

***The Interplay of Intellectual Capital
And Earnings Management on Corporate Valuation:
Insights From Financial Services Companies***

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Abstrak

Persaingan bisnis di sektor jasa keuangan yang kian kompetitif mendorong perusahaan untuk menerapkan strategi inovatif guna meningkatkan nilai perusahaannya. Dalam konteks tersebut, aset tak berwujud seperti modal intelektual dan praktik pelaporan keuangan seperti manajemen laba semakin diperhatikan sebagai upaya menciptakan keunggulan kompetitif. Penelitian ini menginvestigasi pengaruh kinerja modal intelektual dan manajemen laba terhadap valuasi perusahaan pada perusahaan jasa keuangan yang terdaftar di Bursa Efek Indonesia. Penelitian ini juga mengidentifikasi komponen modal intelektual (manusia, struktural, atau relasional) yang paling berkontribusi dalam meningkatkan nilai perusahaan. Dari total populasi, sampel sebanyak 69 perusahaan yang memenuhi kriteria selective sampling dipilih untuk pengujian. Regresi data panel digunakan untuk menganalisis data penelitian. Penelitian ini menemukan bahwa modal intelektual berkontribusi secara signifikan dan positif terhadap peningkatan nilai perusahaan. Kontribusi paling dominan berasal dari komponen modal manusia dan relasional, sementara modal struktural tidak menunjukkan pengaruh yang signifikan. Kondisi ini dinilai baik, meskipun belum ideal. Sebaliknya, manajemen laba tidak memiliki pengaruh yang signifikan secara statistik terhadap nilai perusahaan. Hasil tersebut mengindikasikan bahwa modal intelektual berperan sebagai faktor utama dalam meningkatkan nilai perusahaan, sementara praktik manajemen laba tidak dapat dianggap sebagai strategi yang efisien dalam upaya peningkatan nilai perusahaan dalam konteks penelitian ini.

Kata kunci: Modal Intelektual, Manajemen Laba, Valuasi Perusahaan, Nilai Perusahaan, Perusahaan Sektor Jasa Keuangan

Abstract

Rising competition in the financial services industry is becoming more fierce, leading firms to explore innovative strategies to improve their market valuation. Within this context, intangible assets like intellectual capital and financial reporting methods such as earnings management have garnered more focus. This study investigates how intellectual capital performance and earnings management affect the corporate valuation, as proxied by Tobin's Q, in the financial services companies listed on the IDX. It also identifies which elements of intellectual capital most significantly enhance the valuation. Out of the complete

Submitted:
30 May 2025

Accepted:
31 Jul 2025

Published:
31 Jul 2025

population, a sample of 69 companies was selected annually that fulfilled the criteria for selective sampling and further examined using panel data analysis. The results indicate intellectual capital positively influences firm value in a significant manner. The significant contributions arise primarily from the capital aspects of human and relational resources, whereas the structural component does not significantly impact firm value. This situation is regarded as favorable, though it is not yet optimal. In contrast, earnings management shows no statistically significant impact on firm value. These findings suggest that intellectual capital is a key value driver, whereas earnings management is not a reliable strategy for enhancing firm value in the context examined.

Keywords: Intellectual Capital, Earnings Management, Corporate Valuation, Firm Value, Financial Services Companies

INTRODUCTION

Companies within the financial services sector are essential for promoting a stable financial system, as their ongoing growth facilitates the efficient absorption, distribution, and productive utilization of funds that aid the advancement of the real sector (Ciola, 2020; Korneev et al., 2023). The dynamics of this sector are influenced by two main factors, they are external aspects, such as rapid financial digitalization, government monetary policies, and national, regional, and global economic conditions, and internal aspects, including performance quality, professionalism, strategic implementation, productivity, and market-based firm performance (Grechyna, 2018; Mavlutova et al., 2020; Piobbici et al., 2019; Vasilyeva et al., 2021).

As modern business entities with a service-oriented focus, financial service firms must also respond to these internal and external challenging aspects by strengthening their intangible assets. By strengthening their competitive positioning requires leveraging intellectual capital (IC) to enhance value creation efficiency. This, in turn, facilitates the delivery of superior services that can improve customer loyalty and expand the customer base (Ali et al., 2021; Mohammad & Bujang, 2019). There is growing evidence that the rise of the information age has shifted investment patterns away from tangible assets toward intangible ones, also referred to as knowledge capital (Londar et al., 2020; Todericiu, 2021). The growing importance of intangible investments includes expertise in human capital, product branding, business process improvements, R&D, databases, and more (Piekkola, 2024). Notably, these assets are considered distinctive resources that competitors find challenging to imitate as their own.

