Original Scientific Paper
UDC: 658.14
Paper received: 10/03/2018
Paper accepted: 30/06/2018

RELATIONSHIP BETWEEN HUMAN CAPITAL INVESTMENTS AND FIRM'S NET PROFIT

Matimba F Masuluke
Turfloop Graduate School of Leadership, Faculty of Management and Law, University of Limpopo South Africa
Email: *mabundaf@gmail.com*
Collins C Ngwakwe
Turfloop Graduate School of Leadership, Faculty of Management and Law, University of Limpopo South Africa
Email: *collins.ngwakwe@ul.ac.za*

ABSTRACT

This paper examined whether human capital investment (HCI) does contribute to the profit performance of selected companies in the FTSE/JSE Responsible Investment Index Series. Secondary data on companies' profit, human capital investment (HCI) (main independent variable) and sales turnover (STO) (control variable), were collected from the integrated reports of 28 companies for six years 2010 – 2015. Using a panel data approach and the regression statistics, findings from the analysis present two important findings. Firstly, the P value on the influence of two independent variables (HCI and STO) indicate a significant relationship at P = 0.0001. Secondly, the HCI, acting alone, shows a negative but not significant relationship with net profit. However, this relationship is temporary; at long run, HCI has the propensity to positively impact better performance of net profit, hence companies should not evaluate the HCI profit performance based purely on a short term. The benefit would take a little while to mature. The paper recommends further research to cover wider pool of companies at longer term.

Key words: *human capital investment; net profit; financial performance*

1. INTRODUCTION

This research evaluated the effect of human capital investment on firm's profitability. The paper is pertinent as businesses are battling with unprecedented competition regardless of industry type and size (Hall, 2015). One of the catalysts to navigate high competitive business environment is investment in human capital to equip business with the spot-on human resource capacity to improve strategic, financial and non-financial performance.

Human capital is an amalgam of competences implicit in knowledge, skills and personality attributes required to create economic value (Bendig, 2017). Investing in human capital is part of corporate strategy, which capacitates employees with theoretical and practical skills through training with potential end product of increased performance (kwon et al, 2013). Some companies are still hesitant and/or apathetic to invest in human capital with a seemingly skewed notion that such consumes firm's profit. However, the long term benefit of investing in human capital surpasses the short term costs; such benefits include increased sustainability attributes and financial value. The objective of this paper therefore, is to demonstrate empirically whether a relationship exists between human capital investment and corporate net profit.

The rest of this paper is organised as follows, the next section discusses the theoretical background of the paper. Following the theory, the paper presents a brief review of related literature. The method and results section follows the literature review; the last section presents the conclusion.

2. THEORETICAL FRAMEWORK: THE HUMAN CAPITAL THEORY

This research is supported by Human capital theory. The importance of human capital is largely the motivation behind governments' educational funding around the world (Taylor, 2017). Majority of human capital investment is anchored on educational and/or skills training. This involves both investment and, knowledge an financial gains (Papay et al 2016; Bryant et al 2016). Human capital theory is used to describe the condition of employee's production, it was presumed that labour production correspond with the human capital development needs that was suitable for tasks (Hall, 2015). Human capital theory relate with human capital investment through training, and the responsibility of employee knowledge and skills, performance, and economic growth (Mestieri et al, 2017). Thus human capital theory is a popular educational theory that is being used globally in understanding aspects of labours' skill and productivity. Therefore, training and education should be considered as an investment that provide gain to employees, companies and governments at large. Although human capital theory has attracted criticism (Tan, 2014), but its relevance has been felt in businesses around the world. Thus the relevance of human capital theory to this research is that human capital theory presume that training catalyses the performance of workers and that this controls the value returns that the company might receive. Hence since the 1960s human capital theory has been applied to the social and human behaviour policies connected to labour management and training (Marginson, 2017). This paper is thus anchored on human capital theory because it emphasizes productivity and efficiency implicit in workers' skill development (Bryant et al 2016). From the foregoing, this paper tried to examine if human capital expenditure has a relationship with the corporate net profit.

3. LITERATURE REVIEW

Shaw et al (2013), conducted a study that evaluate the human capital losses and organisation's performance. The research reveal that investing more on human resource management leads to losses of human capital, because employees become more literate and looks for better organisations that will suit the skills they acquired. The study further predicts that, because employees tend to leave the company, the voluntary turnover rates strongly affect the company's financial performance and productivity negatively.

