Relationship between Systems and Programs and Business Performance of Pharmaceutical Firms in Nairobi County

***James Ngari Karimi*[1*]**
[1]*Chandaria school of Business, United States International University-Africa*

*Correspondence email: jamesngari@gmail.com

Abstract

Organizations that aspire to be successful and competitive need to demand and find better ways to improve their business performance by utilizing their systems and programs as a construct for structural capital which comprises of non-human assets. Systems and programs are mechanisms that firms have put in place in order to execute their organizations objectives. They include succession management programs, recruitment programs, and reward systems among others. Systems and programs play a crucial role in the current ever-challenging and aggressive business environment, particularly in knowledge-intensive organizations such as pharmaceutical industry. This study sought to establish the relationship between systems and programs for business performance of pharmaceutical firms in Nairobi County. Systems and programs research question was used to test the relationship between business performances of the pharmaceutical companies in Nairobi County. Descriptive research design was used for the study. Data was collected from 19 pharmaceutical firms using structured questionnaires. Purposive sampling was used that targeted human resource managers and in their absence, their deputies were consulted. Pearson bivariate correlation and regression analysis were used to test the relationship and significance of the variables. The findings indicated that systems and programs as a construct for structural capital had positive and significance relationship with business performance of pharmaceutical firms'. The study concludes that succession management programs, recruitment programs and reward systems are critical to the success of the business and recommends that, the pharmaceutical firms should create a supportive culture that helps employees to produce new ideas and build systems that work. The recruitment programs should be comprehensive and dedicated to hire the best candidates available who can work as a team and influence Business Performance.

Key words: *Systems and Programs, corporate culture, succession management Business Performance, Pharmaceutical Firms*

IJPP 7(2); 49-57

Introduction

In the knowledge economy the organization's capabilities are based on knowledge, skills and abilities and managers should understand which capabilities they need in order to maintain their competitive advantage (Curado, & Bontis, 2006). Systems and programs can be defined as mechanisms that firms have put in place in order to execute their organizations objectives, they include succession management programs, recruitment programs, and rewards systems among others.

As critical construct of structural capital that business organizations need to utilize so that they achieve competitive advantage. Business performance is one of the outcomes of achieving organizational goals. Many organizations achieve this by focusing on profit margins, growth in shares, and debt versus equity ratio among others measures (Cabrita & Bontis 2008). Globally investors tend to focus on return on equity as their primary measure of business performance. Many top managers focus heavily on this metric as well, recognizing that it is the one that seems to get the most attention from the investor community.

Even though more complex valuation techniques like internal rate of return, and discounted cash flows techniques modeling have come along, Return On Equity has proven enduring. Return on Equity focuses on return to the shareholders of the company. As a shareholder, this gives a quick and easy metric to understand. If investors are not careful, it can divert attention from business fundamentals and lead to business surprises. Companies can resort to financial strategies to artificially maintain a healthy Return on Equity for a while and hide deteriorating performance in business fundamentals (Ashton, 2005).

In Africa, Progress in the pharmaceutical industry is associated with multiplier benefits such as technology advances, systems and programs and improved health indicators. Pharmaceutical companies in Africa could see rapid gains in the coming years. African business pages estimates the pharmaceutical sector could be worth $65 billion by 2020 which is triple of its value in 2013. To realize such gains will require a more easily-navigable regulatory system, scaled-up production infrastructure, and shrewd specialization.

Not all African countries have the resources to deliver in the Pharmaceutical sector but McKinsey suggests that regional hubs in more advanced economies such as Nigeria and Kenya could be viable if carefully executed. Local production could lower the cost and improve the quality of medical drugs, as well as aiding the development of high-value skills and technology (Kieron, 2018).Pharmaceutical firms in Nairobi County are considered as one of the paramount knowledge intensive organizations and a great source of intellectual capital (Pharmaceutical society of Kenya, 2019).

The market for pharmaceutical products in Nairobi County is estimated at Kshs 10 billion per annum. The government, through Kenya Medical Supplies Agency is the largest purchaser of drugs manufactured both locally and imported, in the country. The pharmaceutical industry in Nairobi County consists of three segments namely the manufacturers, distributors and retailers and all these play a major role in supporting the

country's health sector (Pharmaceutical society of Kenya, 2019). Kenya is the largest producer of pharmaceutical products in the Common Market for Eastern and Southern Africa region supplying about fifty percent of the regions market (Pharmaceutical society of Kenya, 2019).

Firms achieve business performance by actively engaging on the corporate strategy and making sure that all the functional units of the organization work as a team and cascade the duties and responsibilities as per their strategic plan. Human productivity is at the Centre stage to achieve business performance. Research asserts that organizations need to have systems and programs in place in order to achieve better performance. The ones that do not have systems and programs in place tend to fail and not achieve business objectives and hence no competitive advantage.

