



# Insurance Investment in Strategic Human Capital Development: The Pains and Gains from Panel Microdata

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## ABSTRACT

This study examined the effect of insurance investment in strategic human capital development (SHCD) on performance of insurance companies in Nigeria. The fact that investment in SHCD is one of the most topical issues in the Nigerian insurance management and the continuous weak performance of insurance sector made this investigation necessary. The major objective of the study therefore was to examine the effect of insurance investment in staff training & development, wages & salary, retirement benefits compensation on employee value added (EVA), gross premium written (GPW), return on asset (ROA), and return on equity (ROE) of insurance companies. The study employed a quantitative research design and collected data from 20 insurance companies listed in Nigerian stock Exchange (NSE) over 2010 to 2014. The analysis was performed using pooled OLS, fixed effect and random effect estimation techniques. Results indicated that investment in SHCD on aggregate has no significant relationship with EVA but does with GPW, ROA and ROE whereas investment in SHCD practice like retirement benefits allowance has no relationship with all dimensions of performance of insurance companies. It was concluded that insurance investment in SHCD affect its performance unevenly. We recommend that management of insurance companies should train and develop its staff, devise incentivized salary and wags packages and committed to after work life benefits. This way, its SHCD investment will yield all-round proportionate increase in its performance in Nigeria.

**Key words:** Insurance investment, strategic human capital development, insurance performance, insurance management, human capital theory, Nigerian insurance industry.

## INTRODUCTION

Human capital today is one aspect of business that has gained prominence in the management of organizations. This is partly because many managers and scholars believe that it is human capital that organizes and coordinates other organizational resource and put them to effective use. Some authors argued that 'people are the greatest asset' in an organization, and explained further that without strong human capital, organizational resources and tasks would be difficult if not impossible to change the organization<sup>[i]</sup>. Others contended that human capital is the fabric and change agent in organization. Human capital has been identified as contributing to efficient resource utilization, value creation, and profit and wealth maximization; improve productivity and organizational competitiveness<sup>[ii]</sup>. In other opinions, human capital is about knowledge and skills obtained throughout educational activities such as training, compensations and rewards as well as healthcare and retirement benefits for employees<sup>[iii]</sup>.

Human capital can thus be seen as knowledge and care embedded in individuals in organizations and nations. From organizational perspective, the resource-based theory recognized human capital as an important firm asset that can drive superior performance. This is because in all dimensions, human capital is performance-oriented; and ability to perform well relates with the quality of human asset that an organization has. It could be inferred therefore that human capital is usually accumulated through education, training, working experience on firm's specific knowledge<sup>[iv]</sup>. Investment in human capital is to achieve an optimum return in terms of a gainful employment, productivity and high standard of living<sup>[v]</sup>. This means that human capital is credited with improved firm performance in terms of increased productivity (i.e. intra-firm benefit), job creation (i.e. economic benefit), and improve standard of living (i.e. human benefits).

Empirical studies in the 1900s reported the importance of HCD to include the development and growth of corporations, economy and individual<sup>[viii]</sup>. Similarly, many empirical studies in the twentieth century have also shown that human capital is one of the major influences and determinant of corporate capacity to innovate and perform better in terms of improved firm strategy, increased labour productivity and as a catalyst for change, providing a critical missing link for creating and sustaining competitive advantage for firms in a global economy <sup>[viii,v]</sup>. Consequently, many firms have invested resources, time and efforts in developing their human capital in anticipation of sustainable performance. As a result, HCD has become a top priority for many firms with the thrust of improving how firms employ, deploy and evaluate their workforce. Figures from Annual Statement of select insurance firms between 2000 and 2014, on average, shows about 13% yearly increment in human capital related expenses such as seminars, conferences as well as recruitment and on-the-job-training, salaries and wages, retirement benefits obligations among other. Some scholars have argued that such investment constitute cost item to the company and continuous investment at the rate currently observed above, may amount to over investment and probably, at a decreasing return to lay support for the classical economists' theory of diminishing marginal utility or returns <sup>[ix,x]</sup>. The reported increment indicates insurance firms' continuous investment and commitment to developing its human capital, perhaps as a strategy for growth, hoping for much gains and returns, yet empirical study on the effect of such commitment is scarce.

