

HUMAN CAPITAL AND UNIVERSITY PERFORMANCE IN SOUTH-SOUTH, NIGERIA

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Abstract: The study investigated the relationship between human capital and performance of universities in South-South, Nigeria. A sample of twenty-nine (29) universities in South-South was drawn from the population of universities in Nigeria. The study utilized the cross-sectional research design. Data for the study were obtained using primary sources. The obtained data were analyzed using variance based (PLS – SEM) approach. This study found that human capital contributes significantly towards measures of university performance (student achievement and discipline referrals). It was recommended amongst others that the university and government authority should encourage and invest on research programmes for academic staff. It will help improve the already existing knowledge.

Keywords: *Human Capital, University Performance, Student Achievement, Discipline Referrals*

INTRODUCTION

Performance is the outcome of the various activities undertaken by the organization, a reflection of the way in which tangible and intangible resources are invested in the firm in order to achieve the desired goals (El Talla, FarajaAllah, Abu-Naser & Al Shobaki, 2018). It is also a holistic activity that reflects either the organization's success, sustainability and adaptability to the environment. The value of nations does not depend only on natural resources, but also on its people, management and government.

University performance has been assessed using non-financial measures such as the effectiveness and efficiencies of university education (Sahney & Thakkar, 2016; Albekov et al., 2017), input-process-output approach (Chinta et al., 2016) and research activities (Alcaine, 2016; Kidwell et al., 2000; Tee, 2016). Also, Yaakub and Mohamed (2020) suggested qualitative measures such as academic effectiveness, rating criteria and research capacity and capability as non-financial

measures of university performance. This study advances that student achievement and discipline referrals, are the focal measures of performance in Nigerian universities.

Student academic achievement is the epicenter of university performance. Academic achievement refers to the extent to which the management and government in Public Higher Education Institutions (PHEIs) assist towards improving their strategies and championing quality, attracting and retaining academicians, promoting student academic success, enhancing the overall image of institutions and cultivating sustainable competitive advantage (Caruana et al., 1998; Blackman and Kennedy, 2009; Esposito et al., 2013).

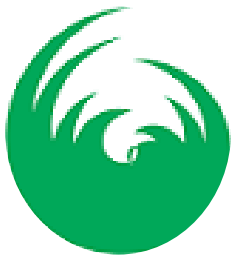
On the other hand, the human capital represents the combination of knowledge, skill, attitude, competences, commitment, wisdom, and experiences of employees (Campos, 2003; Seleim et al., 2004), which cannot be easily imitated and applied by other firms (Bontis, Seleim, & Ashour, 2007; Campbell, Coff, & Kryscynski, 2012). These attributes of human capital lead to effective

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knowledge management, improvement in productivity and efficiency (Davidsson & Honig, 2003), innovation, organisational success and competitive advantage (Campbell et al., 2012). They also correlate positively with new product development, and the improvement of managerial and Operational efficiency, or enhancement of quality and productivity (Cabello-Medina et al., 2011).

Again, in the literature concerning the study variables, there are various studies which have been conducted in diverse industries (banking/finance, IT, high technology, pharmaceutical/chemical, service, manufacturing, etc.) and countries (Malaysia, USA, Australia, Taiwan, Canada, Egypt, Japan, France, Greece, etc.) investigating the relationship between IC and firm performance (Hsu and Wang, 2012; Wang and Chang, 2005; Ng, 2006; Ghosh and Wu, 2007; Wang, 2006; Bose and Oh, 2004; Al-Twaijry, 2009; Cohen and Kaimenakis, 2007; St-Pierre and Audet, 2011; Sardo and Serrasqueiro, 2017; Ferreira and Martinez, 2011; Dzenopoljac et al., 2016; Kianto et al., 2013; Cabrita and Vaz, 2006; Kim and Taylor, 2014).

