

Assessing determinant of firm value: Indonesia conventional bank analysis

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ABSTRACT

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The objective of this paper is to examine the factors of intellectual capital, financial leverage, institutional ownership, and working capital management (WCM) on firm value and the role of profitability as a mediator in influencing firm value. The research analysis unit focuses on the conventional banking sector on the Indonesia Stock Exchange. The panel data was taken from 28 commercial banks for five years (2016–2020), with 140 observations and data is analyzed using path analysis. Based upon the result of hypothesis testing, the study concludes that the positive correlation between profitability and firm value. Furthermore, intellectual capital, financial leverage, institutional ownership, and WCM also positively affect firm value and profitability. Based on data analysis using path analysis by comparing the path coefficient substructure, the results show that profitability acts as a mediator the effect of intellectual capital, financial leverage, institutional ownership, and WCM on firm value.

Introduction

The banking industry is one of the dominant industries in the capital market. Both banking and the capital market complement each other's economic functions, especially in providing funding for the economy. It becomes balanced when the banking industry faces obstacles in offering to finance to economic actors. On the other hand, banks can become alternative credit providers to other corporations when the capital market dealing with deteriorating investor risk perceptions and banks are essential providers of funds for financial system stability in national economic development (Bank Indonesia, 2017).

The Asian financial crisis, including Indonesia, 1997-1998, significantly affected the Indonesian economic; it even had several banks in Indonesia experienced bankruptcy. However, the growth of banking sector significantly increases, as evidenced by the number of banking industries registered in the banking industry, but several banks listed on the IDX experienced a decline in firm value; some even had a value below one, measured by price to book value (PBV). A firm value below one indicates investors are less interested and reflects investor pessimism about the company's shares. On the other hand, investors will be optimistic about the high PBV value of shares because it reflects the issuer's future business prospects and profitability.

Practically, the bank as an intermediary also experiences fluctuating trend of firm value. When a bank experiences a condition of decreasing firm value, it can reduce and even eliminate the level of confidence of investors and potential investors in the company's shares, therefore company's difficulty obtaining external funding and, in the long term, can impact financial distress—a negative impact on the Indonesian economy. Based upon the financial statements data of each bank, the fluctuating firm value in terms of the PBV is below 1.00. The low PBV is an unfavorable condition for banks, as experienced by Bank Victoria Tbk (BVIC) in 2016 with a PBV value of 0.38 and in 2017 with a PBV value of 0.71. However, from 2018, 2019 to 2020, the firm value decreased by 0.57, 0.53, and 0.56, respectively. Similar cases of declining firm value were also experienced in PNB Bank in 2016 with a PBV value of 0.54, then increased to 0.76 in 2017. Furthermore, PNB Bank also showed a downward trend in the firm value for three consecutive years (2018, 2019, and 2020) with PBV values of 0.97, 0.86, and 0.39, respectively. A similar decline in firm value also occurred at Bank BTPN from 2016 to 2017, with PBV values of 0.97 and 0.84, respectively. Then, for 2018, 2019, and 2020, the PBV value showed downward trend from 1.55 to 1.13, then down to 0.65.

Besides, theoretically, previously researchers applied different factors to analyze the firm value. Researchers such as Khasanah & Harjito (2020), Nguyen & Doan (2020), Hatane et al. (2019), Papatungan et al. (2020), and Ni & Huang (2019) estimate the positive association between intellectual capital and firm value. Ovechkin et al. (2021), Singla (2020), Bayraktaroglu (2019), and Dzenopoljac et al. (2017) examine association between intellectual capital and profitability. Nguyen & Doan (2020) and Ibhagui & Olokoyo (2018) examine the correlation between financial leverage and firm value. Meanwhile, Jihadi et al. (2021), Sudiyatno et al. (2020), Tahu & Susilo (2017) examine the effect of profitability on the firm value. Previous study, Kyere & Ausloos (2021) and

Akben-Selcuk (2016) also concluded correlation firm value as financial performance indicator on profitability.

Each of the above researchers did not test the effects of the four factors, which include intellectual capital, financial leverage, institutional ownership, and working capital management, on firm value in one model. Furthermore, previous researchers in their studies also did not use profitability as a mediator in testing the effects of these four factors on firm value. However, their research results, although not in one model, indicate that these four factors affect profitability, and interestingly, profitability also affects firm value. Something was missing in the previous research models, where profitability was not used as a mediator. Therefore, in this research model, profitability is used as a mediator for the influence of intellectual capital, financial leverage, institutional ownership, and working capital management on firm value.

Based on the literature survey that has been conducted, it is strongly suspected that intellectual capital can affect firm value. Khasanah & Harjito (2020) and Nguyen & Doan (2020) found that intellectual capital positively affects firm value. These results follow the corporate's principle intellectual capital to create corporate value, so that it has the potential to innovate and is supported by a good reputation making intellectual capital helpful in increasing the entity's competitive advantage (Pulic, 2004; Chen et al., 2019; Dee et al., 2019). These results are in line with the findings of Hatane et al. (2019), Papatungan et al. (2020) and Ni & Huang (2019). Meanwhile, Singh & Narwal (2015) found a negative relationship between intellectual capital and firm value. On the contrary, Nimtrakoon (2015) found that intellectual capital does not influence firm value.

In addition, the decisive suspect factor affecting the firm's value is financial leverage. Nguyen & Doan (2020) researched on the Vietnam Stock Exchange, and Ibhagui & Olokoyo (2018) examined companies listed on the Nigerian Stock Exchange. Both research results support that financial leverage and firm value positively associated. On the other hand, Astuti et al. (2018) researched the Indonesian banking sector, Ibrahim & Isiaka (2020) researched the Nigerian Stock Exchange, and Roy & Bandopadhyay (2021) researched the Indian Stock Exchange and found that financial leverage is negatively correlated with firm value because financial leverage serves as a proxy for measuring the company's financial risk. On the contrary, Husna & Satria (2019) argue that debt to asset ratio as financial leverage ratio is not influential on firm value.

The factor of institutional ownership is also strong suspected correlation on firm value, because practically, the role of institutional investors is more effective in corporate governance, can influence top management decisions, and affect firm value (Bajo et al., 2020; Doğan, 2020; Sakawa & Watanabel, 2020). Meanwhile, the research results of Setyabudi (2021) and Astuti et al. (2018), found that institutional ownership is negatively correlated on firm value. On the contrary, Cook (2013) argue that institutional ownership is not influential on firm value.

Another factor that is suspected of having a strong influence on firm value is working capital management (WCM). Vijayakumaran & Lanka (2019) examined non-financial companies listed on the Colombian Stock Exchange and found that WCM positively affected firm value. These findings are consistent with Arachchi et al. (2017), who researched non-financial companies listed on the Sri Lanka Stock Exchange. However, different results of the research by Ben Le (2019), Anton & Nucu (2021), and Aryawan & Indriani (2020) found that WCM harmed firm value because insufficient working capital in the banking sector will make banks difficult to pay short-term liabilities, after all, banks must pay interest on deposits to customers. In contrast, interest income from lending is hampered.

The problem needs to be solved by corporate's internal strategy to increase the entity's ability to obtain an amount of profit (profitability) (Sartono, 2010). High profitability's company makes investors react more, as evidenced by the increasing number of investors investing their equity by purchasing company shares. Thus, the stock price will also increase so that profitability becomes one of the factors that can affect the value of the company (Jihadi et al., 2021; Sudyatno et al., 2020; Tahu & Susilo, 2017). On the other hand, profitability positively affects firm value, but based upon a literature survey, profitability is also affected by intellectual capital, financial leverage, institutional ownership, and WCM. In short, profitability can mediate the influence of intellectual capital, financial leverage, institutional ownership, and WCM on firm value. Ovechkin et al. (2021), Singla (2020), Bayraktaroglu (2019), and Dzenopoljac et al. (2017) found that intellectual capital has a positive effect on profitability. Then, Jihadi et al. (2021), Chen et al. (2019), Aggarwal & Padhan (2017), and Dalci (2018) find that financial leverage has a positive effect on profitability. Furthermore, research conducted by Soana et al. (2021), Sakawa & Watanabel (2020), Amanda et al. (2020), Nurkhin et al. (2017), and Ozili & Uadiale (2017) show that institutional ownership positively affects profitability. Several research results also agree that WCM affects company profitability (Gonçalves et al., 2018; Godswill et al., 2018; Nguyen et al., 2020; Morshed, 2020; Pham et al., 2020; Senan et al., 2021).

This study has several contributions to practice. First, for corporate management, the results of this study can be used as evaluation material, strategies, and advice to increase firm value and offer solutions for banks to achieve success through achieving competitive advantage. Second, for investors, this study can be utilized as their consideration for making decisions in retaining and withdrawing their investment by considering various other factors. Meanwhile, for potential investors, the results of this study can provide benefits and suggest to potential investors who want to invest in shares to several banks. For creditors, the results of this study utilized funding and financing decisions where creditors entrust their capital in the form of debt, reflecting that the corporation can be trusted to pay off its debts and has a positive cash flow.

Literature Review

Intellectual Capital and Profitability

Intellectual capital is part of human resource accounting in the form of knowledge, information, and experience possessed by human resources and corporate organizations (Myers, 1977). There are three intellectual capital categories: human capital, structural capital, and customer capital (Mention & Bontis, 2013). As one of the knowledge-intensive firm industries, banking is closely related to integrating information technology in creating new products or services (Mention & Bontis, 2013). Based on resource-based theory, knowledge is the most crucial resource in an organization. Hence, it is believed to be able to provide added value to the corporation if the company can utilize its intellectual capital as well as possible, which impacts company profitability.

