

# Human, External Capitals and Organizational Performance in Nigeria: Do They Matter for Telecommunication Companies?

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## Abstract

There is dearth of studies on the combined effects of both human and external capitals on the performance of telecommunication companies in Nigeria. Notably, the few studies on human and external capitals have employed primary data without due attentiveness on whether human and external capitals can be measured using secondary data. Consequently, this study employs a dissimilar model of measurement in assessing how human capital (measured as the revenue minus cost of revenue divided by staff cost) and external capital (cost incurred in improving social networks, trademarks, brand values, license agreements, and customer loyalty) affect telecommunication companies' performance (market share – Tobin's Q). Data were gathered from five (5) publicly quoted telecommunication companies on the Nigerian Exchange Group from 2014-2021. Fixed and random effect regression were used in analysing the data and the Wald statistics revealed that telecommunication companies' performance are influenced by human and external capitals. This result implies that human and external capitals matter for telecommunication companies' performance. The findings call for stern policy recommendations for telecommunication companies' management, regulatory framework of telecommunication industry, and management researchers alike.

**Keywords:** Human capital; External capital; Intellectual capital; Organizational performance; Nigeria

**JEL Classifications:** J24; L26; L25

## 1. INTRODUCTION

In recent times, human and external capitals play a vital role in creating an ambience for the expansion and competitive advantage for the organization (Xu & Wang, 2018; Halid, Choo & Salleh, 2018; and Okocha & Amah, 2020). This viewpoint is further heightened by the resource-based theory which highlights that organizations with valuable resources are more likely to realize sustainable advantage, growth and performance. The valuable resources can make the organization enhance its processes, innovation, and preserve customers and suppliers (Khan & Ali, 2018). The place of human and external capitals become more important for organizations such that there is a drift from economy based on tangible asset to intangible assets (Onyekwelu, Okoh & Iyidiobi, 2017; Orugun & Aduku, 2017; and Surjandari, Wati & Ramdany, 2019).

Regardless of the drift towards capital-intensive economy, traditional management practice has continued to focus on physical assets (human, material and financial) of organizations, excluding assets like external capital. Auspiciously, external capital belongs to the group of asset known as intangible for the reason that it denotes intrinsic qualities of employees which cannot be seen but are essential for the growth, and survival of the organization (John-Akamelu & Iyidiobi, 2018; and Widhiastuti, Murwaningsari & Mayangsari, 2018).

Though, there is avalanche empirical studies suggesting that human capital affects organizational performance (Hariyati & Dyani, 2018; Adeodu, Kenneth & Rotimi, 2019; Surjandari, *et al*, 2019; and Rashid, *et al*, 2020); the same is not so for external capital as it affects organizational performance, particularly for industries such as telecommunication that relies on both human and external capital to enhance performance. Human capital refers to the skills, competencies, attitudes and knowledge of the workforce (Hoang, Bui & Nguyen, 2018).



Munir, Bibi, Siddiqui and Butt (2019) contended that the skills, competencies, attitudes, and knowledge are entrenched in the minds of the employees but can improved upon when significant amount is spent on it.

Furthermore, external capital is the flow of knowledge within and to outside of the organization (Okocha& Amah, 2020), which Isaac, Herremans and Klein (2009) described as trademarks, brand values, license agreements, relationships with customers/suppliers, and customer loyalty. The literature supports the view that intellectual capitals (human, social, structural, and external) affects organizational performance. In the context of this study, organizational performance refers to the ability of the firm to realize targeted goals and objectives within expected timelines. The goals and objectives may be to improve product quality, turnover, profitability, productivity, market share, among others.

Regardless of the imperative place of human and external capitals in enhancing organizational performance, there have been no studies that have assessed the effects of human and external capitals in a single as they affect organizational performance, particularly for telecommunication companies in Nigeria. Consequently, this study attempts to fill the gap in management literature on what is known about the effects of human and external capitals on the performance of publicly quoted telecommunication companies on the Nigerian Exchange Group. The remaining part of this paper is sub-divided as follows: review of related literature; research methods; results and discussions; conclusions and recommendations.