Besides, analysis of the literature shows that, while several papers have dealt with the assessment of universities' intellectual capital (Araujo, 2000; Bezhani, 2010; Campos, 2003; Cañibano and Sanchez, 2008; Ramírez Córcoles et al., 2011; Silvestri and Veltri, 2011), few studies have investigated the relationship existing between the IC of the universities and their performance (Brătianu, 2009; Bueno et al., 2014; Kianto, 2007; Secundo et al., 2016). To date, not enough attention has been paid to the extensive analysis of the human capital value creation process in universities. This gap is more noticed for Nigerian universities, whereby the empirical relationship between human capital and university performance is far under-researched and

piecemeal, which culminated to the motivation for this study.

Aim and Objective of the Study

The aim of this study was to examine the relationship between human capital and university performance in South-South, Nigeria, while the study objectives are:

1. Evaluate the relationship between human capital and student achievement in universities in South-South, Nigeria.
2. Investigate the relationship between human capital and discipline referrals in universities in South-South, Nigeria.

Research Questions

The following research questions guided the study

1. What is the relationship between human capital and student achievement in universities in South-South, Nigeria?
2. What is the relationship between human capital and discipline referrals in universities in South-South, Nigeria?

Research Hypotheses

The following research hypotheses were formed to guide the study:

Ho₁: There is no significant relationship between human capital and student achievement in universities in South-South, Nigeria.

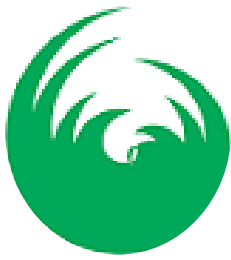
Ho₂: There is no significant relationship between human capital and discipline referrals in universities in South-South, Nigeria.

LITERATURE REVIEW

Theoretical Framework

Intellectual Capital Theory

The intellectual capital theory has its root form the writings of Stewart (1997). According to Stewart (1997) intellectual capital is a resource of knowledge available on the company that produces high-value assets and economic benefits in the future for the company. Marti



(2007), and Khalique, Shaari and Isa (2013) argued that the development of intellectual capital theory is based on the guidance, ideas and thoughts of influential practitioners. They established that intellectual capital theory explains how intangible factors determine the success of companies. Khalique, Shaari, Abdul and Isa (2011) proposed an integrated intellectual capital model (IICM), which was based on intellectual capital theory. This was considered as the exponential growth and development in the intellectual capital theory. In the intellectual capital field, Khalique (2012) applied this model in the first time to examine the impact of intellectual capital on the organizational performance of selected SMEs in Malaysia and Pakistan operating in electrical and electronics sector.

Concept of Human Capital

Human capital (HC) embraces all the most valuable human resources deployed by staff (Shehzad, Fareed, Zulfiqar, Shahzad, & Latif, 2014). Lecturers/researchers' HC derives from their teaching capacities and research competences (Cricelli, Greco, Grimaldi, & Llanes Dueñas, 2018). Stakeholders perceive human capital as a source of internal and external knowledge creation (Barbosa, Vale, Vale, & Branco, 2016). Human resources are the most important factor determining universities' higher performance (Zlate & Enache 2015), especially in universities more directed towards research and innovation (Cricelli et al. 2018).

Human capital refers to the employees' knowledge, skills and abilities (Capozza & Divella, 2019; Ruiz, Gutierrez, Martinez-Caro & Cegarra-Navarro, 2017). It is the set of attitudes, values and aptitude that employees possess, which brings about competitive advantage and organizational value creation (Hamadamin & Atan, 2019). Bontis (1998) similarly defined it as the experience, know-how and talent of the employees working in the organization, while Kianto et al., (2017)

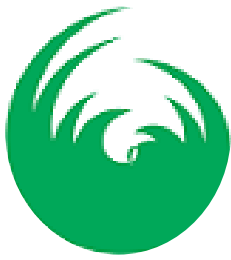
referred to it as the capability, skills, knowledge and experience of the individual.