Several empirical research results show that intellectual capital positively influences corporate's profitability (Ovechkin et al., 2021; Khasanah & Harjito, 2020; Singla, 2020; Bayraktaroglu, 2019; Hatane et al., 2019). When a bank has the capability and is equipped with potential, valuable, and different resources from other companies, and these intellectual capital resources have a high cost to be imitated by its competitors, the company can easily create a competitive advantage. Therefore, intellectual capital is an essential strategic resource that provides a competitive advantage through value creation and ultimately generates profits for the company (Riahi-Belkaoui, 2003). Thus, the proposed hypothesis is:

H₁: Intellectual Capital affects the profitability of the banking sector listed on the Indonesia Stock Exchange

Financial Leverage and Profitability

Financial leverage is one of the sources of external funds for the company, where it generates more profit for the company, reducing the risk of default, financial distress, and bankruptcy (Modigliani & Miller, 1963; Myers & Majluf, 1984). Therefore, companies must pay attention to the proportion of financial leverage because extremely high financial leverage affect to their creditors limiting the company's freedom to act or can experience a decrease in profitability due to bearing high-interest expenses. The study's results prove that financial leverage positively affects corporate profitability (Jihadi et al., 2021; Chen et al., 2019; Dalci, 2018; Aggarwal & Padhan, 2017; Dioha et al., 2013). Thus, the proposed hypothesis is:

H₂: financial leverage affects the profitability of the banking sector listed on the Indonesia Stock Exchange

Institutional Ownership and Profitability

Institutional ownership is the proportion of share ownership by institutions such as banks, insurance, investment companies, and other financial institutions, but not public institutional shareholders as measured by the percentage of shares owned by internal institutional investors (Sujoko, 2007). Institutional ownership plays a vital role in supervising company management because institutional ownership will encourage more optimal supervision and help prevent opportunistic behavior. Therefore, if the monitoring effect of share ownership by institutional investors occurs, it is expected to have a positive impact on corporate performance. The previous studies show that institutional ownership positively affects profitability (Soana et al., 2021; Sakawa & Watanabel, 2020; Amanda et al., 2020; Nurkhin et al., 2017; Ozili & Uadiale, 2017). Thus, the proposed hypothesis is:

H₃: Institutional ownership affects the profitability of the banking sector listed on the Indonesia Stock Exchange

Working Capital Management and Profitability

Working capital management (WCM) is short-term financial management used to control and manage current assets and liabilities that involve short-term cash flows in the company's operating cycle (Seth et al., 2019). WCM is very important in a business entity because it reduces the possibility of financial constraints in the future and signifies a higher firm value. In addition, WCM is crucial because it allows companies to free up cash and increase liquidity. Therefore, proper and efficient WCM is an essential benchmark for good financial health and the company's operational success. Suppose the management of working capital has excessive working capital in the statement of financial position; it will potentially face high-interest expenses, the risk of going bankrupt, and hinder the corporate from implementing short-term investment projects (Bodnaruk et al., 2015).

Several research results agree that WCM linearly results in higher profitability for entities (Aktas et al., 2015; Gonçalves et al., 2018; Godswill et al., 2018; Nguyen et al., 2020; Morshed, 2020; Pham et al., 2020; Senan et al., 2021) because most companies have large amounts of cash to invest in WCM. Thus, with a large amount of cash, companies can manage their working capital by improving the management pattern applied to their current assets and liabilities. WCM must be done by shortening the cash conversion cycle, debt withholding, and increasing the value of current assets because it is proven to increase the company's profitability. Thus, the proposed hypothesis is:

H₄: Working capital management (WCM) affects the profitability of the banking sector listed on the Indonesia Stock Exchange

Profitability and Firm Value

Firm value results from investors' interpretation of the company, often associated with stock prices (Yustarani & Yuliana, 2020). High firm value benefit to investor because the firm value is believed not only to reflect the corporate's recent performance but also a company's prospect forecaster in the future (Brigham & Houston, 2011). Furthermore, corporate needs to pay attention to firm value as measured by several financial ratios (price to book value (PBV), price earnings ratios, or other measurements such as Tobin's Q). So that the value gets a good perception or positive response from the company's external parties so that investors gain confidence in their investments.

One of the efforts to corporate management to increase the firm's value is increase profitability (Sartono, 2010). High profitability is directly proportional to the high firm value, and vice versa (Purba & Africa, 2019). Profitability is closely related to corporate sales. Consumers tend to use products or services by reputable companies, so the firm value becomes very important in this case. Banking with a good reputation can generate high sales and gain high customer trust, impacting profitability. The signaling theory assumption also agrees that the company's reputation is a positive signal that the company can improve its corporate performance. Then, the positive signal used by investors in making investment decisions that can affect the firm's value. Previous research results also show that profitability positively affects firm value (Aggarwal & Padhan, 2017; Dewi & Abudanti, 2019; Sudiyatno et al., 2020; Endri & Fathony, 2020; Jihadi et al., 2021). Thus, the proposed hypothesis is:
H₅: Profitability affects the firm value of banking sector companies listed on the Indonesia Stock Exchange.

Intellectual Capital and Firm Value

Stakeholder theory states that corporate activities are aimed at stakeholders' interests, therefore, good intellectual resources of corporate to increase the firm value is a must. Several previous studies have proven that intellectual capital has a role in the progress of the banking industry which has a positive effect on firm value (Pulic, 2008; Dee et al., 2019; Ni & Huang, 2019; Nguyen & Doan, 2020; Papatungan et al., 2020). Thus, the proposed hypothesis is:
H₆: Intellectual capital affects the firm value of banking sector companies listed on the Indonesia Stock Exchange

Financial Leverage and Firm Value

Financial leverage, viewed from an agency perspective, can increase firm value because debt financing can minimize agency costs between managers and shareholders, meaning that debt reduces funds available to managers, which may be wasted on an investment that may lead to over investment (Jensen, 1986). Several research results prove that financial leverage positively affects firm value (Jihadi et al., 2021; Nha & Loan, 2015). In short, based upon the results shows that management has a significant role in using debt because the greater the debt, the risk of lowering the firm's value. Thus, the proposed hypothesis is:

H₇: Intellectual capital affects the firm value of banking sector companies listed on the Indonesia Stock Exchange

Institutional Ownership and Firm Value

Institutional ownership is company ownership owned by parties in the form of institutions (Sudarma, 2004). The higher the level of institutional ownership, the stronger the level of control and supervision carried out by external parties to the company, resulting in reduced agency problems and increased firm value (Jensen & Meckling, 1976).

Besides that, institutional ownership is part of corporate governance, where corporate governance will impact the corporate image and investor confidence to invest. After investing, institutional investors can monitor the entities they invest their funds in so that company managers cannot manipulate the company's financial information because institutional investors continuously monitor managers' performance in carrying out their operations. In some developing countries, corporate governance is closely related to the firm's value (Cosset et al., 2016). Bae et al. (2012) also prove that during the 1997 Asian financial crisis, Asian companies with weak corporate governance experienced a more significant decline in firm value. Several research results show that institutional ownership positively affects firm value (Bajo et al., 2020; Doğan, 2020; Sakawa & Watanabel, 2020; Thanatawee, 2014). Thus, the proposed hypothesis is as follows:

H₈: Institutional ownership has a positive effect on firm value.

Working Capital Management (WCM) and Firm Value

The financial manager's goal is to minimize the company's financial burden and maximize the value of its asset substitution by making a WCM plan by determining the weighted average cost of capital (WACC) to finance the corporate's activities. In addition, lower capital costs can reduce the company's development and production costs. Furthermore, the potential benefits and costs indicate a non-linear relationship between WCM and firm performance and encourage firms to invest in working capital optimally (Nha & Loan, 2015). Therefore, optimal WCM can minimize risk and increase the effectiveness of WCM by increasing assets and increasing company size

(Nha & Loan, 2015; Aktas et al., 2015; Wasiuzzaman, 2016; Chauhan & Banerjee, 2018; Moussa, 2018). Thus, the proposed hypothesis is:

H₉: Working capital management (WCM) affects the firm value of banking sector companies listed on the Indonesia Stock Exchange

Profitability Mediates The Effect of Intellectual Capital on Firm Value

Intellectual capital explained by resource-based theory divided into three important components to generate economic rents, namely human capital, structural capital, and relational capital (Barney, 1991). These three components interact to each other. Human resources increase competitive advantage between companies. The existence of structural capital is demonstrated by innovative activities such as support for the development of new ideas and efficient use of systems to support company operational activities, particularly the banking financial system, which requires banks to store customer data and maintain the security of customer funds. On the other hand, the relationship between employees, customers, and partners is part of the 'interaction' factor under relational capital. Intellectual capital as a whole has a positive and significant effect on firm value (Pulic, 2008; Dee et al., 2019; Ni & Huang, 2019; Nguyen & Doan, 2020; Papatung et al., 2020) refers to human capital, relational and structural convincingly have a strong relationship to increase the firm's profitability (Ovechkin et al., 2021; Khasanah & Harjito, 2020; Singla, 2020; Bayraktaroglu, 2019; Hatane et al., 2019). It's defined higher profitability, the higher the firm value because the market responds positively where profitability is a representation of the firm's performance, such that investors are willing to buy the company shares at a higher price. investors are interested in buying the company's shares with the expectation of high returns OR a large amount of dividend distribution from such investments.

