



**KNOWLEDGE MANAGEMENT AND PERFORMANCE OF
RETAIL PHARMACEUTICAL FIRMS IN NAIROBI CITY
COUNTY, KENYA: THE ROLE OF OPERATING
ENVIRONMENT AND COMPETITIVE STRATEGIES**

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Abstract

The objective of the study was to establish the effect of operating environment and competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County, Kenya. The hypotheses was developed and tested based on study objectives. The research was anchored on the Dynamic Capabilities Theory (DCT), Knowledge-Based View theory, Environmental Dependence Theory and Resource



Based View. The study applied positivism philosophy and descriptive research design. Systematic sampling method was applied. The population of the study was all the 720 registered retail pharmaceutical firms in Nairobi City County. The study sample comprised 116 retail pharmaceutical firms in Nairobi County, Kenya. Primary data was collected using semi-structured questionnaires. Data was analyzed using descriptive statistics and inferential statistics. The findings show that the joint effect of knowledge management, operating environment and competitive strategies on performance was found to be significant. The study recommends that in order to achieve the desired performance retail pharmaceutical firms, owners and managers need to understand the environment their firms are operating in to enable them develop a knowledge management capability as well as come up with best combination of strategies that are competitive in the market through identifying the knowledge they have and putting it into comparison with its players in the given industry to reducing the gap existing between them in order to provide the necessary skills and competencies to managers in creation, retention, transferring and usage of firm's tacit and explicit knowledge.

Keywords: Knowledge Management, Operating Environment, Competitive Strategies, Firm Performance, Retail Pharmaceuticals

INTRODUCTION

Strategic management researchers and practitioners in general seeks to achieve a goal of understanding why some organizations achieve higher and greater level of growth in terms of performance than others though they operate in similar business environment (Ogollah, Awino & Ogutu, 2011). Companies operating in an environment faced by high changes in technology, growing competition, mondialisation (globalization), high complexity, and increase of time based competition have to rethink on how to outsmart their rivals and achieve superior performance (Hayfa, Abraddous, Abdullah, Sokkar, Blaqees, 2018). This is supported by Sidik (2012) who suggest that accurate information from the operating environment enable firms to undertake effective knowledge management capabilities and models of competitive strategies so as to achieve organizational goals.

In an organization, one great factor for gaining competitive edge is Knowledge Management (KM). However, experience shows that KM implementation is difficult for small businesses in underdeveloped nations with few supportive variables for business management (Kmieciak & Michna, 2018). Firms should employ an efficient knowledge management approach that supports the optimal mix of competitive strategies and alignment of the firm to the

operational environment circumstances in order to achieve superior performance (Dekoulou & Trivellas, 2015).

Effective organizations are therefore required to have the capability to gain, store and share information for the achievement of superior performance. From scholar's archives, knowledge strategy and management have to be driven by company's competitive strategy for the purpose of firms being in agreement to providing competitive strategies needs (Mardani, Nikoosokhan, Moradi & Doustar, 2018; Salunke, Weerawardena & McColl-Kennedy, 2019; Atiku, 2020). This is meant to support knowledge capabilities in products value innovation, services, scanning of environment and processes and structures, to further identification of new groups of customers, more needs, greater technological materials, for creating informed market knowledge and strategies that are upto date not excluding changes in processes (Bagnoli & Giachetti, 2015; Mardani, et al., 2018).

Globally, the health industry is characterized by enormous investments, global diversification and benefits that are tremendous for both public health and economic productivity (Scherer, 2000). The individuals in a given society are expected to enjoy good health as a fundamental right. The pharmaceutical industry in Kenya plays an important role in employment creation and supply of medical equipment and medicine to majority of Kenyans for their health needs (PPB, 2016).

Kenya's health policy is based on goals outlined in Kenya's Vision 2030 social pillar whose aim includes improving the overall livelihoods of Kenyans and contributes approximately 2% to the country's GPD (Kenya Vision, 2030). Further Pharmaceuticals are critical to the social development of Kenya (PPB, 2016). Medicines treat diseases, save lives and promote health. They are also a core component of the Right to Health, the key objective being universal access to quality essential medicines, essential health technologies and pharmaceutical services in Kenya. Access to essential medicines will be an avenue for the country to meet the Millennium Development Goals to reduce the child mortality rate and to combat HIV, Malaria and other diseases like COVID 19 pandemic, as well as helping to establish public/private partnerships to ensure economic development as envisaged in Vision 2030.

In spite of the important and visible role this industry plays, not much research attention has been placed to allow the in-depth determinants of firm performance thus prompting this study by seeking to establish the influence of knowledge management on performance of retail pharmaceutical firms. Further, this relationship is expected to be influenced by competitive strategies and the operating environment. The study specifically focuses on retail pharmaceutical firms in Nairobi.

