and encouraging word of mouth. There is need to introduce sports into academic currilum through which sports scholarship can come in. The study also found out that programs should always be reviewed and more to be developed that are marketable and are in line with the industry needs in order to attract student's enrolment. This supports the literature by Kotler and Keller (2009) who stated that highly innovative firms are able to identity and quickly seize new market opportunities. This can be done through development of new programs, new learning concepts and new research findings.

B2012-07: Relationship between Human Capital and Business Performance of Pharmaceutical Firms in Kenya

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Abstract

Human capital is a range of valuable skills and knowledge a person has accumulated over time and it is the resourcefulness that   gives an organization a competitive advantage since it cannot be imitated by the competitors and therefore it is a strategic resource and an asset to the organization. There is no doubt human capital plays a crucial role in the current ever-challenging and aggressive business environment, particularly in knowledge-intensive organizations such as pharmaceutical industry. The organizations that aspire to be successful and competitive need to demand and find better ways to improve their business performance by utilizing their human capital. This study sought to establish the relationship between human capital and business performance of pharmaceutical firms in Kenya. Three research questions were used to test the relationship of the components of Human capital with the Business performance of the pharmaceutical companies in Kenya. Data was collected from 19 pharmaceutical firms. Pearson correlation and regression were used to test the relationship and significance. The findings indicated that the three dimensions of Human capital that is learning and education, experience and expertise, innovation and creation have positive and significance relationship with business performance of pharmaceutical firms'. However learning and education was the most significant variable. Therefore, accounting for human capital is essential for the improved business performance of pharmaceutical firms.

Key words: *Human Capital, Learning and Education, Experience and expertise, innovation and creativity, Business performance, pharmaceutical industry.*

Introduction

The growing importance of human capital and intellectual property as determinants of economic success at both the macroeconomic and enterprise levels, it should also be clear that the nature of investments made by firms needs to shift to reflect the new economic realities. Specifically, if human capital is a key determinant of organizational success, then investments in training and development of people also become critical (Flamholz, 2002).

As an intangible asset, human capital gains no specific recognition on the standard financial statements of corporations. However, in the new economies of the 21st century it is becoming increasingly clear that intangible factors such as the firm's investments in human resource are playing an increasingly dominant role in the creation of wealth. The capability for a value proposition to the marketplace through economic activity increasingly consists of exchanges of information, ideas, communication, and expertise in distinctive competencies and services. Corporate profitability is often driven more by organizational capabilities than by control over physical resources, and even the value of physical goods are often due to such intangibles as technical innovations embodied in the products, brand appeal, creative presentation (Lev, 2001).

Pharmaceutical industry in Kenya

Kenya uses about 8% of the GDP on health. According to African countries supplying pharmaceutical products to the Common Market and COMESA, Kenya exported US$ 43,677 in 2008 and this is likely to go up UNIDO, (2011). The pharmaceutical industry in Kenya consists of three segments namely the manufacturers, Distributors and retailers and all these play a major role in supporting the country's health Sector which is estimated to have about 4557 health facilities country wide (PSK , 2010). Kenya is currently the largest producer of pharmaceutical products in the common market for eastern and southern Africa region supplying about 50% of the regions market. Out of the regions estimated 50 recognized pharmaceutical manufacturers, approximately thirty are based in Kenya. It is also approximated that about 9,000 pharmaceutical products have been registered for sale in Kenya.

Currently, medical care is a prerequisite among employers; the law requires that every employer ensure the provision of proper medicines and attendance to employees unless otherwise provided for by the government (labor laws, 2007). The pharmaceutical industry is important and crucial sector in the Kenyan economy. The pharmaceutical sector consists of about 31 licensed concerns which include local manufacturing companies and large multinational corporations. These firms collectively employ over 2000 people, about 65% of who work in direct production. The companies that were considered in this study were sought from the pharmaceutical society of Kenya which its roles and objectives are licensing the pharmacists, as well as ensuring the drug store managers are members of the pharmaceutical society and have sworn allegiance to the pharmacy practitioners professional oath (PSK,2010).

Statement of the problem

Conventional financial statements treat human resources investments as expenditures; hence training human resources is treated as an expense rather than investments in the business organizations. Human

capital is not recognized in the statements of financial position of business organizations as assets yet from human resource perspective it is referred to as strategic asset (Canibano *et al*, 2000, Ashton, 2005).