Furthermore, intellectual capital can be used for the company's advantage in competing, forming a good image or reputation so that the company's shares will attract investors to invest and will ultimately increase the value of the company itself. The research results of Herli & Hafidhah (2018) and Nafiroh & Nahumury (2016) also support this hypothesis which shows that intellectual capital will increase firm value when company profitability increases. Based on this explanation, the proposed hypothesis is:

H₁₀: Profitability mediates the effect of intellectual capital on firm value

Profitability Mediates The Effect of Financial Leverage on Firm Value

According to the pecking order theory, corporate debt is not always dangerous to the company's condition. For example, the use of this debt can be used to carry out the company's operational activities, but the higher level of financial leverage indicates a large investment risk as well. In other words, financial leverage is categorized as one of the deductible elements of profitability (deducted by interest payable), therefore previous researchers also agree that financial leverage affects profitability (Jihadi et al., 2021; Chen et al., 2019; Dalci, 2018; Aggarwal & Padhan, 2017; Dioha et al., 2013).

Furthermore, profitability is also directly proportional to the increase in firm value (Aggarwal & Padhan, 2017; Dewi & Abudanti, 2019; Sudiyatno et al., 2020; Endri & Fathony, 2020; Jihadi et al., 2021). Profitability refers to the level of net profit (profit after interest and tax) that can be achieved by the company when carrying out its operations. Even though the use of financial leverage requires payment of loan interest, investors do not only pay attention to the capital structure but also look at the profitability's firm because investors expect dividend payments on their investment.

In short, financial leverage influences firm value because high financial leverage indicates that companies tend to use debt as their capital structure (Jihadi et al., 2021; Nha & Loan, 2015). Thus, profitability can mediate the influence of financial leverage on firm value. Several research results support the hypothesis that financial leverage and profitability significantly affect firm value (Osazuwa & Che-Ahmad, 2016; Rahmadani & Rahayu, 2017). Based on this explanation, the proposed hypothesis is:

H₁₁: Profitability mediates the effect of financial leverage on firm value

Profitability Mediates The Effect of Institutional Ownership on Firm Value

Based on the agency theory, shareholder ownership reduces agency costs, reduces conflicts of interest, and increases firm profitability (Jensen & Meckling, 1976) because shareholders have incentives and resources to monitor corporate performance. Supported by the existence of institutional share ownership, it can reduce information asymmetry between owners, managers, and external investors (Sakawa et al., 2014). The function of institutional ownership is not only as a supervisor, but also as an advisory function, as a reducer of information costs, and is useful for financing channels (Bajo et al., 2020; Kim et al., 2019; Jensen & Meckling, 1976)

The role of institutional investors in the organization can also pressure agents to increase the amount of profit and company profitability. The size of profitability can be seen from various factors such as operating income, net profit, rate of return on investment/assets, and rate of return on owner's equity. This is because, the greater the

profit, the greater the company's ability to pay dividends to investors. If the dividend is full, the company's shares will still be attractive to investors because they show good company performance. This implies that good company performance will have an impact on high share prices so that it is directly proportional to company value with institutional ownership (Sugosha & Artini, 2020). Thus, profitability can mediate the influence of institutional ownership on firm value. Based on this explanation, the proposed hypothesis is:

H₁₂: Profitability mediates the effect of institutional ownership on firm value

Profitability Mediates The Effect of Working Capital Management on Firm Value

The signal theory and the agency theory agree that WCM, profitability, and firm value are interconnected each other where the purpose of WCM is to maximize firm value (Ujah et al., 2020; Gamlath & Yogendrarajah, 2019; Aktas et al. 2015). Fama & French (2006) also proved that profitability and firm value correlate each other to increase the profits because it is supported by efficiency in WCM. Kawakibi et al. (2019) find evidence profitability mediates the influence of WCM on firm value. In short, the implementation of good working capital management will increase the profits generated by the company, so that the value of the company also increases, which in the end investors respond to this as a positive signal for their investment. Thus, profitability can mediate the influence of working capital management on firm value. Based on this explanation, the proposed hypothesis is:

H₁₃: Profitability mediates the effect of WCM on the firm value

Research Methods

This study uses purposive sampling as a sampling technique with the following criteria: (1) in 2016-2020, banking companies have been listed on the IDX and are not Islamic commercial banks, (2) companies do not experience losses during the observation period, and (3) companies published the required information during the 2016-2020 period and had institutional ownership during the observation period. After being selected, the sample in this study for five years was 140 observations.

Variable Measurement

This study consists of three variables: the independent variable, the dependent variable, and the intervening variable. The independent variables include intellectual capital, financial leverage, institutional ownership, and working capital management, while the intervening and dependent variables are profitability and firm value. The variable measurement matrix (Table 1) is present in the following.

Table 1. Variable measurement matrix

Variable	Definition	Measurement	Scale
Dependent Variable			
Firm Value	The market price of the company's shares is compared with its book value.	$PBV = \frac{\text{market price per share}}{\text{Book value per share}}$ (Brigham & Houston, 2009)	Ratio
Intervening Variable			
Profitability	The company's ability to make a profit by using assets or equity.	ROA (<i>return on assets</i>) (Kasmir, 2016); Borroni & Ross, 2019)	Ratio
Independent Variable			
Intellectual Capital	Intangible assets of the enterprise, it can be knowledge, information, experience possessed by human resources and the enterprise.	VAIC = HCE + SCE + CEE (Singh et al., 2016; Ulum, 2014; Joshi et al., 2013; Firer & Williams, 2003)	Ratio
Financial Leverage	Amount of debt used to fund the company's operations.	$FL = \frac{\text{Book value of Total debt}}{\text{Total Asset}}$ (Altaf & Ahmad, 2019)	Ratio
Institutional Ownership	Share owned by institutions.	$IO = \frac{\text{Share Ownership by Institution}}{\text{Outstanding share}}$ (Sujoko, 2007)	Ratio
Working Capital Management	Short-term financial management strategies used as control and management of current asset components and current liabilities involving short-term cash flows in the company's operating cycle.	- BCP = Ratio of [Bank's current asset/interest income *365 in days]. - CPP = Ratio of [Short term liabilities/interest expense *365 in days]. - BCCC = The difference between BCP and CPP [BCP – CPP]. (Ali, 2018)	Ratio

Model Specification

This study applied path analysis model to analyze the pattern of relationships between variables independent through intervening variables on the dependent variable and develop the regression analysis into standardized regression analysis.

This study examines profitability (intervening) of the influence of intellectual capital, financial leverage, institutional ownership, and WCM on firm value in banking sector financial companies listed on the Indonesia Stock Exchange. The equations of the path analysis model in this study are as follows:

Substructure I $Prof_{it} = \rho_{Prof.IC}IC_{it} + \rho_{Prof.FL}FL_{it} + \rho_{Prof.IO}IO_{it} + \rho_{Prof.WCM}WCM_{it} + \epsilon_{1it}$ (1)

Substructure II $FV_{it} = \rho_{FVIC}IC_{it} + \rho_{FVFL}FL_{it} + \rho_{FVIO}IO_{it} + \rho_{FVWCM}WCM_{it} + \rho_{FVProf}Prof_{it} + \epsilon_{2it}$ (2)

Information:

Prof = Profitability of company i in year t

FV = Firm value of company i in year t

IC = Intellectual capital of company i in year t

FL = Financial leverage of company i in year t

IO = Institutional ownership of company i in year t

WCM = Working Capital Management (WCM) of company i in year t

ϵ = Error Term

$\rho_{Prof.IC}, \rho_{Prof.FL}, \rho_{Prof.IO}, \rho_{Prof.WCM}$ = Path coefficient of the influence of independent variables on dependent variable

$\rho_{FVIC}, \rho_{FVFL}, \rho_{FVIO}, \rho_{FVWCM}, \rho_{FVProf}$ = Path coefficient of the influence of independent variables and intervening variable on dependent variable

This study consists of three variables: the independent variable, the intervening variable, and the dependent variable. The independent variables include intellectual capital, financial leverage, institutional ownership, and WCM, while the intervening and dependent variables are profitability and firm value. To test the hypothesis, a significance test using at the level of (P-value) 5%. If the path coefficient value, $\rho_{Prof.IC}, \rho_{Prof.FL}, \rho_{Prof.IO}, \rho_{Prof.WCM}$ and $\rho_{FVIC}, \rho_{FVFL}, \rho_{FVIO}, \rho_{FVWCM}, \rho_{FVProf}$, is less than 5%, then the result is significant vice versa.

