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The Nexus Between Human Capital Efficiency and Financial Performance: A Case of Malaysian Plantation Sector

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ABSTRACT

This research discusses "The Impacts of Human Capital Efficiency on Financial Performance in the Malaysian Plantation Sector," which seeks to investigate the correlation between human capital efficiency and financial performance within the Malaysian plantation sector. The study employs a sample of twenty (20) Malaysian Plantation companies using STATA 14 for panel data analysis. The results demonstrate a strong correlation between human capital efficiency and financial performance. Companies that have higher human capital efficiency tend to have better financial performance, as indicated by metrics such as return on assets, asset turnover ratio, and leverage. These findings highlight the significance of efficiently overseeing and utilizing human resources to influence financial results in the plantation sector. The study focuses on the importance of investing in the development and optimization of human capital to improve financial performance. Additional research is advised to investigate other factors that may impact on this association and to evaluate the applicability of the findings to different nature of businesses and environments.

Keywords*: financial performance, human capital efficiency, Malaysian plantation sector*

INTRODUCTION

Human capital is the most precious resource that a business may possess. It is a symbol of the human element in a business, where an individual's blend of aptitudes, knowledge, wisdom, and experience give an organization its own character. These qualities also assist business in making money and producing things, which improves business success (Bontis et al., 2000 Tayles et al., 2007; Gazor et al., 2013). Human capital plays a vital role in increasing Gross Domestic product (GDP) growth and creating more employment opportunities (Khan and Chaudhry, 2019). Human capital efficiency is the

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effectiveness and productivity of human capital investment in economic growth and social welfare. Another study done by Tran and Vo (2020), Human capital is considered the cornerstone of any progress in economic growth and development for any country. Yusuf (2013) documented that company's ability to successfully execute its goals is entirely dependent on how well it uses its intangible assets, especially human capital.

The idea of intellectual capital gives rise to the concept of human capital (Bontis et al., 2000; Tayles et al., 2007). According to Edvinsson and Malone (1997), human capital refers to an employee's knowledge, abilities, creative ideas, and capacity to help a company solve challenges and accomplish its objectives. Chen, Zhu, and Xie (2004) assert that human capital is the cornerstone of intellectual capital and is essential to the creation of all values. According to Pil and Leana (2009), human capital is the sum of an individual's knowledge, skills, and abilities gained via both formal and informal education as well as experience. Lepak and Snell (1999) defined human capital from an organizational perspective as the outcome of a business's deliberate investment in choosing workers with strong general skills (or formal education) as well as a business investment in training more specialized skills through internal training activities.

The Malaysian plantation sector plays a crucial role in the country's economy, relying on cash crops like palm oil and rubber. To ensure sustainable growth and competitiveness, the sector emphasizes on human capital efficiency. Human capital is vital to the plantation companies as the companies relies more on employee's knowledge, skills and experiences. According to Arifin, Taib, Rahim and Aman (2023), Malaysia is focusing more on agricultural sector especially palm oil industry for economic development and employment opportunities. The companies such as Sime Darby Plantation, IOI Corporation, Kuala Lumpur Kepong Berhad, and Genting Plantations recognize the value of human capital management and development. They invest in staff training and development, focusing on sustainable agriculture, technology use, and other important areas. Modern technologies are also employed to enhance efficiency and capitalize on human capital. Additionally, talent management practices, including competitive pay, career growth opportunities, and a pleasant work environment, are implemented to attract and retain qualified employees. Effective human capital management leads to increased productivity, operational efficiency, and adherence to global environmental and social standards.

The plantation industry in Malaysia faces various challenges and transformation. Historically, it has relied heavily on palm oil and rubber production, posing risks to long-term sustainability. The sector also depends on low-cost labor (Ibrahim, 2023), often imported from neighboring countries, which hinders the development of human capital and the transition toward a more knowledge-intensive industry. The Malaysian plantation sector faces challenges in human capital management, which impacts its financial performance. The sector requires skilled workers proficient in sustainable farming practices and modern technology. The statistics shows and raised the Malaysian plantation sector's human capital issue. Total employment in 2022 is 382,580 workers, a decrease from 2021 which at 391,000 workers, Department (2023). After the Pandemic Covid-19, the labor shortage problem became more serious as the workers, especially foreign workers were returned to their hometown. Thus, the total employment in 2022 was facing decrease from last year due to the labor shortage. This shortfall is especially obvious in sustainable farming knowledge and skills. The Malaysian Palm Oil Board (MPOB) has stressed the need for qualified labor to address this labor shortage issues especially during the Covid-19 outbreak and prediction from planters and analysist that Malaysia, the second-largest producer of palm oil in the world, will either see a decrease in output or, at most, see no change (Chu, 2022). The Malaysian Farming Research and Development Institute (MARDI) also found that the plantation business needs more competent labor and outdated farming technologies. However, competition from other industries and a lack of industry-specific training make it difficult to recruit and retain qualified workers. Additionally, the slow adoption of technology hinders efficiency and resource management. These factors contribute to a decrease in the total employment in the sector. Thus, this is