The missing link in pharmaceutical firms in Nairobi county is lack of proper systems and programs to execute their mandate in the industry and having a great contribution to the health agenda and the government plight of universal health care it places them in a very uncompetitive position as compared to other foreign firms. Therefore, there is need to bridge this gap. The objective of the study was to determine the relationship between systems and programs on business performance of pharmaceutical firms in Nairobi County.

Business performance in this study can be defined as tangible measurable result of attainment of organizational goals in improving the possibility of successfully implementing a business strategy. Business performance is evaluated by helping management make decisions regarding its performance by selecting metric indicators, collecting and analyzing data, assessing information against a certain set performance criteria, reporting, communicating and periodically reviewing and improving this process as a result of set premise within the organization(Aswath, 2019).

In the context of this study, certain metrics were used to measure business performance of Pharmaceutical firms for example i) Sales Growth and Profits Growth. ii) Human Productivity metrics such as employee Productivity, Process Productivity, Industry leadership and Market valuation or Stock Value. Research has shown that the success of an organization depends on how well they utilize their human resources and consequently the contribution in the use of systems and programs that enables to create meaning and viable solutions to existing concerns within the organization (Watson 2002).

Resource based view of the firm was used as the key Pillar of the study as it indicates that firms gain competitive advantage and achieve superior performance through the acquiring, holding and efficient use of strategic assets (Barney, 1991). Tangible and intangible assets (such as systems and programs) are perceived as potential strategic assets that can create value to the organization and ultimately create competitive advantage to the organizations. Researchers, practitioners and scholars argue that in comparison with the tangible resources like the physical resources such as buildings, infrastructure intangible resources such as intellectual capital, systems, tacit knowledge are more likely to be the key resources in companies that help them acquire the required competitive advantage or ensure they dominate the market (Marr, 2004; Lev, 2001)

Materials and Methods

The research employed descriptive research design in order to identify, analyze, and describes the relationship between systems and programs for business performance of pharmaceutical firms in Nairobi County (Thorn hill et al, 2009; Nicholas, 2011; William, et al, 2010). This design was chosen since it provided an accurate account of characteristics of a particular individual or group event in real life situation, (Kothari, 2004).

The target population of the study was 45 pharmaceutical manufacturing firms that were listed by the pharmaceutical society. Of the 45 companies, 31 local manufacturing pharmaceutical companies' were reached and only 19 were able to avail the data, this met the threshold of >60% (Mugenda 2008). Purposive sampling was used and the key respondents were human resource managers but the deputy human resource managers were considered where the managers were not present to respond to the questionnaires. Structured Questionnaires were administered to collect data from the respondent.

The construct were subjected to reliability tests by establishing their internal consistency using Cronbach alpha. The Cronbach alpha values were 0.707 for systems and programs, and 0.860 for business performance. For the analysis of the respective relationship between business performance and systems and programs were defined and logarithmic bivariate linear regression analysis was performed based on the model shown.

$$\ln BP = \beta_0 + \beta_1 SP + \varepsilon$$

Where $\ln BP =$ logarithm of Business Performance $\beta_0 =$ Intercept,

$\beta_1 =$ Slopes coefficients representing the influence of the associated dimensions of structural capital over the business performance

$SP =$ Systems and Programs

$\varepsilon =$ Error term

Data analysis was guided by the research objectives that is; the relationship between systems and programs and business performance of pharmaceutical firms in Nairobi County. Diagnostic test for normality was done using Kolmogorov – Smirnov test for dependent. Pearson Bivariate correlation coefficient was used to test the relationship between independent and dependent variables. The correlation coefficient was calculated to determine the strength of the relationship between the independent and dependent variable. Analysis of variance test was then used to analyze whether the relationships were statistically significant (Sekaran, 2013; William, *et al*, 2010). Multiple regression analysis was conducted to test if the specific objectives were statistically supported (Cooper & Schindler, 2014; Sekaran, 2013).

Results and Discussions

The response rate was 58%. 18) Questionnaires were returned out of thirty one (31) that were sent Descriptive statistics such as mean were useful in data reduction and item analysis. Logarithmic regressions were therefore used in testing the association of variable since they were not normal and therefore transposition of data was done to create the linear relationship. The variables were tested for reliability and Table 1 Shows the results.

Table 1: Cronbachs Alpha of Variables

Variables	Cronbachs alpha	Number of items
Systems and programs	0.707	10
Business performance	0.860	10

Table 1 shows the reliability coefficients of systems and programs at 0.707 and business performance at 0. 860. From the results, it is evident that the variables met the threshold of 0.7 and above and were used for subsequent further analysis (Nunnaly, 1978).