Furthermore, to test whether profitability as an intervening variable using the causal step method (Baron & Kenny, 1986). The causal step method tests whether there is mediation by comparing the path coefficient values between the three regression equations. For first regression equation investigates the effect of the independent variable on the dependent variable, the second regression equation investigates the effect of the independent variable on the intervening variable, and the third regression equation examines the effect of the independent variable on the dependent variable by including the intervening variable, with the following equation:

The equation I : $FV_{it} = \rho_{FVIC}IC_{it} + \rho_{FVFL}FL_{it} + \rho_{FVIO}IO_{it} + \rho_{FVWCM}WCM_{it} + \rho_{FV\epsilon1}\epsilon_{1it} + \dots$ (1)

The equation II : $Prof_{it} = \rho_{Prof.IC}IC_{it} + \rho_{Prof.FL}FL_{it} + \rho_{Prof.IO}IO_{it} + \rho_{Prof.WCM}WCM_{it} + \rho_{Prof\epsilon3}\epsilon_{3it} + \dots$ (2)

The equation III : $FV_{it} = \rho_{FV.IC}IC_{it} + \rho_{FV.FL}FL_{it} + \rho_{FV.IO}IO_{it} + \rho_{FV.WCM}WCM_{it} + \rho_{FVProf}Prof_{it} + \rho_{FV\epsilon2}\epsilon_{2it} + \dots$ (3)

The requirements that must be filled in order to achieve mediation are:

$\rho_{FVIC}, \rho_{FVFL}, \rho_{FVIO}, \rho_{FVWCM}$ = significant (equation I)

$\rho_{Prof.IC}, \rho_{Prof.FL}, \rho_{Prof.IO}, \rho_{Prof.WCM}$ = significant (equation II)

ρ_{FVProf} = significant (equation III)

Mediation occurs when the path coefficient value in equation III is smaller/decreases than the path coefficient value in equation I. Determine the complete or partial mediation based upon the provision that if the path coefficient value in equation III is smaller/decreasing comparing equation I and the value is equal to zero or the path coefficient value in equation III is insignificant. However, suppose the path coefficient value in equation II and the path coefficient value of the intervening variable in equation III are significant. In that case, complete mediation occurs, but if the value of the path coefficient in equation III is smaller/decreased than equation I but not equal to zero, it called partial mediation occurs.

Result and Discussion

Descriptive Statistics

Descriptive statistics analysis for the independent variables (intellectual capital, financial leverage, institutional ownership, and working capital management), the intervening variable (profitability), and the dependent variable (firm value). Descriptive statistics of research data show in Table 2.

The Table 2 shows the average value of conventional banking companies listed on the IDX has a firm value above number 1, which is 1.68. The maximum firm value is 4.50, and the minimum value is 0.15, with a

standard deviation of 0.97, which is lower than the average firm value. The profitability average is 0.038. The minimum value is 0.000. Meanwhile, the highest profitability value is 0.29, and the standard deviation is 0.06, which is higher than the average profitability value. The average value of intellectual capital in banking sector companies within five years is 5.54. Meanwhile, the lowest value was 0.71, and the highest value was 19.09. The standard deviation of 4.43 is lower than the average value of intellectual capital.

Table 2. Descriptive Statistical Analysis Test Results

	N	Minimum	Maximum	Average	Std. Deviation
FV	140	0.15	4.50	1.6802	0.97887
IC	140	0.71	19.09	5.5446	4.43242
FL	140	0.00	0.98	0.6509	0.21154
IO	140	0.11	0.98	0.6607	.21850
WCM	140	-12430134.00	17188023.00	-52849.0099	3292696.92740
Prof	140	0.00	0.29	0.0385	.06284

The average value of financial leverage is 0.65, the maximum value is 0.98, and 0.00 for minimum value. The standard deviation is 0.21, lower than the average value of financial leverage. The average value of institutional ownership is 0.66, the highest institutional ownership of the company is 0.98, and the minimum value is 0.11. Meanwhile, the standard deviation is 21.84, lower than the average value of institutional ownership.

Furthermore, the average value of working capital management, which is proxied by the Bank's Cash Conversion cycle (BCCC), is not better because it requires an average of -52849 days that show negative (minimum and mean values) statistically. The highest WCM value is 17188023, with a minimum value of -12430134. The standard deviation is 3292696 days.

Hypothesis Testing Results

This study uses path analysis to examine the effect of independent variables on the dependent variable through intervening variables.

Substructure I Test Results

The results of testing substructure I, testing the influence of intellectual capital, financial leverage, institutional ownership, and WCM each as an independent variable, on profitability as an intervening variable. The results of the regression analysis (using path analysis) for substructure I show in Table 3.

Table 3. Test results of substructure I

	Coefficients	T-test	P-value	Conclusion
IC	0.341	5.236	*0.006	H1 is supported
FL	0.144	2.079	*0.000	H2 is supported
IO	0.168	2.588	*0.040	H3 is supported
WCM	0.418	6.207	*0.011	H4 is supported
R Square	0.452			
Adj. R Square	0.436			

Dependent Variable: Profitability

Based upon Table 3, the path coefficient value of each independent variable on the intervening variable is explained as follows. The coefficient value of Intellectual capital is 0.341 with a value of sig. = 0.00 < 0.05 and is positive. Thus, it can be stated that intellectual capital positively affects profitability. This result follows the resource-based theory, which suggests the importance of intellectual capital because it is considered capable of influencing the company's financial performance. Banks, as financial institutions, develop their intellectual capital (IC), starting from the human resource component and developing structural capital (the system's ability, structure, strategy, and corporate culture). Banks also develop good relational capital (maintain good working relationships with customers). The results of this study are consistent with the results of the research of Ovechkin et al. (2021), Khasanah & Harjito (2020), Yustyarani & Yuliana (2020), and Hatane et al. (2019), which shows that intellectual capital has a positive effect on profitability. This can be interpreted that banks listed on the IDX have high intellectual capital resources based on their VAIC value.

The coefficient value of financial leverage is 0.144 and a value of sig. = 0.04 < 0.05 and is positive. Thus, it can be stated that financial leverage positively affects profitability. This result shows that the external funding carried out by banks is to increase revenue so that it can have a positive impact on increasing the profitability of

the banking sector itself. This study's results also follow the trade-off theory: the entity will benefit when the company has an optimal capital structure by benefiting from debt financing, such as interest tax protection (Myers, 1977). The results of this study are consistent with the results of Jihadi et al. (2021), Chen et al. (2019), Aggarwal & Padhan (2017), Dalci (2018), and Dioha et al. (2013), which show that financial leverage has a positive effect on profitability.

The coefficient of institutional ownership is 0.168 with a value of $\text{sig.} = 0.01 < 0.05$. Thus, it can be stated that institutional ownership affects profitability. The results mean that institutional investors in banks listed on the IDX have contributed to optimal supervision to impact corporate profitability positively. These results also support the agency theory perspective, which emphasizes the two interests between principals (institutional investors) and agents (company managers)—the greater percentage of these institutional investors, the greater the supervision of agents to maximize company performance. The results of this study are support the hypothesis that institutional ownership has a positive effect on profitability as research conducted by Soana et al. (2021), Sakawa & Watanabel (2020), Amanda et al. (2020), Nurkhin et al. (2017) and Ozili & Uadiale (2017).

The coefficient of institutional ownership is 0.418 with significant value = $0.00 < 0.05$, it can be stated that WCM positively affects profitability. Bank working capital is simply the operating liquidity available to run the bank on a day-to-day business basis. Therefore, efficient bank working capital management can produce benefits such as: maintaining the level of customer confidence, increasing short-term liability payments, and the growth of the company sector itself (Godswill et al., 2018). WCM is also crucial to maintaining the company's solvency, liquidity, viability, and profitability (Hoque et al., 2015). The results of this study are consistent with research results that support the hypothesis that WCM has a positive effect on profitability as research conducted by Aktas et al. (2015), Gonçalves et al. (2018), Godswill et al. (2018), Nguyen et al. (2020), Pham et al. (2020), Morshed (2020), Senan et al. (2021).

To find out how significant the contribution of the independent variables, namely intellectual capital, financial leverage, and institutional ownership, WCM on the intervening variable (profitability), is made by looking at the value of the coefficient of determination (R Square), the value of R Square (R^2) is 0.452 or 45.2%. This value indicates that the contribution of the independent variable is 45.2%, and other factors influence the remaining 54.8%. To find out the value of the residual coefficient ($\rho_{\text{Profit}\epsilon_{it}}$) can be searched with the formula $z\epsilon_{1} = \sqrt{1 - R^2}$ = $(1 - 0.452) = 0.548 = 0.740$. Thus, the equation model of substructure I is obtained, namely:

$$\text{Prof}_{it} = 0.341\text{IC}_{it} + 0.144\text{FL}_{it} + 0.168\text{IO}_{it} + 0.418\text{WCM}_{it} + 0.740\epsilon_{3it}$$

Substructure II Test Results and Analysis

The results of substructure II testing are intellectual capital, financial leverage, institutional ownership, WCM, and profitability on firm value. The partial substructure II testing results can be seen in Table 5.

Table 5. Test results of substructure II

	Coefficients	T-test	p-value	Conclusion
Prof	0.551	7.805	*0.000	H5 is supported
IC	0.132	2.255	*0.026	H6 is supported
FL	0.134	2.317	*0.022	H7 is supported
IO	0.125	2.291	*0.024	H8 is supported
WCM	0.142	2.260	*0.025	H9 is supported
R Square	0.634			
Adj. R Square	0.621			

Dependent Variable: Firm Value

Based on Table 5 shows the coefficient value of intellectual capital is 0.132 with a probability/ $\text{sig.} = 0.026 < 0.05$. Thus, it can conclude that intellectual capital positively affects firm value. This result shows that the company's intellectual capital is one of the factors that drive the increasing demand for company shares in the capital market because investors see the potential of the three components of intellectual capital resources in this banking sector financial company. However, banks listed on the IDX have not only good potential intellectual capital resources. However, they are also able to utilize the three types of intellectual capital resources so that they have an impact on increasing firm value. The results of this study are consistent with research results that support the hypothesis that intellectual capital has a positive effect on firm value, such as research conducted by Khasanah & Harjito (2020), Nguyen & Doan (2020), Papatungan et al. (2020), Hatane et al. (2019), and Ni & Huang (2019).