## 2. REVIEW OF RELATED LITERATURE

### 2.1 *Human Capital*

The concept of human capital has been broadly defined in the literature. Prominent among these are those offered by Schultz (1993); Rastogi (2000); Organization for Economic Co-operation and development (2001). Schultz (1993) sees human capital as the assets of the organization in the form of employee required to increase productivity and sustaining competitive advantage. Explicitly, Schultz (1993) believes that human capital relates to education, training and other initiatives needed to enhance employees' skills, knowledge, values, abilities and social assets, which will lead to improved performance.

Rastogi (2000) sees human capital a vital input for the organization particularly for employees' incessant enhancement of skills, abilities and knowledge. The Organization for Economic Co-operation (2001) asserted that human capital is the skills, abilities and knowledge entrenched in employees which are aimed at facilitating the creation of social, personal and economic well-being of the workforce.

Albertini and Berger-Remy (2019) asserted that organizations create, sustain and preserve human capital by ensuring that the competency, attitudes and mental agility of the workforce do not decline. Hoang, Bui and Nguyen(2018) opined that human capital elements comprised of skills, competencies, attitudes and knowledge of the workforce. The skills, competencies, attitudes, and knowledge according to Munir, Bibi, Siddiqui and Butt(2019), are in the minds of the employees, meaning that employees' minds carry the skills and knowledge.

Notwithstanding the increasing import of human capital, most organizations, traditionally, do not spend sufficient financial resources as investments in human capital. Whilst we acknowledged that human capital is one of the most fundamental resources of the organization, studies are yet to ascertain its effect on the performance of telecommunication companies publicly quoted in Nigeria. In this study, human capital cost was measured as the revenue minus cost of revenue divided by staff cost.

### 2.2 *External Capital*

In the management literature, external capital is considered as a major component of intellectual capital. Subramaniam and Youndt (2005) defined external capital as the knowledge entrenched within, available and used by employees within their networks, mainly in their interrelationship and the manner in which they interact in the workplace. Similarly, Isaac, Herremans and Klein (2009) see external capital as how the workforce within their network makes use of trademarks, brand values, license agreements, relationships with customers/suppliers, and customer loyalty in improving value creation for the organization.

External capital according to Okocha and Amah (2020) can be described in the context of flow of knowledge within and to the outside of the organization. Thus, external capital comprised of the connections with others

within or outside the organization, leading to value creation. Kocoglu, Imamoglu and Ince (2009); Huang and Jim (2010); Isabel and Bailoa (2017) contended that external capital is vital to an organization given that it acts as a multiplying element creating value for organizations by connecting experiences, social networks, knowledge, capabilities and competencies that enhances growth strategies not only held by the individual but also embedded in the business process.

Realistically, organisations in the telecommunication industry make connections with others within (telecommunication companies and employees within the industry) or those outside the industry. According to Rashid, Farooq, Liaqat, Qadeer and Younas (2020); Youndt and Snell (2020); Albertini and Berger-Remy (2019) external capital is apt for knowledge-based sectors like information communication technology (ICT), healthcare and service, toward supporting the growth strategies of such sectors.

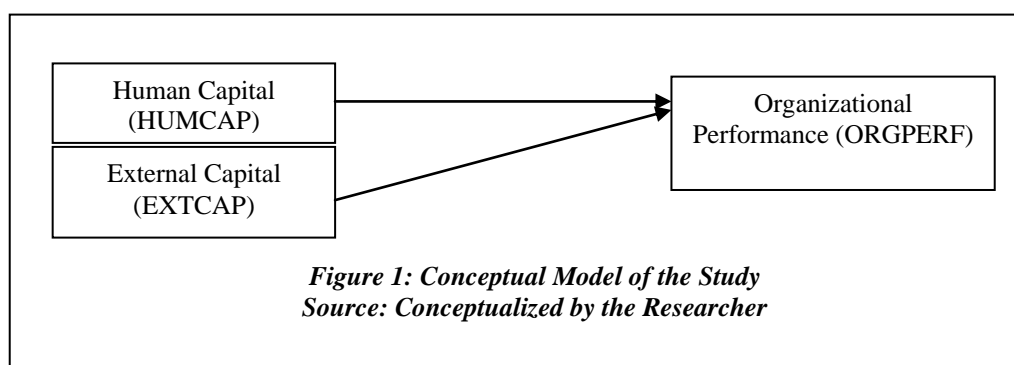
Regardless of the vital role played by external capital in an organization, empirical studies on the effect of external capital on the performance of telecommunication companies in Nigeria are not widespread. More so, given the views of Rashid, *et al.*, (2020); Youndt and Snell (2020); Albertini and Berger-Remy (2019), we employed external capital so as to see its effect on the performance of telecommunication companies publicly quoted on the Nigerian Exchange Group. In this study, external capital was measured as the contributions made by telecommunications companies in improving social networks, trademarks, brand values, license agreements, and customer loyalty.