Human capital reflects the organisation's human factors as the combined skills, intelligence and expertise from which a company gets its distinctive character and which workers take with them when they leave (Kaufman, 2019; Lefter, Prejmerean & Vasilache, 2008). It is a significant driver of value creation achieving effective and high performance (Khalique, Bontis, Abdul Nassir bin Shaari & Hassan Md. Isa, 2015). In the literature dedicated to resource-based arguments, human capital is viewed as the main strategic asset of the firm (Crocata, Odoardi, Agovino, & Sacco, 2020; AlQershi, Abas & Mokhtar, 2019), playing a significant role in development, and thus referred to as the core by Kungwansupaphan and Siengthai (2014).

Concept of University Performance

In Nigeria, universities have recently experienced intense internationalisation processes with rising results in the production and dissemination of knowledge, scientific research, international mobility and academic collaborations (Heitor & Horta 2011). Knowledge transfer becomes a strategic issue as a provider of funding for universities' development (Phan & Siegel 2006), including activities that generate, use, apply and/or exploit knowledge outside the academic environment (Molas-Gallart & Castro-Martinez 2007). Universities need to monitor and evaluate their own knowledge transfer performance to identify if and when interventions are needed, and plan appropriate incentives (Rossi & Rosli, 2013).

Success in a higher education organization depends on people's capacity of adapting themselves to the rapid rhythm of change and of assimilating the modern strategies (Zlate, & Enache, 2015). Moreover, every higher education institution focuses on the quality of education outcomes and its academics' performance,



without ignoring the primary role of universities and higher education sector in providing qualified and skilled staff. Therefore, highly qualified and skilled staff help the development and sustainability in higher education (Sabah, 2013).

Concept of Student Achievement

Given that a quintessential goal of universities is to give students a meaningful and useful education that allows them to succeed in life, measures of what students learn and how well they learn these things is central to any university’s performance measurement instrument. Effectiveness is the extent to which a system accomplishes set goals and objectives within a stipulated period, as indicated by quantitative and qualitative indices. According to Grosbois (2011), academic effectiveness is the core of universities’ performance. Performance stems from the efficiency and effectiveness of an action (Grosbois, 2011). Effectiveness means “doing the right thing”. Academic effectiveness refers to the extent of the management and government assist universities toward improving their strategies (Blackman and Kennedy, 2009). Generally, effectiveness research attempts to explain how universities’ inputs, schooling context and universities’ processes influence outputs (Teodorović, 2009).

Concept of Discipline Referrals

Discipline referrals (DRs) are typically used as an indicator of how individual students are behaving and how well a school as a whole is doing in managing student behavior. Practitioners in the school setting may utilize discipline referrals to help determine when and how to intervene with a student. School personnel also can utilize discipline referrals to examine trends for discipline problems (e.g., location or time of day) to gain a better understanding of the problems in their school, work towards reducing them, and to evaluate school-

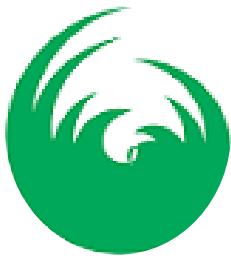
wide behavior intervention efforts (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). There is a large variation regarding the extent to which schools and teachers deliver discipline referrals, complicating the interpretation and utility of school discipline referral information. This descriptive study was performed to inform early intervention and prevention efforts by investigating the salience and nature of discipline referrals for students in first grade, the variance between schools and school-level predictors of this variance, and the extent to which discipline referrals predict teacher- and parent-reported disruptive behavior.

METHODOLOGY

This study adopted cross-sectional research design as it is a quasi-experimental survey research. The cross-sectional research design is suitable since the respondents were not under the control of the researcher. Also, the cross-sectional research design assisted in providing a deep analysis of a selected number of variables involving the analysis of interrelationships among several variables (Okwandu, 2006). The target industry for this study consists of the entire twenty-nine (29) universities in South-South, Nigeria. This study focused on Federal, State, privately-owned universities. The accessible population are three selected Universities which are: University of Port Harcourt (5th on the University Ranking with 3000 + staff strength), Rivers State University (10th on the University Ranking with 1870 staff strength), University of Benin (15th on the University Ranking with 2753 staff strength). Based on the presented population distribution, the study employed a sample size of 361 by utilizing a pro-rated basis of sample distribution.

