



# MGT666: INTERNSHIP

THE RELATIONSHIP BETWEEN HUMAN  
CAPITAL AND FIRM PERFORMANCE OF  
ENERGY AND HEALTHCARE FIRMS

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## **EXECUTIVE SUMMARY**

The content in this report refers to the internship experience and the research that was conducted, and it is one of the requirements for completing an internship. I was introduced to the financial industry, relationship building, and other knowledge and skills that will be useful in the workplace in the future during my time as an intern at Chew Wai Khoon & Co.

In terms of the study, it is carried out on the energy and healthcare firms to ascertain the relationship between human capital and firm performance between 2012 and 2021. For the study, data was acquired from annual reports that were gathered from Bursa Malaysia. The company's VAHC score evaluates how well it manages its human capital. To determine whether there is a relationship between human capital and financial success, the calculation's results will be compared between firms, and with the firm's profitability.

According to the study, there is no relationship between the firms' profitability and human capital.

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## **PART A**

### **BACKGROUND OF THE COMPANY**

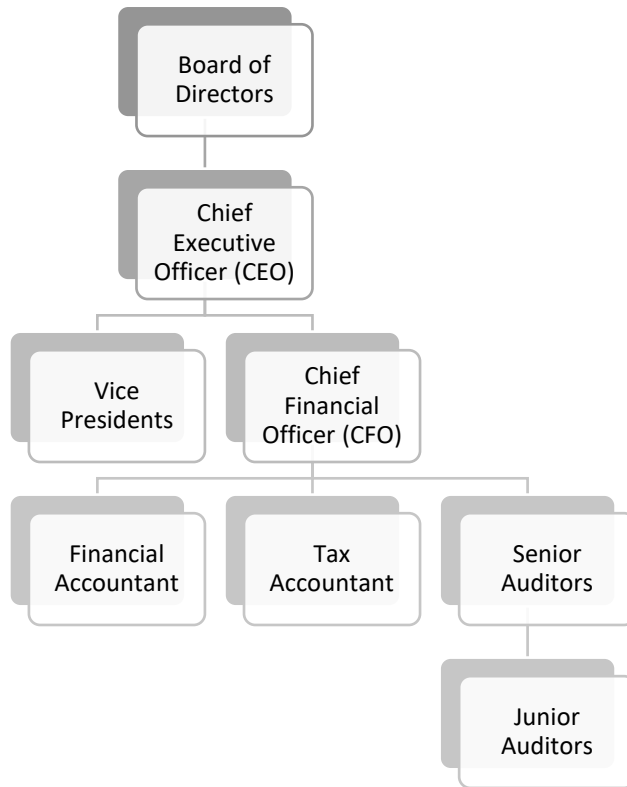
Chew Wai Khoon & Co. was established in 2007 by Dato' Chew Wai Khoon. Chew Wai Khoon & Co. offers financial advising services along with audit assurance, tax assistance, and consulting services. The company responds to its clients' complicated business challenges across industries. As an example, the audit assurance practice helps companies manage risk so they may focus their core business activities. The company convert information into insights to identify hidden opportunities to improve client efficiency and performance through understanding each client's business.

An audit entails carrying out procedures to gather audit evidence on the sums and disclosures in the financial statements. The goal of an audit of financial statements is to give the auditor the ability to express an opinion on whether the financial statements were prepared in conformity with a certain financial reporting structure in all material respects.

Accounting process creates financial statements and other financial data that is useful to management. Auditing, on the other hand, involves reviewing accounting data instead of producing it. An audit of the data enhances the validity and accuracy of financial accounts and information. Reliable information is crucial for all users of financial data, including financiers, creditors, and investors.

The company's mission is to be recognized as a dependable global strategic financial business partner in meeting and exceeding our clients' needs through interdisciplinary cooperation. On the other, their vision is to always raise the bar and to live by the motto "The Business Mind" in order to meet today's global issues.

# ORGANIZATIONAL CHART



## TRAINING REFLECTION

The internship was scheduled for 24 weeks, from March 1, 2023 to August 15, 2023. The 24 weeks I spent at the firm of my choice during my internship have provided me with ample amount of time to learn and gained new experience that will help me in the workplace someday.

During my first week of internship, I was guided by a senior auditor who taught me the proper way to audit a client's accounting report. First and foremost, I started off with vouching the documents provided by the client such as payment vouchers, invoices, debit and credit note and more. Vouching allows an auditor to identify these frauds and validate the legitimacy of transactions. It is also made easier to locate any unaccounted-for or unrecorded transactions in the records when a voucher is accessible for a certain transaction.

When I am done with the vouching process, I can later work on the schedules by recording any significant transactions are aligned with the supporting documents provided. If there is any mistake that is recognized during the auditing process, whether amount in the general ledger and supporting documents are different, client wrongly recorded a transaction, or even missing out a crucial transaction, some adjustments may need to be done or in some cases, I may need to contact the client regarding any mistakes I discovered during the auditing process.

Once I am done with auditing a client's report, a senior auditor will check my work done in case any mistakes were made during the auditing process. When a report has been checked by a senior auditor and mistakes have been amended, the report will later be reviewed by a review before sending it to the client. Throughout my internship, there have also been several cases that require me to work together with a senior auditor.

## **PART B**

### **CHAPTER ONE: INTRODUCTION**

#### **1.1 Background of the Study**

The most valuable resource a company can have is its human capital. It is a representation of the human aspect in a firm, where a person's combinations of intelligence, skills, knowledge, aptitudes, and expertise provides a company its unique identity. These characteristics also help a company produce goods and earn money, which enhances firm performance (Bontis et al., 2000 Tayles et al., 2007; Gazor et al., 2013). A firm's capacity to successfully implement business goals, according to Yusuf (2013), completely depends on the effective utilization of intangible assets, particularly human capital.

Human capital theory, which was formalised by Schultz (1961) and Becker (1962, 1964), led to the full development of the idea of human capital in the 1960s. In order to improve productivity and maintain competitive advantage, which will result in higher financial performance, the term "human capital" has been identified as a crucial component (Schultz, 1993). This definition highlights the impact of human capital on a firm's financial performance.

In order to manage this intangible asset and lower its expenses while enhancing its benefits, the value of human capital and its assessment have become increasingly important. (Yusuf 2013). According to Becker et al. (2002), the effectiveness with which employees implement the organization's plan is measured by human capital performance. They held the opinion that the performance of the company's human capital is the foundation of its financial success. In other words, the firm's financial success will be impacted by how the firm's human capital influences its strategic drivers, hence it has an indirect effect on financial performance.