an urgent need to examine the impacts of human capital efficiency on financial performance in Malaysian plantation sector. Concerning on the human capital issues, this study aims to examine the relationship between human capital efficiency and financial performance indicators (including firm size, leverage, firm age, asset turnover) in the Malaysian plantation sector. All the indicators need to support the impact of human capital efficiency on financial performance as they are the crucial and potential factors which affects the Malaysian Plantation sectors.

LITERATURE REVIEW

The previous study provides a significant impact to the current issue in human capital efficiency and financial performances in Malaysia. This section discussed the crucial perspectives of previous studies especially on theoretical view concerning Human capital efficiency and financial performance variables (Return on asset, Firm size, Leverage, Firm age and Asset turnover).

Theoretical View

Resource Based View

The Resource Based View (RBV) emerged in the middle of the 1980s and proposes that a firm's resources and skills are the primary drivers of its competitive advantage (Wernerfelt, 1984; Barney, 1991). According to the notion, organizations that retain distinctive resources are likely to have a meaningful competitive edge. This theory contends that a firm's success is dependent not just on external factors like market circumstances, but also on internal resources and competencies (Barney, 1991). Researchers have recently focused on knowledge, innovation, reputation, and organizational culture, all of which are vital in today's knowledge-based economy (Audretsch and Thurik, 2001). Higher performance in terms of human capital is typically achieved by developing a competitively varied group of resources and organizing them in a well-planned manner (Fahy, 2000). Strategists who embrace the RBV also align skills and reasons in organizational systems, structures, and processes, resulting in organizational capabilities (Salaman et al., 2005). Thus, enterprises possessing a package of valuable, rare, inimitable, and non-substitutable resources (VRIN) can adopt value-creating methods that other firms cannot easily reproduce (Barney, 1991). In recent years, a number of quantitative researches have been published to bridge the gap between RBV theory and organizational practice, as well as rigorous studies that examine the impact of resources on companies. Most characteristics of the RBV and firm competitiveness are directly pertinent to the ongoing debate over the impact of firm-specific resources on the overall performance of smaller companies (Matlay, 2005). Thus, these have demonstrated that intangible resources such as human intellectual, knowledge, innovation, and organizational culture are becoming increasingly important in today's economy and can provide a firm with a long-term competitive advantage (Grant, 1996) by focusing on evolving and leveraging its intangible resources.

Return On Asset

Return on assets (ROA) is a commonly used financial metric to assess a company's profitability. It represents the percentage of net income generated from a company's total assets. Higher ROA indicates efficient management of the balance sheet, while a lower ROA suggests room for improvement. This research utilized ROA as a measure of financial performance, aligning with prior research that has established a positive relationship between human capital efficiency and ROA. ROA is calculated by dividing net income by total assets. Shairi et al. (2021) analyzed data from 32 technology firms in Malaysia and found significant effects of intellectual capital on profitability, with potential moderation by human capital efficiency. Shamsuddin, Khalit, Abd Latib and Raub (2015)

demonstrated a positive relationship between Human Capital Efficiency and company performance in 2012 and 2013. Xu and Li (2022) studied 953 manufacturing companies listed on the Shanghai and Shenzhen Stock Exchanges and found that physical capital, human capital, structural capital, and relational capital influence earnings, profitability, and productivity. However, Weqar, Khan, Raushan and Haque (2021) studied knowledge-driven firms in India's finance sector and found that the components of intellectual capital have a small effect on the financial performance of these companies. Prasojo and Hadinata (2020) found no impact of intellectual capital on financial performance, while Hsu and Wang (2012) stated that the efficiency of human capital and relational capital do not influence organizational performance. Based on these previous studies, it shows inconsistency in the findings that signals to the future findings in this study.