Companies' capacity to develop competitive edges from these resources relies on innovation and the efficient utilization of contemporary information technology (Valdez-Juárez & Castillo-Vergara, 2021). To increase their overall firm valuation, companies must harness the full potential of IC. As an intangible asset, IC is often absent from financial position statements, making its measurement vital for understanding its contribution to corporate growth (Krstić & Bonić, 2016). Despite its importance, study on IC measurement in Indonesia remains scarce, particularly with respect to universally accepted standards or metrics (Cosa et al., 2023). IC, which includes of the three capital components: structural, relational, and human, is essential in increasing a firm's value in the current competitive business landscape (Sucena et al., 2022).

According to Luh (2025) the efficient use of IC is anticipated to enhance the value of the company, which is evident in its share price. Firm value is defined as the amount a purchaser is prepared to pay if the business were to be sold, including nominal, intrinsic, book, and liquidation values, ultimately represented as market value (Mellen & Evans, 2018). While IC is widely believed to enhance overall firm valuation, empirical evidence is mixed. Choo et al. (2023), discovered a notable positive influence of IC towards the market value of companies located in New Zealand. Several studies have consistently shown that human capital has a positive impact on the company valuation (Ibrahim Mustafa et al., 2024; Mukaro et al., 2023; Skvortsova & Sidelnikova, 2020).

In contrast, Ge & Xu (2021) indicated a negative impact of IC on market value in the pharmaceutical industry. Certain components such as structural capital efficiency, can negatively impact specific performance metrics under certain conditions, such as the economic environment, industry sector, and political connections (Mahardhika et al., 2024; Nhon et al., 2020; Zhang et al., 2021). Additionally, some studies have found insignificant relationships between certain components of IC and firm valuation due to the counterproductive aspect of human capital into structural capital for certain types of highly tacit and intuitive knowledge (Bilgin, 2021; Weqar et al., 2021) As far as the author is aware, there is a scarcity of empirical research concentrating on the connection between IC performance and the valuation of firms, specifically within financial services companies that are listed on the IDX. Most studies have been conducted using companies from the non-financial sector.

In addition to gaining a competitive edge, companies simultaneously strive to enhance their value by attaining high-quality earnings. Managers aim to meet profitability targets, making earnings quality vital for presenting financial information that supports sound economic and investment decisions (Hong & Linh, 2020). Nevertheless, actual management practices often fall short of this ideal. When profit targets are not achieved, managers may take advantage of their usage of discretion permitted by accounting standards to display adjusted earnings figures (Jaggi et al., 2022).

By adjusting earnings figures, or commonly known as earnings management (EM), refers to managerial practices that adjust reported earnings to stabilize profitability, thereby maintaining stable overall firm valuation (Giordino, 2023). Similarly, Jamadar et al. (2022) describe EM as the deliberate adjustment of profits within accepted accounting principles to meet desired reporting outcomes. Although EM aims to provide advantages, the presentation of earnings data in financial statements fails to accurately represent the actual financial condition of the company (Burlacu et al., 2024).

As a result, EM can influence firm value in both beneficial and detrimental ways, depending on the circumstances. Jiraporn et al. (2008), in a study carried out in the United States setting revealed that EM has a considerable positive impact on a firm's value. This is the same with a study conducted by Kustono (2021) in corporate social responsibility context. In specific contexts, the market tends to reward companies that meet analysts' expectations or beat the overall earnings forecasts, even if earnings management is involved (Byun & Roland-Luttecke, 2014; Jarne Jarne & Callao Gastón, 2021).

One the other hand, Tangjitprom (2013), whose study also focused on the U.S., showed a notable inverse correlation between EM and the value of the firm. Meanwhile, in the Asian region, other studies using discretionary accruals as a measure of earnings management have also found a significant negative association with firm value (Nguyen et al., 2025; Yu et al., 2023). There is

also a study which found that in a company where earnings management is not perceived as opportunistic or manipulative, it may not significantly affect firm value (Tulcanaza-Prieto & Lee, 2022b). In the Indonesian setting, study that specifically investigates the impact of EM on the value of publicly listed financial services firms is relatively limited.

This study differs from prior studies in two key aspects. First, it looks into the connections among IC, EM, and overall firm valuation using a comprehensive analytical framework. Second, it focuses on companies in the financial services sector. The selection of the financial services sector is based on its strategic role in the dynamics of the national economy, in accordance with the Financial Services Authority's (OJK) Master Plan for the Indonesian Financial Services Sector covering the years 2021 to 2025 (Otoritas Jasa Keuangan, 2020), which emphasizes the strengthening of governance, risk management, and compliance to enhance the sector's resilience and competitiveness. Furthermore, given the limited empirical evidence in Indonesia's financial services sector, This research seeks to address that gap in existing literature by offering insights to inform the strategic use of IC and EM in financial service sectors.