The coefficient financial leverage is 0.134 with $\text{prob./sig.} = 0.022 < 0.05$, and it implies that financial leverage affects the firm value or financial leverage is one of the factors that can increase firm value in the banking sector. The results consistent with the trade-off theory by Myers & Majluf (1984), which advocates higher debt

levels to increase firm value. However, management must also be careful in using debt because it has an impact on the occurrence of financial distress. In other words, an optimal capital structure is necessary to increase the firm's value. The optimal capital structure is a combination of funding sources consisting of debt and shares, which will produce the highest firm value because one indication of high firm value is the high share price (Myers & Majluf, 1984). Thus, the optimal capital structure is the capital structure that produces the highest share price.

In addition, the results of this study also support the theory of Modigliani and Miller (MM), which explains that companies that use debt will have a higher firm value than companies that do not use debt. The higher debt of the corporate (the higher the ratio of debt to assets), the higher the value indicated by the value of the company's shares. Several previous studies by Nha & Loan (2015), Ibhagui & Olokoyo (2018), and Jihadi et al. (2021) proved that financial leverage has a positive effect on firm value.

For Institutional ownership, the coefficient value is 0.142 with a prob./sig. = 0.024 < 0.05 and is positive. Thus, it can be stated that institutional ownership positively affects firm value. This shows that the existence of institutional investors can carry out more effective monitoring. Institutional ownership also becomes a bargaining power to influence other investors to invest because investors believe that supervision by institutional investors will reduce fraudulent acts committed by the internal company, which can increase the firm's value. The results of this study are consistent with research results that support the hypothesis that institutional ownership has a positive effect on firm value (Bajo et al., 2020; Doğan, 2020; Sakawa & Watanabel, 2020; Thanatawee, 2014).

The coefficient value of WCM is 0.142 with a significant value. = 0.025 < 0.05 and is positive. Thus, it can be stated that WCM positively affects firm value. This result shows that in a banking sector company, managers maximize their performance to increase the firm's value by increasing the efficiency of working capital management by reducing the number of receivable and inventory days. In addition, the results of this study also prove that WCM in the sample banks includes efficient WCM, which can increase firm value and help increase shareholder wealth. This research and several other research results have supported the hypothesis that WCM positively affects firm value. Some of these studies were carried out by Nha & Loan (2015), Aktas et al. (2015), Wasiuzzaman (2016), Chauhan & Banerjee (2018), and Moussa (2018). The better the WCM in a business entity, the more it shows the company has good management of current assets and liabilities for its operating activities. Conversely, if the WCM of a business entity is bad, it will increase the risk of financial problems in the future, and this has an impact on the value of the company, and the capital market will also penalize companies that fail to manage their working capital (Arachchi et al., 2017).

The coefficient value of profitability is 0.551 with a value of probability. /sig. = 0.000 < 0.05, and is positive. Thus, it can be stated that profitability positively affects firm value. This result follows the assumption of stakeholder theory, which says that business entities do not only carry out activities for their interests but also for all stakeholders, which encourages companies to maximize their profitability ratios. High profitability will be given more assessment by investors so that investors are interested in investing in the entity. This condition also impacts an increase in stock prices in the capital market, which means an increase in the firm's value. The results of this study are consistent with the results of research showing that profitability has a positive effect on firm value (Sudiyatno et al., 2020; Dewi & Abudanti, 2019; Jihadi et al., 2021; Endri & Fathony, 2020; Aggarwal & Padhan, 2017). This is due to the positive market response related to profitability which represents the company's performance so that high stock prices still convince investors to buy company shares in the hope of obtaining high returns from these investments. In addition, the quality of the company is also reflected in the high level of profitability, which gives a positive signal to the market that this company is worth investing in and has good prospects.

To find out how much the contribution of the independent variables and intervening variables, namely intellectual capital (IC), financial leverage (FL), institutional ownership (IO), working capital management (WCM), and profitability (Y) to the dependent variable, namely firm value (FV) This is made by looking at the coefficient of determination (R Square), the value of R Square (R^2) is 0.634 or 63.4%. This value indicates that the contribution of the independent variable is 63.4%; other factors influence the remaining 36.6%. Furthermore, to determine the value of the residual coefficient (ϵ_1), the formula $1 = \sqrt{1 - R^2} = 1 - 0.634 = 0.366 = 0.604$ can be used. Thus, the equation model of substructure II is obtained, namely:

$$FV_{it} = 0.132IC_{it} + 0.134FL_{it} + 0.125IO_{it} + 0.142WCM_{it} + 0.551Prof_{it} + 0.604\epsilon_{2it}$$

Mediation and Analysis Test Results

In this study, mediation testing was carried out using the causal step method developed by Baron & Kenny (1986). As mentioned in the previous section, to test whether there is mediation, it is done by comparing three regression equations, with the provisions that ρ_{FVIC} , ρ_{FVFL} , ρ_{FVIO} , ρ_{FVWCM} in equation I, ρ_{ProfIC} , ρ_{ProfFL} , ρ_{ProfIO} , $\rho_{ProfWCM}$ in equation II, and ρ_{FVProf} in equation III are significant. Furthermore, ρ_{FVProf} in equation III is smaller than ρ_{FVIC} , ρ_{FVFL} , ρ_{FVIO} , ρ_{FVWCM} in equation I. The regression results of equation II and equation III are presented in Table 3 and Table 5. In Table 7 below, the results of the regression equation I presented.

Table 7. Regression results of equation I comparing to equation III

	Coefficients of equation I	Coefficients of equation III	T-test	p-value	Conclusion
IC	0.319	0.132	4.985	*0.000	*Mediating effects of profitability
FL	0.213	0.134	3.121	*0.002	*Mediating effects of profitability
IO	0.217	0.125	3.400	*0.001	*Mediating effects of profitability
WCM	0.372	0.142	5.602	*0.000	*Mediating effects of profitability
R Square	0.468	0.634			
Adj. R Square	0.452	0.621			

Dependent Variable: Firm Value

To find out how significant the contribution of the independent variables (IC, FL, IO, WCM), to the dependent variable, namely firm value, is done by looking at the value of the coefficient of determination (R Square). To determine ϵ_{3it} calculated by $\epsilon_{3it} = \sqrt{(1-R \text{ Square})} = \sqrt{(1-0.410)} = 0.768$, and based on Table 7, equation I becomes:

$$FV_{it} = 0.319IC_{it} + 0.213FL_{it} + 0.217IO_{it} + 0.372WCM_{it} + 0.729\epsilon_{1it}$$

The following summarizes equation I, equation II, and equation III:

$$\text{Equation I : } FV_{it} = 0.319IC_{it} + 0.213FL_{it} + 0.217IO_{it} + 0.372WCM_{it} + 0.729\epsilon_{1it}$$

$$\text{Equation II : } Prof_{it} = 0.341IC_{it} + 0.144FL_{it} + 0.168IO_{it} + 0.418WCM_{it} + 0.740\epsilon_{3it}$$

$$\text{Equation III : } FV_{it} = 0.132IC_{it} + 0.134FL_{it} + 0.125IO_{it} + 0.142WCM_{it} + 0.551Prof_{it} + 0.604 \epsilon_2$$

As explained in the previous section, the requirements that must be filled in order to achieve mediation are that ρ_{FVIC} , ρ_{FVFL} , ρ_{FVIO} , ρ_{FVWCM} (equation I), ρ_{ProfIC} , ρ_{ProfFL} , ρ_{ProfIO} , $\rho_{ProfWCM}$ (equation II), and ρ_{FVProf} (equation III) must be significant. Furthermore, ρ_{FVProf} in equation III is smaller than ρ_{FVIC} , ρ_{FVFL} , ρ_{FVIO} , ρ_{FVWCM} in equation I. Whether mediation occurs, the following research results (the results of hypothesis testing) for each mediation are presented.