Human Capital Efficiency

Human capital, as defined by Becker (1993), refers to the productive contributions of an organization's workforce. Human Capital Efficiency (HCE) involves the effective utilization and development of employees to achieve favorable outcomes. It focuses on maximizing their knowledge, skills, and capacities through training and alignment with organizational goals, leading to improved productivity and performance. Prior studies, including Parham and Heling (2015) and Tran and Vo (2020), have confirmed a positive association between human capital efficiency (HCE) and company performance. Parham and Heling (2015) analyzed data from 33 Dutch production enterprises and found that HCE had a positive effect on financial performance, measured by return on total assets (ROTA), return on equity (ROE), and staff productivity. Similarly, Tran and Vo (2020) demonstrated that HCE positively contributes to firm performance and influences financial outcomes. Other studies by [Shamsuddin et al., (2018), Poh et al., (2018), Chowdhury, Rana and Azim (2019), Joshi, Cahill, Sidhu and Kansal (2013), Mondal and Ghosh (2012)] also provide evidence supporting the positive relationship between HCE and financial performance. However, studies conducted by Mohammad & Bujang (2019) indicate that within the construction and plantation sectors of the industry, there were negative relationships identified between human capital, structural capital, and financial performance. Studies conducted by Abdullah, Sofian and Bajuri (2015) studies have shown that relational capital has the greatest impact on company performance among all the components of intellectual capital, while human capital has the lowest ranking.

Firm Size

Company size, as defined by Penrose (1959), refers to the extent of an organization's operations in relation to its total assets, sales revenue, and personnel count. Larger firms often benefit from economies of scale, access to more resources, and advantages in terms of market power and competitive positioning. These factors can contribute to increased profitability and financial performance. However, it is important to consider that the relationship between company size and financial performance can be influenced by various other factors, such as industry dynamics and management effectiveness. Economic theory suggests that larger firms can establish barriers to entry and take advantage of economies of scale to increase profitability. For example, palm oil plantations industries, significant fixed expenses and barriers to entry limit competition, leading to higher profits for existing firms. Alarussi, Alhdeede and Sarpong (2023) examined firms in Malaysia and found a positive and significant relationship between working capital and firm size, measured by net sales. This suggests that larger companies have more sales avenues and projects requiring operational funds. Another study by Ramin, Lizam, Zabri and Ahmad (2017) on Malaysian public listed firms demonstrated that firm size, measured by total assets, influences solvency performance in terms of debt ratio and current ratio. Similarly, Omondi, Muturi and Kenyatta (2013) revealed companies listed at the Nairobi Securities Exchange in Kenya and discovered a significant positive effect of company size on financial performance. However, a study conducted by Ramasamy, Ong and Yeung (2005) on the thirty (30) plantations based on Bursa

Malaysia public companies. This study indicates that there is a negative relationship between firm size and success in this industry.

Leverage

Leverage is the strategic use of borrowed funds to enhance a firm's financial performance. It can boost returns on investment and profitability, enabling organizations to seize growth opportunities and optimize their capital structure. However, excessive leverage can increase financial risk. Poh et al., (2018) found a significant relationship between intellectual capital effectiveness and financial performance metrics in Malaysian banks. Ibrahim and Lau (2019) showed positive relationships between asset tangibility, growth opportunities, and long-term debt. Dey, Hossain and Rahman (2018) found a positive effect of financial leverage on ROE. Profit after tax, return on equity, return on capital employed, and Tobin-Q were identified as influential financial performance variables for the financial leverage of Indian listed companies Senan, Ahmad, Anagreh, Tabash and Al-Homaidi (2021).

However, Ibrahim and Lau (2019) found negative relationships between profitability, liquidity, and short-term debt ratio. Omondi et al. (2013) found a significant negative effect of leverage on financial performance. Similarly, Dey et al. (2018) found negative correlations between ROA, Tobin's Q, and financial leverage. Senan et al. (2021) identified profit after tax, return on capital invested, ROE, and Tobin-Q as influential indicators of financial leverage. According to the previous study, leverage showed inconsistency in their findings thus, proven that leverage is the one of the variables to ensure the significant relationship between human capital efficiency and financial performance.