Table 1: Distribution of target respondents of the three selected Universities

S/N	Implicated Study Area	Staff Strength	Estimated Academic Staff Size
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1	University of Port Harcourt	3000+	2250
2	Rivers State University	1870	1403
3	University of Benin	2753	2065
	Total Assessable Staff Size	7623+	5717+

Source: Survey Data, 2022

Table 2: Pro-rated Sample Distribution to Selected Study Area

S/N	Implicated Study Area	Pro-rated Sample Size	Apportioned Sample Size
1	University of Port Harcourt	$\frac{2250}{5717} \times 361$	142
2	Rivers State University	$\frac{1870}{5717} \times 361$	89
3	University of Benin	$\frac{2753}{5717} \times 361$	130
		Total Sample Size	361

Source: Survey Data, 2022

The data was analyzed using different statistical methods and regression analysis. Finally, consistent with the main study objectives, a cross-sectional regression was conducted to empirically examine the structural relationships being investigated and the specified hypothesis were tested based on the results with the aid of SMARTPLS version 3.

RESULTS AND DISCUSSION

A total of three hundred and sixty-one (361) copies of the instrument were administered, out of which a total of three hundred and fifty-eight (358) copies were successfully retrieved, representing 99.17% of copies distributed. 3 copies, representing a paltry 0.83%, were not retrieved due to unavoidable issues from the respondents. Moreover, the high response rate recorded was as a result of frequent visits and phone calls made by the researcher. Out of the three hundred and fifty-eight

(358) copies retrieved, 6 copies (1.39%) were observed to be invalid as a result of missing and misleading response pattern. On the whole, 352 copies of the instrument, representing 79.9% of the distributed copies, were accepted for entry and subsequent analysis.

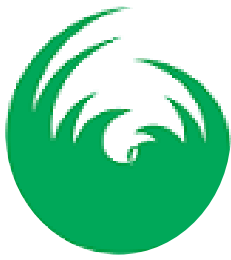
Demographic (Descriptive) Data Analysis

Gender Distribution of Respondents

The respondents were asked to state their gender. Gender is a way of looking at how social norms and practices affect the banking services, as well as a measure of diversity implementation by the organization. From Table 3, the male participants substantially outnumber the Female participant, constituting approximately 62.2% of our sample. This skewness was observed based on accessibility of respondents. This nonetheless has no significant effect that would invalidate the study's outcomes.

Table 3: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	133	37.8	37.8	37.8
	Male	219	62.2	62.2	100.00
	Total	352	100.0	100.0	



Age Distribution of Respondents

Respondents were required to indicate their age and the responses are hereby presented in table 4. Age indicates

the level of maturity of individuals, as this affects the respondent's ability to respond to the research questions.

Table 4: Age of Respondents

Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30 Years	22	6.3	6.3	6.3
	31-50 Years	225	63.9	63.9	70.2
	51-60 Years	86	24.4	24.4	94.6
	Above 60 Years	19	5.4	5.4	100.0
	Total	352	100.0	100.0	

From Table 4, it can be seen that participants whose ages fall within the range of 31 – 50 years (63.9 percent) constitute the highest study group, followed by participants whose ages fall within the range of 41 – 60 years (26.9 percent), and then by participants who are 21 to 30 years (6.3 percent) and above. Further, while the smallest study group comprises participants who are over 60 Years (5.4 percent). Overall, the age distribution suggests that respondents have an average age of about 31 to 60 years, implying that the Universities employs and retain employees within this identified age range. This could be linked to wealth of experience linked to this age bracket.

Hypotheses Testing

The bivariate analysis centered on testing the null hypotheses on the relationship between human capital and measures of university performance. The decision depends on the level of correlation result obtained either to reject or not to reject the null hypotheses. The level of significance is given at 0.05. In this regard, when the probability value (p-value) is less than 0.05 level of significance the study rejected the null hypothesis. However, when the probability value (p-value) is higher than 0.05 level of significance, the study does not reject the null hypotheses.