In today's corporate environment, measuring human capital performance has become a critical concern for businesses and may aid them in gaining the proper perspective on how human capital is valued based on performance. The use of an appropriate performance evaluation method could give businesses the data they need to develop an action plan to increase the contribution of human capital to firm performance.

Therefore, for an organization to succeed and be secure in the future, competence and skills are crucial. Physical assets such as land, buildings, machinery as well as electronics diminish their functionality (Bassey & Tapang, 2012). It is generally acknowledged that a person's capacity to work, solve issues, and apply creativity is increased by the education and training they get throughout the course of a professional career (Munjuri, K'Obonyo & Ogutu, 2015). A company's investment in its human capital can have an immense beneficial impact on both its operations and its workforce. The productivity the workforce rises, which boosts firm performance (Awan and Sarfraz, 2013).

According to Hitt et al. (2001), a company's human capital is a key source of long-term competitive advantage. Investments in the workforce's human capital may thereby boost employee productivity and financial outcomes (Pfeffer, 1998). Enhancing people's knowledge, abilities, and competency improves the organization's human capital. People are more capable of performing their duties, which benefits the organization in general (Cunningham, 2002).

Increasing the impact and efficacy of human capital in firms is one of the cornerstones of industrial study. It is generally accepted that such maximization is advantageous to both the individuals involved and the firms in which they operate (Crook et al, 2011). Over the years, businesses have established their competitive strategies on a variety of different factors, including scale economies, access to capital, protected market niches, and product and process technologies. However, in the contemporary corporate environment, which is depicted by market globalization, escalating competition, and a rapid pace of technological progress, tangible assets no longer provide sustainable competitive advantages (Perez and Pablos, 2003).

To assess the value added from tangible and intangible assets, Pulic (1998, 2000) created the value-added intellectual coefficient (VAIC) model, which includes human capital efficiency, structural capital efficiency, and capital utilized efficiency. This model is regarded as a common measurement approach that enables comparisons between industries and countries. Additionally, this model has been widely used in several empirical research due to its simplicity of use in the application of information from financial statements.



In developed countries, numerous studies have been done to investigate the relationship between company performance and human capital efficiency using the VAIC model (Ozkan et al., 2017; Sardo & Serrasqueiro, 2017). Furthermore, a lot of empirical research on Asian economies has been done recently (Al-Musali & Ismail, 2014; Mondal & Ghosh, 2012; Poh et al., 2018; Tran & Vo, 2018).

The following section includes a literature review on this study. Third chapter described the research methodology used in this research. Chapter four follows the comparative analysis whereas the final chapter described the findings, study limitations as well as future research.

## 1.2 Problem Statement

Sveiby (1997) asserts that the human capital is comparable to other assets. Additionally, he made the case that since firms invest in human resources to produce future profits, they should be capitalized rather than expensed in the current period when valuing a company. The development and maintenance of competitive advantage (Holland, 2006), as well as value creation activities at the company (Pike et al 2000, Holland, 2003; Bukh et al, 2005, OECD, 2006), are mainly considered as dependent on human resources. Firms make significant investments in human capital assets in the fast-paced business world of today. The issue is that these investments are not completely reflected in the balance sheet because they are either arbitrarily amortized or immediately expensed in the financial statement. As a result, the market prices and book values of companies with considerable human capital investments are unrelated (Amir and Lev, 1996; Brennan, 2001; Lev, 2001; Holland, 2003).

These large expenditures on recruiting, relocating, and training top employees are not considered in the balance sheets of these firms. In fact, they are subtracted from the period's revenue in order to reduce income and, as a result, corporate value. The information on human capital is not properly documented on balance sheets or other conventional financial records because there are no obligations to be fulfilled. The strict intangible asset recognition criteria that forbid listing human resources as an asset on the balance sheet also contribute to this (Tayles et al 2002).

The accounting of human capital has raised several heated discussions, such as whether it is valuable enough to be counted as an asset despite being unrelated to the business's projected future benefits (Micah, Ofurum and Ihendinihu, 2012). Particularly for micro-firms, the human capital factor has received fewer scholarly attention. As far as we are aware, very few studies have attempted to define and validate the dimensions of human capital in relation to a measurement model. One group defined it as what people owned as a result of learning, experience, and competence, while another group defined it as a human skill that is directly tied to the task (AL Maani and Jeradat, 2010).

Human capital is a complicated, multifaceted concept with many intangible qualities that are challenging to detect and precisely measure by a single variable, a group of objects, or their aggregate over individuals or households, according to Folloni and Vittadini (2010).

They also pointed out that human capital is a complex idea that is linked family dynamics, the social environment, and, to a large part, inherent and non-cognitive talents, and attributes. The term “human capital” refers to more than merely formal education and training.

Bontis (1998) stated that the dominant role of intangibles and knowledge workers, which resulted from global competitiveness, is the distinguishing characteristics of the growing economy. However, despite the value of human capital, this intangible asset is generally undervalued, especially from the perspective of accountants (Fitz-enz 2000; Gan & Saleh 2008). According to Becker, Huselid, and Ulrich (2002), the effectiveness of an organization’s human capital should be considered when estimating its value.

### **1.3 Objectives of Study**

#### 1.3.1 General Objectives

The purpose of this study is to evaluate whether human capital affects the performance of energy and healthcare firms in Malaysia.

#### 1.3.2 Specific Objectives

1. To analyze the relationship between human capital and firm performance for Malaysian energy and healthcare firms.
2. To investigate the efficiency of human capital in the energy and healthcare firms.

### **1.4. Significance of Study**

#### 1.4.1 Energy and Healthcare Firms

Numerous studies on human capital and its effects on financial performance have been published. However, there is a lack of information on how human capital practices affect firm financial performance in Malaysia. Consequently, this study helps filled in the gap.

As a result of this study's exposure of the value of human capital, firms will create plans for improving the competence and creativity of their workforce, which is a source of competitive advantage. Energy and healthcare firms will be able to evaluate the strategies they have employed to grow human capital critically and learn about additional strategies that have been shown to enhance it.

#### 1.4.2 Researchers

Particularly in Malaysia, there is limited understanding on human capital efficiency. In Malaysia, the finance sector is the primary focus of most studies on the performance of human capital. As opposed to other Malaysian research, this research uses samples from specific sectors, which are energy and healthcare sectors. As a result, it influences the selection of sample size.

#### 1.4.3 Body of Knowledge

This study contributes to the body of literature already in existence. The number of human capital studies related to the Malaysian firms is low, and their scope and depth are likewise limited.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Intellectual Capital

Even though the concept of intellectual capital is not new, the organizational space has finite understanding of it, as seen by the several definitions that are currently in use. Stewart (1997) stated that intellectual capital encompasses the collective knowledge, information, intellectual property rights, and experience of a business entity. As stated by Alipour (2012), intellectual capital is defined as the group of knowledge assets that an organization owns or manages and that have a major impact on the ways in which it creates value for important stakeholders in the business.

