

competitive than other companies and are therefore more successful. It has been argued that the success of an organization depends on how best the scarce physical resources are utilized by human resources. The physical resources are being activated by the human resources as they cannot act on their own.

According to the resource based view, firms may gain competitive and can achieve superior performance through the acquisition, holding and subsequent use of strategic assets (Barney, 1991). Both tangible and intangible assets are perceived as potential strategic assets. Among the invisible assets, human capital is generally considered to be a vital strategic asset (Riahi-Belkaoui, 2003, Seethamraju, 2000). Many scholars argue that in comparison with the tangible resources, intangible resources are more likely to be the key resources for many enterprises which help them in acquiring the required competitive advantage or to ensure market dominance Marr, (2004).

2.2 Problem Definition and Objectives

Relational capital as a component of intellectual capital is not recognized in the statement of accounts of pharmaceutical firms in Kenya. Relational capital entails Strategic Alliances, Licensing and Agreements, Customer and Supplier Relations, Customer Knowledge. Networks play a vital role in the success of any business and therefore if these facets of relational capital are not nurtured then, the pharmaceutical firms will lag behind in their endeavor to improve their business performance. It is in this perspective that the study aims at establishing the relationship between relational capital and business performance of pharmaceutical firms in Kenya.

Specifically the study sought to determine whether Strategic Alliances, Licensing and Agreements, Customer and Supplier Relations and customer knowledge influences business performance among pharmaceutical firms in Kenya.

3. Methods

The study adopted descriptive research design to identify, analyze, and describes the relationship between human capital and business performance of pharmaceutical firms in Kenya (Thorn hill *et al*, 2009, Nicholas, 2011, William, *et al*, 2010). This design provides an accurate account of characteristics of a particular individual event or group in real life situation, (Kothari, 2004, Mugenda, 2008). Descriptive design may be used for the purpose of developing theory, identifying problems with current practice, justifying current practice, making judgments' or determining what others in similar situations are doing (Sekaran, (2008). The target population was pharmaceutical manufacturing firms listed by the pharmaceutical society of Kenya. The target population was 89 pharmaceutical firms as per the directory of manufacturers (Kimotho, 2010). The sample frame was 31 local manufacturing pharmaceutical companies' licensed by the pharmacy and poisons board 2010.

3.1 Sample and Sampling Technique

Sampling is done to some elements of a population so that conclusions about the entire population can be drawn. The ultimate test of a sample design is how well it represents the characteristics of the population it purposes to (Kothari, 2004, Thorn hill, 2009, Nachmias & Nachmias, 2008). The entire target population constituted 89 local pharmaceutical manufacturers, but only 31 local manufacturers were chosen since they had been licensed by Pharmacy and Poisons Board. This constituted 35% of the population.

According to (Mugenda 2008, William *et al*, 2010, Orodho and Kombo, 2002) they recommend that for small populations a sample of 30 is statistically significant. The respondents were human resource managers but their deputies were considered where the Human resource managers were not present to respond to the questionnaires. These managers of each pharmaceutical firm were chosen using simple random sampling to give them equal chances of being selected.

3.2 Measurement of Dependent Variable

Three dependent variable were taken into account namely; profitability, human productivity and market valuation. Correlation analysis was done to establish whether there was correlation between Profitability and Relational capital, Human Productivity and relational capital and Market valuation and relational capital of the Pharmaceutical firms. These are denoted respectively as:

3.3 Profitability

Profitability was measured using sales growth which is the increase in sales over a specific period of time, often but not necessarily annually and profit growth which is a combination of profitability and growth, more precisely the combination of economic profitability (Brealey *et al*, 2005).

3.4 Human Resource Productivity

In human resources, productivity is more difficult to measure, understand and define. According to (Rob, 2010, Saari, 2006, Lazear, 2000, Bandiera, *et al*, 2010), what influences the productivity levels of staff is wide variety of skills, characteristics and attitudes. Productivity describes how efficiently inputs are converted into outputs. According to Watson (2002), the productivity of a firm lies more on its intellectual capital and system capabilities than on its hard assets.