H01: There is no significant relationship between human capital and student achievement in selected South South Universities in Nigeria.

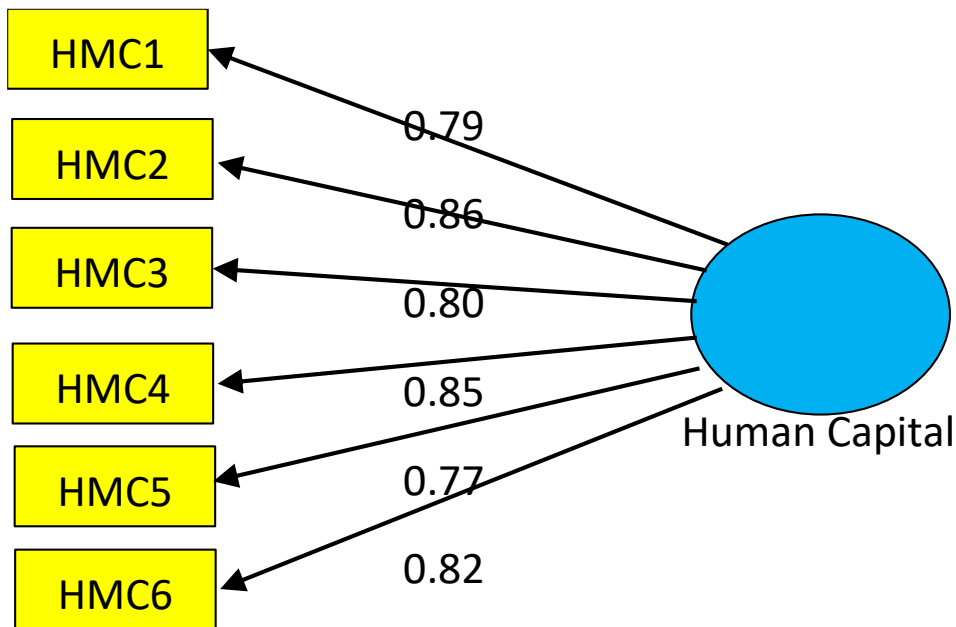
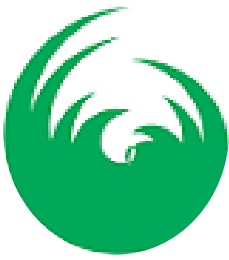


Figure 1: Standardized CFA solution for Human capital

Source: SMARTPLS 3 output

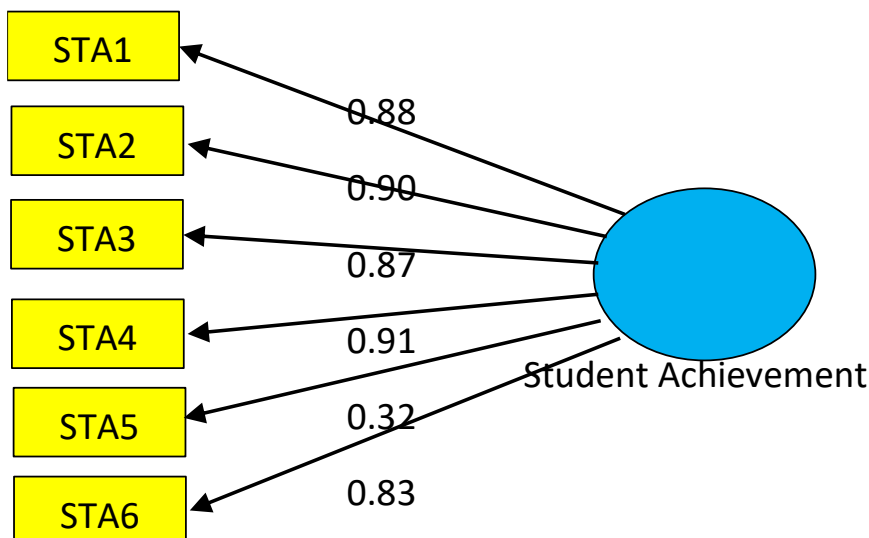




Figure 4.14: Modified CFA Model for Student Achievement Scale

Source: SMARTPLS 3 output

Estimation and Analysis of Model 1

For empirical model 1, Student Achievement (STA) is specified to depend on human capital (HMC). Student

Variable	Beta	P-value
Intercept (β_0)	1.2290	0.0005
HMC (β_1)	0.1106	0.1327

Achievement is a dimensions of University Performance. Table 5 presents the model estimation results and goodness of fit statistics.