This study is thus set out to examine the effect of investing in HCD on productivity and performance of insurance companies with focus in Nigeria. The remaining part of this study present discussion on Industry profile and research imperatives, Theoretical underpinnings and empirical evidence, Methodology and design, Results and discussion, conclusions and implications and finally the limitations and ethical concerns of the study

### **INDUSTRY PROFILE AND RESEARCH IMPERATIVES**

The Nigerian insurance industry is a suitable setting to conduct this study due to its peculiar characteristics and unique challenges with a view to address the perennial challenges for improved financial services. As a highly regulated industry, the operating environment requires careful analysis of every activity of the firms to ensure that rewards compensate commitment commensurately. Fig I present an overview of the Nigerian insurance sector and the need to offer strategic means of strengthening the sector. It shows the percentage increase in the number of life (red line) and non-life (blue line) and in average aggregate (red line) number of insurance companies in Nigeria from 2002 to 2011. From 2006, the percentage increased to its peak in 2008 and fell in 2009 and 2010 from which it has maintained relative increase upwards. Fig II shows that insurers have made significant investment in HCD related activities which is represented by management expenses.

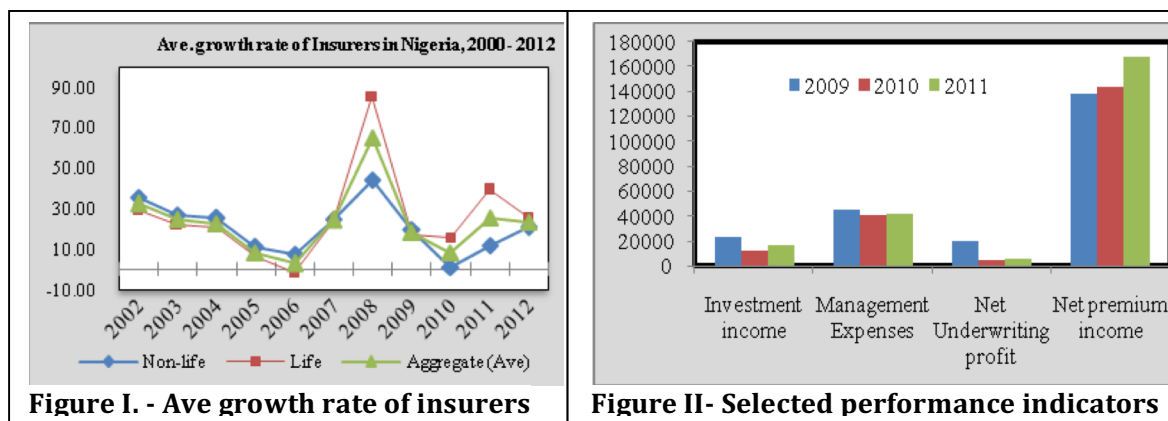


Figure I. - Ave growth rate of insurers

Figure II- Selected performance indicators

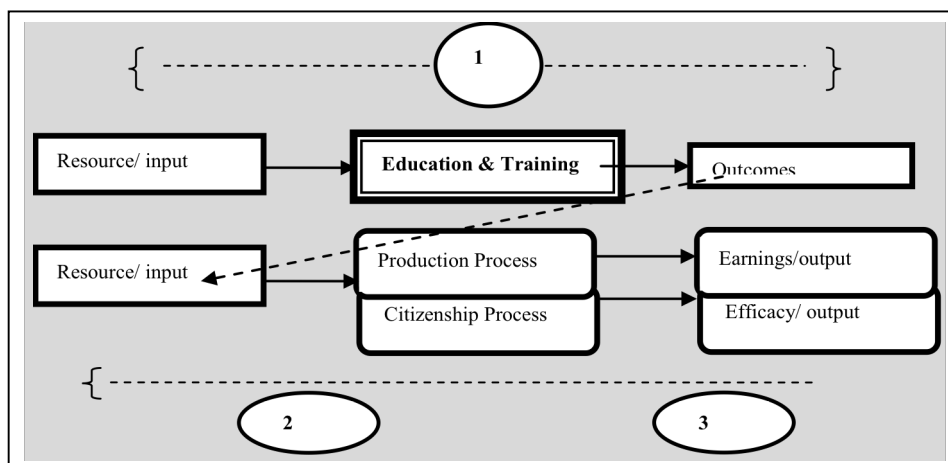
Source: Computed using data from NAICOM [xi]

Given the above scenario, it is uncertain if investment in HCD actually result on improve performance on aggregate because, investment income, net underwriting profit and net premium income are all human-related. Whereas net premium increase, investment income and underwriting profit decreased during the period thus making it difficult to practically conclude that investment in HCD resulted in improve performance or otherwise. Now that the industry is faced with high regulatory demands which will require firms to make tough decisions on virtually all areas and cost items to remain efficient and effective, a study of this kind is very important as hardly there is any known work in this direction. Since the insurance sector and the operating companies is undergoing fundamental shifts in the ways they conduct business, better performance and how to attain and maintain it should be of prime concern to insurance companies. Moreover, knowing that to survive in an environment where, all players provide almost the same products and services, the quality of the human element is a major factor and this makes this study more expedient.