In another study, Bapna (2013), evaluated the relationship between the human capital investments through employees training and employee performance in an organisation. Whilst the paper noted improvement in workers' skill, it also noted that not all employee training add value to employees' performance. Overall findings from Bapna (2013) reveal that human capital investment through training improves employees' performance and contributes positively to economic growth. In a closely related research, Vomberg (2015), examined the contribution of human capital and trademark to company performance. The findings provide a proof that there is a significant connection between the two variables.

Another empirical research focussed on workers' development, team building and company production value in small and medium firms in Portugal. Using the structural model approach, it analysed data from hundred and nighty nine organisations of three to fifteen years in operation, and from five different business industries. The results revealed that the ability and behaviour of managers affect the production of emerging organisations Storey et al (2014).

Sung et al (2014) examined the influence of human capital investment and company's transformation. The study investigated the impact of human capital investment on company's innovations. The researcher used a time – lagged approach and the data was collected from 260 Korean companies in all the sectors of activities. The results indicate that training expenses enhance learning environment that improve the company's transformation. The results further indicate strong connection between company internal training and transformation and on the other hand, it also indicates that training outside company does not have impact on company innovative performance.

It has also been argued that dimensions of human resource development could determine the effectiveness derivable. For instance, Sung et al (2014), examined the effect of different types of human resource development on company performance. The researcher used both qualitative and quantitative approaches for both management and employee perspectives. The result indicate that employee development increases labour efficiency and productivity which increase financial strength of the company. The findings of this study is that there is a positive link between human resource development and company performance regarding labour

Another study conducted by Jegede et al (2016), on the influence of human capital, transformation and company value aimed to determine the link between human capital, transformation and company value in the Nigeria mining sector. The researcher used non-probability, purposive sampling and collected data from 150 mining companies which received 70.6% rate feedback. It was noted from the study that all types of human capital are crucial for measuring the labour efficiency in the mining companies. The result in this study shows the strong relationship between employee's transformation and mining performance.

Pivac et al (2017) examined the linkage between human capital and company profit, controlled by profit margin ratios. The paper studied 5000 companies listed in the European Union from the Information Technology sector. Applying a five years panel approach, the results revealed that companies that spend more money in human capital investments make more profit. It also found that companies' prioritisation of employees' skill development depends amongst others, on size of company.

Researchers are also rummaging the assertions that human asset management activities might have some effect on the success of the company. A current research that stands out in this unique question is Vidija et al (2016), who examined the effect of human assets management activities on company's growth. Both qualitative and quantitative data on human resource management practices and company's performance were collected from integrated report archives of sixty listed firms in the Nairobi Security Exchange (NSE). Applying a cross-sectional survey data and multiple regression statistics, findings indicate a likelihood that companies, that excel in human resource management practice will have higher propensity to experience better productivity, enhanced profit, a boost in sales turnover and increase in capital attraction (Vadiji et al, 2016).

Wenzel (2017), performed a research aimed at revealing the effect of worker's development in a companies of social industry. The researcher used non-probability, purposive sampling and used qualitative data by means of open ended questionnaires. The findings of this study encouraged companies in social sector organisation to advance their knowledge in terms of human capital development in order to avoid more challenges that the SSO are facing.

Backman et al (2016), analysed the impact of employee development on corporate sustainability in Sweden. Findings from the research showed that employees are human assets and their value is determined by the level of education acquired and work related experience. The study finds that human asset influences the company's performance. Therefore, the study concluded that the growth and survival of the company is controlled by how human assets is dignified; see also Backman (2014), who confirm the productivity enhancement that comes with improvements in employee development.

4. RESEARCH METHODOLOGY

This paper made use of secondary data, which were collected from the sampled companies' annual financial statements. Furthermore, the paper adopted a quantitative research approach as the research paradigm is positivist – which involves measurement of the relationship between variables. In order to measure the relationship between these variables, a quantitative approach which employs statistical analysis was deemed suitable.

