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# HUMAN CAPITAL ASSET AND FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS MANUFACTURING COMPANIES IN NIGERIA

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## ABSTRACT
The study investigated the effect of human capital assets on the financial performance of listed consumer goods manufacturing companies in Nigeria. The study collected secondary data using ex-post facto research design listed consumers goods manufacturing companies in Nigeria Exchange Group from 2015 to 2024. Eight of the consumer goods manufacturing companies were used as sample of this study using purposive sampling techniques. The method of data analysis was descriptive statistic, unit root test, diagnostics test and panel least square (PLS) with the help of E-view v10. Findings revealed, there is a positive and insignificant effect of training and development cost on return on assets of listed consumer goods manufacturing companies in Nigeria. There is positive and significant effect of health safety cost on return on assets of listed consumer goods manufacturing companies in Nigeria. There is a negative and significant effect of training and development cost on net profit margin of listed consumer goods manufacturing companies in Nigeria. There is positive and significant effect of c health safety cost on net profit margin of listed consumer goods manufacturing companies in Nigeria. Therefore, the study concluded that the effect of human capital assets on financial performance of listed consumer goods manufacturing companies in Nigeria is statistically significant for the period spanning from 2015 - 2024. The study recommended, among others, that; capitalizing human assets such as training and development costs would positively impact on performance of banks. Therefore, its disclosure is recommended as intangible asset in the statement of financial position.

**Keyword:** ***Human Capital Assets Training and Development Cost***

## INTRODUCTION
Consistent economic advancement, culminated into Industrialization, then metamorphosed into Digitalization, and presently into Artificial Intelligence (IA). These are as a result of human capital development at all spheres of organizational leadership. Human capital asset is crucial factor in promoting development in all human endeavours (Bawono, 2021). Maintaining a consistent economic growth level and superior value delivery in the manufacturing sector, especially, in the consumer goods subsector is achieved through human capital development (Newstyle, 2025). Globally, the quest for superior value delivery is the bane of every organization, as they strive to reach the top echelon. To reach this goal is achievable (Gruzina, et al. 2021, Orishede, 2020). Employees are the critical assets in any organization, due to their tremendous contribution. The importance of human capital development is hinged on the degree of its contribution towards the creation of competitive advantage and business growth. Mazelis, et al. (2018) averred that human capital development is an element that improves employees and firms assets and also improves productivity and profitability. When an organization invest in training of staff members which impart learning in order to acquire relevant skills, and knowledge to enhance growth. The skills and knowledge acquired by employees make them have an edge over others who are not opportune to receive such training (Newstyle & Major, 2022). Ejemeyovwi et al., 2018; Kuznetsova et al., 2019). To enhance business-growth it is important to ensure staff training and development, so that they

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can perform their daily tasks effectively (Nwaeke & Obiekwe, 2017). It is note worthy to mention here that investment in human capital, particularly on training and health of employees is fundamental to economic and industrial growth of an organization. Therefore, only investment in human capital can contribute significantly to global competitiveness. The emergence of artificial intelligence in Europe and United States of America is as result of human capital development. Human capital contributes to output and productivity like other factors of production, this is achieved through technological changes, driven by both innovation and imitation. A firm may have state of the art equipment, may sometimes fail woefully, unless it has the right manpower to manage its affairs. Success of such enterprise depends on skills, creative abilities, intuition, imaginative thinking, innovative thinking, knowledge and experience of its human capital assets. Oke (2010) highlighting on importance of human capital assets opined that firms having competitive advantage over others depend on the knowledge or intellectual capability its employees have over their competitors. The new paradigm has shifted to global competitive model that is spear headed by human capital assets which are indispensable for competitive edge and value creation (Ofurum, et al., 2021; Ovechkin, et al., 2021; Nguyen & Doan, 2020). According to Ovechkin et al. (2021) human capital efficiency is responsible for excellent corporate performance in sales volume, diversification, transformation, market expansion, share value and assets base. The absence of TDCated employees in an organization, makes employees to struggle to adapt to changes in their work place (Xux Liu, 2020; Olaoye & Afolalu, 2020; Abubaka, et al., 2020). To survive the competitive edge of the present-day, rapid changes and complex socio-cultural flux among firms, orchestrate the need to explore all available means to remain afloat in business, this Centre on efficient human resource management policy and programs in existence (Adeleye et al., 2020; Anyanwu, 2018). Similarly, compelling arguments have been made for and against human capital development with mixed results (Afiero, et al., 2021; Ovechkin, 2021; Zaika, & Gridin, 2020; Attanasio, et al., 2020; Okeke & Udeh, 2020, Ayuba, et al., 2020; Olaoye & Afolalu 2020; Kuznetsova, et al., 22019; Nwaiwu & Aliyu, 2018; Ofurum, et al., 2018; Vitalis, 2018; Kurfi, et al., 2017; Gielnik, 2017). However, the extent to which human capital development affect growth of manufacturing companies in Nigeria has not been clearly established. This has created knowledge gap that demands further investigation.

**Statement of the Problem**

Manufacturing companies are yet to agree that human resource capital management is a key to industrial growth and development of the economy. Human resource capital which is the energies, talents, skills and knowledge of staff which are applied to production of consumer goods, create competitive advantage over competitors or rivals (Adebanjo et al., 2019). The belief that a workforce that is more education and trained and possesses the relevant skills and experience makes it easier for such organization to adapt to new technologies have greater share of the market which in essence result to more profit (Bawono, 2021). Many authors argue that money spent on employees training and development is one of the best investments companies can make to increase sales and shareholders wealth (Bello & Emmanuel, 2021). Others argue that human capital should be treated as capital expenditure, but human beings cannot be restricted to a place, without them moving from one organization to another. Also, human life cannot be determined and depreciation rate cannot be certain, it varies from one individual to another (Ejemeyovwi, et al., 2018). This study discover there is inconsistency on the result of human capital assets and this research is poised to give a direction.

