

---

## **EFFECT OF KNOWLEDGE APPLICATION AND KNOWLEDGE SHARING ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NORTH CENTRAL NIGERIA**

**FOM, Daniel Pam**

Department of Business Administration  
Nasarawa State University Keffi  
danielfom086@gmail.com

**PWOL, Davou Yakubu**

Department of Business Administration  
Nasarawa State University Keffi  
jspwoldavou@gmail.com

**OGAJI, Salim Muhammad**

Department of Business Administration  
Federal University of Kashere, Gombe  
ibnogaji@gmail.com

### **ABSTRACT**

Decline in the aggregate level of SMEs performance despite supports from different stakeholders necessitated this study which examined effect of knowledge application and knowledge sharing on SMEs performance. The study adopted a survey research design. A structured five-point Likert scale questionnaire was used to gather primary data from a sample of 400 SMEs operating in North Central Nigeria. Multiple regression analysis was used to analyze the data. The study found that knowledge application has positive and insignificant effect on performance while knowledge sharing has a negative and significant influence on performance. The study recommends that SMEs should ensure a synergy among the people, process and technology elements responsible for the deployment of knowledge in their firms. This could be achieved through simplifying the process such that it allows seamless human and technological navigation. Similarly, SMEs should make deliberate efforts which ensure smooth transfer of idea, information and relationships especially from departing employees to existing ones. This could be aided by mentoring and coaching.

Keywords: Knowledge Application, Knowledge Sharing, SMEs, Performance

### **INTRODUCTION**

Globally, the business environment has remained increasingly dynamic and has created an array of challenges for businesses. Increasing level of changes in consumer taste and preferences along with the collapse of national borders which has skyrocketed competition, have forced companies to begin to think outside the box regarding ways of remaining competitive and profitable. Further, organizations have a combination of resources at their disposal which they deploy to boost performance.

However, it has become more obvious that relying solely on conventional resources of finance and raw materials may be inadequate to sustain competition, given the increasing change in market trends. Organizations try to evaluate how effectively, they accomplish their objectives; being that, how effectively an organization works toward achieving its goal is a measure of its performance (Alaneme, 2017).

Although businesses have a variety of resources, knowledge is considered highly significant in enhancing organizational performance. Even market leaders must continuously produce new knowledge in the contemporary organizational context due to competitors' quick imitation and rapidly changing

environmental requirements (Lin & Wu, 2014). Because of this, businesses have gradually begun to rely on knowledge management (KM) as a necessary prerequisite to enhanced overall performance and success in today's hypercompetitive marketplaces (Wang & Noe, 2010).

Organizations have been motivated to switch from conventional management approaches to KM as a result of the expanding role of knowledge (Tubigi & Alshawi, 2015). Effective human capital management has become increasingly important with the advent of knowledge-based economies to guarantee that employees continue to produce proper value for the economy (Omotayo, 2015).

Currently, firms compete on information as opposed to financial strength and capital, giving them a new competitive advantage. The quantity and quality of information that is stocked, harnessed, and used in the production process across all economic sectors determines GDP growth rate (Omotayo, 2015). To increase organizational effectiveness in these knowledge-based economies, KM strategies ought to be implemented.

Knowledge is key to attaining and maintaining competitive advantage (Lee & Lan, 2011; Liu & Deng, 2015). However, if knowledge is not adequately maintained inside an organization, it can quickly become outdated and useless (Karimi & Javanmard, 2014). Organizations therefore ought to improve their processes or procedures for managing knowledge assets (Ouyang, 2014).

KM is the ability to gather information from both internal and external sources, transform it into a fresh approach or concept, and then use and safeguard it (Gold et al., 2001). It calls for transforming individualized knowledge into organizational knowledge that may be extensively disseminated throughout the company. KM thus focuses on distributing appropriate knowledge to appropriate individuals at the appropriate time.

The KM dimensions of knowledge application and sharing are embraced for this study even if there is no consensus on them currently. The choice of these dimensions of KM is informed by: First, majority of the studies on KM (Omerzel, 2010; Gholami et al., 2012; Kasimu et al., 2012; Mohamad et al., 2013; Alvarenga et al., 2014; Omotayo, 2015) used these dimensions.

Second, these dimensions aligned more with the principles of knowledge-based theory upon which this study is founded and thirdly, these dimensions are consistent with the model created by Kasimu et al. (2012). Knowledge application is the process of applying knowledge. Organizations can continuously turn their expertise into embodied products by using knowledge (Zaied et al., 2015). Knowledge sharing is the act of transferring information from one person, group, or organization to another (Kimaiyo et al., 2015).