### 2.3 Organizational Performance

Broadly speaking, management usually sets goals and objectives for the organization. According to Albertini and Berger-Remy (2019); and Halid, Choo and Salleh (2018), human and external capitals put drastic strain on organizational performance. Organizational performance as opined by Hariyati and Dyani (2018) is the measure of quantity and quality of work done putting into consideration, the costs of resources it took the organization to accomplish the work. In the same vein, Hoang, *et al.*, (2018); and Munir, *et al.*, (2019) see organizational performance as the ability of an organization to actualize targets, goals and benchmarks.

The targets, goals and objectives according to Nwaiwu and Aliyu (2018); and Ofurum, Onuoha and Nwaekpe (2018) may range from profit, performance and wealth maximization to improved product and service quality, market share, improved tactics, among others. Orezi (2018); Wafa and Javaria (2018) maintained that measuring organizational performance can be burdensome. Notwithstanding the burdensome nature of measuring organizational performance, parameters such as product and service quality, sales, profitability ratios (return on equity, return on assets, etc.), productivity, market share, etc. have been widely used in the literature.

Assenting to the shareholders' paradigm, organizational performance encompasses three specific aspects of organizational outcomes: financial, market share and shareholders returns. However, this paper adopts one measure – quality of products of the organization (market share). Thus, in measuring organisational performance, the effort made by the telecommunication companies in improving market share via offering of quality products and services to customers was employed. Thus, in line with the conceptual literature, we thus conceptualized our model as follows:



### 2.4 Theoretical Framework

This study is anchored on the resource-based theory, which was advocated by Wernerfelt (1984). The underlying philosophy of the resource-based theory is that the paradigm is seen as a tool for assessing the strategic resources (human, financial, material) available to the organization. The resource-based theory contended that the development and costs on intellectual capitals (such as human, social, external and structural) are vital ways of realizing growth and performance (Wernerfelt, 1984, cited in Uzoma, Ugwoke and Chiekezie, 2017).

The resource-based theory emphasizes that an organization's capitals (human and external) are valuable when it is able to enhance strategies aimed at improving efficiency and effectiveness (Vitalis, 2018; Rezvan, Merhrdad & Mohammed, 2016; Phusavat, Comepa, Sitko-Lutek & Ooi, 2011). Resource-based theory elucidates that to attain sustainable advantage and performance, it is vital for organizations to focus on both its tangible and intangible assets (Orezi, 2018; Wafa & Javaria, 2018). This implies that the strategic resources of an organization is capable of realizing effective growth strategies and competitive advantage which can manifest in terms of enhanced performance, profits, and market share.

The criticism with the theory is its failure to show other assets other than human and external that are capable of enhancing growth and performance of organizations. However, the strength of the theory lies in its ability to address how strategic resource such as intellectual capital aids sustainable advantage and performance (Adeodu, Kenneth & Rotimi, 2019; Halid, Choo & Salleh, 2018; Nwaiwu & Aliyu, 2018; Ofurum, Onuoha & Nwaekpe, 2018). The significance of resource-based theory to the current study is that human and external capitals fit the description of strategic assets since they are rare, valuable, and poorly imitable. Hence, strategic tangible (human) and intangible (external) assets are very vital to the telecommunication industry.