Firms that extensively account for the input of human capital in their organizations are more competitive than those that do not and therefore they are more successful (salleh, 2007). In Kenya seldom none of the pharmaceutical firms account for their human capital in their financial statements and therefore, have difficulties attracting investors (Kristandl & Bontis, 2007). Hence the need to study the relationship between human capital and business performance of pharmaceutical firms in Kenya

Specific objectives of the study

Specifically the study sought to determine whether learning and education, experience and expertise, innovation and creativity influences business performance among pharmaceutical firms in Kenya.

Literature Review

Human capital theory

This theory emphasize the value added that people contribute to an organization. It regards people as assets and stresses that investments by organizations in people will generate worthwhile returns. The theory is associated with the Resource based view of the firm as Barney, (1991). The theory proposes that sustainable competitive advantage is attained when the firm has a Human Capital that cannot be imitated or substituted by its rivals, for the employer investments in training and developing people is a means of attracting and retaining human capital as well as getting better returns from those investments.

Human Capital is a component of intellectual capital which has been referred to as a strategic asset (Bontis, 1998) and this is what makes an organization to perform better due to its unique characteristics that cannot be imitated. These returns are expected to be improvements in Business performance, human productivity, flexibility and the capacity to innovate that should result from enlarging the skills base and increasing levels of knowledge and competence. According to Schuller (2000), he suggests that the general message is persuasive skills, knowledge and competences are key factors in determining whether organizations and firms will prosper or fail. The dimensions of human capital investigated in the study include the following;

Learning and Education

This contains the competencies, skills and intellectual agility of the individual employees. Tan *et al* (2007), adds that as part of intellectual capital variable it also includes collective knowledge of individuals which steers the organization to achieve objectives and goals hence improved business performance.

Experience and Expertise

These are the competencies and the skills which are presented by the individuals in the organizations. This is what gives the organizations competitive advantage over other organizations when a company has employees with the conceptual skills and they have worked in related departments for some times and therefore they are in a position to transform the organization to better performance. This is indicated by employees being experts in their respective areas and they are professionals in their careers (Curado & Bontis, 2006).

Innovation and Creativity

Creativity is the ability to think a new idea. Innovation is the process by which the new idea is put into practice. This definition of creativity allows for the artistic creative genius and the brilliant inventor, but also enables everyone to be creative, since anyone can have a new idea. The definition of innovation links the world of ideas to the world of human affairs. Innovation and creativity are addressed everywhere in the organization where by employees come up with new ideas that give the organizations competitive advantage over the others hence improved business performance (Edward, & Roberts, 2007).

Business Performance

Many authors strongly belief that human capital could have positive effect on the company's financial performance (Riahi- Belkaoui, 2003; Youndt *et al*, 2004; Chen *et al*, 2005; Tan *et al*, 2007). Business performance is defined as measurable result of the level of attainment of organizational goals or measurable result of the organizations management of its aspects mechanism for improving the likelihood of the organization successfully implementing a strategy. Business performance evaluation is the process to help management's decisions regarding an organizations performance by selecting indicators, collecting and analyzing data, assessing information against performance criteria, reporting and communicating and periodically reviewing and improving this process.

The business performance was measured by use of (Sales Growth, Profits Growth), Human Productivity (Employee Productivity, Process Productivity, Industry leadership) and Market valuation (Stock Value). According to (Youndt *et al* 2004) intellectual capital intensive companies are more 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).

Methodology

The study adopted descriptive research design to identify, analyzes, and describes the relationship between human capital and business performance of pharmaceutical firms in Kenya (Thorn hill *et al*, 2009, 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 (Herbert, 2011, 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.

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.

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 human capital, Human Productivity and human capital and Market valuation and human capital of the Pharmaceutical firms. These are denoted respectively as:

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).

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, Lazear, 2000). This was measured by employee Productivity and Process transaction Productivity, success rate in new products launches.

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

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; learning and education, experience and expertise, innovation and creation was 0.70, which is considered good for exploratory research (Nunnally, 1978).

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.

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.

$$\ln BP = \beta_0 + \beta_1 LE + \beta_2 EE + \beta_3 IC + \varepsilon$$

Where $\ln BP =$ logarithm of Business Performance

$\beta_0 =$ Intercept

$\beta_1 - \beta_3 =$ Slopes coefficients representing the influence of the associated

Dimensions of human capital over the business performance

$LE =$ Learning and education

$EE =$ Experience and expertise

$IC =$ Innovation and creation

$\varepsilon =$ Error term

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.