Bontis *et al* (2000) argues that leveraging knowledge assets is the key to a firm's prosperity. A firm with higher capital performance is expected to have higher rate of profitability and also it may experience higher productivity (Rob, 2010, Saari, 2006). This was measured by employee Productivity and Process transaction Productivity, success rate in new products launches.

3.5 Market Valuation

Intangible Assets are difficult to measure; it is common to find use of proxy metrics Kannan & Albur (2004). There is no adequate empirical evidence that supports the superiority of any proxy measure over the others. The sub construct in the dependent variable was measured by the company's stock value, response to competition, overall business performance and success as well as future outlook

3.6 Measurement of Independent Variables

The independent variables were first run through the statistical package for social sciences to test their reliability by establishing their cronbach alpha. Then they were subjected to factor analysis so that the sub contrast that had an item to total correlation of less than 0.2 were eliminated and they were not to be used for further analysis. The cronbach alpha of the three variables that is; Strategic Alliances, Licensing and Agreements, Customer and Supplier Relations and customer knowledge 0.70, which is considered good for exploratory research (Nunnally, 1978).

3.7 Instruments

The main primary tool of data collection was the structured questionnaire which was used to collect factual information with likert scale from 1 to 5. The structured questionnaires are recommended because they help the respondents to respond more easily and help the researcher to accumulate and summarize responses more efficiently (William, 2006, Thorn hill, 2009). In this study likert scale was used since the data obtained was ordinal.

3.8 Multiple Linear Logarithmic regression

For the analysis of the respective relationship between the business performance and dimensions of human capital were defined from the conceptual framework, multiple linear regression analysis was performed based on the model.

3.9 Data Collection Procedure

The questionnaire targeted the Human resource managers and their deputy's managers drawn from the pharmaceutical

manufacturer's population. Human resource managers and their deputy's of the pharmaceutical firms were the most knowledgeable with respect to the overall situation of their firms. Cooper & Schindler (2006) recommends the use of questionnaire in descriptive studies because typically cost less than personal interviews, sample accessibility.

3.10 Data Processing and Analysis

Data analysis was guided by the research objectives. Data from the questionnaire were edited, coded and analyzed. In order to test for the normal distribution of response data, a Kolmogorov – Smirnov test for dependent and independent variables was conducted. 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 independent and dependent variable. Analysis of variance test was then used to analyze whether the relationships were statistically significant (Mugenda, 2008, Sekaran, 2008 & William, *et al*, 2010). Multiple regression analysis was conducted to test whether the individual research question was statistically supported (Cooper & Schindler, 2006, Sekaran, 2008).

4. Results and Discussions

Table 1: Reliability analysis

Variable	Number of items	Cronbachs Alpha
Strategic Alliances, Licensing and Agreements	10	.730
Customer Supplier Relations	10	.624
Customer Knowledge	10	.654

The results of the study as indicated on Table 1, shows that the three constructs used meet the reliability threshold as shown with strategic alliances, licensing and agreements having a coefficient of 0.730, customer suppliers' relations had 0.624 and customer knowledge with 0.654 respectively.

4.1 Validity analysis

Table 2: Component matrix of the three independent variables

	Component		
	1	2	3
SLA Company prides itself on being partnership - oriented	.779		
CSR Company capitalize on customer wants and needs by continually striving to make them satisfied	.763		
SLA Company able to learn and add value through its partners	.724		
CK Customer knowledge is widely distributed throughout company	.712		
CSR Company maintains long standing relationship with suppliers	.688		
SLA People from outside company are consulted when decision are made within company	.668		
SLA Company has many and diverse alliances	.639		
CSR A poll of company customers show them to be loyal to company would indicate that they are generally satisfied	.535		
CSR Company relationship with customer supplier affect market value		.732	
CSR Company relationship with customer supplier affect profitability		.708	
CSR Company feels confident that will continue to do business with it		.685	
CK Company has useful and updated information system in use		.627	
CK Company continually meets customers to find out what they want		.589	

SLA Company strategic alliances affect company market value			.934
SLA Company strategic alliances affect company productivity			.792
CK Is it Important for company share knowledge with partners			.616
SLA Company currently working on joint projects with many other organizations			.585
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

The results on Table 2, indicates that out of the three variables that were considered, not all the questions qualified for validity. This is an indication that validity analysis was used to reduce the items into meaningful ones. The results showed that out of 10 questions that were considered for strategic alliances and agreements (SALA) only 7 meet the threshold, consumer service relations (CSR) had 6 that meet the threshold and consumer's knowledge had only 4 questions that meet the threshold. All the others were dropped not to be considered for subsequent further analysis.