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## Conceptual Framework

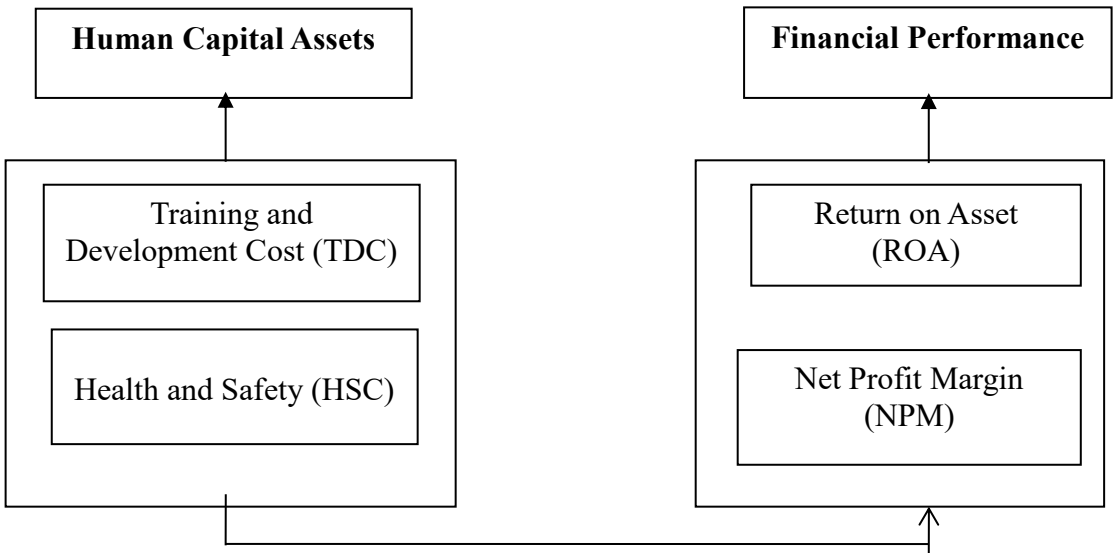


Fig.1: A conceptual framework showing the effect of human capital asset and financial performance of listed consumer goods manufacturing companies in Nigeria.
Sources: Newstyle (2025), Alfiero, et al (2021); Ovechkin, et al (2021); Ngoc and Duc (2020)

## Aim and Objectives of the Study

The aim of this study was to determine the effect of human capital assets and financial performance of listed consumer goods manufacturing firms in Nigeria. Specifically, the objectives of the study were to:

i. ascertain the effect of training and development cost and return on assets.
ii. determine the effect of training and development cost and net profit margin.
ii. evaluate the effect of health and safety cost and return on assets.
iv. investigate the effect of health and safety cost and net profit margin.

## Research Questions

In order to achieve the aim and objectives of this study, the following research questions were raised: -

i. What is the effect of training and development cost on return on assets?
ii. What is the effect of training and development cost and net profit margin?
iii What is the effect of health and safety cost and return on assets?
Iv What is the effect of health and safety cost and net profit margin?

## Research Hypotheses

The following null hypotheses were derived for the study;

$H_{o1}$: training and development cost has no significant effect on return on assets.
$H_{o2}$: training and development cost has no significant effect on net profit margin.
$H_{o3}$: health and safety cost have no significant effect on return on assets.
$H_{o4}$: health and safety cost have no significant effect on net profit margin.

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**Significance of Study**

The result of this study would be highly useful to the manufacturing sector, business community, government, the management of consumer goods manufacturing companies and future researchers. The investing public would appreciate the need for human capital assets to sustain business growth and expansion. Regulator of companies, government can use the result of this study to strengthen the implementation of accounting standards and policies/guidelines of various companies. The study would also be useful to the management of various consumer goods manufacturing companies. The management would identify the relevance of corporate governance dynamics in enhancing profitability of consumer goods manufacturing companies. Finally, the findings of this study could function as a basis for more future researches and as a reference in the academia.

## REVIEW OF RELATED LITERATURE

### Conceptual Review

### Concept of Human Capital Assets

Human capital assets hinges on improving an organization's employee performance, experience, capabilities and resources (Sodirjonov, 2020). Human capital asset was defined by Gruzina, et al (2021) as a key prerequisite in improving a firm assets and manpower development in order to multiply production and as well as sustain competitive advantage. Muhammad, (2020) averred that human capital is an instrument for competitive advantage, it also involves the process of acquiring knowledge, training, skill acquisition and initiatives geared towards betterment and improvement of the workforce. To sustain competitiveness in the organization human capital becomes an instrument used to enhance productivity. Human capitals refer to processes that relate to training, and other professional initiatives in order to upgrade the levels of knowledge, skills, abilities, values, and social assets of an employee which will lead to the employee's satisfactory performance, and eventually on a firm performance (Ngoc & Duc, 2020). Mazelis, et al (2018) opined that human capital is an important input for organizations especially, for employees' continuous advancement mainly on knowledge, skills, and abilities. In this vein, the definition of human capital is referred to as the talent, knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of innovative achievement and economic well-being of the organization and society at large(Kuznetsova, et al., 2019).

### Training and Development Cost

Employees are important assets to organizations and it is an onuson employers to help in training and developing employees' potentials regularly to meet work demand. Employee training are a strategic series systematic development that aids, stabilizes, and enhances employees' present and future performance by improving their strength, innovative abilities, experience, knowledge, cognitive abilities, attitudes, and skills to increase the employees' and organization's effectiveness (Hanaysha, 2016). Armstrong and Landers (2018) posited that training is the act of increasing the knowledge and skill of an employee for doing a particular job. Training can be defined simply as a systematic approach to learning so as to develop individual, team-work and organisational effectiveness by means of improving their knowledge, developing skills, and bringing about attitude and behavioural changes, to perform these effectively and efficiently and effectively (Al Karim, 2019). Similarly, Rodriguez and Walters (2017), argued, that training refers to organized and structured exercises focused on improving the be standard of ability, expertise and skills. Training improves employee's notions and perceptions concerning the company ethics, vision and mission, strategies and plans they have regarding their staff, it also implores them to be creative and resourceful. It challenges the status quo, and as a result, helps to create innovative concepts which intensify organizational ingenuity and, in that way, guarantee the existence, progress and output of

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the organization (Nwaeke & Obiekwe, 2017). Therefore, training is a necessary effort of a company to improve quality and to meet the challenges of global competition and social change. Providing training and development is one of the many roles of human resource development management (Ibrahim, et al 2017). This central role has been recognized by many research studies, which stressed that employees are a crucial and expensive resource assets and in order to sustain effective performance, it is important to optimize their contribution to the aims and goals of the organizations (Chaudhry, et al 2016).