Intellectual capital can also be described knowledge-related intangible assets embedded in an organization, including its intellectual assets, intellectual property, and intellectual skills, according to Chen et al. (2014). As a result, there is no one definition that adequately captures the concept of intellectual capital.

Many scholars have broken down intellectual capital into its three primary parts: human capital, structural capital, and relational capital. The term "human capital" refers to the knowledge that people offer to a business together with their aptitudes, competencies, experiences, and expertise. Structural capital, which also includes non-physical components like databases, organizational structures, management processes, and commercial strategies, covers the systems, structures, and procedures of an enterprise. Relational capital, on the other hand, refers to all intangible assets that control and manage an organization's connections. It comprises of the interactions the company has with its stakeholders, including its shareholders, clients, and customers (Joshi et al., 2013; Kurt, 2008; Mondal & Ghosh, 2012).

Traditional financial reporting, according to Yang et al. (2009), only assesses short-term financial and tangible assets; therefore, it cannot be used to ascertain the true value of the organization. However, businesses have recently been more interested in measuring intellectual capital for reporting to stakeholders and are looking for a mechanism to evaluate internal intangible assets.

The relationship between intellectual capital and firm performance has been the subject of numerous studies, although the results are still ambiguous. According to an early Chen et al. study, investment in physical capital, human capital, structural capital, and research and development has a positive effect on a company's market value and return on assets (ROA). In

the Indian textile and pharmaceutical industries, Pal & Soriya (2012) discovered that profitability and IC are positively correlated, but there is no correlation between intellectual capital and productivity or market value. Andreeva & Garanina (2016) discovered that despite people and structural capitals do, relational capital does not improve company performance in the instance of Russia.

### 2.1.1 Human Capital

Human capital evolved from the concept of intellectual capital ((Bontis et al., 2000; Tayles et al., 2007). Edvinsson and Malone (1997) define human capital as the knowledge, skills, innovative ideas, and capacity of employees to assist the business in resolving problems and achieving its goals. Human capital, according to Chen, Zhu and Xie (2004), is the foundation of intellectual capital and is crucial for the development of all value.

Human capital is the total of a person's knowledge, abilities, and skills acquired via formal and informal education and experience, as stated by Pil and Leana (2009). From an organizational standpoint, Lepak and Snell (1999) described human capital as the result of a company's conscious investment in selecting employees with high general skills (or formal education), as well as a business investment in training more specialized skills through internal training activities.

For human capital, there are two categories: one for attitude and competence, the other for employment history. The skill and motivation characteristics that Huselid (1995) identified as parts of human capital have been reinterpreted by a broader body of research, leading to a range of classifications of human capital (Boyatzis, 2008; Edvinsson, Malone, & Michael, 1997; Johan, Göran, Nicola, & Leif, 1997; Ploum, Blok, Lans, & Omta, 2018; Robbins, 1997). However, competence and attitudes are usually used to categorize human capital, and these are described as follows:

- Competence: the knowledge, abilities, skills, talents, and know-how of employees; the content portion of human capital
- Attitude: the desire of the staff to apply their skills for the benefit of the business.

Despite ignoring the fact that human capital is the primary component influencing the process, some people immediately blame the operator when structural capital investment falls short of expectations (Fitz-enz 2000; Gan & Saleh 2008). Fitz-enz (2000) claims that managers will attribute to the combination of human capital and automation in certain situations if a

company's performance improves. Makki et al. (2008) state that "Human capital is primarily responsible for overall performance of the firm."

The few studies that focus on accounting to human capital include Lev and Schwartz (1971), Flamholtz (1971), Morse (1973), and Friedman and Lev (1974). These studies are noteworthy examples of the field. Despite the fact that each of these studies offers a different technique for valuing human capital, the value of human capital should be reflected in the financial records. These studies suggest that information on human capital may aid investors in assessing effectiveness and projecting future profitability and productivity.

## 2.2 Firm Performance

Combs et al. (2005) defined firm performance as the economic outcomes resulting from the relationship between an organization's qualities, behaviors, and environment. Financial performance is measured by ratios like return on investment, return on sales, return on assets, and return on equity, and includes total profitability, profit margin, earnings per share, stock price, and sales growth (Munjuri, K'Obonyo and Ogutu, 2015).

Profitability, capital employed, return on assets (ROA), and the percentage of revenues attributed to new goods are all examples of financial performance indicators (Selvarajan et al., 2007; Hsu et al., 2007). The return on investment (ROI), earnings per share (EPS), and net income after tax (NIAT) are additional financial performance measures (Grossman, 2000).

According to research, the potential of departed employees to be replaced is one of the key factors of the relationship between employee turnover and firm performance (Abelson & Baysinger, 1984; Dalton et al., 1982; Mobley, 1982; Price, 1977; Staw, 1980). The extent to which newly recruited employees successfully do the tasks that departing employees performed, as well as the number and quality of prospective employees wishing to join an organization, can significantly affect how easily departing employees can be replaced (Kwon & Rupp, 2012).

## 2.3 Human Capital Efficiency & Firm Performance

There is a lack of studies that focus on human capital. The efficiency of human capital and the financial performance of Nigerian banks were examined by Yusuf (2013). The study concluded that the effective utilization of human capital had little impact on the return on equity for banks. Parham and Heling conducted study on the effectiveness of human capital and its impact on the financial performance of Dutch production firms in 2015. The study found a significant



relationship between the three measures of company success—return on equity, return on assets, and employee productivity—and human capital efficiency. The results show a strong correlation between worker productivity and human capital effectiveness.

Human capital, according to Plink and Barning (2010), has a positive impact on firm performance since it can aid firms in creating significant value and maintaining a competitive edge. However, convincing the Chief Financial Officer (CFO) to include knowledge workers on the balance sheet is a challenge for human resource managers (Fitz-enz, 2000; Gan & Saleh, 2008; Santoso, 2011; Milost, 2012).

One of the early studies on the performance of intellectual capital in Malaysia was carried out by Goh (2005), who measured the intellectual capital performance of commercial banks between 2001 and 2003. The results demonstrated that across all banks, human capital efficiency is generally higher than structural and capital efficiency. Hazlina and Zubaidah (2008) examined the performance and intellectual capital of the companies listed on the Bursa Malaysia Main Board for the years 2005–2006. They found a significant link between business profitability and profitability. There is no obvious relationship between the value of an organization's intellectual capital and its market valuation for companies listed on the Main and Second Boards.