Table 3: Descriptive statistics of Strategic Alliances, Licensing and Agreements

	N	Minimum	Maximum	Mean	Std. Deviation
Company currently working on joint projects	18	1	5	3.11	1.53
Company has diverse distribution channels	18	2	5	3.78	1.003
High ratio of company business done with strategic alliance	18	1	5	3.33	1.138
Company has many and diverse alliances	18	1	5	3.61	1.378
People outside company consulted	18	1	4	2.78	0.943
Company able to learn and add value through its partners	18	1	5	3.11	1.079
Company prides itself on being partnership oriented	18	1	5	3.28	1.127
Company strategic alliances affect company productivity	18	2	5	3.83	0.924
Company strategic alliances affect company profitability	18	2	5	3.72	1.018
Company strategic alliances affect company market value	18	2	5	4	0.97

Table 3 shows the descriptive statistics of strategic alliances, licensing and agreements. The results indicated that people outside the company are not highly consulted as this had the lowest mean of 2.78 as compared to the others. The highest mean was 4.0 which showed that the company's strategic alliances affect the company's market value. The results showed that the companies considered in this study means are relatively placed ranging from 3.11 to 3.83.

Table 4: Descriptive Statistics of Customer and Supplier Relations.

	N	Minimum	Maximum	Mean	Std. Deviation
A poll of company customers show them be loyal to company	18	3	5	4.06	.802
New business Company customers select company products	18	3	5	3.67	.594
Company capitalize on customer wants and needs	18	2	5	4.06	.802
Company takes considerable time to select suppliers	18	2	5	3.83	.707
Company maintains long standing relationship suppliers	18	3	5	4.00	.686
Company greatly reduced time resolve customer problem	18	2	5	3.72	.752
Company feels confident that will continue to do business	18	3	5	4.28	.752
Company relationship customer supplier affect productivity	18	2	5	4.39	.778
Company relationship customer supplier affect profitability	18	4	5	4.61	.502
Company relationship customer supplier affect market value	18	4	5	4.56	.511

Table 4 shows the descriptive statistics of customer and supplier relations. The results indicate that out of the questions that were considered in this study the highest mean score was 4.61 showing clearly that the companies relationship with the customer and the supplier affects the profitability of the firm. However, the companies need to take care of new business so that the customers can select the company products. This scored the least in this category with a mean of 3.67. The company needs to also resolve customer problems; this scored a mean of 3.72. On the other statements that were considered, the pharmaceutical companies were fairly rated with scores ranging from 3.83 to 4.56.

Table 5: Descriptive statistics of Customer Knowledge

	N	Minimum	Maximum	Mean	Std. Deviation
Important share knowledge partners	18	3	5	4.06	.802
Company gets much feedback from customers	18	3	5	3.83	.618
Customer knowledge widely distributed	18	1	5	3.50	.924
Customer data continuously updated	18	1	5	3.56	1.042
Company has relatively complete data on suppliers	18	1	5	3.67	.970

Company_meets_customers_to_find_what_they_want	18	1	5	3.50	1.200
Company_useful_updated_information_system_in_use	18	1	5	3.56	.984
Company_knowledge_customers_affect_company_productivity	18	2	5	3.94	.873
Company_knowledge_customers_affect_company_profitability	18	1	5	4.06	.998
Company_knowledge_customers_affect_company_market_value	18	3	5	4.44	.705

Table 5 shows the descriptive statistics of customer knowledge which is the third component of relational capital. The results indicate that the pharmaceutical firms need to sensitize the customers on the products they have (3.50). The firms also need to meet the customers to find out what they want due to change in customer preferences (3.50) moreover; the firms get much feedback from customers (3.83). The firms need to regularly update their information systems. There was also an indication that customer knowledge affects company's productivity with a mean of 3.94.