Firm Age

Firm age refers to the duration of a company's existence since its establishment. It can influence financial performance through factors like expertise, reputation, and market position. Established companies with experience and strong brand value may have better financial performance. However, the correlation between firm age and financial performance can be influenced by industry dynamics, innovation, and adaptability. Abderahmane and Mounir (2023) found a significant positive relationship between the age of a corporation and its return on assets. Similarly, Omondi et al. (2013) found that company age had a significant positive effect on financial performance. Nevertheless, Abdullah and Ku Ismail (2017) found a negative relationship between age diversity and business performance in Malaysian family companies. Similarly, Amran (2011) found that age diversity was negatively related to ROA in top non-financial Malaysian firms. Age can be considered as the vital aspect and it strengthens the relationship between human capital efficiency and firm performance.

Asset Turnover

The asset turnover ratio measures a company's ability to generate revenue from its total assets. It is calculated by dividing sales revenue by total assets. In the Malaysian plantation industry, a higher asset turnover ratio indicates better asset utilization and profitability. Investors and stakeholders use this ratio to assess operational efficiency and make informed investment decisions. Alarussi (2021) found that tangibility and liquidity had negative relationships with the asset turnover ratio in Malaysian listed companies. Working capital and productivity were positively linked to efficiency. The debt ratio showed a positive but not significant relationship, while debt equity ratio had a negative significant relationship with efficiency. Furthermore, Gunawan, Widiyanti, Malinda and Adam (2022) also found a positive and significant effect of the total asset turnover ratio on return on assets. Similar findings with Gunawan et al. (2022), Munawar (2019) found that liquidity, leverage, and total asset turnover had a significant positive effect on the profitability of manufacturing companies. These studies have proven that asset turnover is a very crucial element which influences human capital and firm performance in companies.

METHODOLOGY

Regarding the panel data analysis, the study focuses on the dependent variable, return on assets (ROA), which is a key financial metric measuring a company's profitability by assessing its ability to generate earnings from its total assets. ROA is considered the best financial ratio to evaluate the performance of the company. The study also examines several independent variables, namely HCE, SIZE, LEV, and AGE, with ATO serving as the control variable. These five independent variables will be simultaneously regressed to determine their influence on human capital efficiency and its impact on financial performance within the Malaysian plantation sector. The followings are the measurement for each parameter:

Table 1: Measurement and variables

Dependent Variable (Financial performance)	Measurement
ROA (Return on Asset)	Net Income / Total Assets (Tran, N. P., and Vo, D. H. (2020), Shairi, S. A. B et al., (2021), Xu, J and Wang (2019)
Independent variables	
HCE (Human Capital Efficiency)	VA / HC (Parham, S.) Heling, G. W. J. (2015). Tran (2020)
SIZE (Firm Size)	Natural logarithm of total assets (Ramasamy et al., (2005), Alarussi, A. S. A., et.al, (2023)
LEV (Leverage)	Total Liabilities / Total Assets (Poh L. T., et al., (2018)
AGE (Firm Age)	The Number of years since the establishment of the company (Abderahmane and Mounir, L. ,2023)
Control Variable	
ATO (Asset Turnover)	Sales Revenue/Total Assets (Parham, S.; & Heling, G. W. J. ,2015)

Data Collection and Sample Selection

This research has selected 20 companies from the Malaysian Plantation Sector based on criteria such as market capitalization, industry representation, and availability of financial data. The objective is to create a diverse sample that encompasses a range of performance levels, providing a comprehensive analysis of the industry. The selection is not solely based on reputation but may include acknowledged and established plantation operations. Secondary data from annual reports spanning 15 years (2008-2022) were used and they were obtained from sources like Bursa Malaysia and online databases, EIKON.

Panel Data Analysis

To identify the most efficient factor, this study utilized panel data analysis with the statistical software STATA 14. The research employed various statistical techniques, including descriptive statistics, correlation analysis, diagnostic tests, and panel specification tests. The fixed effect model and random effect model were applied using the static panel data model.

RESULT AND DISCUSSION

Descriptive statistic

Table 2: Descriptive statistics

Variables	N	Mean	SD	Min	Max
roa	300	.541	.051	-.207	.07
hce	300	487.970	876.205	-564	5050
Logsize	300	7.432	1.320	4.143	10.385
lev	300	.338	.180	.021	.794
age	300	52.750	24.695	21	116
ato	300	.426	.280	.012	1.347

Table 2 exhibited the descriptive statistics in terms of the independent variables; HCE, LOGSIZE, LEV, AGE, ATO as control variables and dependent variables; Return on Asset (ROA). The overall sample consists of 300 observations. The average size of the financial performance for the period of study is .0541 and it ranges from a minimum value of -.207 to a maximum value of .07. The highest mean score is HCE (487.970), followed by AGE (52.750). Malaysian plantation sector has the lowest mean LEV score of 0.338 ranging from 0.021 to 0.794.