**Health and Safety Costs**

In the conduct of business operations, employees are exposed to environmental hazards and other environmental health-related challenges. In view of this, manufacturing firms are expected to make provisions for protection of their employees, such as national insurance, avoidance of accidents, and preventions against all forms of disabilities within the within and outside the workspace. Health and safety cost are the cost expended in caring for the safety and health of the employees, including the cost of cleaning and securing the environment (Chinedu et al., 2019). Health and safety cost hinges on securing and promoting safety and health of staff, both physical and mental. Safe workplaces are profitable and, as such, activities should be carried out to preserve the health of employees, and the general public (Oshiole et al., 2020).

**Financial Performance**

Financial performance can be characterized as measure of financial capability of a company at any given period of time. Newstyle and Opuene(2022) established that financial performance is a subjective measure of how well a firm can use assets from its primary mode of business to generate revenues. It can be measured in terms of net profit and loss or asset utilization. Che-Amadi et al. (2019) acknowledged that performance is the ability of an organization to gain and manage the resources in several different ways to develop a competitive advantage. The research article published by Mayndarto and Agustine (2021) depicted that financial performance is a subset of business analytics and business intelligence concerned with the health of the company which is traditionally measured in terms of monetary activities. Likewise, Newstyle and Opuene (2022) reported that financial performance is a measure of a business ability to make profit or revenue based on the information provided in the financial statements. Okore (202I) affirmed that financial performance entails measurement of the results of a company policies and operations in monetary terms. It measures the achievement of firms using various criteria.

**Return on Asset**

The research articled published by Newstyle and Opuene (2022) expressed that return on asset is a financial ratio that disclosed the percentage of the company's earnings in relation to total assets. Magara et al. (2021) canvassed that return on asset measures the company's ability to generate net income based on asset levels. Mayndarto and Agustine (2021) advanced that return on asset is the ratio of profit before interest and taxes to assets. It is a very important ratio for natural resource firms to decide whether to invest on a new project or not. Olasupo and Akinselure (2019) acknowledged that firms invest on projects they expect to earn adequate return on asset. The return on assets is very important and provides a standard to evaluate how efficient the management employs the average amount invested in the firm's assets, whether the amount comes from investor or creditors. Mukah (2021) affirmed that return on assets is a financial ratio used to measure the degree to which the assets have been used to generate profits. Che-Ahmad et al. (2019) illustrated that return on assets is a financial tool used to measure the rate of return on total assets after interest expense and taxes.

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**Net Profit Margin**

Net profit margin is a financial metric that measures the profitability of a company by indicating the percentage of revenue that remains as net profit after deducting all expenses, including taxes and interest. It is a key indicator used by investors, analysts, and stakeholders to assess a company's financial health and efficiency in generating profits. Net profit is widely accepted as the financial and operational performance. Net Profit is a measure of probability that constitutes the sum left to a firm following the deduction of all of costs incurred in production of goods or services. Grimsley (2020) described net profit as a summary measure of the overall effectiveness of management because it reflects the quality of managerial decision put forth findings that are in line with Ayu et al (2020) posited that net profit is the ability of a business to earn more income over its expenses. A profit is what is left of the revenue a business generates after it pays all expenses directly related to the generation of the revenue, such as producing a product, and other expenses related to the conduct of the business activities (Horton, 2019). Net profit margin is the ability of a company to use its resources to generate revenues in excess of its expenses. In other words, this is a company's capability of generating profits from its operations (Shawn, 2020). It is the metric used to determine the scope of a company's profit in relation to the size of the business. Net profit margin is a measurement of efficiency –and ultimately its success or failure. Net profit margin is a business's ability to produce a return on an investment based on its resources in comparison with an alternative investment (Melissa, 2020).

**Theoretical Framework**

**Theory of Human Capital:** According to Ofurum et al. (2018), human Capital theory originated from the emergence of classical economics in 1776 and thereafter developed as a scientific theory. In the same year, Adam Smith developed the idea of investing in human capital. Adam Smith theorized that in the Wealth of Nations, the apparent differences between the ways of individual working which is as a result of different levels of training and development are reflected differences in the returns that are necessary to defray the costs of acquiring those training and skills. The Theory of Human Capital is basically focused on the quality, not quantity, of the labour supply. One of the fundamental postulations of the theory is that employee formal training and skills are all what that determine their earning power. The theory further emphasizes that competences, skills, knowledge and abilities of the employees contribute to firm competitive advantage. Human Capital Theory is an approach that values resourcing, human resource development, and reward practices and reward system since the theory believes that staff costs, employee training and development are investment that may bring about future economic benefits and financial returns to the firm. The theory of Human Capital believes that a workforce that is more experienced, educated and possesses the relevant skills have the tendency to make it easier for a business organization to attain its objectives such as increased corporate performance, sustainability and firm growth. According to ognjanovic and Aleksandra, (2019), Human Capital Theory believes that the ability and competence of human capital in a firm influence how well the organization performs and of course determines the extent of financial growth the firm attains. Human Capital, in line with the theory, effectively optimizes other resources in the firm with the view to achieving the corporate objectives of the firm. For this reason, the present study is theoretically anchored on Human Capital Theory and in conjunction with Resource Based Theory

**Empirical Review**

Newstyle (2025) determined the effect of human capital development on economic performance in Nigeria. The research design adopted for the study was ex post facto research design. The population of the study was conducted on Federal Republic of Nigeria under the National Bureau of

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Statistics, Federal Inland Revenue Services, Central Bank of Nigeria (CBN) and Federal Ministry of Finance. The study period covered was forty-three (43) years spanning from 1981 to 2023. This study utilized Descriptive statistic, Unit Root Test, diagnostic tests such as Breusch-Godfrey serial correlation LM test, Breusch-Pegan Hetroskedasticity test was adopted. And ARDL Regression analysis with the aid of E-View 10 was also employed for testing for hypotheses. The findings from the study revealed that there is no significant effect of capital development on education and real gross domestic product in Nigeria in the short run but there is a significant effect of capital development on education and real gross domestic product in Nigeria in the long run, there is a significant effect of capital development on health and real gross domestic product in Nigeria for both short run and long run, there is no significant effect of capital development on education and misery index in Nigeria for both short run and long run, there is no significant effect of capital development on health and misery index in Nigeria for both short run and long run. The study concluded that there is a significant effect human capital development on economic performance in Nigeria for long run planning but is not significant for short run prediction base on the ARDL model analysis. Therefore, the study recommended that government should invest more in capital expenditure on education to ensure enhancement in human capital development through raise in budget allotment to these sectors for long term planning.