1. Profitability (Prof) mediates the influence of intellectual capital (IC) on firm value. The results show that the path coefficient value of the intellectual capital, both in equation I (ρ_{FVIC}), in equation II (ρ_{ProfIC}), and in equation III (ρ_{FVIC}) are significant (qualifies). The path coefficient value of the profitability as a mediator variable (ρ_{FVProf}) in equation III is also significant (qualified). Meanwhile, the path coefficient value (ρ_{FVIC}) in Equation III is smaller than the path coefficient value (ρ_{FVIC}) in equation I (qualifies) or the path coefficient value in equation III is not equal to zero, it is called partial mediation. In other word, profitability can mediate the influence of intellectual capital on firm value. Banking has an exquisite intellectual capital component; therefore, the company's contribution to improving the quality of intellectual capital is more significant to the company's potential to increase profitability. The results of this study also follow the resource-based theory, which assumes that the company believes that the corporation will achieve excellence if the company has good resource capacity (Stewart, 1998). The higher intellectual capital owned by the company affect higher profitability cause intellectual capital able to run company to create profitable growth business; therefore, the greater the willingness or interest of investors to pay higher for the company's shares. Logically, the firm value will be reflected in the prices issued by investors. Indeed the company will also benefit by utilizing intellectual capital, which allows companies to achieve competitive advantage and generate added value so that it becomes a factor that can increase the firm value (Yustyarani & Yuliana, 2020). This result is also consistent with the results of research conducted by Yustyarani & Yuliana (2020).
2. Profitability mediates the effect of financial leverage (FL) on firm value (FV). The results show that the path coefficient value of the financial leverage, both in equation I (ρ_{FVFL}), in equation II (ρ_{ProfFL}), and in equation III (ρ_{FVFL}) are significant (qualifies). The path coefficient value of the profitability as an intervening variable (ρ_{FVProf}) in equation III is also significant (qualified). Furthermore, the path coefficient value (ρ_{FVFL}) in equation III is smaller than the path coefficient value (ρ_{FVFL}) in equation I (qualifies). Thus, it stated that profitability mediates the effect of financial leverage on firm value. Because of the path coefficient value (ρ_{FVFL}) in equation III is not equal to zero, it is called partial mediation. High financial leverage has a role in increasing the company's profitability to increase the value of the company. In other words, to increase the firm's value, company managers can do it by increasing its profitability because basically financial leverage in use to generate revenue can boost revenue and profitability. In summary, profitability mediates the effect of financial leverage on firm value.
3. Profitability mediates the effect of institutional ownership (IO) on firm value (FV). The results showed that the path coefficient values of institutional ownership in equation I (ρ_{FVIO}), in equation II (ρ_{ProfIO}), and in equation III (ρ_{FVIO}) are significant (qualified). Meanwhile, the path coefficient value (ρ_{FVIO}) in equation III is smaller than the path coefficient value (ρ_{FVIO}) in equation I (qualifies). Because of the path coefficient value in equation III is not equal to zero, it is called partial mediation. Therefore, in other word, profitability can mediate the effect of

institutional ownership on firm value. The high number of institutional ownership will increase profitability because this gives the corporate a good corporate governance structure. Thus, the higher the institutional ownership as part of corporate governance, the greater the potential for banks to increase firm value.

- Profitability mediates the effect of working capital management (WCM) on firm value. The results showed that the path coefficient values of WCM in equation I (ρ_{FVWCM}), in equation II ($\rho_{profWCM}$), and in equation III (ρ_{FVWCM}) are significant (qualified). The path coefficient value (ρ_{FVWCM}) in equation III is smaller than the path coefficient value (ρ_{FVWCM}) in equation I (qualifies) or the path coefficient value in equation III is not equal to zero, it is called partial mediation . In short, the result shows that profitability can mediate the effect of WCM on firm value, or financial companies in the banking sector have current assets (amount of cash and cash equivalents) and significant current liabilities used for investment in WCM. Furthermore, the efficiency of WCM can also be obtained by increasing or decreasing investment in working capital itself, increasing the company's stock and operating performance for the next accounting period (Aktas et al., 2015). The efficient WCM in a business entity shows the company has sound management of current assets and liabilities for its operating activities. In summary, profitability mediates the effect of WCM on firm value. The schema of the profitability research model as a mediator of the influence of intellectual capital, financial leverage, and institutional ownership on firm value is shown in Figure 1.

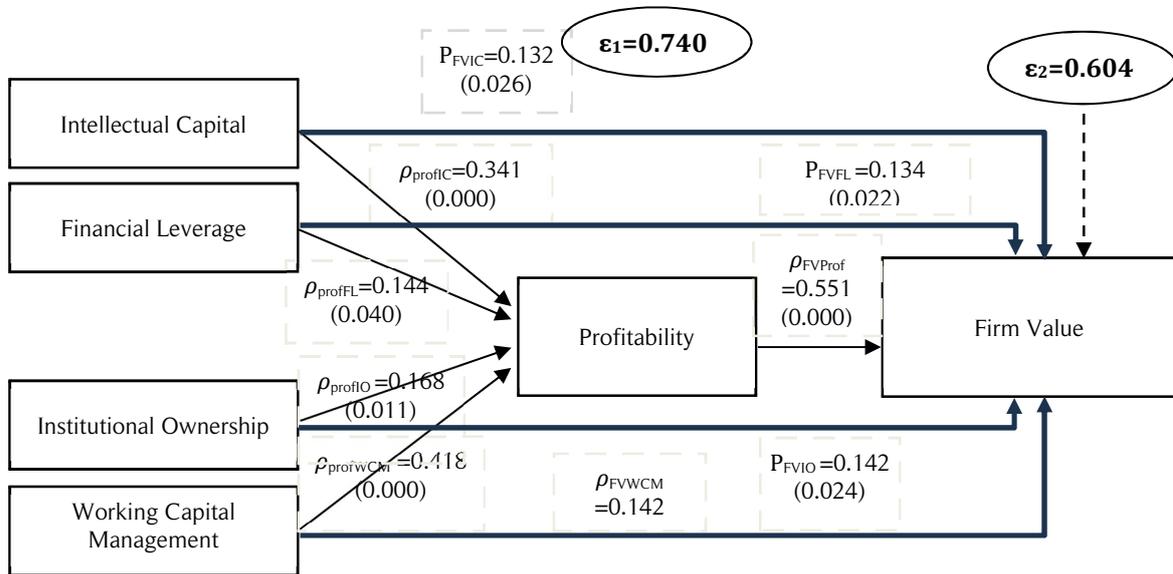


Figure 1. The Schema of research result

Conclusions

Based on the results show that profitability positively affects firm value. Furthermore, intellectual capital, financial leverage, institutional ownership, and working capital management (WCM) positively affect profitability. The analysis of substructure II also shows the value of the beta coefficient in a positive direction; in summary, intellectual capital, financial leverage, institutional ownership, and working capital management positively affect the firm value. Based on the comparison of equation III with equation I, equation III (substructure II) \leq equation I shows that profitability mediates the influence of intellectual capital, financial leverage, institutional ownership, and WCM on firm value in the banking sector financial companies listed on the Indonesia Stock Exchange in 2016-2020. This study has limitations where the unit of analysis is only financial companies in the banking sector listed on the Indonesia Stock Exchange, so the results cannot be generalized to all companies listed on the Indonesia Stock Exchange. For future research, recommended researching all companies listed on the Indonesia Stock Exchange therefore the results of subsequent research can be more representative. The conclusions generated have a broader scope, or the results can be compared by other sectors, not only in banking sector companies.

References

- Aggarwal, D., & Padhan, P. C. (2017). Impact of Capital Structure on Firm Value: Evidence from Indian Hospitality Industry. *Theoretical Economics Letters*, 07(04), 982–1000. <https://doi.org/10.4236/tel.2017.74067>.
- Akben-Selcuk, E. (2016). Factors affecting firm competitiveness: Evidence from an emerging market. *International Journal of Financial Studies*, 4(2). <https://doi.org/10.3390/ijfs4020009>.

- Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, 30(1), 98–113. <https://doi.org/10.1016/j.jcorpfin.2014.12.008>.
- Ali, D. Jalal. (2018). Impact of Working Capital Management on Banks ' Performance : Evidence from UK Impact of Working Capital Management on Banks ' Performance : Evidence from UK. *Near East University Graduate*.
- Amanda, M. P., Lam, S., & Rianningsih, Ir. (2020). The effect of concentrated ownership on bank profitability in Indonesia. *Jurnal Akuntansi Dan Keuangan Indonesia*, 17(1), 22–42.
- Anton, S. G., & Nucu, A. E. A. (2021). The Impact of Working Capital Management on Firm Profitability: Empirical Evidence from Borsa Istanbul. *Research Journal of Politics, Economics and Management*, 14(9), <https://dx.doi.org/10.3390/jrfm14010009>.
- Arachchi, A. N. H., Perera, W., & Vijayakumaran, R. (2017). The Impact of Working Capital Management on Firm Value: Evidence from a Frontier Market. *Asian Journal of Finance & Accounting*, 9(2). <https://doi.org/10.5296/ajfa.v9i2.12449>.
- Aryawan, I., & Indriani, A. (2020). Working capital management and profitability : evidence from Indonesian manufacturing companies. *Diponegoro International Journal of Business*, 3(1), 36–46.
- Astuti, F. Y., Wahyudi, S., & Mawardi, W. (2018). Analysis of effect of firm size , institutional ownership , profitability , and leverage on firm value with corporate social responsibility (CSR) disclosure as intervening variables (study on banking companies listed on BEI period (2012-2016)). *Jurnal Bisnis Strategi*, 27(2), 95–109.
- Bae, K. H., Baek, J. S., Kang, J. K., & Liu, W. L. (2012). Do controlling shareholders' expropriation incentives imply a link between corporate governance and firm value? Theory and evidence. *Journal of Financial Economics*, 105(2), 412–435. <https://doi.org/10.1016/j.jfineco.2012.02.007>.
- Bajo, E., Croci, E., & Marinelli, N. (2020). Institutional investor networks and firm value. *Journal of Business Research*, 112, 65–80. <https://doi.org/10.1016/j.jbusres.2020.02.041>.
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bayraktaroglu, A. E. (2019). Intellectual capital and firm performance : an extended VAIC model. *Journal of Intellectual Capital*, 20(3), 406–425. <https://doi.org/10.1108/JIC-12-2017-0184>.
- Ben Le, B. Le. (2019). Working capital management and firm's valuation, profitability and risk: Evidence from a developing market. *International Journal of Managerial Finance*, 15(2), 191–204. <https://doi.org/10.1108/IJMF-01-2018-0012>.
- Bodnaruk, A., Loughran, T., & McDonald, B. (2015). Using 10-K text to gauge financial constraints. *Journal of Financial and Quantitative Analysis*, 50(4), 623–646. <https://doi.org/10.1017/S0022109015000411>.
- Borroni, M., & Ross, S. (2019). Bank Profitability : Measures and Determinants. In *Palgrave Macmillan Studies in Banking and Financial Institutions* (pp. 23–53). <https://doi.org/10.1007/978-3-030-15013-6>.
- Brigham, E. F., & Houston, J. F. (2011). Fundamentals of Financial Management. In *Salemba Empat. Jakarta*. (Vol. 11).
- Chauhan, G. S., & Banerjee, P. (2018). Financial constraints and optimal working capital – evidence from an emerging market. *International Journal of Managerial Finance*, 14(1), 37–53. <https://doi.org/10.1108/IJMF-07-2016-0131>.
- Chen, Z., Harford, J., & Kamara, A. (2019). Operating leverage, profitability, and capital structure. *Journal of Financial and Quantitative Analysis*, 54(1), 369–392. <https://doi.org/10.1017/S0022109018000595>.
- Cook, R. (2013). The Relationship between Corporate Governance Practices and Firm Performance in the Junior Canadian Life Sciences Sector. *Saint Mary's University, Master of Business Administration, Halifax, Nova Scotia, Canada*.
- Cosset, J., Somé, H. Y., & Valéry, P. (2016). Does Competition Matter for Corporate Governance ? The Role of Country Characteristics. *Journal Of Financial And Quantitative Analysis*, 51(4), 1231–1267. <https://doi.org/10.2139/ssrn.2162966>.