The population of this study comprised the companies listed in FTSE / JSE Responsible Investment Index Series. The researchers studied 28 companies for 6 years, which constitutes a panel data of 168 observations. These companies were purposively chosen based on consistent availability of human capital expenditure data over the six years of study. The human capital expenditure was the reported monetary expenses spent on human capital development in the annual reports of companies. The regression statistics was applied to analyse the panel data; in addition to the main independent variable, the researchers added a control variable, which is sales turnover, hence the two independent variables in the regression model appears below.

Regression Model: $\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

γ = Net Profit

$\beta_0 = \gamma$ intercept

$\beta_{1\text{-}3}$ = Regression coefficients

χ_1 = Human Capital Investment (HCI)

χ_2 = Sales Turnover (STO) (control variable)

e = error (represents effect of other omitted independent variables)

4.1. RESULTS AND INTERPRETATION

Table 1 Statistical results and Findings

Regression Statistics	
Multiple R	0.412095
R Square	0.169822
Adjusted R Square	0.159759
Standard Error	198369.5
Observations	168

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	1.33E+12	6.64E+11	16.87627	0.001
Residual	165	6.49E+12	3.94E+10		
Total	167	7.82E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	40644.22	20729.69	1.960677	0.0516	-285.421	81573.86	-285.421	81573.86
STO	0.019482	0.003479	5.599284	8.81E-08	0.012612	0.026352	0.012612	0.026352
HCI	-54.439	79.84734	-0.68179	0.496329	-212.093	103.2153	-212.093	103.2153

Overall regression significance shows that P value is 0.001 which is less than 0.05. Therefore, the finding thus indicates a significant a relationship between a combination of human capital expenditure, sales turnover and net profit. However, when we examine the performance of independent variables individually, χ1 (human capital investment: HCI) show a P value of 0.49 which is more than 0.05, showing a weak relationship for HCI. The second independent variable, sales turnover, indicate a P value of 0.0001, which is a high significance level. The implication therefore is that human capital investment must be accompanied by a high sales turnover to yield a positive impact on net profit. This finding also reveal a negative regression coefficient of -54.43, showing that R1 invested in HCI decreases net profit by R54 within the short term. Overall, the results show that within a short time span of 6 years, HCI may cause a reduction in net profit. This corroborates previous literature, which shows that at long run (about 13 years), companies that invest in HC would experience profitability (Blundell et al, 1999).

5. CONCLUSION

The findings in this paper indicate that within the short-term HCI may decrease profitability in companies. This decrease may be short-lived; Companies should not be discouraged by brief short-term decrease in profit arising from HCI. At long term companies that invest in HC would experience profitability (within a range of 10 – 13 years) (Blundell et al, 1999). Findings of this study is limited by time and number of companies used. It is likely that results may change from negative to positive with a longer period of data. Therefore, it is recommended that future research should use a longer period of data and wider coverage of companies to include more companies outside of the companies in the FTSE / JSE Responsible Investment Index Series.

6. REFERENCES

1. Backman, M., 2014. Human capital in firms and regions: Impact on firm productivity. *Papers in Regional Science*, 93(3), pp.557-575.
2. Backman, M., Mellander, C. and Gabe, T., 2016. Effects of human capital on the growth and survival of Swedish businesses. *Journal of Regional Analysis and Policy,* 46(1), pp.22-38.
3. Bapna, R., Langer, N., Mehra, A., Gopal, R. and Gupta, A., 2013. Human capital investments and employee performance: an analysis of IT services industry. *Management Science*, 59(3), pp.641-658.
4. Bendig, D., Strese, S., Flatten, T.C., da Costa, M.E.S. and Brettel, M., 2017. On micro-foundations of dynamic capabilities: a multi-level perspective based on CEO personality and knowledge-based capital. *Long Range Planning*. https://doi.org/10.1016/j.lrp.2017.08.002
5. Blundell, R., Dearden, L., Meghir, C. and Sianesi, B., 1999. Human capital investment: the returns from education and training to the individual, the firm and the economy. *Fiscal studies*, 20(1), pp.1-23
6. Bryant, C.E. and Javalgi, R.G., 2016. Global Economic Integration in Developing Countries: The Role of Corruption and Human Capital Investment. *Journal of Business Ethics*, 136(3), pp.437-450.
7. Hall, BW. 2015. *The new human capital strategy, improving the value of your important investment*. American Management Association: New York.
8. Jegede, O.O., Ilori, M.O., Olorunfemi, M.O. and Oluwale, B.A., 2016. On the link between human capital, innovation and performance: evidence from a resource-based economy. *International Journal of Learning and Intellectual Capital*, 13(1), pp.27-49.
9. Kwon, K. and Rupp, D.E., 2013. High-performer turnover and firm performance: The moderating role of human capital investment and firm reputation. *Journal of Organizational Behavior*, 34(1), pp.129-150.