Abolo (2022) examined human assets accounting and financial performance of listed commercial banks in Nigeria. The objectives of the study were to evaluate the relationship between recruitment and hiring costs and return on asset in listed commercial banks in Nigeria. And to investigate the relationship between compensation cost and return on asset in listed commercial banks in Nigeria. The study used the ex-post facto method of research design. The population and sample size of the study were a total of twelve (12) commercial banks listed as commercial banks on the NSE floor (NSE Fact book, 2020). Only secondary data collection was used in this study. The formulated research questions were analyzed with descriptive statistics. The hypotheses were tested using the lease square panel data regression analysis with the aid of E-view (10). The findings of the study were; that recruitment and hiring costs significantly influence return on assets of listed commercial banks in Nigeria. Also, that compensation cost significantly influence return on assets of listed commercial banks in Nigeria. And there is significant influence of firm size in the relationship between human asset accounting and financial performance of listed commercial banks in Nigeria. The study recommends that; Recruitment and hiring competent personnel are very essential in facilitating not only the level of productivity but also the development of personnel in any organization.

Newstyle and Major (2022a) investigated the relationship between pre -post human capital accounting and financial performance of listed oil and gas companies in Nigeria. The study adopted ex-post facto research design. The population of the study consisted of ten (10) Oil and Gas Companies listed in the Nigerian Exchange Group and Five (5) companies were chosen simple size. Data of two year period for Pre - Covid19 era from 2018 - 2019 and two year period for Post - Covid19 era from 2020 - 2021 was chosen for the study. The study used secondary data employing Descriptive Statistics and Multiple Linear Regression analysis of panel data with aid of E - View 12. The study result showed that earning per shares under Pre - Covid19 era and Post Covid19 era had insignificant relationship with employee cost, training/development cost and valued added intellectual coefficient of listed oil and gas companies in Nigeria. The study concluded that there is insignificant relationship between human capital accounting and financial performance of listed oil and gas companies in Nigeria under Pre - Covid19 era and Post - Covid19 era. It is suggested a amongst others that companies should evaluate employees cost and training/development cost with



return on assets, return on equity, net profit margin etc because this study result showed that earning per share had insignificant relationship with human capital accounting.

Newstyle and Major (2022b) investigated the relationship between intellectual capital cost and financial performance of listed healthcare firms in Nigeria. The specific objectives were to determine the relationship between training and development cost and return on capital employee of listed healthcare firms in Nigeria and amongst nine others. The Researcher used ex-post facto research design. Targeted population of this study comprised of all the seven listed healthcare firms in Nigeria which were sampled to five (5) using purposive (Judgmental) sampling technique. Secondary data were used and it was sourced from annual reports and statement of accounts of the selected firms between 2012 and 2021. Descriptive statistics, unit root test and ordinary least Square regression were employed with the aid of Microsoft Excel, SPSS 25 and E-View 12. Training and development cost, employees cost and health & safety cost was used as dimensions of intellectual capital cost. Return on capital employed was used as measure of financial performance while firm size was used as moderating variable. The result of the study showed that training and development cost has significant relationship with return on capital employed. Furthermore, the result indicated that employee cost significant relationship with return on capital employed. It was also revealed that health and safety cost has insignificant relationship with return on capital employed of listed healthcare firms in Nigeria. Whereas firm size has positive and insignificant moderating relationship with intellectual capital cost and financial performance of listed healthcare firms in Nigeria. The study generally concluded that, there is a significant relationship between intellectual capital cost and financial performance of listed healthcare firms in Nigeria under the period of study between 2012 and 2021. It was recommended amongst others that companies should adopt other human capital cost related expenses as strategy for attracting and retaining high earnings because this study indicated that training and development and employees cost has significant relationship with financial performance in term of return on capital employed, return on equity and return on assets.

Ovechkin, et al (2021) Investigated the relationship between human capital efficiency and the level of financial profitability. The study used the system generalized method of moments for a broad sample of Russian firms that operate in the agribusiness industry. The study employed two financial approaches to human capital estimation. The first was the Value-Added Intellectual Coefficient (VAIC). The second was own-created approach that was supposed to respond the criticism regarding VAIC. Comparison between VAIC and own created approach to IC estimation revealed that the latter is more appropriate due to its advantages. General method of moments and Ordinary Least Square Regression were used as estimators in the study. The results showed that the efficiency of human capital significantly affect the profitability level of the selected agricultural businesses in Russia.
Muhammad (2020) investigated the relationship between intellectual-capital and firms' financial performance in the emerging market of Pakistan. The study adopted the use of ex-post facto research design. This study employed unbalanced panel data of 152 non-financial publicly firms that are listed on Pakistan Stock Exchange for the period of seven years (2012-2018). Value added intellectual coefficient model initiated by Pulic (1998) was incorporated for measuring and computing intellectual capital. Pooled Ordinary Least square regression was used to test the hypotheses of the study. The pooled OLS results revealed that VAIC is highly significant and positively related with FFP in terms of ROA, ROE, and ATO whereas the individual constituents of VAIC such as Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency also have significant and positive impacton financial performance of listed Pakistan firms
Xu and Liu (2020) evaluated the impact of human capital efficiency on the performance of Korean manufacturing firms. The study covered a period of 5 years that spanned through 2013-2018. The

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modified and extended Value-Added Intellectual Coefficient (VAIC) model was adopted to measure human capital efficiency, and firm performance was systematically measured in three distinct spheres: namely; profitability, productivity and market value. Regression analysis was used to analyse the data. The regression results show that physical capital was the most influential factor to firm performance; human capital was viewed as a performance enhancing measure; structural capital had no significant impact on firm performance; and innovation capital and relational capital hurt a firm's profitability. It was also evident that the modified and extended VAIC model performs better than the original VAIC model proposed by Pulic (1998). This study extended the understanding of intellectual capital in achieving a competitive edge in the manufacturing sector, with intellectual capital representing a valuable platform for the sustainable development of the manufacturing sector in emerging Asian markets.