Table 2: Descriptive statistics of Systems and Programs

Statement	Mean	Std. Deviation	N
Q_1:SP_Company succession management training programs	3.39	1.145	18
Q_2:SP_ Culture of the company is supportive and comfortable	4.00	1.029	18
Q_3:SP_ The recruitment_programs_are_comprehensive	3.61	.850	18
Q_4:SP_Company_has_well_developed_reward_system_related_performance	3.22	1.003	18
Q_5:SP_Company_supports_their_employees_upgrading_skills_education	3.28	1.018	18
Q_6:SP_Staff_have_sufficient_influence_over_decision_made_in_company	3.17	1.150	18
Q_7:SP_The Company is not _bureaucratic	3.67	1.085	18
Q_8:SP_Company_systems_and_programs_affect_company_productivity	4.17	.618	18
Q_9:SP_Company_systems_and_programs_influence_company_profitability	4.28	.826	18
Q_{10}:SP_Company_systems_and_programs_affect_company_market_value	4.22	.732	18

Table 2 shows the mean of systems and programs as construct of structural capital. From the Table, it is evident that Q9 featured prominently with a mean score of 4.28 out of a Likert scale of possible 5, Q10 with a mean score of 4.22 out of 5, Q8 with a mean of 4.17 out of 5 and Q2 with a mean of 4.00 out of 5. The pharmaceutical firms in Nairobi county need to make improvements on the following; their employee needs to have input in decision making within the company, the Company needs to have well developed reward systems that are pegged on performance, and also supports their employees in capacity development. When the above highlighted issues are taken care of by the pharmaceutical firms, there is likelihood that they will improve their performance. For example succession management where employees in line of management are supposed to be trained in order to assume more responsibility as other employees retire

and occupy the vacant positions, there is need for the firms to prepare their employees for the future through trainings, mentorship and coaching. The corporate culture within the organization should be supportive and comfortable to the employees so that they can perform to their best.

Table 3: Correlation between Systems and Programs, and Business Performance

		Ln_SP
Ln_SP	Pearson Correlation	1
	Sig. (2-tailed)	
	N	18
Ln_BP	Pearson Correlation	.823**
	Sig. (2-tailed)	.000
	N	18

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

Table 3 shows correlation coefficients of systems and programs versus the business performance of pharmaceutical firm's variable. The Pearson coefficients of Systems and Programs and business performance was positive and significant and had a coefficient of 0.823 at P=0.000.

Table 4: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829	.688	.646	.41295

Table 4 shows the model summary of systems and programs and business performance indicate that it represents 64.4% of the variation on business performance of pharmaceutical firms in Nairobi County. From the results it is evident that the other 35.6% was represented by other variables that were not considered in this study.

.

Table 5: Analysis of variance

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.628	2	2.814	16.503	.000
	Residual	2.558	15	.171		
	Total	8.186	17			

Table 5 indicates the analysis of variance which shows that the model was significant at P=0.00 and therefore it met the threshold of p≤0.05 at F=16.503.

Table 6 shows the regression coefficient results which indicated that systems and programs was positive and significant at P=0.018. This means that the construct met the threshold of P≤0.05. The findings

from the regression analysis imply that future human productivity, sales growth per employee productivity can be enhanced by efficient management of systems and programs

Table 6: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	-9.728	1.919		-5.068	.000
Ln_SP	2.146	.806	.536	2.663	.018

a. Dependent Variable: Log Business Performance
b. Predictors: (Constant), Ln_SP.

Table 6 shows the regression coefficient results which indicated that systems and programs was positive and significant at P=0.018. This means that the construct met the threshold of P≤0.05. The findings from the regression analysis imply that future human productivity, sales growth per employee productivity can be enhanced by efficient management of systems and programs.

Conclusion

The principal objective of the study was to investigate the relationship between systems and programs and business performance of pharmaceutical firms in Nairobi County. The measurement of business performance were Sales Growth, Profits Growth, employee Productivity, Process Productivity, Industry leadership and Market valuation.

The Pearson correlation coefficient showed that the there was a positive and significant relationship at 0.823 with a P-value of 0.00. Regression analysis was used to test the relationship between the variables and it also represented a positive and significant relationship at P=0.018 and t-value of 2.663. Therefore, the findings based on correlation and regression indicated there existed an association between systems and programs and business performance of pharmaceutical firms in Nairobi County.

Recommendations

The pharmaceutical firms should create a supportive and comfortable culture that helps employees to produce new ideas and build systems and programs that work. The firm's recruitment programs should be comprehensive and dedicated to hiring the best candidates available who can work as a team, instead of those who are too self- centered and not willing to cooperate with others.

The top management of the pharmaceutical firms should develop a systems and programs strategy so that they are able to drive business performance of their firms. It is through this strategy that they will empower the employees in decision making, mentorship for succession management, improve company profitability and market value

.