Despite the known importance of small and medium-scale enterprises (SME) to the improvement of national economies, as well as the supports received by these firms such as provision of credit schemes, tax holidays, and creation of regulatory agency to promote and stimulate their activities, the sector has continued to witness dwindling performance. This is seen in the drop on their contribution to Nigeria's economy from 50% contribution to GDP in 2021 to 43.3 % in the last quarter of 2022. In addition, a good number of SMEs have remained stagnant in terms of growth, despite the availability of accessible credit which could be used for expansion.

With the increasing and rapid change in the external environment in which these SMEs operate, as well as unfavorable macroeconomic indices, it becomes pertinent for SMEs to review their internal activities with a view to creating a shield against negative effects of these externalities. This study was thus designed to examine the effect of knowledge application and knowledge sharing on performance of SMEs in North Central Nigeria. The study was guided by the following hypotheses:

H<sub>01</sub>: Knowledge application has no significant relationship with performance of SMEs in North-Central Nigeria.

Ho<sub>2</sub>: Knowledge sharing has no significant relationship with performance of SMEs in North-Central Nigeria.

## LITERATURE REVIEW

### Knowledge Application

The degree to which necessary knowledge is accessible to, and used by those who require it has a significant impact on the firm's performance (Alan, 2012). Utilizing knowledge effectively necessitates a variety of knowledge sources and frequent interactions between staff members. If a company's personnel pick up knowledge and apply it more quickly than those of a rival company, it will be more successful (Garrick & Chan, 2017).

To obtain or sustain a competitive advantage, a corporation must be able to master new talents while also strengthening its existing ones. The effectiveness of the company's operations is influenced by employees at all levels (Zaim et al., 2019). Understanding and building the infrastructure needed to enable the acquisition, administration, and transfer of tacit and explicit organizational knowledge is a requirement for using knowledge (Ahmad et al., 2017). According to Alhawari and Al-jarrah (2012), people, process, and technology are the three components that must work together for successful knowledge application.

### Knowledge Sharing

To endure and remain competitive, firms are becoming more information-based, and transforming themselves into knowledge specialists (Drucker, 1998, as cited in Ateke & Dida, 2017). Thus, intellectual assets have become more important than any other, because knowledge is a catalyst for differentiating a firm's offerings (Amayah, 2013; Gururajan & Fink, 2010).

Healthy organizations generate and use knowledge, by interacting with their environments, absorbing information in the process, turning the information into knowledge, and taking action based on the knowledge, in combination with their experiences, values, and internal rules (Prusak, 1998, as cited in Ateke & Dida, 2017). Hence, learning organizations continually expand their knowledge, creating new knowledge, sharing that knowledge throughout the organization and converting it into forms people can use.

Today's operating milieu requires that all firm make efforts to identify, collect, and share knowledge internally (Gururajan & Fink, 2010). Knowledge must be communicated with coworkers, teammates, and colleagues in order to be used after it is developed or obtained to add value to the organization (Epetimehin & Ekundayo, 2011). Given that businesses suffer information loss due to staff turnover, sharing and transferring knowledge is crucial to KM.

Therefore, all organization members have a responsibility to produce and share knowledge by adopting the mindset that knowledge is an essential component of oneself, making knowledge sharing a personal matter that requires personal commitment (Ekeke, 2011). The value of knowledge increases when it is shared, and it does not diminish when it is transferred (Oluikpe, 2012). Knowledge exchange does not always take place automatically, so, it needs to be encouraged and supported (Mtswenem, 2017).

### Performance of Small and Medium-Scale Enterprises

Moullin (2010) defines an organizational performance as how well an organization is managed and the value the organization delivers for customers and other stakeholders. It is also the measurement of the effectiveness and efficiency of an organization and its workers (Neely et al., 2011) where effectiveness refers to the extent to which stakeholder requirements are met, while efficiency is a measure of how economically the organizations resources are utilized when providing a given level of stakeholder and

customer satisfaction. Hence, performance can be defined as the use of resources both efficiently and effectively in the achievement of its expected objectives (Ankrah & Mensah, 2015).

Business performance is also the ability of a business to achieve planned results related to financial performance, market performance and shareholder return (Richard et al., 2016; Begonja et al., 2016). Vincent (2014) define business performance results, which produces reliable data on the success and effectiveness of a planned effort. Yadav (2015) describe business performance as a central marvel in commercial philosophies and also a multifaceted phenomenon. Notwithstanding, performance in general links to the attainment goals in any segment of human life.