## METHODOLOGY

The study adopted ex-post-facto and correlational research. It deals with the determination, evaluation and explanation of past events essentially for the purpose of gaining a better and more reliable prediction of the future (Kornom-Gbaraba et al., 2020). The study collected secondary data using listed consumers goods manufacturing companies in Nigeria Exchange Group from 2015 to 2024. Eight of the consumer goods manufacturing companies were used as sample of this study using purposive sampling techniques. The method of data analysis was descriptive statistic, unit root test, diagnostics test and panel least square (PLS) with the help of E-view v10.

### Model Specification

The model's specifications were made in a way that it answered the study's specific goals. Because of its straightforward computational process and the estimates, it produces, which have the best properties, including linearity, unbiasedness, minivariance, and mean square error estimation, panel least square (PLS) was chosen for this research project (Koutsoyianis, 2003). In carrying out this research work on the effect of environmental costs on the financial performance, we developed a compact form of our as follows:

### Model I: Return on Assets (ROA) Model

ROA = f (TDE, HSC) ……i

This can be written in Panel Least Square (PLS) form as:

$ROA_{it} = a_o + a_1TDE_{it} + a_2HSC_{it} + U_{it}$ ..... ii

$a_1>0$; $a_2>0$;

### Model II: Net Profit Margin (NPM) Model

NPM = f(TDE, HSC) ……iii

This can be written in Panel Least Square (PLS) form as:

$NPM_{it} = a_o + a_1TDE_{it} + a_2HSC_{it} + U_{it}$ ..... iv

$a_1>0$; $a_2>0$;

Where:

ROA= Return on assets as proxy for financial performance
NPM= Net Profit Margin as proxy for financial performance
TDE = Training and development cost as proxy for human capital assets
HSC = Health safety cost as proxy for human capital assets
t = time period under study
$a_o$ = constant
$a_1$-$a_2$ = parameter or coefficient of explanatory variable
u = error term

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**Data Analysis and Discussion of Findings**

**Table 1 Descriptive Analysis**

| | ROA | NPM | TDC | HSC |
|---|---|---|---|---|
| Mean | 1.453895 | 1135.541 | 3.742817 | 5.385405 |
| Median | 0.016733 | 51.00000 | 3.691223 | 4.811398 |
| Maximum | 27.02298 | 41707.00 | 6.677043 | 7.761653 |
| Minimum | 0.001495 | 0.010000 | 0.778151 | 2.727541 |
| Std. Dev. | 5.567325 | 6209.121 | 1.680212 | 1.494313 |
| Skewness | 3.753205 | 6.095957 | -0.021564 | 0.019080 |
| Kurtosis | 15.44425 | 38.35398 | 1.900635 | 1.770744 |
| | | | | |
| Jarque-Bera | 704.0183 | 4661.821 | 4.034878 | 5.041753 |
| Probability | 0.000000 | 0.000000 | 0.132996 | 0.080389 |
| | | | | |
| Sum | 116.3116 | 90843.27 | 299.4253 | 430.8324 |
| Sum Sq. Dev. | 2448.614 | 3.05E+09 | 223.0258 | 176.4047 |
| | | | | |
| Observations | 80 | 80 | 80 | 80 |

***Source: Author Computation, (2025) using E-Views 10***

From the results in table 4.1 the study observed that return on assets (ROA) reveals a mean, median, standard deviation value as 1.453895; 0.016733; and 5.567325 respectively highlighted the minimum and maximum return on assets (ROA) ranges from 0.001495 to 27.02298 assets for the time period observed among the sampled listed consumer goods manufacturing companies in Nigeria. Furthermore, the net profit margin reported a mean, median, standard deviation value as 1135.541; 51.00000; and 6209.121 respectively highlighted the minimum and maximum net profit margin ranges from 0.010000 to 41707.00 shares for the time period observed among the sampled listed consumer goods manufacturing companies in Nigeria. The training and development cost (TDC) shown a mean, median, standard deviation value as 3.742817; 3.691223; and 0.680212 respectively that highlighted the minimum and maximum training and development cost (TDC) ranges from 0.778151 to 6.677043 members for the time period observed among the sampled listed consumer goods manufacturing companies in Nigeria. The health safety cost (HSC) disclosed a mean, median, standard deviation value as 5.385405; 4.811398 and 1.494313 respectively that highlighted the minimum and maximum compensation cost ranges from 2.727541 to 7.761653 for the time period observed among the sampled listed consumer goods manufacturing companies in Nigeria. Finally, the Jarque-Bera test statistics disclosed that probability values (0.000000, 0.000000, 0.132996 and 0.080389) of the variables (ROA, NPM) are less than the 5% critical level implying that the ROA and NPM data set is not normally distributed while the probability value (TDC and HSC) is greater than the 5% critical level implying that TDC and HSC data is normally distributed

**Unit Root Test**

**Table 2: Unit Root Test Results**

| | ADF FISHER | | | | | |
|---|---|---|---|---|---|---|
| Variable | ADF - Fisher Chi-square Statistics | ADF - Fisher Chi-square Prob | ADF - Choi Z-stat Statistics | ADF - Choi Z-stat Pro | Order of integration | Remark |
| TDC | 50.5655 | 0.0000 | -4.70610 | 0.0000 | I(0) | Stationary |

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| | | | | | | |
|---|---|---|---|---|---|---|
| HSC | 69.4977 | 0.0000 | -5.46122 | 0.0000 | I(0) | Stationary |
| ROA | 53.6704 | 0.0000 | -4.90769 | 0.0000 | I(0) | Stationary |
| NPM | 37.0558 | 0.0021 | -1.84115 | 0.0328 | I(0) | Stationary |

***Source: Author Computation, (2025) using E-Views 10***

The empirical results of the ADF - Fisher unit root test at 5 percent critical levels in table 2 above shows that all the variables of interest are I(0), that is, stationary at levels. Their p-values are less than 5% with respect to ADF - Fisher Chi-square Prob and ADF - Choi Z-stat Pro.