4.2 Correlation Analysis

Table 6: Correlation Analysis between Independent and Dependent Variable

		SALA	CSR	CK	LogBusiness Performance
SALA	Pearson Correlation	1	.419	.439	.581*
	Sig. (2-tailed)		.083	.069	.011
	N	18	18	18	18
CSR	Pearson Correlation	.419	1	.401	.482*
	Sig. (2-tailed)	.083		.099	.043
	N	18	18	18	18
CK	Pearson Correlation	.439	.401	1	.696**
	Sig. (2-tailed)	.069	.099		.001
	N	18	18	18	18
LogBusiness Performance	Pearson Correlation	.581*	.482*	.696**	1
	Sig. (2-tailed)	.011	.043	.001	
	N	18	18	18	18

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the correlation between customer knowledge, Customer and Supplier Relations and Strategic Alliances, Licensing and Agreements. The results indicate that correlations were positive at SALA (0.581 at P=0.011), CSR (0.482 at P=0.043) and CK (0.696 at P=0.001). The variables meet the threshold since the three of them had a precision level of less than 0.05(P<0.05).

4.3 Regression Models OutPut

Table 7: Goodness of Fit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982	.964	.956	.56096

a. Predictors: Ln_CK, Ln_SALA, Ln_CSR

Table 7 shows the goodness of fit. The results of the study show that the three variables that were considered explained 95.6 % variation of business performance of pharmaceutical

firms in Kenya. The remaining 4.4% is a representation of other variables that have not been considered in this study.

Table 8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	125.146	3	41.715	132.566	.000 ^a
	Residual	4.720	15	.315		
	Total	129.866	18			

a. Predictors: Ln_CK, Ln_SALA, Ln_CSR
 b. Dependent Variable: LogBusinessPerformance
 c. Linear Regression through the Origin

Table 8, shows the analysis of variance. The results of the study indicates that the model of the study was significant at P=0.00 at 18 degrees of freedom at F=132.566. This was a good indication that the model of the study meet the threshold and it's was positively significant.

Table 9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Ln_SALA	1.287	.871	1.692	1.477	.160
	Ln_CSR	-2.801	1.173	-.3874	-2.388	.031
	Ln_CK	2.332	1.193	.3155	1.954	.070

a. Dependent Variable: LogBusinessPerformance
 b. Linear Regression through the Origin

Table 9 shows regression coefficients of the three variables against business performance. The results indicate that SALA was positive but insignificant since it surpassed the threshold P≤0.05. CSR had a positive and significant influence on business performance and meet the threshold since P=0.031. Ck also had a positive and significant influence on business performance of Pharmaceutical firms with a P=0.070. It had surpassed the threshold with 0.02. Therefore among the three variables CSR was Ranked First, followed by CK and thirdly SALA.

The study therefore concluded that the final model of the study was follows;

$$Y = 1.287SALA - 2.801CSR + 2.332CK$$

5. Conclusion

The study concluded that the three independent variables under considerations that were SALA, CSR and CK had positive influence on business performance of pharmaceutical firms in Kenya. However, SALA had a positive influence but it was not significant. Therefore Relational Capital was one of the vital components of intellectual capital that needs to be taken into considerations for the Businesses to succeed.

6. Future Scope

The study mainly focused on Relational Capital in the pharmaceutical firms in Kenya. Other studies can be conducted to focus on other corporate sectors. Therefore the study cannot be generalized in other sectors.