## CHAPTER THREE: METHODOLOGY

### 3.1 Data Sample and Collection

The data for this study obtained from the firms' annual reports. The Bursa Malaysia website was used to gather all the annual reports. This study initially analyzed the annual reports of 20 healthcare and energy firms, respectively between the year 2012 and 2021. However, due to missing data, some firms were dropped. Thus, the final data include 15 firms from the energy sector and 16 firms from the healthcare industry.

### 3.2 Table of Measurement

Components	Formula	Source
Value Added Human Capital (VAHC <sub>it</sub> )	$\frac{VA_{it}}{HC_{it}}$	Nik Maheran Nik Muhammad. (2016). Intellectual Capital Efficiency and Firm's Performance: Study on Malaysian Financial Sectors
Value Added (VA <sub>it</sub> )	$OUTPUT_{it} - INPUT_{it}$	Nik Maheran Nik Muhammad. (2016). Intellectual Capital Efficiency and Firm's Performance: Study on Malaysian Financial Sectors
Return on asset (ROA)	$\frac{Net\ Income\ after\ Tax}{Total\ Asset}$	Salim, M. Noor, and Winanto, Hardian Arief. (2020). Determinant Return on Assets and Its Impact on Assets Growth (Case Study of Sharia General Banks in Indonesia)
Return on equity (ROE)	$\frac{Profit\ after\ Tax}{Total\ Equity}$	Ismaila Yusuf. (2013). The Relationship between Human Capital Efficiency and Financial Performance: An Empirical Investigation of Quoted Nigerian Banks

### 3.3 Method

In this study, the Value-Added Intellectual Coefficient (VAIC) method that was created by Ante Pulic (1998), will be used to measure the human capital efficiency. The VAIC method using financial statements from a company to calculate the employed capital, structural capital, and human capital coefficient (Nik Maheran, 2009). This method is commonly used by researchers (Chen et al., 2005; Kamath, 2007; Nazari & Herremans, 2007; Chan, 2009; Ghosh & Mondal, 2012).

VAIC does not focus on the firm's cost even though the method uses accounting data. The only focus that improves the business is on resource efficiency (Pulic, 2000 & Bornemann, 1999). Afterwards, multiple regression analysis was used to examine the relationship between human capital and firm performance. The notion of firm performance emerged by considering the value of return on assets (ROA) and firm profitability.

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#### Step 1:

Calculation of Value-Added ( $VA_{it}$ ) by all the resources of the firm during the 't' period of time.

Where,

$OUTPUT_{it}$  = Total income from all products and services sold during the period of t

$INPUT_i$  = All expenses (except labor, taxation, interest, dividends, depreciation) incurred by firm for the period of t.

Therefore,

$$VA_{it} = OUTPUT_{it} - INPUT_i$$

Based on the stakeholder theory, a corporation is significant to everyone whose actions have an impact on or are impacted by it. In this context, the term "stakeholder" refers to the entire community as well as vendors, employees, customers, directors, and the government. As a result, value offered to stakeholders is a more comprehensive performance measurement of the firm than accounting profit, which determines return

attributable to shareholders of the firm. According to Riahi-Belkaoui (2003), the method below can be used to determine the value added by a company over a specific time period.

$$R = S - B - DP - W - I - D - T$$

Where: R is retained earnings for the period; S is net sales revenue; B is cost of good sold plus all expenses (except labor, taxation, interest, dividends, depreciation); W is employees' salaries and wages; I is interest expenses; D is dividend paid to shareholders; and T is taxes.

$$S - B = DP + W + I + D + T + R$$

The right side of the formula above demonstrates how the corporation allocated the value it earned among its various stakeholders, including the government (taxes-T), debt holders (interest-I), employees (salaries and wages-W), and shareholders (dividend, retained earnings, and provision for depreciation-D, R, DP). The entire value produced by the company over a certain time period is shown on the left side of the calculation above. Consequently, the formula to calculate the firm's value added can be rearranged using the following formula.

$$VA = DP + W + I + D + T + R$$

## **Step 2:**

Calculation of Value-Added Human Capital Coefficient (VAHC<sub>it</sub>)

$$VAHC_{it} = VA_{it} / HC_{it}$$

Where,

HC = investment in Human Capital during the 't' period or total salary and wage including all incentives

VAHC = Value added by one unit of human capital invested during the period of 't'

## CHAPTER FOUR: COMPARATIVE ANALYSIS

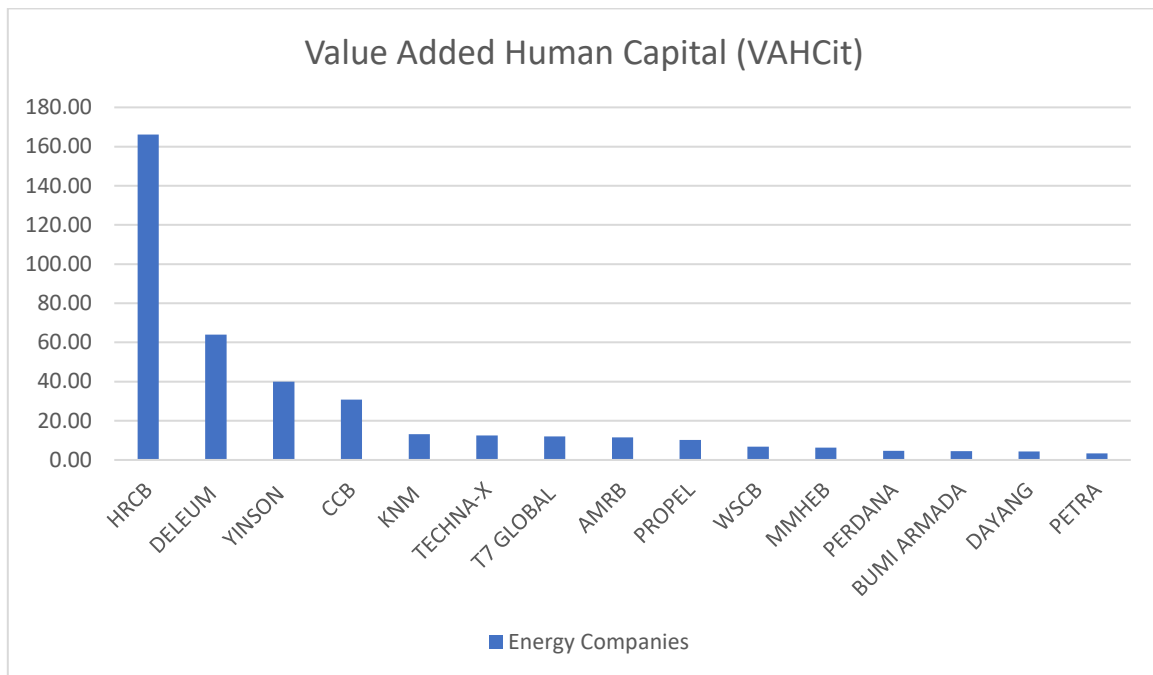
VAIC Ranking		VAHC	VA (RM)	VA Ranking
1	Hengyuan Refining Company Berhad	166.20	11,583,063,900	1
2	Deleum Berhad	63.96	561,643,292	10
3	Yinson Holdings Berhad	39.89	639,898,267	7
4	Coastal Contracts Berhad	30.81	619,797,098	8
5	KNM Group Berhad	13.19	1,571,041,556	5
6	Techna-X Berhad	12.59	605,092,200	9
7	T7 Global Berhad	12.00	193,299,609	15
8	Alam Maritim Resources Berhad	11.46	260,140,562	13
9	Propel Global Berhad	10.21	341,140,080	12
10	Wah Seong Corporation Berhad	6.83	1,839,718,300	3
11	Malaysia Marine and Heavy Engineering Berhad	6.28	1,743,811,300	4
12	Perdana Petroleum Berhad	4.69	224,182,300	14
13	Bumi Armada	4.51	2,048,710,400	2
14	Dayang Enterprise Holdings Berhad	4.40	646,253,459	6
15	Petra Energy Berhad	3.38	461,269,200	11
<b>Average</b>		<b>26.026667</b>		