**Table 3: Hausman Test for Model I (ROA)**

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 6.136417 | 2 | 0.0465 |

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|---|---|---|---|---|
| TDC | 0.479378 | -0.074033 | 0.219834 | 0.2379 |
| HSC | 5.521711 | 2.407597 | 1.587756 | 0.0135 |

***Source: Author Computation, (2025) using E-Views 10***

Hausman test is a test the consistency of an estimator, in so doing, evaluating the fitness of the statistical model to the data gathered. With this test, the study identified if the Random-effect or Fixed-effect model should be adopted for further analysis. From table 3, the Hausman test shows that individual effects is independent of the explanatory variable given that the probability value of 0.0465 is below the 5% significant level, thereby rejecting the null hypothesis. Accordingly, the study adopts the Fixed-effect multiple regression for model 1 estimation.

**Table 4: Regression Analysis of Model I (ROA)**

Dependent Variable: ROA
Method: Panel Least Squares
Date: 11/20/25 Time: 19:19
Sample: 2015 2024
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| TDC | 0.862695 | 1.118831 | 0.771068 | 0.4436 |
| HSC | 5.725136 | 1.775718 | 3.224126 | 0.0020 |
| C | -32.60719 | 9.117197 | -3.576449 | 0.0007 |

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| Effects Specification | | | |
|---|---|---|---|
| Cross-section fixed (dummy variables)<br>Period fixed (dummy variables) | | | |
| R-squared | 0.612259 | Mean dependent var | 1.453895 |
| Adjusted R-squared | 0.497844 | S.D. dependent var | 5.567325 |
| S.E. of regression | 3.945171 | Akaike info criterion | 5.786709 |
| Sum squared resid | 949.4270 | Schwarz criterion | 6.352440 |
| Log likelihood | -212.4684 | Hannan-Quinn criter. | 6.013527 |
| F-statistic | 5.351203 | Durbin-Watson stat | 0.663285 |
| Prob(F-statistic) | 0.000000 | | |

***Source: Author Computation, (2025) using E-Views 10***

The results in table 4 disclosed the regression coefficients ($R^2$ = 0.612259, Adjusted $R^2$= 0.497844, F-statistic =5.351203, DW= 0.663285). The results of the regression model disclosed the effect of the independent variables training and development cost (TDC) and health safety cost (HSC) on the dependent variable return on assets (ROA). The coefficient of determination $R^2$ represented the proportion of variance of return on assets (ROA) that has been explained by training and development cost (TDC), and health safety cost (HSC) in the regression model. The Adjusted $R^2$ provides an insight of goodness of fit of the model. This implied that 49.7% changes in return on assets (ROA) contributed to changes in training and development cost (TDC) and health safety cost (HSC) among the listed consumer goods manufacturing companies in Nigeria while 50.3% was explained by unknown variables that were not included in the regression model. The Durbin-Watson statistic test discovered that there is a positive evidence of autocorrelation in the time series data set. The F-statistic and its corresponding probability value disclosed that the regression model satisfies the overall goodness-of-fit statistical test.

**Statement of Hypotheses**

**$Ho_1$**: There is no significant effect of training and development cost on return on assets of listed consumer goods manufacturing companies in Nigeria.

**$H0_2$**: There is no significant effect of health safety cost on return on assets of listed consumer goods manufacturing companies in Nigeria.

**Decision 1:** The results in table 4 reported the effect of training and development cost (TDC) on return on assets. The training and development cost (TDC) coefficient (0.862695) and T-statistics 0.771068) disclosed a positive effect. The Prob. ** value 0.4436 > 5% chosen significant level. Given the above result, the study rejected the null hypothesis one and accepted the alternative hypothesis one. Hence, the study concluded that there is a positive and insignificant effect of training and development cost on return on assets of listed consumer goods manufacturing companies in Nigeria.

**Decision 2:** The results in table 4 reported the effect of health safety cost (HSC) on return on assets. The health safety cost (HSC) coefficient (5.725136 and T-statistics 3.224126) disclosed a positive effect. The Prob. ** value 0.0020 < 5% chosen significant level. Given the above result, the study rejected the null hypothesis two and accepted the alternative hypothesis two. Hence, the study concluded that there is positive and significant effect of health safety cost on return on assets of listed consumer goods manufacturing companies in Nigeria.

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**Table 5: Hausman Test for Model II (NPM)**

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 31.790235 | 4 | 0.0000 |

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|---|---|---|---|---|
| TDC | 10.895699 | 0.108950 | 30.971215 | 0.0526 |
| HSC | -8.309274 | -5.843927 | 30.395801 | 0.6548 |

***Source: Author Computation, (2025) using E-Views 10***

Hausman test is a test the consistency of an estimator, in so doing, evaluating the fitness of the statistical model to the data gathered. With this test, the study identified if the Random-effect or Fixed-effect model should be adopted for further analysis. From table 4.5, the Hausman test shows that individual effects is independent of the explanatory variable given that the probability value of 0.0000 is below the 5% significant level, thereby rejecting the null hypothesis. Accordingly, the study adopts the Fixed-effect multiple regression for model 1I estimation.