References

African Business Pages (2019).*The changing face of the Pharmaceuticals Market in Africa.* Retrieved from https://news.africa-business.com/post/the changing face-of the-Pharmaceuticals market in Africa

Ashton, R. H. (2005). Intellectual capital and value creation: A review, *Journal of accounting literature, 24*, (5) 53 -134

Aswath, D. (2019). *Profitability and Value Creation*, Retrieved from https://seekingalpha.com/article/4236106-january-2019-data-update-6-profitability-value-creation

Barney, J.B. (1991). Firm resources and sustained competitive advantage, *Journal of Management*, *17* (1), 99-120

Bontis, N., Keow, W., & Richardson, S. (2000). Intellectual capital and the nature of business in Malaysia, *Journal of Intellectual Capital*, 1(1), 85-100.

Cabrita, M., & Bontis, N. (2008). Intellectual capital and business performance in the Portuguese banking industry, *International Journal of Technology Management*, 43 (1-3), 212-237.

Canibano, L., Garcia-Ayuso, M., & Sanchez, P. (2000). Accounting for intangibles: A literature review, *Journal of Accounting Literature*, 19 (7) 102-30.Cooper, R. & Pamela, S. (2014). *Business Research methods,* Newyork:McGraw-Hill.

Curado, C., & Bontis, N. (2006). The knowledge based-view of the firm and its theoretical precursor, *International Journal of Learning and Intellectual Capital*, 3 (4), 367-81

Kieron M. (2018). The business trends shaping Africa in 2019 and beyond. Retrieved from https://edition.cnn.com/2018/12/17/africa/business-trends-shaping-africa-in-2019-and-beyond/index.html

Kombo, D.K., & Tromp, L.A., (2006). *Proposal and Thesis Writing*, Nairobi, Kenya: Paulines Publishers.

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*, New Delhi: New Age International.

Lazear, E, (2000). Performance Pay and Productivity, *American Economic Review*, *90* (5), 1346-1361.

Lev, B, (2001). *Intangibles: Management, Measurement and Reporting*. Retrieved from www.intangibles.html

Marr, B., Schiuma, G., & Neely, A. (2004). The dynamics of value creation: mapping your intellectual performance drivers, *Journal of Intellectual Capital*, 5(2), 312-25.

Moslehi, A., Mohagharl, A., Badie1, K., & Lucas, C. (2006). "Introducing a toolbox for IC measurement in the Iran insurance industry", *The Electronic Journal of Knowledge Management*, 4 (2), 169-80.

Mugenda, A. (2008). *Social science Research: Theory and Principles, Applied Research and Training services,* Nairobi: ACTS

Nachmias, C.F. & Nachmias, D. (2008). *Research methods in the social sciences,* London:Martin Press, Inc

Nunnaly, J. (1978). *Psychometric Theory* (2nd ed) , Newyork: McGraw-Hill

Pharmaceutical Society of Kenya, (2019). *Kenya pharmaceutical industry*. Retrieved from https://www.psk.or.ke/.

Riahi-Belkaoui, A. (2003). Intellectual capital and firm performance of US multinational firms. *Journal of Intellectual capital*, 4 (2), 215-26

Rob, U. (2010). *A survey to measure your company's Human Resource Productivity, a checklist of measures and actions*. Retrieved from www.workinfo.com/free/downloads/60.htm

Salleh , A., & Selamat, F.(2007), Intellectual capital management in Malaysian public listed companies international, *Review of Business Research Papers*, 3 (2), 262-74

Schuler, T. (2000). Social and Human capital, the search for appropriate technomethodology, *Policy Studies* 21 (1), 25-35

Sekaran, U. (2013). *Research Methods for Business. A skill building approach.,* New York: John Willey & Sons, Inc.

Seetharaman, A., Balachandran, M., & Saravanan, A.S. (2004). Accounting treatment of goodwill: Yesterday, today and tomorrow, *Journal of Intellectual Capital*, 5 (1), 131-52

Saari, S. (2006). Productivity: Theory and Measurement in Business Espoo. Retrieved from http://www.mido.fi/index_tiedostot/Productivity_EPC2006_Saari.pdf

Saari, B. & Abbas, M. (2011). *The Relationship between Intellectual Capital and Business Performance:* An empirical study in Iraqi industry. IPEDR 6, 104-109

Tan, H., Plowman, D. & Hancock, P. (2007). Intellectual capital and financial returns of companies, *Journal of intellectual capital*, 8 (1), 76-95

Thornhill, A. Saunders, M., & Philip, L. (2009).*Research Methods for Business Students* (5th ed.). London: Pearson education,

Watson, W.(2002). *European Human Capital Index*. Retrieved September, 12, 2018 from http://www.watsonwyatt.com/research/resrender.asp?id=hci2002&page=10n

Youndt, M.A., Subramaniam, M. & Snell, S.A. (2004). Intellectual Capital profiles: An examination of investment and Returns, *Journal of management studies*, 41 (2), 335-61