*Table 1: VAHC & VA rankings of energy firms*

VAIC Ranking		VAHC	VA (RM)	VA Ranking
1	Careplus Group Berhad	99.36	294,535,888	10
2	Supermax Corporation Berhad	14.97	1,848,310,808	7
3	Pharmaniaga Berhad	14.07	2,304,489,300	3
4	Hartalega Holdings Berhad	10.66	2,173,715,393	5
5	Apex Healthcare Berhad	9.96	568,670,260	8
6	Top Glove Corporation Berhad	9.19	4,588,259,200	2
7	Adventa Berhad	8.26	46,594,951	15
8	Hextar Healthcare Berhad	7.76	294,089,656	11
9	Kossan Rubber Industries Berhad	7.70	2,167,912,300	6
10	Supercomnet Technologies Berhad	6.16	63,418,436	14
11	Duopharma Biotech Berhad	5.76	338,249,800	9
12	Kotra Industries Berhad	3.68	143,770,600	12
13	KPJ Healthcare Berhad	3.42	2,179,467,900	4
14	IHH Healthcare Berhad	2.47	9,900,806,400	1
15	TMC Life Sciences Berhad	2.12	91,070,000	13
16	Malaysian Genomics Resources Centre Berhad	0.39	4,026,863	16
<b>Average</b>		<b>12.870625</b>		

*Table 2: VAHC & VA rankings of healthcare firms*

#### 4.1 VALUE ADDED HUMAN CAPITAL



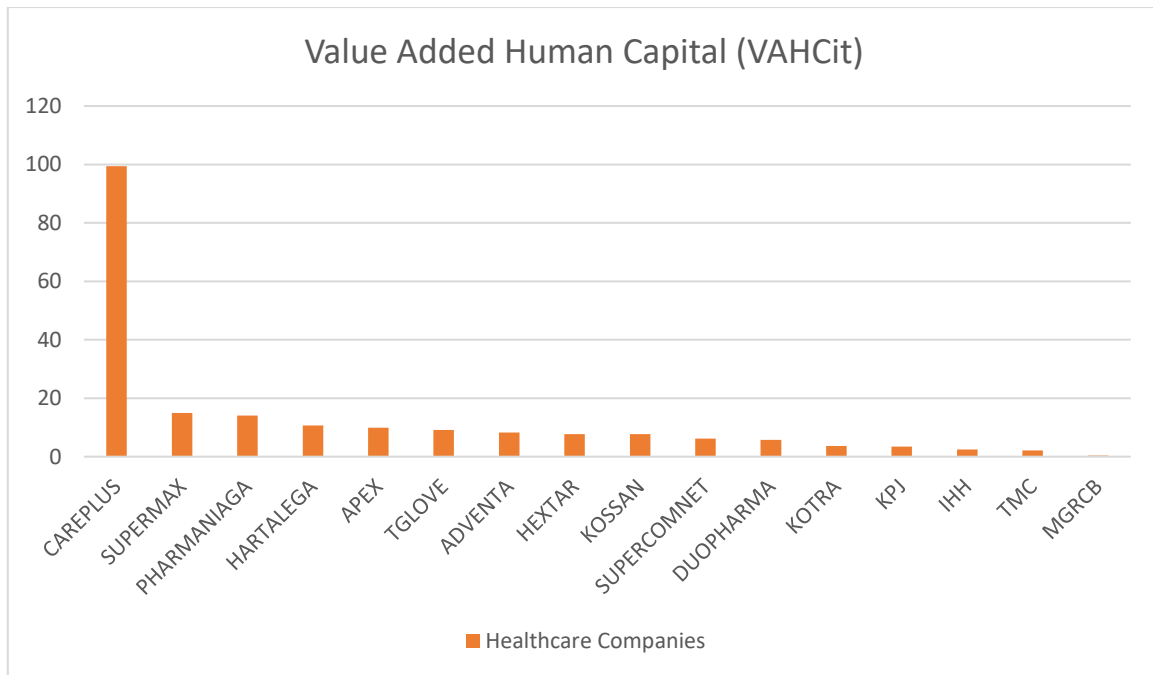
**Chart 1: Value Added Human Capital (VAHCit) of energy firms**

Based on Chart 1, the result indicates that Hengyuan Refining Company Berhad (HRCB), with a VAHC of 166.20, has the highest efficiency score among energy industry firms in terms of human capital. The ranking then followed by Deleum Berhad (DELEUM), Yinson Holdings Berhad (YINSON), and Coastal Contracts Berhad (CCB) with VAHC of 63.86, 39.89 and 30.81, respectively.

With the highest VAHC score of 166.20, Hengyuan Refining Company Berhad (HRCB) was able to generate RM 166.20 million for every RM1 invested in its human capital. Hengyuan Refining Company Berhad (HRCB) also came in first place in terms of the ROA and ROE ranking, at 208% and 641%, respectively. This suggests that the company maximizes the use of its physical assets to generate revenue.

