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# The Mediation Role of Financial Performance in the Effect of Physical Capital on Firm Value

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***Abstract***

*The purpose of this research is to investigate and analyze the function of financial performance in mediating the impact of physical capital on firm value. Several prior studies on the influence of physical capital (intellectual capital) on firm value had inconsistent findings, thus this study added the mediating variable of financial performance. This study employs a sample of manufacturing firms listed on the Indonesia Stock Exchange from 2015 to 2020. Using the purposive sampling method, a sample of 53 firms was obtained, for a total sample size of 318 company years. WarpPLS 7.0 is being used for hypothesis testing. According to the test results, the financial performance variable partially mediates the impact of physical capital on firm value (partial mediating). This study has implications for theory and practice in terms of the impact of physical capital and financial performance on firm value.*
**Keywords:** *Physical capital, financial performance, firm value*

***Abstrak***

*Penelitian ini bertujuan untuk menguji dan menganalisis peran kinerja keuangan dalam memediasi pengaruh modal fisik terhadap nilai perusahaan. Beberapa penelitian terdahulu terkait pengaruh modal fisik (intelektual capital) terhadap nilai perusahaan menunjukkan hasil yang tidak konsisten, sehingga dalam penelitian ini menambahkan variabel mediasi kinerja keuangan. Penelitian ini menggunakan sampel perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia periode 2015 – 2020, dengan menggunakan metode purposive sampling telah dihasilkan sampel sebanyak 53 perusahaan dengan jumlah sampel*

*total 318 tahun perusahaan. Pengujian hipotesis menggunakan WarpPLS 7.0. Dari hasil pengujian ditemukan bahwa variabel kinerja keuangan memediasi pengaruh modal fisik terhadap nilai perusahaan secara parsial (partial mediating). Penelitian ini berimplikasi terhadap teori dan praktek terkait pentingnya modal fisik dan kinerja keuangan terhadap nilai perusahaan.*

*Kata kunci : Modal fisik, kinerja keuangan, nilai perusahaan*

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**INTRODUCTION**

Firm Value is influenced by the quantity of assets a company possesses as well as its ability to draw in investors. The ability of the business to develop into a capital force in the future is the basis for evaluating firm value. Investors must be aware of firm value prior to making an investment. Investors will typically provide the company funds if the firm has a high worth. Indrarini (2019 : 2) states that firm value, which is frequently correlated with share prices, is investors' assessment of managers' success in allocating and managing the company's resources. Tobin's Q, price to book value (PBV), and price earning ratio (PER) are a few formulas for calculating firm value. PBV measurement is employed in this study because it illustrates a company's ability to create value in relation to the quantity of capital spent. According to Jufrizen & Qoula Asfa (2015), firm value increases with a larger Price To Book worth and vice versa. Firm value can be influenced by a number of elements, physical capital being one of them. The intellectual capital (IC) element includes physical capital. As an economic resource under a company's management, physical capital directs the production of commodities and services by the organization. Fixed and current assets constitute physical capital. Physical capital, as defined by Firer & Williams (2003), includes all tangible assets possessed by the corporation, including cash, marketable securities, inventories, land, machinery, equipment, furniture, fixtures, and vehicles. Naturally, physical assets need to be used in order for them to have additional worth. Physical assets will undoubtedly lose value or possibly become useless if they are not used. In this instance, the company's capacity to use IC (Intellectual Capital) through CE (capital employed) contributions to generate value is known as " *value added capital employed*," or VACA. Consequently, VACA serves as a measure of VA produced by a single physical capital unit. The results of earlier studies on the relationship between intellectual capital and firm value have been mixed. Nassar (2018) research yielded inconsistent results, IC components including structural capital and human capital may deliver value creation. In the meantime, value

creation cannot be generated by the capital employed element. According to research by Kamath (2015), Nuryaman (2015), and Kharal et.al (2014), intellectual capital increases firm value. Conversely, Lestari (2017) discovered that firm value was negatively impacted by intellectual capital. Intellectual capital has no bearing on firm value, according to research by Deep & Narwal (2014), Khan & Raushan (2017), Hadiwijaya & Rohman (2013), Khasanah & Harjito (2020), and Subaidah et.al (2018). Some researches solely examine the impact of total intellectual capital (VAIC/ value added intellectual coefficient) on firm value. Thus, the purpose of this study is to investigate the components of intellectual capital, *value added capital employed* (VACA). In this study, the mediating variable "financial performance" was introduced by the researchers based on earlier researches that produced inconsistent findings. The physical capital that businesses possess helps to enhance their financial performance and shows that they have been successful in making the most use of the money at their disposal. One of the things that affects investors' choices to purchase stock or make other investments in a company is its financial performance. According to Fauziah & Sudiyatno (2020), a firm value will rise when investors purchase its shares due to its strong financial performance. Thus, share prices will rise. The goal of this research is to advance our understanding of intellectual capital and how it relates to both financial performance and firm value.