### THEORETICAL UNDERPINNINGS AND EMPIRICAL EVIDENCE

Human capital is part of the organizational strategic human resource management (SHRM) issue of contemporary research interest. Resource based theory (RBT) recognized human in organizations as important asset a firm own or have access to which also form one of the key areas of internal workings of the firm<sup>[xii]</sup>. Advocates of RBT argued that sustainable corporate performance can originate from such asset/resource<sup>[xiii]</sup>. The RBT has thus formed an integrating theoretical platform for most researches in SHRM for decades<sup>[xiv]</sup>. The theory posits that firms develop competitive advantage vis-a-vis superior performance by not only acquiring but also developing, combining, and effectively deploying its physical, human, and organizational resources in ways that add unique value and are difficult for competitors to imitate<sup>[xv]</sup>. Among all, human capital resources which are products of complex social structures built over time and are often uneasy to comprehend and imitate. It includes the training, experience, judgment, intelligence, relationships, and insight of individual managers and workers. This study is therefore dependent on the prediction of RBT to validate its findings.

Moreover, human capital theory (HCT) which buds from the field of macroeconomic development theory is also applied in this study<sup>[xvi]</sup>. Whereas the RBT cedes superior performance to corporate resources which employee are part of it<sup>[xvii]</sup>, HCT specifically identify different ways of developing human capital to include schooling, training, salaries and wages, expenditure on retirement benefits obligation<sup>[xviii]</sup>. HCT considers labour as a tradable commodity and refers to human capital as knowledge, expertise, and skill one accumulates through these ways. Figure III presents the key relations in human capital theory and the assumptions underlying these relationships.



**Fig. III: Model of Human Capital Theory**  
**Source: Authors inference form cited author [xix]**

As indicated in the Fig. III, the first relationship shown by dotted line 1 represents the concept of production functions as applied to education and training, compensation and healthcare. The key assumption underlying this relationship is that investment in these practices results in increased learning and healthiness. The second relationship shown by number 2 in a circle represents the human capital relationship between learning (outcome from HCD investment) and increased productivity. The key assumption underlying this relation is that increased learning does, in fact, result in increased production process. The third and final relationship shown by number 3 in a circle represents the human capital relationship between increased productivity and increased wages and business earnings. The key assumption underlying this relationship is that greater productivity does, in fact, result in higher wages for individuals and earnings for businesses. As per conclusion, human capital does contribute to the organizational advantages and profits. The HCT has adequately and explicitly identified the pathways through which investment in human capital can lead to improve organizational performance. It thus provides a good theoretical support for the propositions and variables used in this study.