LITERATURE

This study was anchored on the Dynamic Capabilities Theory (DCT) (Teece, Pisano & Shuen, 1997) which is based on an argument that activities such as development of strategies and knowledge management are driven by level of organizational management relating to discontinuous and dynamic environments. It is supported by Knowledge-Based View theory (Wright & McMahan, 1992) which suggests that knowledge that is diverse in an organization which is based on how it is created and applied determines highly how performance differs from one firm to the other. It is supported further by the industrial organization economics theory (Bain, 1951) which postulates that an environment in which a company operates in will guide on the strategy to be selected therefore this will have an impact on performance and further Resource Based View (Barney, 1991) assert that firms are administrative organizations and a collection of physical and human resources.

The choice of how knowledge is managed within a certain organization can be well informed by factors like the strategies that are competitive within certain operating environmental factors. Thus if an organization chooses best management of knowledge capabilities then performance will be inevitable. Yang, Ishtiaq and Anwar (2018) studying how performance can be achieved when strategies at competitive levels are put in place to cushion environment and also well managed knowledge in a descriptive study found all the variables contributing highly to organizational performance.

Pellegrini, Ciampi, Marzi and Orlando (2020) that competitive strategies put in place can lead to resource coordination and cooperation by reconfiguration, integration, co-evolution and combination in a particular pattern. The trends on the market through operating environment enable responses that are quick by way of properly managing knowledge and strategies in place to enhance performance and that it is through the operating environmental tenets that a firm can engage better combined knowledge and strategies to outperform competitors and enjoy the accrued benefits.

A study by Kariuki, Awino and Ogutu (2011) argues that the stagnancy in operating environmental conditions leads to static strategy but if the operating environment is dynamic, strategy also becomes dynamic and that when knowledge is well management, firm performance is inevitable. Mishra and Bhaskar (2011) argue that the management of an operating environment requires competitive strategies and knowledge mananement for a set target to be achieved. It is the current conditions that inform the choice of a particular strategy to cushion the firm shocks. Further Cho and Korte (2014) also concludes that managing knowledge, putting the right strategies and management knowledge in the right proportion leads to enhanced firm performance. Young (2020) studied the relationship between knowledge

management, innovative systems, operating environment and firm performance based on knowledge creation theory concluded that there was a positive and significant relationship between knowledge management, strategies, operating environment and firm performance with an argument that operating environment dictates which type of knowledge is managed for desired outcome.

Study by Obeso, Hernández-Linares, López-Fernández and Serrano-Bedia, (2020) focused on knowledge management processes and organizational performance and the role of competitive strategies and environment. The study adopted telephone survey methodology and data was collected from 400 managers of Spanish Firms. The study analyzed the individual effect of different practices of knowledge management on firm performance taking in to account the role of environment as moderator and strategies as mediating variable. The retrieved data was analyzed by the help of multiple regressions. It was found that knowledge generation, strategies in place and the environment in which the firm operates enhance performance of the firm and that there is no direct relationship between performance and knowledge storage. A proposition therefore emerges that there is a joint effect of knowledge management, competitive strategies and operating environment on performance which the research sought to empirically establish.

METHODOLOGY

This study adopted a positivist philosophy and a descriptive cross-sectional survey. The populations of the study were all registered retail pharmaceutical firms in Nairobi County as at 2019. To determine the sample size, the formula recommended by Almalki, (2016), Cooper and Schindler (2006) and Zikmund et al. (2010) was used. The authors argue that the formula is more critical since it can be used to calculate both the sample of population greater than 10,000 and population less than 10,000.

$$n = \frac{z^2 pq}{d^2}$$

Where: n is the desired sample size for population greater than 10,000, p = the proportion in the target population estimated to have characteristics being measured. This is placed at 90% (0.9), $q = (1-p)$ i.e. the proportion in the target population estimated not to have characteristics being measured, $(1-0.9) = 0.1$, pq = measure of sample dispersion, d = standard error of the proportion. For this study, 95% confidence level for estimating the interval will be used.

$$n = \frac{z^2 pq}{d^2} = \frac{(1.96)^2 (0.9)(0.1)}{(0.05)^2}$$

$n = 138$ sample size for target population greater than 10,000

In case of a population less than 10,000, the sample size is determined using the following formula: $nf = \frac{n}{1+n/N}$ Where nf = the desired sample size (when the population is less than 10,000). n = the desired sample size (when the population is more than 10,000). N = the estimate of the population size.

$$nf = \frac{138}{1.192} = 115.80$$

A total of 116 retail pharmaceutical firms were considered in the study. The study used the systematic sampling method where every K^{th} variable was selected till the entire population was exhausted. The study considered every 4th firm as the K^{th} variable to select 116 firms from the total list of the 720 retail pharmaceutical firms in Nairobi County. The collected data was analyzed by inferential statistics and descriptive. Inferential statistics technique was used to test hypotheses.

The general model for predicting firm performance was represented by the following model: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon_1$ where Y is the firm performance and is a linear function of X_1 (knowledge management), X_2 (operating environment) and, X_3 (competitive strategies), β_{1-3} are the regression coefficient.

RESULTS

The hypothesis was to establish the joint effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi County. To assess the joint effect, the following hypothesis was tested (refer table 1):

H₀₄: The combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi County, Kenya is not significant.