This study is grounded in signaling theory and resource-based view theory (RBV). RBV theory, according to Nwachukwu & Chladkova (2018), maintains that in order to accomplish business objectives and enhance company performance, organizational resources—both tangible and intangible—must be recognized, managed, and enhanced. In Barney (1991) classification, company resources fall into three categories: (1) the company's physical capital resources consist of Plant and equipment, geographic location, raw material accessibility, and the physical technology employed by the business, (2) Human capital resources consist of training, experience, consideration, intelligence, relationships and insights of company managers and workers, (3) Organizational capital resources consist of the company's formal reporting structure, formal and informal planning, supervision, and coordination systems, as well as informal relationships between groups within a company and between the company and the people in its environment. Since the resources that a firm owns have the potential to boost its competitive advantage, profitability, and enhanced performance, research on intellectual capital and company performance frequently links to the RBV the theory (Earnest & Sofian, 2013). This work employs signaling theory in addition to RBV theory. This research employs Signaling Theory to elucidate the historical, contemporary, and prospective circumstances surrounding the organization. This approach is expected to enhance investors' awareness of the company's reputation and pique their curiosity about investing in it (Dewi & Novitasari, 2021).

This study aims to investigate and evaluate the mediating effect of financial performance variable in the link of physical capital and firm value.

## RESEARCH METHODS

All manufacturing enterprises listed on the Indonesian Stock Exchange make up the population chosen for this study. Purposive sampling is the method of sampling that was employed in this study. Purposive sampling, according to Sugiyono (2017:126), is a method for choosing samples while taking specific factors into account. The following are the criteria applied in this study:

1. Manufacturing companies registered on the IDX during the 2015-2020 period.

2. Manufacturing companies that consistently publish annual reports during the 2015-2020 period.
3. Manufacturing companies that use the rupiah currency during the 2015-2020 period.
4. Manufacturing companies that did not experience losses during the 2015-2020 period.

This study is a quantitative research design that makes use of secondary data from the Indonesian Stock Exchange. WarpPLS 7.0 is the program used for data analysis testing. The following is a sample selection table:

Table 1. Sample Selection

| No. | Sample Criteria | Total |
|---|---|---|
| 1. | Manufacturing companies registered on the IDX during the 2015-2020 period. | 193 |
| 2. | Manufacturing companies that did not consistently publish annual reports during the 2015-2020 period. | (43) |
| 3. | Manufacturing companies that did not use the rupiah currency during the 2015-2020 period. | (32) |
| 4. | Manufacturing companies that experienced losses during the 2015-2020 period. | (65) |
| | Total number of companies | 53 |
| | Total years of observation | 6 years |
| | Total samples (53 x 6) | 318 |

The variable used in this research: the independent variable "Physical Capital" which is measured by comparing value added with capital employed, the dependent variable is "Company Value" which is measured using "Price to Book Value" (PBV). Meanwhile, the mediating variable of financial performance is measured using "Return on Assets" (ROA). There are two steps involved in testing the hypothesis that financial performance mediates the relationship between physical capital and firm value (Baron & Kenny, 1986; Hair et.al, 2011) These procedures are as follows:

1. Assess the *physical capital* variable's *direct impact* on firm value (path c).
2. Estimate *indirect effect* simultaneously with the *triangle PLS SEM Model* that is *physical capital* → firm value (path c"), *physical capital* → *financial performance* (path a), and *financial performance* → *firm value* (path b).

In addition, the following are conclusions on mediation:

1. If the c" path coefficient from the estimation results of step (2) remains significant and does not change (c"=c) then the mediation hypothesis is not supported
2. If the value of the c" path coefficient decreases (c" < c) but remains significant then the form of mediation is partial mediation.
3. If the value of the c" path coefficient decreases (c" < c) and becomes insignificant then the form of mediation is full mediation.

**RESULT**

Following data testing using WarpPLS 7.0, the following conclusions were drawn:

1. Assessments of the direct effect of physical capital variables on firm value

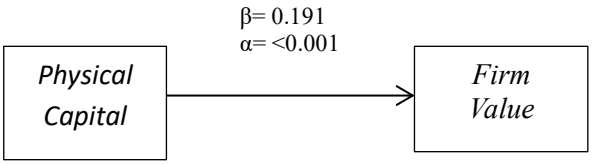


Figure 1. Direct Effect Testing
Source: Analyzed Data

2. Estimation of the indirect effect of physical capital variables → financial performance → firm value

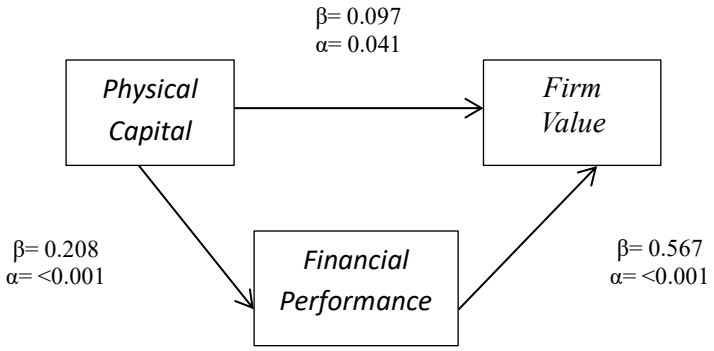


Figure 2. *Indirect Effect Testing*
Source: Analyzed Data

Based on Figure 1, the *direct effect* testing of the *physical capital* variable on *firm value* shows the results of a significant positive effect of β=0.191 and α= <0.001. In the meantime, in Figure 2, the *indirect effect* testing of the *physical capital* variable →*financial performance* → *firm value* displays that *the physical capital* variable has a significant positive effect on firm value (β=0.097 and α=0.041), the *physical capital* variable has a significant positive effect on *financial performance* (β=0.208 and α= <0.001), and the *financial performance* variable has a significant positive effect on *firm value* (β=0.567 and α= <0.001).

It is possible to draw the conclusion that partial mediation is the type of mediation found based on the results of the above hypothesis testing, as Figures 1 and 2 test results demonstrate that the path coefficient for physical capital on firm value has decreased (β = 0.191 → β = 0.097) and remains significant.

The following are the model fit criteria and quality indices which show the following results:

Table 2. Model Fit and Quality Indices

| Criteria | Fit Criteria | Result | Description |
|---|---|---|---|
| Average Path Coefficient (APC) | p-value ≤ 0.05 | 0.001 | Model Fit |
| Average R-Squared (ARS) | p-value ≤ 0.05 | 0.001 | Model Fit |
| Average Adjusted RSquared (AARS) | p-value ≤ 0.05 | 0.001 | Model Fit |
| Average Block VIF (AVIF) | Acceptable if ≤ 5; Ideally ≤ 3.3 | 1.028 | Model Fit |
| Average Full Collinearity (AFVIF) | Acceptable if ≤ 5; Ideally ≤ 3.3 | 1.221 | Model Fit |
| Goodness Tenenhaus | Small ≥ 0.1; Medium ≥ 0.25; Large ≥ 0.36 | 0.443 | Model Fit |
| Sympson's Paradox Ratio (SPR) | Acceptable if ≥ 0.7; Ideally = 1 | 1 | Model Fit |
| R-Squared Contribution Ratio (RSCR) | Acceptable if ≥ 0.9; Ideally = 1 | 1 | Model Fit |
| Statistical Suppression Ratio (SSR) | Acceptable if ≥ 0.7 | 1 | Model Fit |
| Nonlinear Bivariate Causality Direction Ratio (NLBCDR) | Acceptable if ≥ 0.7 | 0.833 | Model Fit |

*Source : Analyzed Data*

The model fit criteria and quality indices are displayed in Table 2, which also presents the fit and weak model outcomes on a number of criteria. Researchers do not need to apply all of the many criteria in model suitability analysis to determine whether the research model is appropriate, but it is preferable to have many model suitability tests that satisfy the requirements (Widarjono, 2010). The goals of the SEM analysis determine how to interpret model fit indicators. According to Sholihin & Ratmono (2013), the model fit indicators lose significance if the primary objective is to test the hypothesis regarding the link between latent variables. It is evident from the above table that all criteria were determined to be model fit. Based on table 2, the p-value for APC and ARS is less than 0.05. In addition, AVIF as a multicolinearity indicator has a value of 1.028 less than 5. The output indicates that the goodness of fit criteria of the model has been met, with significant APC and ARS.

**DISCUSSION**

According to the findings of the hypothesis testing, physical capital significantly improves financial performance. This implies that the company's financial performance will improve in proportion to the physical capital, or in this case, the current assets and fixed assets. This is consistent with the resource based view theory, which holds that a company's ability to manage its physical capital, or intellectual resources, may be used to its advantage over competitors. Due to the company's strong financial performance, investors will purchase more shares, raising the share price and boosting the firm value. The availability of information of the firm's strong financial performance will influence the interest of investors to purchase company shares, which is consistent with signaling theory.

This result is consistent with studies conducted by Qiu et.al (2016) and Ochego et al (2019).

## CONCLUSION

This study discovers that the relationship between physical capital and firm value can be mediated by financial performance. It is envisaged that this research's findings will benefit academia and business sectors in both theoretical and practical ways. The application of theoretical implications can advance our understanding of physical capital and firm value. When it comes to attaining financial performance goals and maximizing firm value, businesses and investors can take physical capital into account. Additional variables and samples from different industry sectors may be included for the future research.

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