zamfara State. This means SMEs can improve performance by retaining and applying acquired knowledge. This aligns with variable and findings of Lee and Kim (2024), Kumar (2017), Enakrire and Smuts (2022), and Azaki (2022), supporting Resource Based View (RBV) Theory. The RBV doesn't just sit in the theory section, it directly **drives the hypotheses** and gives the study a strong theoretical grounding. Although both knowledge acquisition and knowledge retention have significant positive effects, knowledge acquisition (β = 0.514) exerts a stronger influence on the dependent variable than knowledge retention (β = 0.404).

5. CONCLUSION AND RECOMMENDATIONS

The paper found that both knowledge acquisition and knowledge retention have significantly and positively affect the return on investment of SMEs in Zamfara State. This outcome provides strong empirical evidence in support of the study's conceptual framework, which posited that the management of knowledge resources enhances organizational outcomes. It also found that organizations that actively seek, generate, and absorb new knowledge are more likely to improve their performance outcomes. It underscores the importance of capturing, storing, and reusing knowledge to sustain long-term benefits.

Conclusion

The paper concludes that both knowledge acquisition and knowledge retention have significant positive relationship with the return on investment of SMEs in Zamfara State. It however concluded that, effective knowledge management practices, particularly the processes of acquiring and retaining knowledge, are essential drivers of organizational success.

Recommendations

i. SMEs should adopt an integrated knowledge management strategy that prioritises continuous acquisition informed by gaps identified through retention system example using mentorship program to guide targeted external training.

ii. SMEs should also prioritize knowledge retention mechanism such as documentation, mini-library, digital databases, knowledge repositories, and documentation frameworks. Mentorship and succession planning in place to prevent knowledge loss through employee turnover.

iii. Government should encourage **knowledge management awareness and training** programs, support **digital infrastructure** that facilitates knowledge exchange across industries, provide **incentives** for innovation and knowledge-based practices.

iv. Policy maker should mandate **knowledge retention frameworks** in critical sectors such as healthcare, education, and public administration. Integrate knowledge management into **national development strategies** to strengthen competitiveness and innovation.

Limitations of the Study

i The study focused only on knowledge acquisition and retention, excluding other knowledge management dimensions.

ii. The paper used cross-sectional design while limiting causal interpretations.

iii. SMEs were unable to make required data available to the researcher and there is no standard published data which may caused self-reported data affected by social desirability bias.

iv. Findings were limited to a specific geographical or sectoral context, reducing generalizability.

Suggestions for Further Study

i. Other knowledge management dimensions should be incorporated such as sharing, application, and creation.

ii. Longitudinal research should be employed to establish causal relationships.

iii. Mixed-methods approaches can be applied for richer insights.

iv. Cross-sectoral or cross-country can be conducted for comparative studies.

v. Mediating or moderating roles of variables such as culture, leadership, and technology can be applied.

vi. Expand the geographical scope to test generalizability in diverse contexts.

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