Empirically, a number of earliest and medieval scholars have investigated and found a positive relationship between HCD and firm performance in different times, space and climes<sup>[xx,xxi,xxii,xxiii,xxiv]</sup>. Contemporary researchers have kept their pace with emerging issues and examined HCD effect on firm performance. In some studies, the findings on the impact of intra-firm training participation on earnings and job performance were found to be both mixed and positive; in conclusion, the author said that investment in human capital yielded a positive result by increasing earnings and job performance<sup>[xxv]</sup>. Although a weak empirical effect of human capital on growth in existing cross-country studies, the authors attributed it partly to the result of an inappropriate specification that does not account for the different channels through which human capital affects growth; they concluded that a systematic replication of earlier results from the literature shows that both initial levels and changes in human capital have positive growth effects, while in isolation each channel often appears insignificant<sup>[ix]</sup>. Their taking was that the effect of human capital is likely to be underestimated in empirical specifications that do not account for both channels. In EU regions, human capital was found to explain productivity differences<sup>[xxvi]</sup>.

The conditions under which firms can capitalize on their international human capital (IHC) were investigated using the ability-motivation-opportunity (AMO) perspective<sup>[xxvii]</sup>. The authors conceptualize IHC as ability, collaborative climate as motivation, and the firm's level of

internationalization as opportunity. They authors tested and found that the relationship between IHC enhancement practices and firm performance is significant and positive only when both collaborative climate and internationalization are high. The effect of strategic human capital alignment framework on subsidiary strategy and performance of multinational enterprises (MNEs) was found to be positive<sup>[xxviii]</sup>. As argued in the earlier, past studies discussed general human capital investment in terms of relevant parameters except the inclusion of knowledge and skill. Knowledge and skills are what is developed through training and education so firms cannot invest in knowledge and skill but can invest in humans to develop the needed knowledge and skill. These mixed variables surly would not be a better predictor of human capital effect on performance because of a problem referred to here as a 'mixed variable effect'. Again, the variables in each performance dimension (financial - productivity, market share and profitability and non-financial - customer satisfaction, innovation, workflow improvement and skills development) of firm also differ from the dimensions considered in this study.

## METHODOLOGY AND DESIGN

### Sample and data set

There are 26 listed insurance companies that are currently trading on the Nigerian Stock Exchange (NSE). This study used 17 listed insurers which data was available for period covered. The data used in this study will be collected from annual report of individual companies. Data is drawn from seventeen (17) insurance firms in Nigeria for the period of five years (2010 – 2014) yielding a total of 85 observations.

### Variable and hypotheses development

#### *Performance*

Insurance performance can be measured and studied using financial and non financial indicators as fund in many insurance-specific studies<sup>[xxix, xxx]</sup>. In this study, both financial and non financial measures are used. These include employee value added (EVA), gross premium written (GPW), returns on asset (ROA), and return on equity (ROE) are used as proxies for insurance productivity and performance.

#### *Human Capital Investment (or Development).*

In this study, human capital investment is used synonymously with human capital development as well as human capital accumulation. HCD is defined as an investment that firms made at workplaces to train its workforces and such other investment that require learning and healthy living, knowledge and experiences for better performance of organizational tasks<sup>[xxxii]</sup>. In this study, the following proxies are used for investment in HCD:

*Staff training and development (STD)* – This encompasses all investment and enablement for participating in seminars, conferences to provide employees needed skills to perform their jobs. It has been investigated and found to influence firm performance in past studies<sup>[xxxii]</sup>. We expect it to influence insurance performance positively.