## 3. RESEARCH METHODS

This study examined the effects of human and external capitals on organizational performance in Nigeria. The quantitative research design was employed and the study population comprised of all publicly quoted telecommunication companies in Nigeria as at 31<sup>st</sup> December, 2021. Using the convenience sampling technique, a sample size of five (5) telecommunication companies was obtained. Data obtained consists of human and external capitals and organizational performance. The data were obtained from the Nigerian Exchange Fact Book, Annual Reports and Accounts of the publicly quoted telecommunication companies 2014-2021. Human and external capitals were measured given the submissions of Rezvan, Merhrdad and Mohammed (2016); Orugun and Aduku (2017); and Youndt and Snell (2020). Given the above, the empirical model of the study is given as:

$$ORGP\text{ERF} = F(\text{HUMCAP}, \text{EXTCAP}) \quad - \quad \text{eq. 1}$$

Where: *ORGP*ERF: Organizational performance; *HUMCAP*: Human capital; *EXTCAP*= External capital. Equation 1 was expanded to reflect the linear equation model as follows:

$$ORGP\text{ERF}_{it} = \beta_0 + \beta_1\text{HUMCAP}_{it} + \beta_2\text{EXTCAP}_{it} + \mu_{it} \quad - \quad \text{eq. 2}$$

Where;  $\beta_0$ - $\beta_2$ =Regression parameters;  $\mu$ =Error term. Data obtained were analyzed via descriptive statistics (mean, standard deviation, minimum and maximum values; correlation); post-estimation test (variance inflation factor); and inferential statistics (fixed and random effects; and Hausman specification tests). The resource-based theory argued that making contributions or developing human and external capitals are vital ways of realizing strategic growth and performance. Thus, we expect that every parameters according to the resource-based theory to intuitively appear to have appealing signs at 5% significant level.

**Table 1: Measurement of Variables**

S/N	Variables	Measurement
1.	Human Capital (HUMCAP)	Revenue minus cost of revenue divided by staff cost
2.	External Capital (EXTCAP)	Cost incurred in improving social networks, trademarks, brand values license agreements, and customer loyalty (natural logarithm)
3.	Organizational Performance (ORGPREF)	Tobin's Q a measure of market share (ratio of market value of firm to the replacement cost of its assets)

Source: Compiled by the Researcher, 2022

#### 4. RESULTS

**Table 2: Summary of Descriptive Statistics of the Dependent (Organizational Performance) and Independent (Human and External Capitals) Variables**

Parameters	ORGPREF	HUMCAP	EXTCAP
Mean	2.08	2.64	3.21
Maximum Value	4.26	6.85	5.72
Minimum Value	-10.00	0.00	0.00
Standard Deviation	0.87	0.60	0.47
Skewness	3.52	4.81	4.27
Kurtosis	9.15	6.10	7.48
Counts	120	120	120

Source: Computed by Researcher, via STATA 13.0 software

Presented in Table 2 is the summary of descriptive statistics of the dependent and independent variables. It can be seen that none of the variables showed negative average. The non-negativity in the average values may be linked to the significant investments in human and external capitals by the telecommunication companies investigated. The yearly standard deviation values range from 0.47(EXTCAP), 0.60 (HUMCAP) and 0.87 (ORGPREF). The yearly standard deviation values were not too dispersed from each other; an indication that the studied telecommunication companies' human and external capitals are closely related.

Furthermore, all panel data series (ORGPREF, HUMCAP and EXTCAP), showed non-zero skewness. All the variables were skewed to the right as indicated in the positive values attached to the skewness coefficients. Impliedly, human and external capitals moved in similar direction with organizational performance. More so, all the variables have a normal distribution as shown in kurtosis values, which are above three (Gujarati, 2003 as cited in Oboreh, Egber & Egber, 2022); this suggests that all the variables satisfy the normality condition.

**Table 3: Pearson Correlation Matrix of the Dependent and Independent Variables**

Variables	ORGPREF	HUMCAP	EXTCAP
ORGPREF	1.0000		
HUMCAP	0.6491	1.0000	
EXTCAP	0.2791	0.4510	1.0000

Source: Computed by Researcher, via STATA 13.0 software

Table 3 showed the Pearson correlation matrix; the results revealed that correlation between the human(HUMCAP) and external(EXTCAP) capitals and organizational performance(ORGPREF) are positive; an indication that human and external capitals positively relate with performance of telecommunication companies. More so, Pearson correlation coefficient did not go above the maximum threshold of 0.8; an

indication of the absence of multi-collinearity among pairs of the independent variables of the study (human and external capitals).