### **Resource Based-View (RBV) Theory**

RBV theory was propounded by Wernerfelt (1984), but was enriched by the contributions of Barney (1991) and Corner (1991). The theory support the notion that access to sufficient business resources increases competitiveness, expansion, and growth of firms. The theory identified resources they confer competitive advantage may be physical and intangible in character (Abdulaziz, 2019).

Physical resources that are obvious (resources that can be seen and felt) in nature and found in the structure of physical objects like machinery, equipment, land, buildings, and other things that fall under the ownership and management of the business are referred to as tangible assets. Physical items are easily attainable on the market. As a result, they do not offer much benefit to the company over the long term because competitors can easily acquire a comparable asset (Wang, et al., 2012).

Intangible assets include organizational techniques that are non-physical (Talaja, 2012). Unlike tangible assets, intangible assets are abilities of a business that cannot be purchased on the open market but are instead developed over a period of time and integrated within the organization and are commonly seen as competence (Wirattanapornkul, 2012). According to Barney (1991), a firm's success and competitiveness depends primarily on availability of internal resources and competencies that must be Valuable, Rare, Inimitable, and Non substitutable (VRIN).

## **METHODOLOGY**

The study adopted a survey research design. A sample of 400 SMEs operating in North Central Nigeria was drawn from a population of 130,862 registered SMEs as obtained from NBS-SMEDAN report (2021). The study employed structured questionnaire to collect primary data from owners/managers. A scale containing 10 items developed by Henttonen et al. (2016) and tested in the work of Mbah and Maduafor (2022) was adapted to measure knowledge application (5 items) and knowledge sharing (5 items) while a scale containing 5 items developed by Mbah and Maduafor (2022) was adapted to measure performance.

According to Singh and Masuku (2014) a provision for attrition should be made to cater for unreturned questionnaire. Accordingly, 10% was added to the total number of questionnaire distributed bringing the total to 440 copies of questionnaire distributed. However, out of the 440 copies distributed, a total of 406 were completely filled and returned giving a reasonable response rate of 92%. Hence all further analyses were carried out using the 406 valid response. Responses collected were analyzed using the multiple regression analysis with the aid of SPSS. The model is specified thus:

$$PRF = \beta_0 + \beta_1 KAP + \beta_2 KSH + e \quad (i)$$

Where: PRF = Performance, KAP = Knowledge Application, KSH = Knowledge Sharing, e = Error term (5% = 0.05),  $\beta_0$  = Intercept,  $\beta_1 \beta_2$  = Coefficients of independent variables.

## RESULTS AND DISCUSSION

**Table 1: Descriptive Statistics on Study Variables**

	N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
KAP	406	1.00	5.00	3.3887	.79900	1.131	.140	1.292	.280
KSH	406	1.00	5.00	2.1395	1.36154	.854	.140	-.768	.280
PRF	406	1.00	5.00	1.9003	1.22340	1.445	.140	1.117	.280
Valid N (listwise)	406								

Source: SPSS Output, 2023

Table 1 indicates the behavior of all the variables under study. The average value of knowledge application (KAP) recorded was 3.39 indicating that most of the responses were above undecided and towards agreement while the maximum and minimum value stood at 5 and 1 respectively. Also, the skewness value which stood at 1.131 indicates that the variable is normally distributed since it is less than 1.96. Also, Knowledge Sharing (KSH) recorded a minimum and maximum of 1 and 5 respectively, while the mean value stood at 2.14 with a skewness value of .854, the variable also indicated normal distribution. Lastly, performance (PRF) had a minimum and maximum values of 1 and 5 respectively with an average value of 1.90 and a skewness value of 1.445 signifying normal distribution.

**Table 2: Correlations**

		Correlations		
		KAP	KSH	PRF
KAP	Pearson Correlation	1	-.157**	.238**
	Sig. (2-tailed)		.006	.000
	N	406	406	406
KSH	Pearson Correlation	-.157**	1	.319**
	Sig. (2-tailed)	.006		.000
	N	406	406	406
PRF	Pearson Correlation	.238**	.319**	1
	Sig. (2-tailed)	.000	.000	
	N	406	406	406

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2023

Table 2 shows that knowledge application (KAP) has a weak negative relationship with knowledge sharing (KSH) which stood at -0.157 which is significant at 5% level of significance. KAP showed a weak positive relationship with performance (PRF) which stood at 0.238 and is significant at 5% level of significance. Also, KSH showed a weak positive relationship with PRF which stood at 0.319. All the variables under study satisfy multicollinearity as none of the independent variable is strongly related to another.