LITERATURE REVIEW

This study adopts agency theory as the foundation for developing its theoretical propositions. In accounting literature, agency theory started to become significant in the 1970s, largely due to the contributions of Jensen and Meckling. The theory describes about the contractual arrangement between principals and agents, with the common objective of increasing the company's value. In a business setting, the agents can evolve into shareholders, while agents can also function as managers. While their roles differ, both parties fundamentally aim to promote corporate growth to maximize their respective welfare (Gray et al., 1997; Li, 2021). Jensen and Meckling (Jensen & Meckling, 1976) elaborated that the contract, which outlines the nature and process of control or power transfer from principals to agents, highlights the importance of a cooperative relationship supported by symmetrical information. Such alignment accelerates the realization of corporate objectives.

Nurrahmawati et al. (2024) noted that the components of IC includes of human capital (employee knowledge and expertise), relational capital (knowledge facilitating the formation and maintenance of external relationships), and structural capital (knowledge embedded in the company's organizational systems and processes). These elements collectively form a company's strategic resources, integrating intelligence and expertise, essential for improving performance and profitability, and consequently, company's worth.

The significance of cultivating a positive relationship between shareholders and management emphasizes IC as a strategic asset to boost company value. As both parties share the objective of corporate success, the contract can only function optimally when fairness and transparency guide their interactions. This shared focus enables them to address external challenges, such as industry competition, policy shifts, and strategic positioning, cooperatively, with the ultimate goal of value creation (Baiman et al., 2010; Gao-Liang et al., 2019). Empirical evidence on the role of IC in creating the value of firm can be found in prior studies (Bala et al., 2021; Choo et al., 2023; Del Giudice & De Paola, 2017; Ulum, 2017; Ulum et al., 2014, 2017)

Agency theory also addresses the risks inherent in the delegation of authority, particularly when managers pursue interests that diverge from those of shareholders. Managers, with access to more detailed and timely information about the company, can exploit this asymmetry by

concealing information or distorting it to serve their own interests. One example is the manipulation of profitability metrics, where managers may portray the achievement of performance targets that, in reality, were unmet (Eisenhardt, 1989; Makhlouf et al., 2022).

Jensen and Meckling (1976) argued that such information asymmetry gives rise to two forms of conflict: between shareholders and management, and between debt holders and equity holders. These conflicts result in agency costs, such as the cost of monitoring and aligning interests, and may manifest in behaviors like adverse selection and moral hazard.

EM refers to the deliberate adjustment of financial reports by managers, and while it is theoretically acceptable under positive accounting theory, it often serves the managers' self-interest. Typically conducted without shareholder awareness, this practice may aim to present a favorable performance signal even if it misrepresents actual financial conditions (Dimitrov & Jain, 2011; Roychowdhury, 2006). Such asymmetry allows managers to influence stakeholders' perceptions, despite the discrepancy between reported and real performance.

While EM may be motivated by the intent to benefit the firm, it inherently involves the manipulation of accounting data and does not always reflect economic reality. Its impact on overall firm valuation is context-dependent, varying by location, period, and other dynamic factors. Prior study has shown inconsistent results: some find a positive effect (Jiraporn et al., 2008; Kustono, 2021), others a negative effect (Nguyen et al., 2025; Tangjitprom, 2013; Yu et al., 2023), and some no effect at all (Malahim et al., 2022; Tulcanaza-Prieto & Lee, 2022a). These relationships are illustrated in Figure 1.

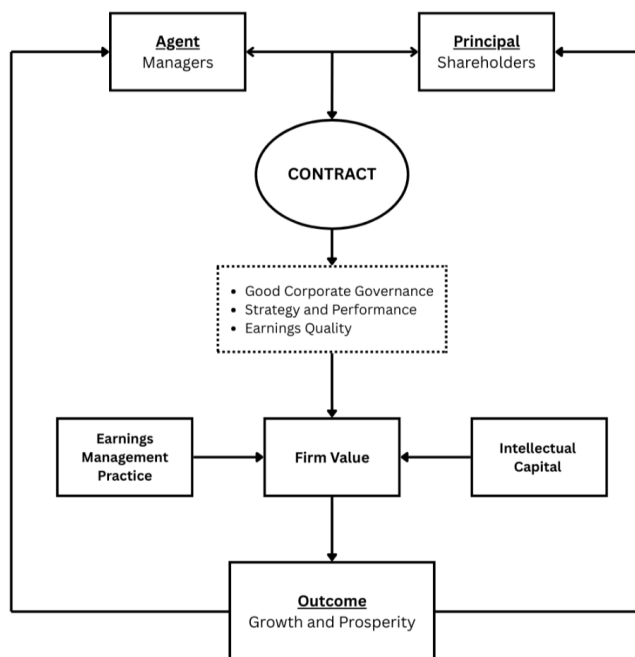


Figure 1. The Interplay among Intellectual Capital, Earnings Management, and Overall Firm Valuation
Source: Author's own work