**Table 4: Variance Inflation Factor (VIF) Result**

Variables	VIF	1/VIF
HUMCAP	1.02	0.980392
EXTCAP	1.06	0.943396
<b>Mean VIF</b>	<b>1.04</b>	

Source: Computed by Researcher, via STATA 13.0 software

Table 4 showed the VIF; the mean VIF = 1.04, which is less than the accepted VIF value of 10.0; an indication of the nonexistence of multi-collinearity problem in the empirical model of human, external capitals and organizational performance.

**Table 5: Fixed and Random Effects Results**

Variables	HUMCAP	EXTCAP
<b>FIXED EFFECTS</b>		
<b>Coefficient</b>	0.634	0.393
<b>t_Statistics</b>	(9.60)	(6.10)
<b>Prob._t</b>	{0.000}	{0.000}
F(2, 118)=22.30; Prob.>F(0.0000); R <sup>2</sup> (within)=0.3881; R <sup>2</sup> (between)=0.1689; R <sup>2</sup> (overall)= 0.2785		
<b>RANDOM EFFECTS</b>		
<b>Coefficient</b>	0.541	0.312
<b>t_Statistics</b>	(7.08)	(5.12)
<b>Prob._t</b>	{0.000}	{0.000}
Wald Chi2(2)=38.14; Prob.>F(0.0000); R <sup>2</sup> (within)=0.4221; R <sup>2</sup> (between)=0.1633; R <sup>2</sup> (overall)= 0.2927		

Source: Researcher's Computation, 2021 via STATA

Hausman = 0.8770

Table 5 revealed that the empirical model has higher beta coefficient when RE is used; RE beta coefficient are HUMCAP(0.634) and EXTCAMP(0.393), which is higher than RE. The Hausman specification result established that the random effect model was appropriate (0.8770). Also, the t-test result (RE) confirms that human and external capitals are significant in explaining the variation in performance of telecommunications companies in Nigeria. Nevertheless, R<sup>2</sup> is 0.2927 (RE); impliedly, both human and external capital combined explained about 29.27% variation in the performance of publicly quoted telecommunication companies in Nigeria.

The findings are consistent with the resource-based theory which supports that when companies make significant contributions or costs on human and external capitals, organizational outcomes such as performance, market share, and profitability, are increased. In addition, the finding agree with the results of Rezvan, *et al*, (2016); Orugun and Aduku (2017); Halid, *et al* (2018); Adeodu, *et al* (2019); and Youndt and Snell (2020) who established that intellectual capital components of human, social, structural and external capitals significantly and positively affect organizational performance. This result implies that human and external capitals matter for telecommunication companies' performance in Nigeria.

## 5. CONCLUSION AND RECOMMENDATIONS

In recent times, the growth or decline in organizational performance of companies has been linked with the snowballing investments or contributions to the growth of both tangible (human capital) and intangible (external capital) assets. While investments in human and external capitals are gradually increasing, numerous organizations are still faced with the issue of how they can be harnessed in order to enhance growth and performance, studies are not forth coming on the combined effects of both human and external capitals on the performance of telecommunication companies in Nigeria. Remarkably, few empirical studies on human and external capitals have used primary data without due attentiveness on whether human and external capitals can be measured using secondary data. Consequent upon the above, this study investigated the effects of human, external capitals on the performance of telecommunication companies in Nigeria from 2014-2021

Human capital was measured as the revenue minus cost of revenue divided by staff cost; external capital as cost incurred in improving social networks, trademarks, brand values, license agreements, and customer loyalty while performance as market share (Tobin's Q). The Wald statistics showed that telecommunication companies' performance is affected significantly and positively by human and external capitals. The conclusion reached is that human and external capitals matter for the increased performance of telecommunication companies in Nigeria. On the basis of the analysis, it was recommended that management of telecommunication companies should increase their level of investments in human and external capitals in order to steer their performance. The investments should not be targeted only at tangible assets (human capital) alone but investments should also be on intangible asset (external capitals).

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