Table 5: Model 1 Estimation Results; DV = Student Achievement

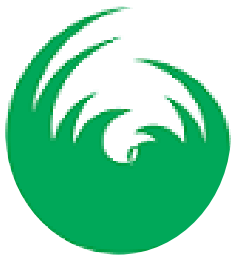
Statistic	Value
R^2	0.1987
\bar{R}^2	0.1841
F-Statistic	13.562
Prob(F-Statistic)	0.0000
Durbin-Watson	1.7372

Source: Research Data, 2022

From Table 5, it can be seen that human capital; HMC ($\beta_1 = 0.1106$), is associated with positive coefficients, indicating that human capital is positively related to Student Achievement. This implies that an improvement in human capital would enhance Student Achievement. However, the associated p-values of 0.1327 indicate that the effect of human capital on Student Achievement is statistically insignificant. The intercept term ($\beta_0 = 1.2290, p\text{-value} = 0.0005$) is also associated with a positive and highly significant coefficient, suggesting that Student Achievement is a significant practice in the University industry even when there is no human capital. From the Table, the adjusted R-squared ($\bar{R}^2 = 0.1841$) indicates that approximately 18% of the variance of Student Achievement are due to the joint influence of Human capital. Thus, the estimated model is poorly fitted as factors not considered in the model account for

most of the variance (approximately 82%) of the variance of Student Achievement. However, the F-statistic (p-value = 0.0000) is associated with a zero probability, indicating that the estimated Student Achievement model is highly significant. Therefore, the joint effect of the three independent variables on the dependent variable (Student Achievement) is highly statistically significant. Further, the Durbin Watson statistic of 1.7372 is very much higher than the R-squared ($R^2 = 0.1987$), an indication that our regression results are meaningful. Although, not directly related to cross-sectional regression, relationships are said to be spurious if R^2 is greater than the Durbin-Watson statistic (Granger & Newbold, 1974).

The first hypothesis states that human capital has no significant effect on Student Achievement. On apirori, there is a positive relationship between human capital



and Student Achievement. Therefore, expected, *apriori*, that β_1 , which captures the effect of human capital in the Student Achievement model, would be positive and significant so that the above hypothesis would be rejected.

The result shows that human capital has a positive but non-statistically significant effect on Student Achievement. The evidence in Table 5 shows that β_1 is estimated at 0.1106 with a p-value of 0.1327, indicating that the effect of human capital is statistically non-significant. Therefore, in contrast with our expectation, *apriori*, we do not reject the above hypothesis, which is

tested at 5% level. Many University employees are not very innovative.

H02: No significant relationship exists between human capital and discipline referrals in selected South South Universities in Nigeria.

Estimation and Analysis of Model 2

For empirical model 2, discipline referrals (DSR) is specified to depend on human capital (HMC). Discipline referrals is a dimension of University Performance. Table 6 present the model estimation results and goodness of fit statistics.

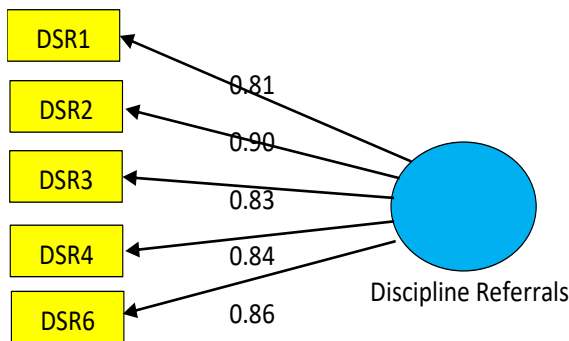
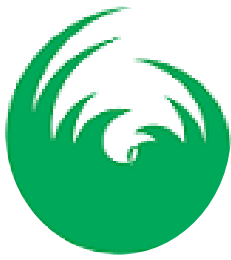