Panel Data Analysis

Panel Specification Tests

In this research, the following is the result of the Hausman test; the decision to choose Fixed Effect or Random Effect model was used to analyze the data as proposed and explained by Park (2011).

Table 3: Panel Specification Test

	p-values of the tests			
Models	F-test	BP-LM	Hausman	Technique
Model 4	0.0000	0.0020	0.0000	Fixed effects

Table 3 discusses on panel specification test; Hausman Test for all independent variables. The table also explains on Hausman test which important to decide between Fixed Effect model or Random Effect model. Based on the results, the p-value of all independent variables are less than 0.05. Therefore, the most appropriate model is Fixed Effect (FE) model. Based on the overall test, the results suggest that Fixed Effect model is the most appropriate model estimator for independent variable and financial performance in Malaysian plantation sector.

Diagnostic Tests: Linear Regression

Based on diagnostic test, the study has conducted three (3) test which were multicollinearity test (Variance inflation factors), Heteroskedasticity (Modified Wald Test) and Serial Correlation test (Autocorrelation).

Table 4: Diagnostic Test for static model

	p-values of the tests			Strategy
Models	VIF	H	SC	
Model 4	1.98	0.0000	0.0034	Fixed effects (within) regression with cluster option

Table 4 exhibits the calculated values of Variance Inflation Factors (VIF) which are less than 10. It means that multicollinearity does not appear to be a severe problem in this research. In fact, serial correlation test (Autocorrelation) using Wooldridge test. shows that all the P-Values of all independents are less than 0.05. It means that there is a serial correlation problem exists in this research. As for Heteroskedasticity (Modified Wald Test) test, the result shows P-Value is less than 0.05 which means that there is a heteroskedasticity problem exist in this study. Following the suggestion by Hoechle (2007), the remedial procedure has been carried out by using the Fixed effects (within) regression with cluster option. Based on the Diagnostic tests, the study only has no multicollinearity problem. As for the solution Fixed effects (within) regression with cluster option was conducted in this study.

Table 6 shows the result of regression for Malaysian plantation sector (financial performance) with selected independent variables (HCE, LEV, AGE, and ATO) in Equation 1. Considering the various diagnostic tests that have been conducted and the remedial procedure undertaken, it has been proven to conclude that the examined statistical test satisfies the key assumptions of linear regressions. Based on the table 6, the independent variables, HCE, LEV, and ATO have significant effect on ROA.

The research findings show a strong correlation between human capital efficiency (HCE) and financial performance in the Malaysian plantation sector. This is supported by Parham and Heling (2015) and Tran and Vo (2020) in similar study. When companies effectively utilize their human resources, it positively impacts their financial results. The statistical analysis confirms a significant link between HCE and financial performance ($t=2.52$, $p<0.05$). Efficient utilization of human capital involves optimizing labour, skills, knowledge, and expertise, giving companies a competitive advantage. These findings aligned with the resource-based view (RBV) theory, which suggests that human capital can be a long-lasting source of competitive advantage. By effectively utilizing human capital leads to increased productivity, the ability to attract qualified individuals, and the need for skilled employees to operate machinery and other resources.

Table 5: Regression Analysis

The Impact of Human Capital Efficiency on Financial Performance in Malaysian Plantation Sector

	ROA it = β0 + β1 (0.0000) it + β2 (-0.2972) it+ β3 (0.0831) it + ∈it
HCE	0.0000**
	(2.52)
LEV	-0.2972***
	(-10.80)
ATO	0.0831***
	(4.67)
Constant	0.1112***
	(11.70)
N	300.0000
r2	0.4784
r2_a	0.4370
r2_w	0.3087
r2_b	0.5289
r2_0	0.3022
F	41.2285
p	0.0000
chi2	

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: (1) LEV = leverage, ATO = asset turnover, HCE = human capital efficiency and AGE = firm age. (2) Figures in parenthesis are t-statistic.