10. Marginson, S., 2017. Limitations of human capital theory. *Studies in Higher Education,* https://doi.org/10.1080/03075079.2017.1359823
11. Mestieri, M., Schauer, J. and Townsend, R.M., 2017. Human Capital Acquisition and Occupational Choice: Implications for Economic Development. http://www.robertmtownsend.net/sites/default/files/files/papers/working_papers/MST_rev.pdf
12. Papay, J.P., Murnane, R.J. and Willett, J.B., 2016. The Impact of Test Score Labels on Human-Capital Investment Decisions. *Journal of Human Resources*, 51(2), pp.357-388.
13. Pivac, S., Barać, Ž.A. and Tadić, I., 2017. An analysis of human capital investments, profitability ratios and company features in the EUures in EU. *Croatian Operational Research Review*, 8(1), pp.167-180.
14. Shaw, J.D., Park, T.Y. and Kim, E., 2013. A resource-based perspective on human capital losses, HRM investments, and organizational performance. *Strategic management journal,* 34(5), pp.572-589.
15. Storey, D.J., Keasey, K., Watson, R. and Wynarczyk, P., 2014. *The performance of small firms: profits, jobs and failures*. Routledge: London
16. Sung, S.Y. and Choi, J.N., 2014. Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations. *Journal of organizational behavior*, 35(3), pp.393-412.
17. Sung, S.Y. and Choi, J.N., 2014. Multiple dimensions of human resource development and organizational performance. *Journal of Organizational Behavior*, 35(6), pp.851-870.
18. Tan, E., 2014. Human capital theory: A holistic criticism. *Review of Educational Research*, 84(3), pp.411-445
19. Taylor, T., 2017. Recommendations for Further Reading. *Journal of Economic Perspectives*, 31(1), pp.257-64.
20. Vidija, S.E., Peter, K. And Ogutu, M., 2016. human resource management practices and performance of firms listed on the nairobi securities exchange. *Journal of Human Resource And Leadership*, 1(1), Pp.1-24.
21. Vomberg, A., Homburg, C. and Bornemann, T., 2015. Talented people and strong brands: The contribution of human capital and brand equity to firm value. *Strategic Management Journal*, 36(13), pp.2122-2131.
22. Wenzel, R., 2017. Learning for Purpose: Challenges and Opportunities for Human Capital Development in the Social Sector. In *Leading and Managing in the Social Sector* (pp. 113-137). Springer International Publishing: Cham

ODNOS IZMEĐU INVESTICIJA U LJUDSKI KAPITAL I NETO DOBITI TVRTKE

SAŽETAK RADA

Članak istražuje doprinos investicija u ljudski kapital (HCI) ostvarenju dobiti na burzi dionica u Jahennesburgu – Društveno odgovorno investiranje (SRI) tvrtki. Sekundarni podaci o dobiti tvrtki, investicijama u ljudski kapital – HCI (glavna nezavisna varijabla) i prometu od prodaje - STO (kontrolna varijabla) prikupljeni su iz integriranih izvješća 28 tvrtki za razdoblje od 6 godina 2010-2015.Koristeći panel data pristup i statistiku regresije analiza je pokazala dva značajna rezultata. Prvo, vrijednost P na utjecaj dviju nezavisnih varijabli (HCI i STO) pokazuje znatan odnos P=0,0001. Drugo, ako HCI djeluje nezavisno, ono pokazuje negativan, ali ne i znatan, odnos s neto dobiti. Međutim, takav odnos je privremen. Dugoročno HCI pokazuje tendenciju pozitivnog učinka na neto dobit. Stoga, tvrtke ne bi trebale određivati HCI kretanje dobiti samo u kratkoročnom razdoblju. Trebalo bi pričekati na pravi benefit. Članak preporučuje daljnje istraživanje koje bi pokrilo veći broj tvrtki u dužem razdoblju.

Ključne riječi: *investicija u ljudski capital; neto dobit; financijsko poslovanje*