Figure 3: Modified CFA Model for Discipline Referrals Scale

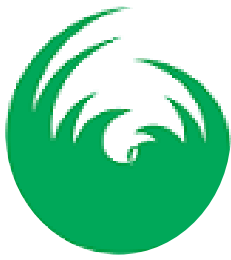
Source: SMARTPLS 3 output

Table 6: Model 2 Estimation Results; DV = Discipline referrals

Variable	Beta	P-value
Intercept (λ_0)	0.1359	0.6994
HMC (λ_1)	0.3209	0.0000
Statistic		Value
R^2		0.4025



\bar{R}^2	0.3916
F-Statistic	36.837
Prob(F-Statistic)	0.0000
Durbin-Watson	1.4440



From Table 6, like the case of Student Achievement, it can be seen that human capital; HMC ($\lambda_1 = 0.3209$) is associated with positive coefficients, indicating that human capital positively relates to discipline referrals. This implies that an improvement in human capital would improve discipline referrals. The associated p-value of 0.0000 indicate that the effects on discipline referrals of human capital is highly statistically significant. The intercept term ($\lambda_0 = 0.1359, p\text{-value} = 0.6994$) is also associated with a positive but insignificant coefficient, indicating that the sampled firms would, on average, not have good discipline referrals without the influence of human capital. The adjusted R-squared ($\bar{R}^2 = 0.3916$) indicates that approximately 39% of the variance of discipline referrals are due to the influence of human capital. Thus, the estimated model is moderately fitted as factors not considered in the model account for approximately 61% of the variance in discipline referrals. However, the F-statistic (p-value = 0.0000) is associated with a zero probability, indicating that the estimated discipline referrals model is highly significant. Therefore, the joint effect of the three independent variables on discipline referrals is highly statistically significant. Further, the Durbin Watson statistic of 1.4440 is very much higher than the R-squared ($R^2 = 0.4025$), an indication that our regression results are meaningful. The fifth hypothesis states that human capital has no significant effect on discipline referrals. On apriori, human capital has an enhancing effect on University Performance. Thus, it was expected, *apriori*, that λ_1 capturing the effect of human capital in the discipline referrals model, would be positive and significant so that the above hypothesis would be rejected. The results show that human capital has a positive and highly statistically significant effect on discipline referrals. This evidence is reported in Table 6, which shows that λ_1 is estimated at 0.3209 with a p-

value of 0.0000, indicating that the effect of human capital on discipline referrals is positive and significant at 1% level. Thus, the above hypothesis, which was tested at 5% level of significance, was strongly rejected. The relatively large size of λ_1 also implies that the effect of human capital is economic significant.

CONCLUSION AND RECOMMENDATIONS

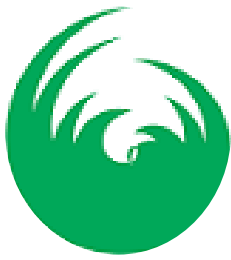
Based on the observations and empirical evidence, this research observed that human capital is linked directly with the performance of universities (student achievement and discipline referrals).

In view of the findings and the position of this study with regards the relationship between human capital and performance of universities in South-South, Nigeria, this study recommends as follows:

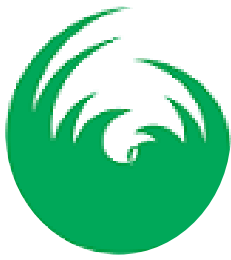
- 1) The research recommends the establishment of a unit called the “Relations, Creative and Innovative Business Unit” that is directly linked to the Deputy Vice Chancellor, Research and Development, and is responsible for all relations, patents rights and inventions.
- 2) The university management to emphasis on attracting competencies from the labour market as a means to achieve a competitive advantage in human capital at the university.

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