The findings also revealed a significant negative relationship between leverage (LEV) and financial performance in the Malaysian plantation sector. The result is supported by Ibrahim and Lau (2019) which found the significant negative relationship between leverage and financial performance. It can be explained that decreasing leverage are associated with improved financial performance. The statistical analysis confirms a significant negative relationship between LEV and financial performance (t=-10.80, p<0.01). These findings indicate that increasing debt negatively affects financial performance in the sector. Reducing debt is advantageous for companies as it reduces financial burdens such as interest payments and repayment responsibilities. The negative relationship between leverage and financial performance can be attributed to the presence of highly skilled employees. Companies with skilled individuals operate more efficiently, reducing the need for additional funding. Lowering debt levels also enhances profitability by freeing up financial resources for growth, research and development, and other value-generating activities, resulting in increased revenue and earnings.

In addition, there is a significant relationship between asset turnover (ATO) and financial performance in the Malaysian plantation sector. This is supported by Gunawan, Widiyanti, Malinda and

Adam (2022) found the similar findings on return on asset. When the asset turnover ratio increases, there is an improvement in financial performance. The statistical analysis confirms a significant correlation between ATO and financial performance ($t=4.67$, $p<0.01$). These findings provide strong evidence that a higher asset turnover is associated with better financial performance in the industry. A higher asset turnover signifies efficient utilization of resources by the organization. It indicates that the company effectively utilizes its assets, such as land and machinery, to achieve high productivity levels. By optimizing resource utilization, the company can generate more revenue from its assets. A higher asset turnover also indicates that the company is investing in additional assets to generate greater profits. This shows that the company is actively pursuing opportunities for growth and improvement. By effectively utilizing resources and increasing asset turnover, the company can enhance its financial performance, leading to increased revenue, improved profitability, and better financial ratios.

Due to collinearity issues with other independent variables, age was removed from the research on human capital efficiency and financial performance in Malaysian plantations. Collinearity occurs when two or more independent variables have a strong connection, making it difficult to figure out their influence on the dependent variable which is financial performance.

CONCLUSION

The research findings shed light on the significant factors that influence financial performance in the Malaysian plantation sector, namely asset turnover, human capital efficiency, and leverage. Among these factors, asset turnover emerged as the most influential, indicating efficient allocation and utilization of resources. Additionally, human capital efficiency and leverage were found to play important roles. Effective management and utilization of human capital resources positively impact financial performance, while careful debt management is crucial for optimizing capital structure and mitigating financial risks. Therefore, prioritizing the optimization of human capital is essential for improving financial performance in industry.
This research addresses the problem of understanding the variables that affect financial performance in the Malaysian plantation sector. The findings support the Resource-Based View (RBV) perspective by highlighting the significant role of human capital efficiency in driving financial performance. These findings have important implications for policymakers and industry practitioners, emphasizing the need to develop policies that enhance asset management practices, optimize leverage levels, and promote human capital development to ensure long-term competitiveness and sustainability.

Furthermore, the research demonstrates the crucial role of human capital efficiency in determining the financial performance of Malaysian plantations. Effective management and utilization of human capital resources contribute to superior financial performance. By prioritizing resource allocation towards human capital development, plantation companies can enhance their financial performance. Skilled plantation workers who possess expertise in crop management are particularly valuable as they significantly contribute to plantation health and productivity. Maximizing human capital through talent utilization and development improves the financial performance of plantation companies.

Some limitation on the study; the study has a small sample of Malaysian plantation companies due to data availability, a short study period, and bias on the nature of business in the sector. To improve future research on the impact of human capital efficiency on financial performance in Malaysia's plantation sector, it is suggested that the sample size be expanded to include companies of various sizes and subsectors, the research period be extended to allow for more accurate findings, and new variables that may influence the relationship be included.

These enhancements will provide a more comprehensive understanding of the factors affecting financial performance in the sector. For Malaysian plantation companies, it is crucial to invest in staff training

and development to improve human capital efficiency. Additionally, adopting sustainable practices, leveraging technological advances, and establishing partnerships can enhance operating efficiency and financial performance.

In conclusion, this research provides valuable insights into the relationship between human capital efficiency and financial performance in the Malaysian plantation sector. The findings emphasize the importance of asset turnover, human capital efficiency, and leverage in influencing financial performance. Policymakers and industry practitioners can utilize these insights to optimize their strategies and policies, leading to positive financial outcomes and sustainable growth.

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All authors provided critical feedback and helped shape the research, analysis and manuscript.

CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to Jurnal Intelek.

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