**Table 6: Regression Analysis of Model II (NPM)**

Dependent Variable: NPM
Method: Panel Least Squares
Date: 11/20/25 Time: 19:30
Sample: 2015 2024
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| TDC | -3353.873 | 1592.439 | -2.106124 | 0.0393 |
| HSC | 6169.069 | 2527.390 | 2.440885 | 0.0176 |
| C | -19534.46 | 12976.57 | -1.505364 | 0.1374 |

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.368503 | Mean dependent var | 1135.541 |
| Adjusted R-squared | 0.182160 | S.D. dependent var | 6209.121 |
| S.E. of regression | 5615.188 | Akaike info criterion | 20.30819 |
| Sum squared resid | 1.92E+09 | Schwarz criterion | 20.87392 |
| Log likelihood | -793.3274 | Hannan-Quinn criter. | 20.53500 |

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| | | | |
|---|---|---|---|
| F-statistic | 1.977549 | Durbin-Watson stat | 0.963191 |
| Prob(F-statistic) | 0.025267 | | |

***Source: Author Computation, (2025) using E-Views 10***

The results in table 6 disclosed the regression coefficients ($R^2$ = 0.368503, Adjusted $R^2$= 0.182160, F-statistic =1.977549, DW= 0.025267). The results of the regression model disclosed the effect of the independent variables training and development cost (TDC) and health safety cost (HSC) on the dependent variable net profit margin (NPM). The coefficient of determination $R^2$ represented the proportion of variance of net profit margin (NPM) that has been explained by training and development cost (TDC), and health safety cost in the regression model. The Adjusted $R^2$ provides an insight of goodness of fit of the model. This implied that 18.2% changes in net profit margin (NPM) contributed to changes in training and development cost (TDC) and health safety cost (HSC) among the listed consumer goods manufacturing companies in Nigeria while 89.8% was explained by unknown variables that were not included in the regression model. The Durbin-Watson statistic test discovered that there is a positive evidence of autocorrelation in the time series data set. The F-statistic and its corresponding probability value disclosed that the regression model satisfies the overall goodness-of-fit statistical test.

**Statement of Hypotheses**

**$Ho_3$**: There is no significant effect of training and development cost on net profit margin of listed consumer goods manufacturing companies in Nigeria.

**$H_{04}$:** There is no significant effect of health safety cost on net profit margin of listed consumer goods manufacturing companies in Nigeria.

**Decision 3:** The results in table 6 reported the effect of training and development cost (TDC) on net profit margin (NPM). The training and development cost (TDC) coefficient (-3353.873) and T-statistics -2.106124) disclosed a negative effect. The Prob. ** value 0.0393< 5% chosen significant level. Given the above result, the study rejected the null hypothesis three and accepted the alternative hypothesis three. Hence, the study concluded that there is a negative and significant effect of training and development cost on net profit margin of listed consumer goods manufacturing companies in Nigeria.

**Decision 4:** The results in table 6 reported the effect of health safety cost (HSC) on net profit margin. The health safety cost (HSC) coefficient (6169.069 and T-statistics 2.440885) disclosed a positive effect. The Prob. ** value 0.0176 < 5% chosen significant level. Given the above result, the study rejected the null hypothesis four and accepted the alternative hypothesis four. Hence, the study concluded that there is positive and significant effect of staff remuneration on net profit margin of listed consumer goods manufacturing companies in Nigeria.

**Conclusion**

Based on the data obtained from the annual financial reports of the listed consumer goods manufacturing companies from Nigeria exchange group; the data were presented and analyzed, findings were discussed. Therefore, the study concluded that;

1. The study concluded that there is a positive and insignificant effect of training and development cost on return on assets of listed consumer goods manufacturing companies in Nigeria.



2. The study concluded that there is positive and significant effect of health safety cost on return on assets of listed consumer goods manufacturing companies in Nigeria.
3. The study concluded that there is a negative and significant effect of training and development cost on net profit margin of listed consumer goods manufacturing companies in Nigeria
4. The study concluded that there is positive and significant effect of c health safety cost on net profit margin of listed consumer goods manufacturing companies in Nigeria.

**Note:** The study generally concluded that the effect of human capital assets on financial performance of listed consumer goods manufacturing companies in Nigeria is statistically significant for the period spanning from 2015 - 2024.

**Recommendations**

Based on the findings of this study and the conclusion drawn thereof, the following recommendations are made

1. Capitalizing human assets such as training and development costs would positively impact on performance of banks. Therefore, its disclosure is recommended as intangible asset in the statement of financial position.
2. Recruitment, hiring and training of competent personnel are very essential in facilitating not only the level of productivity but also the development of personnel in any organization. The bank therefore, should take staff training seriously.
3. An organization that invests in its employee's welfare will outperform competitors that do not invest sufficiently. It is therefore recommended that the banks should take health cost seriously.
4. The banks should take their reward scheme seriously as health safety cost was seen as having positive effect on net profit margin

**References**

Abolo, A. P. (2022). Human assets accounting and financial performance of listed commercial banks in Nigeria. *Management and Accounting Innovative Journal, 8*(2), 96-122.

Al Karim, R. (2019). Impact of different training and development programs on employee performance in Bangladesh perspective. *International Journal of Entrepreneurial Research, 2(*1), 8- 14.

Amber, D. (2016) Business 306: strategic human resources management. https://study.com/academy/course/business-306-strategic-human-resources-manag ement.html

Armstrong, M. (2016). Service Compensation Management, translated by Seyed Reza Seyed Javadin, Behrouz Purwali and Elham Jamali. Tehran: Mehraban Book Institute.

Ayu, M. I., Gamayuni, R. R., & Urbaniski, M. (2020). The impact of environmental and social costs on performance of Nigeria manufacturing companies. *International journal of economics and finance*, 8(9), 173 – 179.

Chaudhry, N. I., Jariko, M. A., Mushtaque, T., Mahesar, H. A., & Ghani, Z. (2017). Impact of working environment and training & development on organization performance through mediating



role of employee engagement and job satisfaction. *European Journal of Training and Development Studies, 4(2), 33-48.*

Che-Amadi, A., Osazuwa, N. P., & Mbame, C. O. (2016). Environmental accounting and firm profitability in Nigeria. *Journal of Accounting Research and Audit Practice*, *5*(1), 5-14.

Chinedu, N. G., Udama, U. D., & Ali, O. R. (2019). Impact of environmental accounting disclosure on financial performance in Cement Companies in Nigeria. *IDOSR Journal of Arts and Humanities*, 4(1), 1 – 14.