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, Herbert, 2011, 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).

Results and Discussions

Table 4.1 Descriptive of learning and education

	N	Minimum	Maximum	Mean	Std. Deviation

	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Q1LE competence of company employee	18	2	5	3.67	.243	1.029
Q2LE company gets most out of employees cooperation	19	2	5	4.11	.228	.994
Q3LE undergo continuous training program to employees annually	19	1	5	3.79	.271	1.182
Q4LE company employees continuously learn from each other	19	1	5	3.53	.221	.964
Q5LE Ratio of educated personnel on average compared with industry	19	1	5	3.37	.267	1.165
Q6LE Company devotes a lot of time effort update and develop employees knowledge and skills	19	1	5	2.84	.220	.958
Q7LE Company's market share continually improve over past few years	19	1	5	3.42	.233	1.017
Q8LE Employees learning and education affect company's productivity	19	1	5	4.00	.216	.943
Q9LE Employees learning and education affect company's profitability	19	2	5	4.11	.169	.737
Q10LE Employees learning and education affect company's market value	19	2	5	4.00	.171	.745
Valid N (listwise)	18					

Table 4.2 indicates the descriptive statistics of learning and education. The results indicate that the pharmaceutical firms get much of results out of employee's cooperation(Q2LE), employees learning and education affects pharmaceutical firm's productivity and profitability as well as market value(Q8LE,Q9LE,Q10LE). This conforms to previous studies by (Cabrita & Bontis, 2008, Saari, 2011, Khalique *et al*, 2011). However, the pharmaceutical firms they need to devote a lot of time and effort to update and develop employee's knowledge and skills (Q6LE).

Table 4.2 Descriptive of experience and expertise

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Q1EE Company employees are experts in respective areas	19	1	5	3.74	1.098	1.205
Q2EE Company employees consistently perform their best	19	2	5	3.47	.964	.930
Q3EE Company employees generally give their all to make company different	19	1	5	3.32	1.003	1.006

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Q4EE Company employees work for many years in the firm	19	1	5	3.21	1.273	1.620
Q5EE Company prides itself on being efficient	19	2	5	3.68	.946	.895
Q6EE staff are highly professional	19	1	5	3.37	.955	.912
Q7EE company has lowest cost per transaction of any in the industry	19	1	5	2.68	.946	.895
Q8EE Employees experience and expertise affect company profitability	19	3	5	4.16	.501	.251
Q9EE Employees experience and expertise affect productivity	19	2	5	3.89	.809	.655
Q10EE Employees experience and expertise affect market value	19	1	5	4.00	1.054	1.111
Valid N (listwise)	19					

Table 4.2 indicates the employees experience and expertise affects company productivity, profitability and market value (Q8EE, Q9EE, and Q10EE). It is indicative that employees are experts in respective areas (Q1EE). These results confirm other previous studies done by (Bin Ismail, 2005, Salleh & Salamat, 2007, Moslehi *et al*, 2006). However, the transaction cost of the industry needs to be improved (Q7EE).

Table 4.3 Descriptive of Innovation and Creation

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Q1IC Company employees are considered creative and bright compared to other companies in the industry	19	1	5	3.26	1.098	1.205
Q2IC Company employees are keen to voice opinions in group discussions	19	1	5	3.47	1.172	1.374
Q3IC Company employees usually come up with new ideas	19	1	5	3.26	1.046	1.094
Q4IC Large numbers of new products are launched with competitors	19	1	5	2.89	.937	.877
Q5IC company employees encouraged new ideas and knowledge	19	1	5	3.26	1.147	1.316
Q6IC company employees satisfied with company innovation policies and programs	19	1	5	3.21	1.084	1.175
Q7IC company employees highly motivated and committed to share new great ideas	19	1	5	3.21	.976	.953
Q8IC employees innovation and creation affect company productivity	19	2	5	3.84	.765	.585
Q9IC employees innovation and creation affect company profitability	19	3	5	4.00	.667	.444

Q10IC employees innovation creation affect company market value	19	3	5	4.11	.658	.433
Valid N (listwise)	19					

Table 4.3 indicates that employee innovation and creativity affects company's productivity, profitability and market value (Q8IC, Q9IC, and Q10IC) (Cabrita & Bontis, 2008, Saari, 2011, Khalique *et al*, 2011). However the pharmaceutical firms they need to launch large number of new products with competitors.