The least efficient firms are Bumi Armada Berhad (BUMI ARMADA) with a VAHC of 4.51, followed by Dayang Enterprise Holdings Berhad (DAYANG) with a VAHC of 4.40 and Petra Energy Berhad (PETRA) with a VAHC of 3.38. With one of the lowest values of VAHC at 4.51, it means that for every RM1 invested in human capital, Bumi Armada (BUMI ARMADA) was only able to generate RM 4.51 million in profit. Bumi Armada Berhad (BUMI ARMADA) was also listed in the bottom three in terms of ROA and ROE, at 15<sup>th</sup> place in ROA ranking with a score of 12% and 14<sup>th</sup> place in ROE ranking with a score of 34%. This indicates that the company's physical assets were not completely utilized in generating profit.

Overall, compared to healthcare firms, the VAHC results throughout the 10-year period suggest that energy firms are more effective at using their human capital. Table 1 and Table 2 above display the findings from the VAHC analysis.



**Chart 2: Value Added Human Capital (VAHCit) of healthcare firms**

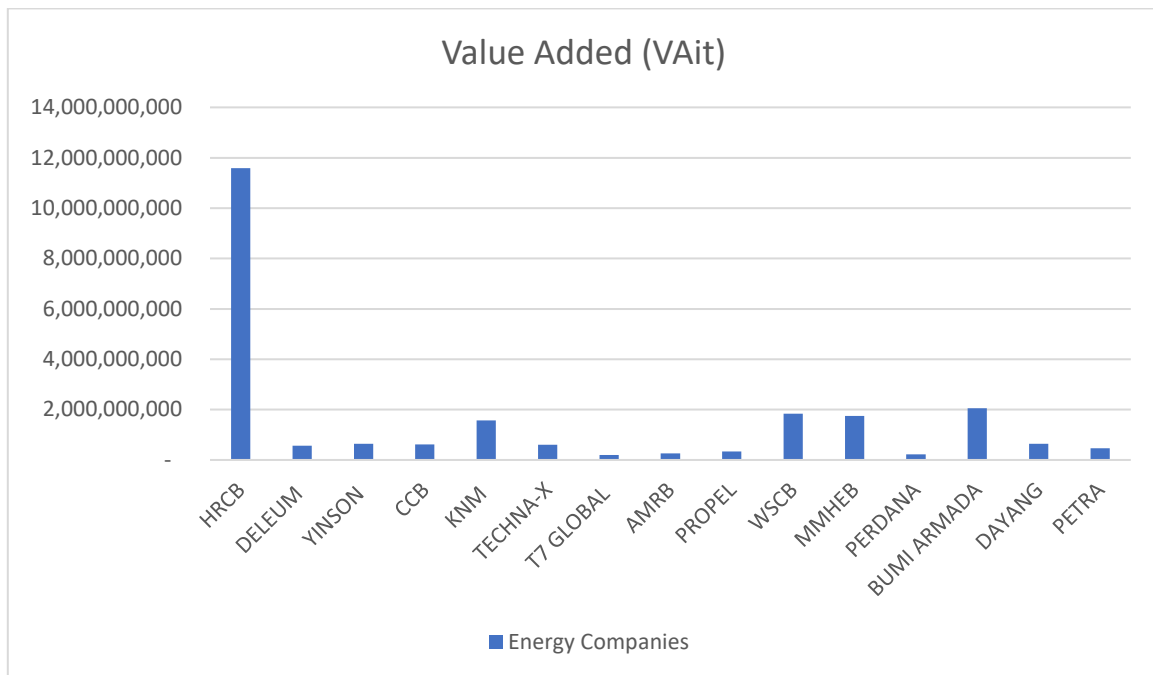
According to Chart 2, Careplus Group Berhad (CAREPLUS) is the healthcare firm with the highest human capital efficiency, with a VAHC value of 99.36. This indicates that for every RM1 invested during that year, the business was able to produce a profit of RM99.36 million from intellectual capital. Supermax Corporation Berhad (SUPERMAX) follows in the ranking with a VAHC of 14.97, meaning that for every RM1 invested in human capital, the firm received RM14.97 million in profit.

Pharmaniaga Berhad (PHARMANIAGA), which received the third highest VAHC score of 14.07, was able to make RM14.07 million for each RM1 spent in its human capital. At 114% and 370%, respectively, Pharmaniaga Berhad (PHARMANIAGA) ranked first in terms of ROA and ROE. This implies that the business is the most efficient in utilizing its physical assets to generate income compared to other healthcare firms.

The least effective companies are IHH Healthcare Berhad (IHH), TMC Life Sciences Berhad (TMC), and Malaysian Genomics Resources Centre Berhad (MGRCB), with VAHC scores of 2.47, 2.12, and 0.39, respectively. TMC Life Sciences Berhad (TMC) was only able to generate RM 2.12 million in return for every RM1 invested in human capital due to its low VAHC value at 2.12. TMC Life Sciences Berhad (TMC) came in last overall with a score of 18% for ROA and 20% for ROE. This could mean that the company's physical assets were not fully employed to generate profit.