- Dalci, I. (2018). Impact of financial leverage on profitability of listed manufacturing firms in China. *Pacific Accounting Review*, 30(4), 410–432. <https://doi.org/10.1108/PAR-01-2018-0008>.
- Dee, A., Ab-Rahim, R., & Mortadza, N. S. (2019). Intellectual Capital of Malaysian Banks. *International Journal of Academic Research in Business and Social Sciences*, 9(6), 774–785. <https://doi.org/10.6007/ijarbss/v9-i6/6032>.
- Dewi, N. putu I. K., & Abudanti, N. (2019). Pengaruh Leverage Dan Ukuran Perusahaan Terhadap Nilai perusahaan dengan profitabilitas Sebagai Variabel Mediasi. *E-Jurnal Manajemen*, 8(5), 3028–3056.
- Dioha, C., Mohammed, A. N., & Okpanachi, J. (2013). Effect of Firm Characteristics on Profitability of Listed Consumer Goods Companies in Nigeria Dioha Charles. *Journal of Accounting, Finance and Auditing Studies*, 4(2), 14–31.
- Doğan, M. (2020). Institutional Ownership and Firm Value: A Study on the Bist Manufacturing Index. *Ekonomika*, 99(2), 59–75.
- Dzenopoljac, V., Yaacoub, C., Elkanj, N., & Bontis, N. (2017). Impact of intellectual capital on corporate performance : Evidence from the Arab region. *Journal of Intellectual Capital*, <https://doi.org/10.1108/JIC-01-2017-0014>.
- Endri, E., & Fathony, M. (2020). Determinants of firm's value: Evidence from financial industry. *Management Science Letters*, 10(1), 111–120. <https://doi.org/10.5267/j.msl.2019.8.011>.
- Fama, E. F., & French, K. R. (2006). Profitability, investment and average returns. *Journal of Financial Economics*, 82(3), 491–518. <https://doi.org/10.1016/j.jfineco.2005.09.009>.
- Firer, S., & Williams, S. M. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital Vol.*, 4(3), 348–360. <https://doi.org/10.1108/14691930310487806>.
- Gamlath, M., & Yogendrarajah, R. (2019). Working Capital Management and Profitability: An Analysis of Listed Commercial Banks in Sri Lanka. *Proceedings of Jaffna University International Research Conference*, 39–48.
- Godswill, O., Ailemen, I., Osabohien, R., Chisom, N., & Pascal, N. (2018). Working capital management and bank performance: Empirical research of ten deposit money banks in Nigeria. *Banks and Bank Systems*, 13(2), 49–61. [https://doi.org/10.21511/bbs.13\(2\).2018.05](https://doi.org/10.21511/bbs.13(2).2018.05).
- Gonçalves, T. C., Gaio, C., & Robles, F. (2018). The impact of working capital management on firm profitability in different economic cycles: Evidence from the United Kingdom. *Economics and Business Letters*, 7(2), 70–75. <https://doi.org/10.17811/ebf.7.2.2018.70-75>.
- Hatane, S. E., Setiadi, M., & Tarigan, J. (2019). The Intervening Role of Value Added Intellectual Capital on The Relationship between Corporate Governance and Firm Value. *Journal of Accounting and Investment*, 20(3), 213–235. <https://doi.org/10.18196/jai.2003125>.
- Herli, M., & Hafidhah, H. (2018). Pengaruh Modal Intelektual Terhadap Nilai Perusahaan Dengan Profitabilitas Sebagai Variabel Moderasi. *PERFORMANCE: Jurnal Bisnis & Akuntansi*, 7(1), 125–135. <https://doi.org/10.24929/feb.v7i1.405>.
- Hoque, A., Mia, A., & Anwar, R. (2015). Working Capital Management and Profitability : A Study on Cement Industry in Bangladesh. *Journal of Finance and Accounting*, 6(7), 18–29.
- Husna, A., & Satria, I. (2019). Effects of Return on Asset, Debt To Asset Ratio, Current Ratio, Firm Size, and Dividend Payout Ratio on Firm Value. *International Journal of Economics and Financial Issues*, 9(5), 50–54. <https://doi.org/10.32479/ijefi.8595>.
- Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *North American Journal of Economics and Finance*, 45(February), 57–82. <https://doi.org/10.1016/j.najef.2018.02.002>.
- Jensen, C. M., & Meckling, W. (1976). Racial diversity and its asymmetry within and across hierarchical levels: The effects on financial performance. *Journal of Financial Economics*, 3, 305–360. <https://doi.org/10.1177/0018726718812602>.
- Jihadi, M., Vilantika, E., Hashemi, S. M., Arifin, Z., Bachtiar, Y., & Sholichah, F. (2021). The Effect of Liquidity, Leverage, and Profitability on Firm Value: Empirical Evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 8(3), 423–431. <https://doi.org/10.13106/jafeb.2021.vol8.no3.0423>.

- Joshi, M., Cahill, D., Sidhu, J., & Kansal, M. (2013). Intellectual capital and financial performance : an evaluation of the Australian financial sector. *Journal of Intellectual Capital*, 14(2), 264–285. <https://doi.org/10.1108/14691931311323887>.
- Kasmir, K. (2016). Analisis Laporan Keuangan. In Depok: *Rajagrafindo Persada* (p. 3).
- Kawakibi, A. A., Sumiati, S., & Hadiwidjojo, D. (2019). The Effect Of Working Capital Management. *International Journal of Business, Economics and Law*, 20(5), 30–37.
- Khasanah, F. N. U., & Harjito, D. A. (2020). The Effect of Funding Decisions and Intellectual Capital on Firm Value with Profitability as an Intervening Variable in Manufacturing Companies Listed on the Indonesia Sharia Stock Index. *International Journal of New Technology and Research (IJNTR)*, 7, 5–12.
- Kim, H., Kim, Y., Mantecon, T., & Song, K. R. (2019). Short-term institutional investors and agency costs of debt. *Journal of Business Research*, 95, 195–210. <https://doi.org/10.1016/j.jbusres.2018.10.019>.
- Kyere, M., & Ausloos, M. (2021). Corporate governance and firms financial performance in the United Kingdom. *International Journal of Finance and Economics*, 26(2), 1871–1885. <https://doi.org/10.1002/ijfe.1883>
- Mention, A. L., & Bontis, N. (2013). Intellectual capital and performance within the banking sector of Luxembourg and Belgium. *Journal of Intellectual Capital*, 14(2), 286–309. <https://doi.org/10.1108/14691931311323896>.
- Modigliani, F., & Miller, M. H. (1963). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), 261–297. <https://doi.org/10.1136/bmj.2.3594.952>.
- Morshed, A. (2020). Role of working capital management in profitability considering the connection between accounting and finance. *Asian Journal of Accounting Research*, 5(2), 257–267. <https://doi.org/10.1108/AJAR-04-2020-0023>.
- Moussa, A. A. (2018). The impact of working capital management on firms' performance and value: Evidence from Egypt. *Journal of Asset Management*, 19(4), 259–273. <https://doi.org/10.1057/s41260-018-0081-z>.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147–175. [https://doi.org/10.1016/0304-405X\(77\)90015-0](https://doi.org/10.1016/0304-405X(77)90015-0).
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0).
- Nafiroh, S., & Nahumury, J. (2016). The influence of intellectual capital on company value with financial performance as an intervening variable in financing institutions in Indonesia. *The Indonesian Accounting Review*, 6(2), 159–170. <https://doi.org/10.14414/tiar.v6i1.604>.
- Nguyen, A. H., & Doan, D. T. (2020). The Impact of Intellectual Capital on Firm Value : Empirical Evidence From Vietnam. *International Journal of Financial Research*, 11(4), 74–85. <https://doi.org/10.5430/ijfr.v11n4p74>
- Nguyen, A. H., Pham, H. T., & Nguyen, H. T. (2020). Impact of Working Capital Management on Firm's Profitability: Empirical Evidence from Vietnam. *Journal of Asian Finance, Economics and Business*, 7(3), 115–125. <https://doi.org/10.13106/jafeb.2020.vol7.no3.115>.
- Nha, B. D., & Loan, N. T. B. (2015). Working Capital Management and Firm Value: Evidence from the Vietnamese Stock Market. [Http://Papers.Ssrn.Com/Abstract=2648066](http://papers.ssrn.com/abstract=2648066), 19, 1–11. <http://papers.ssrn.com/abstract=2648066>.
- Ni, Y., & Huang, P. (2019). Do intellectual capitals matter to firm value enhancement ? Evidences from Taiwan. *Journal of Intellectual Capital*, 1469-1930 DOI 10.1108/JIC-10-2019-0235. <https://doi.org/10.1108/JIC-10-2019-0235>.
- Nimtrakoon, S. (2015). Intellectual capital, firms' market The relationship between value and financial performance Empirical evidence from the ASEAN. *Journal of Intellectual Capital*, Vol. 16(3), 587–618.
- Nurkhin, A., Wahyudin, A., & Fajriah, A. S. A. (2017). Relevansi Struktur Kepemilikan Terhadap Profitabilitas Dan Nilai Perusahaan Barang Konsumsi. *Jurnal Akuntansi Multiparadigma*, 1, 35–46.
- Osazuwa, N. P., & Che-Ahmad, A. (2016). The moderating effect of profitability and leverage on the relationship between eco-efficiency and firm value in publicly traded Malaysian firms. *Social Responsibility Journal*, 12(2), 295–306. <https://doi.org/10.1108/SRJ-03-2015-0034>.