Table 1: Joint Influence of Knowledge Management, Operating Environment and Competitive Strategies on Performance

Model Summary ^d										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.742 ^a	.551	.546	.18965	.551	115.206	1	94	.000	
2	.799 ^b	.638	.630	.17110	.088	22.497	1	93	.000	
3	.866 ^c	.751	.743	.14280	.113	41.518	1	92	.000	1.980

a. Predictors: (Constant), Knowledge management

b. Predictors: (Constant), Knowledge management, Operating Environment

c. Predictors: (Constant), Knowledge management, Operating Environment, Competitive Strategies

d. Dependent Variable: Firm Performance

ANOVA ^a		Table 1...				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.144	1	4.144	115.206	.000 ^b
	Residual	3.381	94	.036		
	Total	7.525	95			
2	Regression	4.802	2	2.401	82.024	.000 ^c
	Residual	2.723	93	.029		
	Total	7.525	95			
3	Regression	5.649	3	1.883	92.347	.000 ^d
	Residual	1.876	92	.020		
	Total	7.525	95			

a. Dependent Variable: Firm Performance

b. Predictors: (Constant), Knowledge management

c. Predictors: (Constant), Knowledge management, Operating Environment

d. Predictors: (Constant), Knowledge management, Operating Environment, Competitive Strategies

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	1.863	.214		8.702	.000		
	Knowledge management	.562	.052	.742	10.733	.000	1.000	1.000
2	(Constant)	1.176	.241		4.871	.000		
	Knowledge management	.466	.051	.615	9.069	.000	.845	1.184
	Operating Environment	.293	.062	.322	4.743	.000	.845	1.184
3	(Constant)	.778	.211		3.690	.000		
	Knowledge management	.208	.059	.274	3.542	.001	.451	2.216
	Operating Environment	.176	.055	.193	3.221	.002	.752	1.330
	Competitive Strategies	.447	.069	.529	6.443	.000	.402	2.486

a. Dependent Variable: Firm Performance

The results presented in Table 1 reveal that knowledge management, operating environment as well as competitive strategies jointly influence firm performance given the overall significance. Combined, the variables explained 75.1% of performance variation ($R^2 = .751$) implying that the rest of variation is explained by other factors not considered in the model. At individual level, knowledge management variable as an independent variable ($R^2 = .551$) explained 55.1% of the performance variation whereas knowledge management and operating environment in a joint form ($R^2 = .638$) explains 63.8% of variation in firm performance.

All the three factors (in model 3) exhibited higher significant as compared to individual factors that is; knowledge management ($\beta = .208$, $t = 3.542$, $p < .05$), operating environment ($\beta = .176$, $t = 3.221$, $p < .05$) and competitive strategies ($\beta = .447$, $t = 6.443$, $p < .05$). Specifically, the

results revealed high overall significance ($F=92.347 < F_c=3.94$, $p\text{-value} < .05$) in the combined model. The resulting estimated model became;

$$\text{Performance} = 0.778 + 0.208\text{KM} + 0.176\text{OE} + 0.447\text{CS}$$

Where, KM is knowledge management; OE is operating environment and CS is competitive strategies. Based on the above results therefore, the hypothesis that the combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi County, Kenya is not statistically significant was thus rejected.

CONCLUSIONS

Establishing the joint effect of knowledge management, operating environment and competitive strategies on performance, was the fourth objective of the study. A hypothesis stating the combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi City County is not significant was formulated and tested. The test of the hypothesis was done using multiple regression analysis. The research findings showed that the joint influence of knowledge management, operating environment and competitive strategies on performance was higher than their singular effects hence the null hypothesis was thus rejected.

RECOMMENDATIONS

The study further recommends that since the acquisition of knowledge gives a strategic leverage that empower employees psychologically as well as practical knowledge. The benefits relating to knowledge should be well articulated which includes faster accessing of new knowledge as opposed to competitors, minimizing duplication and solving problems quicker, customer service improvement and encouragement of innovativeness.

The study also recommends that firms should minimize cost through use of appropriate technology as well as encouraged staff on cost reduction culture. This can be achieved through costing for all of their products and ensured efficiency on operation. Finally the study recommends a well-developed knowledge management capability framework in order to understand the operating environment and thus enable the owners or managers come up with best combination of strategies that are competitive in the market to foster superior performance. These strategies may include cost cutting strategies, focusing on a particular market as well as differentiating products as per the customer needs.

WAY FORWARD

The study sought to establish the relationship between knowledge management, operating environment, competitive strategies and performance of retail pharmaceutical firms in Nairobi County. Future studies could therefore focus on the same study but in other counties then compare the results with this study. Also future study could be done on SME's and compare the similarities and differences that will be established in these two diverse sectors. Further studies should also consider introducing different variables other than operating environment and competitive strategies in testing for moderating and intervening effect.

Other studies on the factors influencing knowledge management like top management team characteristics may also be important to evaluate their effect on the employees' consumption and dispensation of knowledge. There are several possible sources of uncertainty in the retail pharmaceutical industry like international market tariffs and bilateral agreements and blocs which are possible extraneous factors that could impact on supply of pharmaceutical products which future study could factor in as control variables.

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