References

- [1] Barney, J.B. (1991). "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No.1, pp.99-120
- [2] Bandiera, O, Luigi, G., Andrea, P. and Raffaella. S. (2010). "Matching firms, managers and incentives", LSE mimeo.
- [3] Bontis, N., Keow, W., & Richardson, S. (2000). "Intellectual capital and the nature of business in Malaysia", *Journal of Intellectual Capital*, Vol. 1 No.1, pp.85-100
- [4] Brealey, Richard A.; Myers, Stewart C.; Allen, Franklin (2005). "*Principles of Corporate Finance*" (8th ed.). Boston: McGraw-Hill/Irwin.
- [5] Chen, M.C., Cheng, S. J. and Hwang, Y. (2005). "An empirical investigation of the relationship between intellectual capital and firms market value and financial performance" *Journal of intellectual capital*, Vol 6, No. 2 pp. 159-176
- [6] Cooper R.D. & Pamela, S. (2006). *Business Research methods*, Newyork, McGraw-Hill.
- [7] Kannan, G., Aulbur, W. (2004). "Intellectual capital: measurement effectiveness", *Journal of Intellectual Capital*, Vol. 5 No.3, pp.389-413
- [8] Kimotho, (2010). "A Regional Drug Index," East African Pharmaceutical Loci, Nairobi.
- [9] Kothari, C. R. (2004). "*Research Methodology: Methods and Techniques*", New Delhi: New Age International.
- [10] Lazear, E., (2000). "Performance Pay and Productivity", *American Economic Review* Vol 90 No. 5, pp. 1346-1361.
- [11] Marr, B., Schiuma, G., & Neely, A. (2004). "The dynamics of value creation: mapping your intellectual performance drivers", *Journal of Intellectual Capital*, Vol. 5 No.2, pp.312-25.
- [12] Mugenda, A. (2008). "*Social science Research: Theory and Principles*", Applied Research and Training services, Nairobi
- [13] Nachmias, C.F. & Nachmias, D. (2008). *Research methods in the social sciences*, London, Martin Press, Inc
- [14] Nicholus, W. (2011). "Social Sciences Research Methodology, the basics" NewYork, Routledge
- [15] Nunnaly, J. (1978). "Psychometric Theory" 2nd edition, Mcgrawhill, Newyork.
- [16] Orodho, A.J. and Kombo, D.K. (2002). "*Research Methods*", Nairobi; Kenyatta University, Institute of Open Learning
- [17] Pharmaceutical Society of Kenya, (2012). "*Kenya pharmaceutical industry*", Nairobi, Kenya
- [18] Republic of Kenya, (2007). Labour Laws, Government Printers, Nairobi Kenya.
- [19] 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 on 13th May 2011
- [20] Riahi-Belkaoui, A. (2003). "Intellectual capital and firm performance of US multinational firms" *Journal of Intellectual capital*, Vol. 4, No. 2 pp.215-26
- [21] Saari, S. (2006). "Productivity. Theory and Measurement in Business" Espoo, Finland: European retrieved from http://www.mido.fi/index_tiedostot/Productivity_EPC2006_Saari.pdf. On 25th September, 2011
- [22] Sekaran, U. (2008). "Research Methods for Business. A skill Building Approach", New York: John Willey & Sons, Inc.
- [23] Seethamraju, C. (2000). "The value relevance of trademarks." Working paper. New York City.
- [24] Thornhill, A. saunders, M., & Philip , L.(2009) *Research Methods for Business Students* 5th edition, Pearson education, London
- [25] Tan, H.P., Plowman, D. & Hancock, P. (2007). "Intellectual capital and financial returns of companies," *Journal of intellectual capital*, Vol 8 No. 1, pp. 76-95
- [26] UNIDO, (2011). Pharmaceutical sector profile report, Vienna, USA
- [27] Watson, W., (2002). "European Human Capital Index" Retrieved September, 12, 2011 from <http://www.watsonwyatt.com/research/resrender.asp?id=hci2002&page=10n>
- [28] William, G.Z. (2010). *Business Research Methods*: Thompson Publishers, southwestern, Indiana
- [29] William, M.K., (2006). "*Research methods knowledge base*", Retrieved October, 25, 2010. From <http://www.socialresearchmethods.net/kb/quesresp.php>
- [30] Williams, J. R., Susan F. H., Mark S. B., & Joseph, V, C. (2010). *Financial & Managerial Accounting*. McGraw-Hill Irwin
- [31] Youndt, M.A., Subramaniam, M. & Snell, S.A. (2004). "Intellectual Capital Profiles: An Examination of Investment and Returns," *Journal of Management Studies*, Vol 41 No. 2, pp. 335-61

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