*Staff salaries and wages (SSW)* – This is a key component in organizational reward. Rewards are often thought of in terms of pay and other incentive packages which trigger better performance. A 10% increase in firm value was associated with an increase of 3% in CEO pay but only 0.2% in average workers' pay <sup>[xxxiii]</sup>(Bell & VanReenen, 2012). Thus it is expected in this study that SSW will positively impact insurers' performance.

*Compensation/Retirement benefits obligation (RBO)* – The philosophical root of compensation is that organizational tasks are not necessarily a good thing and thus those who are employed or assigned to perform such task lose something in some sense and what is lost should be

compensated. CRB was found to positively correlate with firm performance.

### Models and estimation methods

The models used include pooled ordinary least square (Pooled-OLS), fixed effect (FE) and random effect (RE) regressions. The specification of these models is as follows:

$$\text{Baseline panel mode specification: } Y_{it} = \beta X'_{it} + \alpha Z'_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

$$\text{Pooled – OLS model: } Perf_{it} = \alpha_o + \alpha_{1-4}STD_{it} + \alpha_2SSW_{it} + \alpha_3RBO_{it} + \varepsilon_{1t} \dots \dots \dots (2)$$

$$\text{Fixed Effect model : } Perf_{it} = (\alpha_o + \mu_i) + \alpha_1STD_{it} + \alpha_2SSW_{it} + \alpha_3RBO_{it} + \varepsilon_{1it} \dots \dots \dots (3)$$

$$\text{Random Effect model : } Perf_{it} = \alpha_o + \alpha_1STD_{it} + \alpha_2SSW_{it} + \alpha_3RBO_{it} + (\mu_i + \varepsilon_{1it}) \dots \dots \dots (4)$$

In above models,  $Y_{it} = Perf_{it}$  = performance of insurance companies represented by EVA, ROE, GPW and MKV;  $X'_{it}$  = HCD investment measured by STD, SSW, and CRB;  $Z'_{it}$  = controlled variables which are absent in our model;  $\alpha_o$  = constant;  $\alpha_{1-4}$  = coefficient of explanatory variables,  $\mu_i$  = latent variable,  $\varepsilon_{1it}$  = stochastic the error term,  $i$  = number of cross section subject, and  $t$  = time series data period.

## RESULTS

### Descriptive statistics

The descriptive statistics for both dependent and independent variables of the study are presented in Table I that follows.

**Table I – Descriptive statistics of variables**

Variable	Obs	Mean	Std. Dev.	Min	Max
eva	85	13.947	.939	11.818	15.470
gpw	85	15.410	.985	12.037	17.547
roa	63	-3.374	.783	-4.605	-1.514
roe	63	-2.571	.739	-4.605	-1.050
Std	85	10.925	1.230	7.971	13.663
ssw	85	13.072	.823	11.016	14.372
rbo	85	10.552	1.629	6.732	14.405

As shown above, the statistics indicate that during the period reviewed insurance companies in Nigeria performed relatively better in terms of EVA and GPW given their mean values of 13.947 and 15.410 respectively whereas ROA and ROE were negative, meaning the performance of insurers in this regard was poor. The descriptive statistics for HCD measures shows that insurance companies have also within the period invested reasonably in all measures of HCD. This is reflected in their respective mean values of 10.925, 13.072, and 10.552 for STD, SSW, and RBO respectively. It shows that insurers have made about 10.93%, 13.07%, and 10.55% investment of their resources in HCD through training, salary and retirement benefits respectively.

### Correlation matrix

In Table II, correlations among variables are presented. High correlation between variables such as LROA and LROE (R=0.781) and LGPW and LEVA (R=0.641) are allowed since they all played the same role and are used separately in different models. Correlation between LSSW

and LRBO is not too strong, and its effect can be tolerated, hence the used of VIF. However, the negative correlation between LSSW and LROA and ROE suggest that as LSSW increase, LROA and LROE decreases; same correlation is also observed between LRBO and ROE. Other variables exhibit positive correlations, indicating positive linear relationships.