Reliability and validity analysis

Table 4.4: Reliability and validity measures

Variable	Number of items	Cronbachs alpha
Learning and education	6	0.736
Experience and expertise	5	0.542
Innovation and creativity	8	0.850
Business Performance	10	0.860

Table 4.4 indicates the reliability measures for the four variables that is Business Performance which had a cronbach alpha of 0.860, which shows that it is acceptable measure for business performance as per the Cronbachs rule of internal consistency reliability. Learning and education had a cronbach alpha of 0.736 which indicates that it is acceptable for further analysis. Experience and expertise had Cronbachs alpha of 0.542. However out of the independent variables innovation and creation had the highest Cronbachs alpha of 0.850 which indicates that it was highly reliable for further analysis.

Influence of Human capital on business performance

The dimensions of human capital were used to test the influence. Pearson correlation coefficient indicated that LE, EE and IC influence Business performance with 0.723, 0.846 and 0.868 coefficients respectively. The overall logarithmic linear model was significant at F=140.034 and P value 000. The overall model indicated that 95.9% of the variance in business performance was jointly explained by log of LE, EE and IC.

Three interaction models were used to come up with the best model of the study. Model 1 constituted $LogEE$ and $LogLE$ the model had adjusted R^2 of 73.8% and was significant at F=24.890, and p-value 000 hence, $\ln BP = -5.976 + 2.377LE$ and p-value 0.001(without IC) Model 2 constituted $LogIC$ and $LogLE$ the model had adjusted R^2 of 75.7% and was significant at $F = 27.466$, p-value 000, hence $\ln BP = -5.778 + 1.766LE$ at p value 0.043 (without EE). Model 3

constituted $LogEE$ and $LogIC$ the model had adjusted R^2 of 70.3% and was significant at $F = 21.130$, p value 000, hence $\ln BP = -5.901 + 1.922IC$ at p value 0.003 (without LE). The best overall model of the study was Model 1 where learning and education was highly significant at value 0.001as shown on table 4.5

Table 4.5 Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.976	1.303		-4.586	.000
	ln_LE	2.377	.596	.736	3.991	.001
	ln_EE	.645	.663	.180	.974	.345

Conclusions

The findings showed that human capital influences Business Performance of Pharmaceutical firms in Kenya. The results indicated that learning and education, experience and expertise, innovation and creativity positively and significantly influence business performance. However business performance is a result of combined product of experience and expertise, learning and education. The objectives of the study were tested and the results indicated that all the three independent variables that is; learning and education, experience and expertise, innovation and creation had a positive significant influence on the Business Performance of the pharmaceutical firms in Kenya.

The purpose of the study was also arrived at since it was established that the pharmaceutical firms in Kenya do not account for their human capital and therefore they turn away the investors to other sectors of the economy. It was also discovered that the domestic pharmaceutical firms in Kenya are not listed in the securities exchange market and therefore their information is not public and this is a negative publicity to their operations in the market. As compared to international pharmaceutical firms the Kenyan pharmaceutical firms are performing poorly and it was discovered that the international pharmaceutical firms that operate in Kenya practice intellectual capital accounting hence their performance is above that of the domestic firms. An example of international firms that practice intellectual capital accounting is glaxosmithkline ltd.

The findings demonstrated that accounting for Human capital can be used to mobilize, assemble and manage all intangible resources in order to enhance business performance of pharmaceutical firms in

Kenya. The findings emphasize that Learning and education is the most important dimension of human capital that positively and significantly influences Business Performance.

Recommendations

The following recommendations were derived from the results and findings;

Recommendations on Research Findings

The domestic pharmaceutical firms need to practice Human capital accounting because that is the only way they can lure the investors by providing sufficient information to them and therefore make informed decisions whether to invest or not, otherwise asymmetric information would affect the business performance of the pharmaceutical firms.

1. **Recommendation from the perspective of market leadership**

Managers can improve the company's market leadership through improving employee learning and education, experience and expertise, innovation and creation since they affect the company's market value.

2. **Recommendation from the perspective of Financial Performance**

Managers can improve the company's financial Performance through devoting a lot of time, efforts to update and develop employee's knowledge and skills. In order to achieve the objectives of the firm, managers should provide more incentives for employees to give their all. The firms should also launch large number of new products in the market and this would enhance competitive advantage hence improved financial performance.

3. **General recommendations for Market leadership and Financial Performance**

Managers can improve the pharmaceutical firms Business Performance through creating an environment where employees can brainstorm for creativity freely in order to improve firm's business performance.

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