**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.432 <sup>a</sup>	.186	.181	1.10725	2.128

a. Predictors: (Constant), KSH, KAP

b. Dependent Variable: PRF

**Table 4: Analyses of Variance**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	83.658	2	41.829	34.118	.000 <sup>b</sup>
	Residual	365.352	403	1.226		
	Total	449.010	405			

a. Dependent Variable: PRF

b. Predictors: (Constant), KSH, KAP

**Table 5: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.572	.175		3.264	.001		
	KAP	.452	.081	.295	5.574	.000	.975	1.025
	KSH	-.328	.048	-.365	6.897	.000	.975	1.025

a. Dependent Variable: PRF

Source: SPSS Output, 2023

The result, as shown in the Tables 3, 4 and 5 reveal an R-square value of 0.186 which signifies that approximately 19% of variation in performance of SMEs in North-Central Nigeria could be explained by the combination of knowledge application and sharing. The remaining 81% variation could be explained by other factors not included in this study. The f-statistics stood at 34.118, while the probability of the f-statistics was found to be significant at 5% level of significance ( $p < 0.000 < 0.05$ ) which therefore, indicates that the model is fit to measure the association between the variables under study.

The regression line  $PRF = 0.572 + 0.452KAP$  indicates a positive effect of knowledge application on performance signifying that deployment of knowledge by SMEs has helped to improve their performance level to a great extent. The probability of t-statistics stood at 0.000 which is less than 0.05 level of significance thereby indicating that the effect is significant and as such, the study rejects the null hypothesis leading to the acceptance of the alternative, which states that knowledge application has significant effect on SMEs performance in North Central Nigeria. This finding is consistent with that of Aguilar et al. (2017) who found positive relationship between knowledge application and business performance.

The regression line  $PRF = 0.572 - 0.070KSH$  indicates a negative effect of knowledge sharing on performance which imply that SMEs have not done enough to encourage knowledge distribution among employees, which has led to a decline in their level of performance. The probability of t-statistics stood at 0.000 which is less than 0.05 level of significance thereby indicating that the effect is significant and as such the study accepts the alternative hypothesis which states that knowledge sharing has significant effect on performance of SMEs in North Central Nigeria. This finding disagrees with the findings of Young (2016) who found knowledge sharing to have positive effect on social exchange for employees.

---

## CONCLUSION AND RECOMMENDATIONS

This study looked at how knowledge application and sharing affect SMEs performance in North Central Nigeria. The study draws the conclusion that knowledge management is crucial in defining a firm's degree of performance based on the research findings. The study concludes that when knowledge is deployed accurately, it can improve performance however, where provision is not made to ensure such knowledge is retained, overall performance is threatened. This could further be explained that, when knowledge is not shared among employees, it could result in the firm remaining stagnant if the possessor of such knowledge is not available.

Based on these, the study recommends that SMEs should ensure a synergy among the people, process and technology elements responsible for the deployment of knowledge in their firms. This could be achieved through simplifying the process such that it allows seamless human and technological navigation. Similarly, SMEs should make deliberate efforts which ensure smooth transfer of idea, information and relationships especially from departing employees to existing ones. This could be aided by mentoring and coaching.

## REFERENCES

- Aguilar, J. T. M., Guzman, G. M., & Morales, C. L. (2017). Knowledge management and performance in Mexican manufacturing small business. *Research in Economics and Management*, 2(3), 135-149.
- Ahmad, N., Lodhi, M. S., Zaman, K., & Naseem, I. (2017). Knowledge management: A gateway for organizational performance. *Journal of the Knowledge Economy*, 8(3), 859–876
- Alan, F. (2012). Knowledge management definitions. Retrieved from <http://www.Knowledge-Managementtools,Net/Knowledge-Management-Definition.html>
- Alaneme, G. C. (2017). Knowledge management capabilities and competitive advantage in the Nigerian food, beverage and tobacco industry. *Unpublished Thesis*. University of Lagos, Nigeria.
- Alhawari, S., & Al-Jarrah, M. (2012). The Impact of knowledge management processes on improving strategic competence: An empirical study in Jordanian insurance companies. *International Journal of Trade, Economics and Finance*, 3(2), 77-96.
- Alvarenga, C. D., Neto, R., & Loureiro, R. S. (2014). Knowledge management in the Brazilian agribusiness industry: A case study at Centro De Tecnologia Canavieira. *Electronic Journal of Knowledge Management*, 7(2), 199-210.
- Amayah, A.T. (2013). Determinants of knowledge sharing in a public sector organisation. *Journal of Knowledge Management*, 17(3), 454-471.
- Ankrah, E. & Mensah, C. C. (2015). Measuring performance in small and medium scale enterprises in the manufacturing industry in Ghana. *International Journal of Research in Business Studies and Management*, 2(12), 34-43.
- Ateke, B. W., & Didia, J. U. D. (2017). Agile supply chain management practices for efficient service delivery. *International Journal of Social Policy, Management and Administration*, 5(2), 31-50.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120
- Byukusenge, E., & Munene, J. C. (2017). Knowledge management and business performance: Does innovation matter? *Cogent Business and Management*, 4(1), 1-18.
- Chang, T., & Chuang, S. (2016). Performance implications of knowledge management processes: Examining the roles of infrastructure capability and business strategy. *Expert Systems with Applications*, 38, 6170–78