**Table II – Correlation among variables**

	leva	lgpw	lroa	lroe	lstd	lssw	lrbo
leva	1.000						
lgpw	0.641	1.000					
lroa	-0.067	-0.341	1.000				
lroe	0.268	0.087	0.781	1.000			
lstd	0.335	0.240	0.176	0.208	1.000		
lssw	0.320	0.710	-0.336	-0.035	0.242	1.000	
lrbo	0.218	0.413	-0.089	0.098	0.199	0.509	1.000

### Regression results and discussions

The results for the above regression are presented in Table III. Interpretations for EVA, GPW, and ROA are based on the corrected model while interpreted based for ROE is based on Pooled OLS. This follows the outcome of several tests of compliance or non violation of relevant econometric assumptions of autocorrelation (via Wooldridge f-test), heteroscedasticity (via Wald chi2 test) where applicable, and multicollinearity. BP-LM test was used to chose between Pooled OLS and RE while Hausman test was used to chose between RE and FE model.

**Table III – Insurance investment measured by STD, SSW, RBO and productivity/performance measured by EVA, GPW, ROA and ROE**

Responsive variables	EVA				GPW				ROA			ROE	
	Pooled OLS	RE	FE	FE-Corrected	Pooled OLS	RE	FE	FE-Corrected	Pooled OLS	RE	FE-Corrected	Pooled OLS	RE
lstd	0.107 [0.245]	0.117 [0.188]	0.086 [0.377]	0.086 [0.510]	0.123* [0.066]	0.061 [0.240]	0.027 [0.621]	0.061 [0.225]	0.018** [0.013]	0.016** [0.029]	0.017** [0.051]	0.037** [0.035]	0.034* [0.060]
lssw	0.323** [0.025]	0.115 [0.522]	-0.487* [0.091]	-0.487 [0.186]	0.781*** [0.000]	0.488*** [0.000]	0.302** [0.047]	0.488*** [0.000]	0.021** [0.070]	-0.024** [0.072]	0.126** [0.018]	-0.032 [0.266]	0.040 [0.223]
lrbo	-0.031 [0.662]	-0.043 [0.575]	-0.043 [0.630]	-0.043 [0.632]	-0.011 [0.840]	0.035 [0.467]	0.045 [0.370]	0.035 [0.306]	0.000 [0.993]	0.001 [0.930]	0.001 [0.924]	0.003 [0.826]	0.006 [0.701]
Cons	8.868*** [0.000]	11.588*** [0.000]	19.816*** [0.000]	19.81*** [0.000]	3.969*** [0.003]	7.996*** [0.000]	10.690*** [0.000]	7.996*** [0.000]	0.094 [0.496]	0.146 [0.383]	0.169 [0.150]	-0.001 [0.997]	0.108 [0.793]
F-test	3.04**		6.61***	2.58***	26.77***	2.05	2.58***		2.75**			1.65	
R2	0.1096	0.1577	0.0301	0.0683	0.4979	0.4879	0.4643	0.4879	0.0923	0.0904	0.0760	0.0577	0.0560
BP-LM test	19.26***				65.12***				1.43			1.40	
Wald chi2 (15)		217.22***											
Hausman Chi2(9)		7.94**				5.35							
Wooldridge f-test			0.012			16.83***			3.512*			0.073	
Mean VIF			1.26			1.26			1.26			1.21	

\*\*\*, \*\*, \* Significant at 1%, 5% and 10% value respectively

The results from the first model suggest that insurance firm have not benefited in terms of increased value added or increased employee productivity from investing in HCD as all measures of HCD are insignificant in the model. This implies that in spite of the investment made in human capital, the productivity of the employees is not affected in a significant proportion that commensurate with such investment. In the second and third models, payment of salary and wages was found to significantly relate with gross premium written (at 1%) as well as returns on asset (at 5%). This means that a percentage increase in salary and wages is associated with about 48.8% and 12.6% increase in gross premium written and returns on asset respectively during the period reviewed. Results from the third and last model shows that expenditure on staff training and development has a marginal but significant association of about 1.6% and 3.7% increments ROA and ROE at 10% and 5% level of significance respectively.