## 4.2 VALUE ADDED

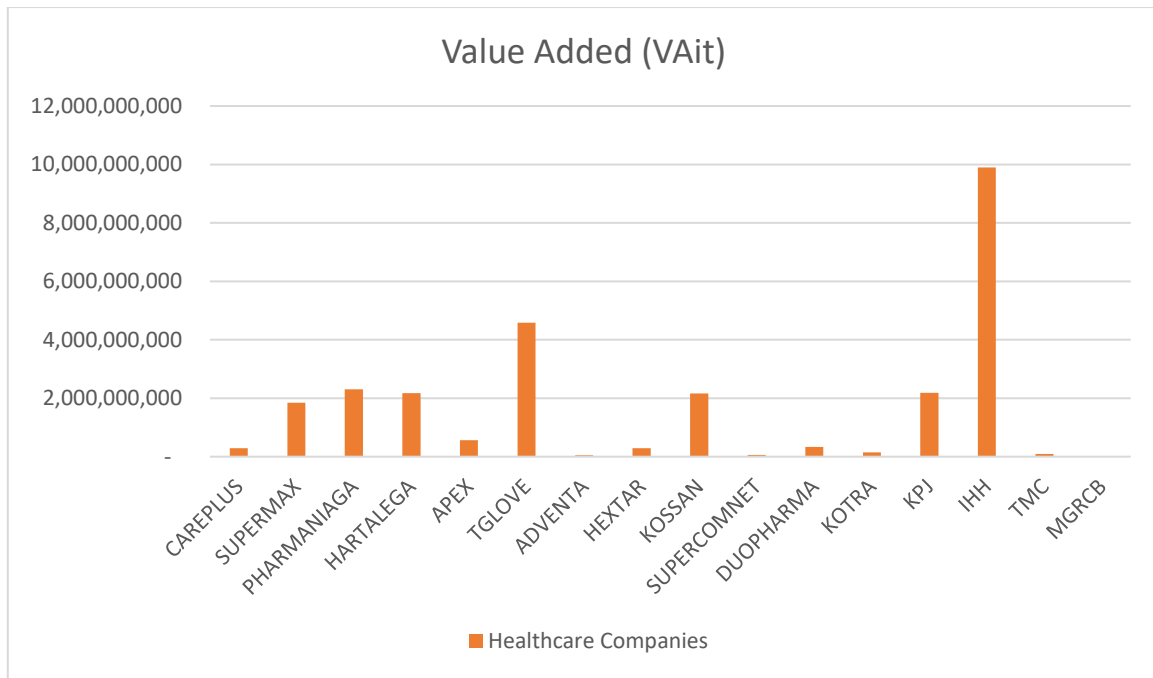


**Chart 3: Value Added (VAit) of energy firms**

Hengyuan Refining Company Berhad (HRCB) also top the charts as the firm with the highest VA among 15 energy firms with a VA of RM11,583,063,900. This demonstrates that after deducting costs and expenses, the company has a sizeable cash flow surplus. As a result, Hengyuan Refining Company Berhad (HRCB) has a substantial income share that it may put into marketing, R&D, and investing. This subsequently shows how capable the business is of turning a profit.

Bumi Armada Berhad (BUMI ARMADA) has the second highest value of VA, at RM2,048,710,400. However, Bumi Armada Berhad (BUMI ARMADA) ranked low in the VAHC, ROA, and ROE rankings (13<sup>th</sup>, 15<sup>th</sup>, and 14<sup>th</sup> place, respectively). This may be due to Bumi Armada Berhad (BUMI ARMADA) invested more in the other intellectual capital components, structural and relational capitals. The third spot belongs to Wah Seong Corporation Berhad (WSCB) with a VA total of RM1,839,718,300.

The bottom three has been occupied by Alam Maritim Resources Berhad (AMRB), Perdana Petroleum Berhad (PERDANA), and T7 Global Berhad (T7 GLOBAL) with VA of RM260,140,562, RM224,182,300, and RM193,299,609, respectively. The low value-added experienced by these firms may be due to several factors such as low sales or profit margin, high expenses, or may be even both.



**Chart 4: Value Added (VAit) of healthcare firms**

Being effective at generating revenue alone is insufficient for businesses; they also need to be able to add value. According to this study, Careplus Group Berhad (CAREPLUS) comes in first place in terms of human capital efficiency, but IHH Healthcare Berhad (IHH) takes the top spot for value added.

The VA ranking for energy firms' places IHH Healthcare Berhad (HRCB) at the top of the list with a VA of RM 9,900,806,400. With VA of RM 4,588,259,200 and RM 2,304,489,300, respectively, Top Glove Corporation Berhad (TGLOVE) and Pharmaniaga Berhad (PHARMANIAGA). Although IHH Healthcare Berhad (IHH) rated first among the sixteen healthcare firms in terms of adding the most value, it was 14<sup>th</sup> in terms of the efficiency of its human capital. This may be because IHH Healthcare Berhad (IHH) spent more in the structural and relational capitals.

The three firms at the bottom of the ranking, with VA of RM63,418,436, RM 46,594, 951, and RM 4,026,863 were Supercomnet Technologies Berhad (SUPERCOMNET), Adventa Berhad (ADVENTA), and Malaysian Genomics Resources Centre Berhad (MGRCB). Therefore, these firms are unable to invest more into their resources in order to gain a much higher profit. This can further be proved by the ROA and ROE results of Malaysian Genomics Resources Centre Berhad (MGRCB), with ROA and ROE values at 29% and 42%, respectively. This result placed them in the 13<sup>th</sup> spot in both rankings.

## CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

According to the study's findings, human capital has no relationship with profitability or return on assets. It implies that the effectiveness of the company's human capital has no bearing on its financial performance. The reasons may be because non-financial elements may not have as much of an impact on profitability as other financial ones, such as sales volume and the way the company handles its expenses. Another concern is that the firms were utilizing human capital for other agendas that are not compatible with the firms' objectives. Additionally, because the VAIC technique only considers the value added per RM of salaries, which might be attributed to other resources rather than the value added of the human resources, it may be defective for measuring human capital.

When compared to healthcare firms, energy firms show the best level of efficiency in using their human capital, according to measurements made using the VAIC method. In Malaysia, Hengyuan Refining Company Berhad (HRCB) has the highest human capital efficiency when compared to other energy firms, whereas Careplus Group Berhad (CAREPLUS) has the highest human capital efficiency when compared to other healthcare firms.

The study's findings are consistent with a prior study conducted by Nik Maheran Nik Muhammad which discovered that there is insignificant relationship between human capital with ROA and profitability. A study conducted by Ismaila Yusuf concluded that effective human capital utilization does not significantly impact banks' return on equity.

According to the research, human capital represents knowledge, expertise, education, experience, and abilities of firm employees (N. Bontis & J. Fitz-enz, 2002, p. 225). Therefore, all costs associated with increasing employee knowledge, education, experience, and abilities should be included in the investment in human capital. This could include payment for conventions and conferences, training and development, dues and subscriptions, and etc.

However, there are limitations to this study. This study's focus on the effect of human capital efficiency on firm profitability poses a limitation, so additional research should expand our work to include the other elements of intellectual capital, such as structured capital efficiency, employed capital efficiency, and relational capital efficiency, for a more thorough analysis of the role of intellectual capital in firm financial performance.

The study's sample consisted of only 15 and 16 companies, respectively for energy and healthcare firms. Certain firms were left out due to missing data during the study period.