- Ekeke, H. E. (2011). *Knowledge management in the Nigerian public service. Unpublished Thesis*. School of Management and Business, Aberystwyth University, Wales. Retrieved from <http://hdl.handle.net/2160/7004>.
- Epetimehin, F. M., & Ekundayo, O. (2011). Organisational knowledge management: survival strategy for Nigeria insurance industry. *Interdisciplinary Review of Economics and Management*, 1(2), 9-15.
- Garrick, J., & Chan, A. (2017). Knowledge management and professional experience: The uneasy dynamics between tacit knowledge and performativity in organisations. *Journal of Knowledge Management*, 21, 872-884.
- Gholami, M. H., Asli, M. N., Shirkouhi, S. N., & Noruzy, A. (2012). Investigating the influence of knowledge management practices on organisational performance: An empirical study. *Acta Polytechnica Hungarica*, 10, 205-216.
- Gururajan, V., & Fink, D. (2010). Attitudes towards knowledge transfer in an environment to perform. *Journal of Knowledge Management*, 14(6), 828-840.
- Holsapple, C. W., Jones, K., & Leonard, L. N. K. (2015). Knowledge acquisition and its impact on competitiveness. *Knowledge and Process Management*, 22(3), 157-166.
- Kasimu, M. A., Roslan, A., & Fadhlin, A. (2012). Knowledge management model in civil Engineering construction firms in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 936-950.
- Kimaiyo, I. K., Kapkiyai, C., & Sang, J. C. (2015). Effect of knowledge management on firm performance in Nakuru, Eldorct and Kisumu commercial banks. *European Journal of Business and Management*, 7(3), 207-216.
- Lee, C., & Wyang, J. (2010). Knowledge value chain. *The Journal of Management Development*, 19(10)783-793.
- Mtswenem, P. S. (2019). Effect of knowledge management on the performance of quoted construction firms in Nigeria. *Unpublished Thesis*. Benue State University Makurdi, Nigeria).
- Neely, A. D., Marr, B., Adams, C., & Kapashi, N. (2011). Measuring ebusiness performance. In A. D. Neely (ed.). *Business performance measurement: Theory and Practice*. Cambridge University Press.
- Oluikpe, P. (2012). Developing a corporate knowledge management strategy. *Journal of Knowledge Management*, 16(6), 862-878.
- Omerzel, D. G. (2010). The impact of knowledge management on sme growth and profitability: A structural equation modelling study. *Africa Journal of Business Management*, 4(16), 3417-3432. <http://www.academicjournals.org/AJBM>
- Omotayo, F. O. (2015). Knowledge management as an important tool in organizational management. A Review of literature. *Library Philosophy and Practice*, 4(10), 1-23.
- OuYang, Y. C. (2014). A cyclic model for knowledge management capability -A review study. *Arab Journal of Business Management Review*, 4(4), 1-9.
- Tubigi, M., & Alshawi, S. (2015). The impact of knowledge management processes on organizational performance: The airline industry case. *Journal of Enterprise Information Management*, 28 (2), 167-185.
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115-131.
- Wang, Z., & Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert Systems with Applications*, 39, 8899-8908.
- Young, C. J. (2016). Knowledge management and innovation firm performance of United States ship repair. *Unpublished Thesis*. Department of Business Administration, College of Management and Technology Walden University, United States.
- Zaied, A., N., H., Hussein, G., S. & Hassan, M., M. (2015). The role of knowledge management in enhancing organizational performance. *International Journal of Information Technology and Computer Science*, 4(2), 1-10.