Overall, the result indicates that payment of salary is the most HCD investment that has significantly improvement insurance performance in terms of gross premium written, and returns on asset while training and development makes a marginal contribution to return on asset and returns on equity. However, in terms of employee productivity, investment in HCD was found to be insignificant. This raises a number of concerns. First concern is on HCD policies of the firm, particularly on the type of training, salary scale and conditions associated with after work life of its staffs. From empirical perspectives, these results are in line with studies that found positive association between investment HCD and firm performance<sup>[xxxiv, xxxv, xxxvi]</sup> as well as those that presented contrary results [ix]. But the unique contribution of this study is by identifying specific dimensions of both HCI and firm performance with significant association within firms that depends more on human capital for effecting and efficient operations. The found uncorrelated relation between HCD and EVA signifies excessive expenses on claim administration, reinsurance and other miscellaneous charges/expenses which are deductions made from actual employee value added.

This is because profit and loss statement of the individual insurance firms, these expenses is deducted from gross premium written which is shown significantly with salaries and wages. Thus while more salaries and wages led to improved GPW, expenses on claim, reinsurance, and other charges seems to reduce the value generated by employees and this measure was uncorrelated with HCI in this study. The stock of human capital caused by HCI reduces asset intangibility as reflected in positive correlation between HCI and returns on asset and repositioned the employee to take informed decision that seems to favour owners of the firms than debt investors as reflected in positive association between HCI and return on equity.

### **CONCLUSIONS AND IMPLICATIONS OF STUDY**

Investment in human capital is a cost item to any firm but it is expected to generate commensurate or above average positive contribution to organizational bottom-line. We have examined the effect of this practice within insurance firms in a highly regulated emerging market economy – Nigeria. This is because, given the peculiarity of market and operational environment, insurers in Nigeria depend more in its employees for effective, efficient and productivity and performance. expenditure on training and development, salaries and wages, and retirement benefits obligations were examined as key areas of human capital related investment while employee value added (productivity), gross premium written, returns on asset and returns on equity were specified as measures of performance in the industry. Based on the findings made in this study, we draw the conclusions that increase in salaries and wages will positively and significantly increase gross premium written and returns on asset; increase in training and development will positively but marginally increase return on asset and return



on equity. Among insurance performance measures, return on asset is most impacted by HCI via salary and wages. Together with training and development, salary and wages is empirically proven to affect insurance performance. It is also concluded that retirement benefits obligations do not contribute to insurance performance. This type of investment is not expected to directly affect performance because the employees that are being developed are no longer engaged in the organization. Therefore, investment in HCD has a positive effect on performance of insurance firms but does not affect the productivity of employees in terms of value added. Insurance firms benefits from HCI in terms of value of asset, equity and premium written but not by employee productivity. This study has a number of implications which are presented as follows:

- Firstly, it is important for insurance firms to occasionally assess the benefits over the costs of investing in HCD in order to control the level or volume of such investment and stay within a point considered to be optimally efficient, otherwise it may be dangerous to the company, especially workers productivity.
- Secondly, not carrying out such assessment which results will be useful in guiding corporate decision and policy makers, the company may sooner than expected experienced severe liquidity problem due to overinvestment in HCD, especially as expenses on claim, reinsurance etc seems to override improvement in employee value added.
- Thirdly, policies on retirement benefits outside of the compulsory pension contribution should be relating with corporate goal regarding employee productivity so that the insurance sector may not become weaker and even bankrupt because of severe illiquidity problem that may arise from excess investment in such obligations.

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