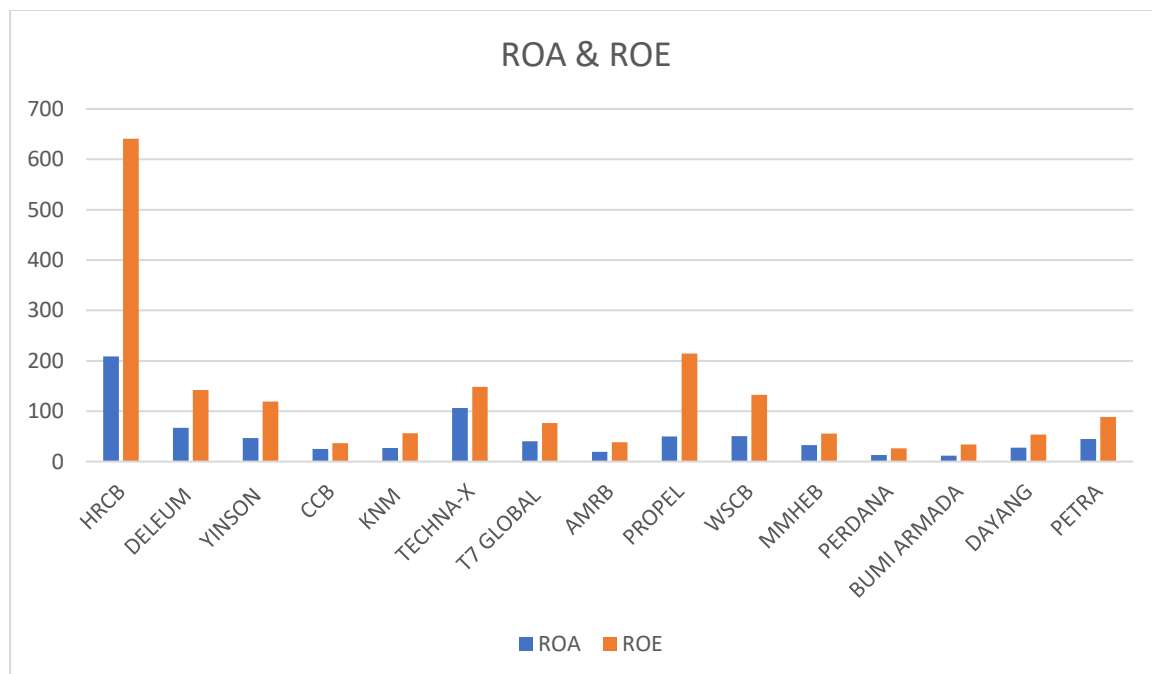
Therefore, it would be unfair to generalize the findings to all energy and healthcare industries. Therefore, the external validity is rather weak. This is since obtaining precise consistency for all relevant information from firms can be difficult. It is recommended that more firms be used in research in the future. It might also be beneficial to conduct more research on the relationship between human capital and many business factors, such as market value, return on investment, and others.

## APPENDICES

### Energy Firms

	ROA (%)	ROA Ranking	ROE (%)	ROE Ranking
Hengyuan Refining Company Berhad	208	1	641	1
Deleum Berhad	67	3	142	4
Yinson Holdings Berhad	47	6	119	6
Coastal Contracts Berhad	25	12	37	13
KNM Group Berhad	27	11	56	9
Techna-X Berhad	107	2	148	3
T7 Global Berhad	40	8	76	8
Alam Maritim Resources Berhad	20	13	39	12
Propel Global Berhad	50	5	214	2
Wah Seong Corporation Berhad	51	4	132	5
Malaysia Marine and Heavy Engineering Berhad	33	9	055	10
Perdana Petroleum Berhad	13	14	26	15
Bumi Armada	12	15	34	14
Dayang Enterprise Holdings Berhad	28	10	54	11
Petra Energy Berhad	45	7	88	7

*Table 3: ROA & ROE rankings of energy firms*

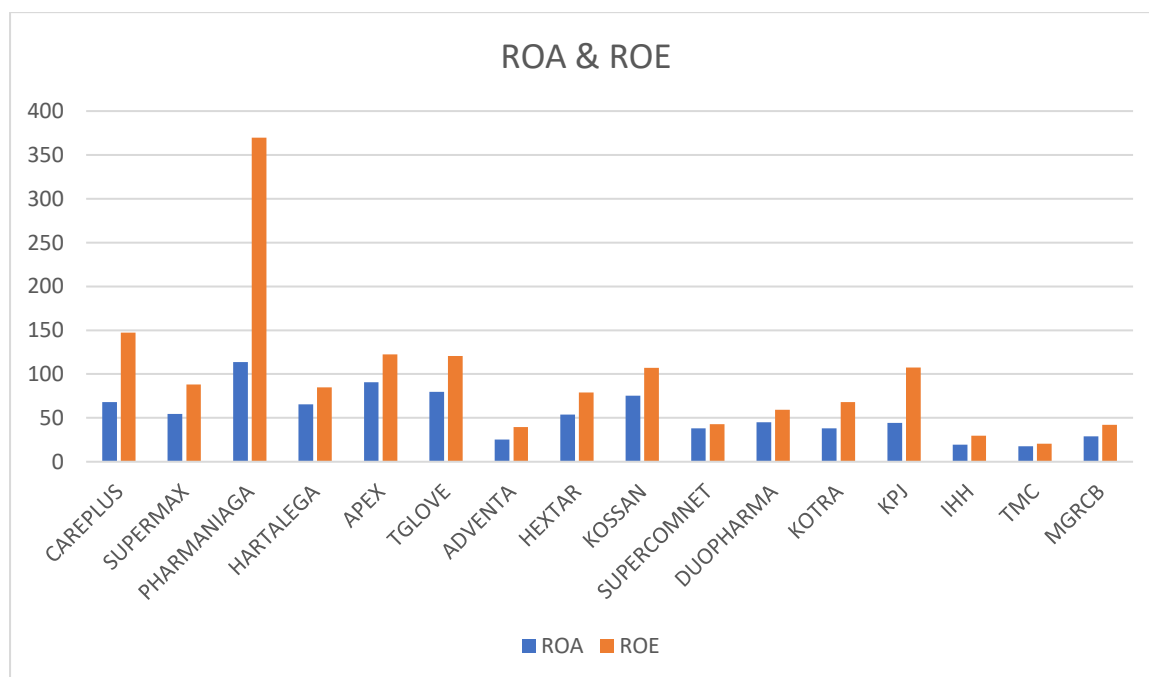


*Chart 5: ROA & ROE of energy firms*

## Healthcare Firms

	ROA	ROA Ranking	ROE	ROE Ranking
Careplus Group Berhad	68	5	147	2
Supermax Corporation Berhad	54	7	88	7
Pharmaniaga Berhad	114	1	370	1
Hartalega Holdings Berhad	65	6	085	8
Apex Healthcare Berhad	91	2	123	3
Top Glove Corporation Berhad	80	3	121	4
Adventa Berhad		14		14
Hextar Healthcare Berhad	54	8	79	9
Kossan Rubber Industries Berhad	75	4	107	6
Supercomnet Technologies Berhad	38	11	43	12
Duopharma Biotech Berhad	45	9	59	11
Kotra Industries Berhad	38	12	68	10
KPJ Healthcare Berhad	44	10	107	5
IHH Healthcare Berhad	20	15	30	15
TMC Life Sciences Berhad	18	16	20	16
Malaysian Genomics Resources Centre Berhad	29	13	42	13

*Table 4: ROA & ROE rankings of healthcare firms*



*Chart 6: ROA & ROE of healthcare firms*

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