- Ovechkin, D. V., Romashkina, G. F., & Davydenko, V. A. (2021). The impact of intellectual capital on the profitability of russian agricultural firms. *Agronomy*, 11(2). <https://doi.org/10.3390/agronomy11020286>.
- Ozili, P. K., & Uadiale, O. (2017). Ownership concentration and bank profitability. *Future Business Journal*, 3, 159–171. <https://doi.org/10.1016/j.fbj.2017.07.001>.
- Paputungan, R., Subroto, B., & Ghofar, A. (2020). Does institutional ownership moderate the effect of intellectual capital and company value ? *International Journal of Research in Business & Social Science*, 9(1), 127–136.
- Pham, K. X., Nguyen, Q. N., & Nguyen, C. Van. (2020). Effect of Working Capital Management on the Profitability of Steel Companies on Vietnam Stock Exchanges. *Journal of Asian Finance, Economics and Business*, 7(10), 741–750. <https://doi.org/10.13106/jafeb.2020.vol7.n10.741>.
- Pulic, A. (2008). The Principles of Intellectual Capital Efficiency - A Brief Description. In *Zagreb: Croatian Intellectual Capital Center*, available at: http://www.cik-hr.com/data/principles_2008.pd.
- Purba, J. T., & Africa, L. A. (2019). The effect of capital structure , institutional ownership , managerial ownership , and profitability on company value in manufacturing companies. *The Indonesian Accounting Review*, 9(1), 27–38. <https://doi.org/10.14414/tiar.v9i1.1619>.
- Rahmadani, F. D., & Rahayu, S. M. (2017). Pengaruh Good Corporate Governance (GCG), Profitabilitas dan Leverage Terhadap Nilai Perusahaan (Studi Kasus pada Perusahaan Perbankan yang Terdaftar Pada BEI Periode 2013-2015). *Jurnal Administrasi Bisnis (JAB)*, 52(1), 173–182.
- Riahi-Belkaoui, A. (2003). Intellectual capital and firm performance of US multinational firms:A study of the resource-based and stakeholder views. *Journal of Intellectual Capital*, 4(2), 215–226. <https://doi.org/10.1108/14691930310472839>.
- Sakawa, H., Ubukata, M., & Watanabel, N. (2014). Market liquidity and bank-dominated corporate governance: Evidence from Japan. *International Review of Economics and Finance*, 31, 1–11. <https://doi.org/10.1016/j.iref.2013.11.005>.
- Sakawa, H., & Watanabel, N. (2020). Institutional Ownership and Firm Performance under Stakeholder-Oriented Corporate Governance. *Sustainability*, 12(1021).
- Sartono, A. (2010). *Manajemen Keuangan Teori dan Aplikasi* (p. Yogyakarta).
- Senan, N. A. M., Anagreh, S., Al-dalaien, B. O. A., Almugari, F., Khaled, A. S. D., & Al-homaidi, E. A. (2021). Working Capital Management and Banks ' Performance : Evidence from India. *Journal of Asian Finance, Economics and Business*, 8(6), 747–758. <https://doi.org/10.13106/jafeb.2021.vol8.no6.0747>.
- Seth, H., Chadha, S., & Sharma, S. (2019). Benchmarking the efficiency model for working capital management : data envelopment analysis approach. *International Journal of Productivity and Performance Management*, DOI 10.1108/IJPPM-10-2019-048. <https://doi.org/10.1108/IJPPM-10-2019-0484>.
- Setyabudi, T. (2021). The Effect of Institutional Ownership, Leverage, and Profitability on Firm Value with Dividend Policy as an Intervening Variable. *Journal of Business and Management Review*, 2(7), 457–469. <https://doi.org/10.47153/jbmr27.1632021>.
- Singh, R. D., & Narwal, K. P. (2015). Intellectual capital and its consequences on company performance: A study of Indian sectors. *International Journal of Learning and Intellectual Capital*, 12(3), 300–322. <https://doi.org/10.1504/IJLIC.2015.070169>.
- Singh, S., Sidhu, J., Joshi, M., & Kansal, M. (2016). Measuring intellectual capital performance of Indian banks: A public and private sector comparison. In *Managerial Finance* (Vol. 42, Issue 7). <https://doi.org/10.1108/MF-08-2014-0211>.
- Singla, H. K. (2020). Does VAIC affect the profitability and value of real estate and infrastructure firms in India ? A panel data investigation. *Journal of Intellectual Capital*, 21(3), 309–331. <https://doi.org/10.1108/JIC-03-2019-0053>.
- Soana, M. G., Barbieri, L., Lippi, A., & Rossi, S. (2021). The effect of multiple large shareholders on banks' profitability and risk. *Sustainability (Switzerland)*, 13(4), 1–15. <https://doi.org/10.3390/su13041888>.
- Sudarma, M. (2004). Pengaruh Struktur Kepemilikan saham, Faktor Intern, Faktor Ekstern terhadap Struktur Modal dan Nilai Perusahaan. *Disertasi Program Pasca Sarjana Universitas Brawijaya Malang*.

- Sudiyatno, B., Puspitasari, E., Suwarti, T., & Asyif, M. M. (2020). Determinants of Firm Value and Profitability: Evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 7(11), 769–778. <https://doi.org/10.13106/jafeb.2020.vol7.no11.769>.
- Sugosha, M. J., & Artini, L. G. S. (2020). The Role of Profitability in Mediating Company Ownership Structure and Size of Firm Value in the Pharmaceutical Industry on the Indonesia Stock Exchange. *International Research Journal of Management, IT & Social Sciences*, 7(1), 104–115.
- Sujoko. (2007). Pengaruh Struktur Kepemilikan, Strategi Diversifikasi, Terhadap Nilai Perusahaan (Studi Empirik Pada Perusahaan Manufaktur Dan Non Manufaktur Di Bursa Efek Jakarta). *Ekuitas*, 11(55), 236–254. <https://ejournal.stiesia.ac.id/ekuitas/article/view/317/298>.
- Tahu, G. P., & Susilo, D. D. B. (2017). Effect of Liquidity , Leverage and Profitability to The Firm Value (Dividend Policy as Moderating Variable) in Manufacturing Company of Indonesia Stock Exchange. *Research Journal of Finance and Accounting*, 8(18), 89–98.
- Thanatawee, Y. (2014). Institutional Ownership and Firm Value in Thailand. *Asian Journal of Business and Accounting*, 7(2), 1–22.
- Ujah, N. U., Tarkom, A., & Okafor, C. E. (2020). Working capital management and managerial talent. *International Journal of Managerial Finance*, 17(3), 455–477. <https://doi.org/10.1108/IJMF-12-2019-0481>.
- Ulum, I. (2014). Intellectual Capital Performance of Indonesian Banking Sector : A Modified VAIC (M-VAIC) Perspective. *Asian Journal of Finance & Accounting*, 6(2). <https://doi.org/10.5296/ajfa.v6i2.5246>.
- Wasiuzzaman, S. (2016). Working capital and firm value in an emerging market. *International Journal of Managerial Finance*, 11(1), 60–79. <https://doi.org/10.1108/IJMF-01-2013-0016>.
- Yustyarani, W., & Yuliana, I. (2020). Influence Of Intellectual Capital, Income Diversification on Firm Value Of Companies With Profitability Mediation: Indonesian Banking. *Jurnal Dinamika Akuntansi*, 12(1), 77–89.