Grimsley, S. (2020). Definition of profitability. https://study.com/academy/lesson/what-is profitability-definition-analysis-quiz.html. Accessed 10/08/2020

Gruzina, Y., Firsova, I., & Strielkowski, W. (2021). Dynamics of human capital development in economic development cycles. *Economies, 9(2), 67-81.*

Hanaysha, J. (2016). Examining the effects of employee empowerment, teamwork, and employee training on organizational commitment. *Procedia-Social and Behavioral Sciences, 229, 298-306. 27.*

Horton, M. (2019). The difference between profitability andprofit.https://www.investopedia.com/ask/answers/012715/what-difference-betweenprofitability-and-profit.asp.Accessed 02/09/2020.

Ibrahim, A. A., & Dahie, A. M. (2016). The impact of training and development on employee performance (united bottling company case study) in Mogadishu-Somalia. *International Journal of Multidisciplinary Research (IJMR), 39*(5), 2455-3662.

Kaine, H. & Womenazu, H.S. (2022). Environmental degradation cost and financial performance of oil and gas companies in Nigeria. *International Journal of Academic Research in Business and Social Sciences, 4*(8), 252-263.

Kuznetsova, I. G., Bulyga, R. P., Rakhmatullina, L. V., Titova, S. V., Shichiyakh, R. A., & Zakirov, R. A. (2019). Problems and prospects of human capital development in modern Russia. 2(1), 701- 728.

Mayndarto, E. C., & Agustine, Y. (2021). The effect of environmental accounting, environmental strategy on corporate performance of agricultural companies in Nigeria. *International Journal Science and Technology Management, 9*(8), 112-119.

Mazelis, L. S., Lavrenyuk, K. I., Krasko, A. A., & Zagudaeva, O. N. (2018). A conceptual model of the regional human capital development. International Transaction *Journal of Engineering, Management and Applied Sciences and Technologies, 9(4), 477-494.*

Melissa, H. (2020). The difference between profitability and profit. https://www.investopedia.com/ask/answers/012715/what-difference-betweenprofitability-and-profit.asp. Accessed 02/09/2020.



Muhammad, A. (2020). Intellectual capital and firms' financial performance: *Empirical Evidence from Pakistan Stock Exchange: Journal of Managerial Issues 14*(3), 59-69.

Mukah, S. T. (2021). Environmental cost accounting implications on timber company productivity in Cameroon. *Open Journal of Accounting, 10*(8), 77-92.

Newstyle (2025). Human capital development and economic performance in Nigeria. *1st National conference of Bayelsa state institute of entrepreneurship and vocational training Elebel: Theme, entrepreneurship and vocational training: A Panacea for human capacity development in nation building. Wed, 25th –Fri, 27th June, 2025*, *1*, 50- 66.

Newstyle, D. & Major, H. I. (2022). Pre-post human capital accounting and financial performance of listed oil and gas companies in Nigeria: An empirical evidence from pre and post Covid19 Era. *Innovative Journal of Marketing, Management and Accounting Research, 8*(1), 132- 149.

Newstyle, D. & Major, N. C. (2022). Intellectual capital cost and financial performance of listed healthcare firms in Nigeria*: Proceeding of the International conference on African research and development studies, Benue State University, 10*(3), 11-19.

Newstyle, D., & Opuene, E.G. (2022). Inventory management techniques and financial performance of listed oil and gas companies in Nigeria. *International Journal of Management, Accounting and Human Development, 11*(2), 87- 109.

Ngoc. P. T., & Duc, H. V. (2020). Human capital efficiency and firm performance across sectors in an emerging market: *Cogent Business & Management: 7(1);*https://doi.org/10.1080/23311975.2020.1738832.

Nwaeke, L. I., & Obiekwe, O. (2017). Impact of manpower training and development on organizational productivity and performance: A theoretical review. *European Journal of Business and Management, 9(4), 153-159.*

Odhong, A.E., Were, A. and Omolo, J. (2014). Effect of human capital management drivers on organizational performance in Kenya: A case of investment and mortgages bank Ltd. *European Journal of Business Management, 2*, 341-356.

Odhong, E.A. and Were S. (2013) Human capital management as a tool for value creation. proceedings of First SHRD Annual Research Conference, Nairobi, 12-13 September 2013, Nairobi.

Ofurum, C.O., Onuoha, T.E., & Nwaekpe, U.C. (2018). Intellectual capital reporting and corporate financial performance of quoted firms in Nigeria: *International Journal of Advanced Academic Research Business Development & Management ISSN: 2488-9849 4(2)*

Ognjanović, J., & Aleksandra, S. V. (2019). Research on the relationship between intellectual capital and indicators of work results of employees in the banking sector of the Republic of Serbia: Skola Biznisa 2019(2), 1-22; DOI: 10.5937/skolbiz2-22612.

Olasupo, S. F., & Akinsehure, O. P. (2017). *International research journal of management and commerce,* 4(1), 337 – 345.



Oshiole, S., Elamah, A. F., & Ndubuisi, A. N. (2020). Effect of environmental cost disclosure on profitability of oil and gas companies in Nigeria. *International Journal of Academic Accounting Finance and Management Sciences*, 10(2), 157 – 165.`

Ovechkin, D.; Boldyreva, N.; Davydenko, V.(2021). Intellectual capital and value: Testing new IC measures in Russia. *J. Econ. 1*, 17.

Rodriguez, J., & Walters, K. (2017). The importance of training and development in employee performance and evaluation. *World Wide Journal of Multidisciplinary Research and Development, 3(10), 206-212.*

Shawn, G. (2020). Definition of profitability. https://study.com/academy/lesson/what-isprofitability-definition-analysis-quiz.html. Accessed 10/08/2020.

Sodirjonov, M. M. (2020). Education as the most important factor of human capital development. *Theoretical & Applied Science, (4), 901-905.*

Wernerfelt, B. (1984) A Resource-Based View of the Firm. Graduate School of Business Administration, The University of Michigan, Ann Arbor, Michigan, U.S.A. Strategic Management Journal, 5, 171-180. https://www.studocu.com/row/document/universite-detat-dhaiti/quan-tri-kinh-doa nh/wernerfelt-1984-dddd/53366887

Zhuang, H. (2017). The effect of foreign direct investment on human capital development in East Asia. *Journal of the Asia Pacific Economy, 22(2), 195-211*