The theoretical foundation derived from agency theory is illustrated in Figure 1. It presents both a model where IC positively influences firm value under symmetrical information between managers and shareholders, and a model where EM relates to firm value under conditions of information asymmetry.

Preventing and mitigating information asymmetry is essential. This can be achieved through enhanced oversight by the board of commissioners and by adopting robust corporate governance principles, which encompass transparency, accountability, and commitment to all stakeholders encompassing management, shareholders, employees, creditors, and others.

Consistent with prior studies and agency theory, effective IC management, encompassing relational, human, and structural capital, is a strategic resource that can predictably enhance firm value and attract investor interest (Kelchevskaya et al., 2021). The ICs owned by companies are also demonstrated through the reliability of their financial statements, which satisfy the information requirements of investors and are well-received by the market, leading to increased firm value (Ni et al., 2020; Whiting & Miller, 2008). This leads to the formulation of Hypothesis 1: IC positively influences the value of a firm.

In accordance to agency theory and empirical findings on the direct effects of EM, Salehi et al. (2018) explained that a consistent upward trend in profits signals strong company performance and boosts investor demand for the firm's stock. However, when profitability targets are difficult to meet, managers may resort to EM to achieve desired outcomes. EM can be opportunistic (manager-focused) or efficient (firm-focused) (Rudiawarni & Budianto, 2022; Sudheesh & Nidheesh, 2021).

Although it may be intended to serve the company, EM involves presenting financial results that deviate from the company's actual performance, thereby creating temporary distortions in reported earnings. Over time, financial reports affected by EM must be reconciled with real financial conditions (Jamadar et al., 2022; Ronen, 2016). Despite any short-term benefits, the practice involves presenting financial information that misrepresents reality (Nurjanati & Rodoni, 2016).

This leads to the formulation of Hypothesis 2: EM has no implication on the value of firm. These hypotheses are represented in Figure 2.

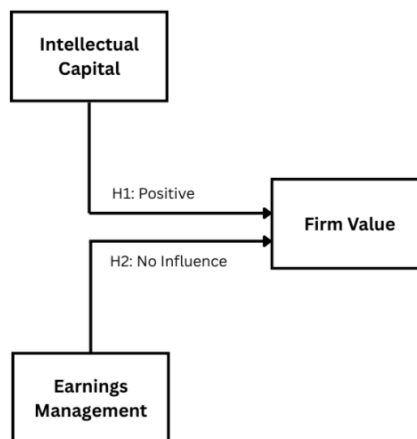


Figure 2. The Interrelationship Among Research Variables
Source: Author's own work

Figure 2 depicts two relationship models: (1) The value of a firm is positively influenced by its IC, and (2) EM has no effect on firm value. To enhance the model's explanatory power, variables such as return on equity (ROE), return on asset (ROA), asset turnover (AT), leverage (LVG), along with firm size are included to control the model.

METHOD

The study's population comprises financial sector companies publicly traded on the IDX between 2020 and 2024. The focus on the 2020 to 2024 period is deliberate, as it encompasses the important years of the OJK Master Plan for the Indonesian Financial Services Sector, which was implemented from 2021 to 2025. The method of sampling used in this study is purposive sampling, adhering to the criteria for inclusion as follows: (1) Businesses are required to release their audited financial reports by the conclusion of each fiscal year; (2) companies must be continuously listed on the IDX throughout the observed period; (3) companies must meet both criteria (1) and (2), and (4) companies must disclose the data required to operationalize the variables. Using these criteria, 70 companies each year were pinpointed and incorporated into the analysis.

This study explores how two response factors, IC performance and EM, impact the explanatory variable, firm value. IC performance is quantified through the Modified VAIC or MVAIC, whereas EM is represented by discretionary accruals (DAC). The assessment of firm value is conducted using the Tobin's Q (Q) ratio.

The initial response variable, IC performance, is evaluated through MVAIC. This indicator provides a financial assessment of the elements of IC derived from a company's financial statements. MVAIC is an enhanced version of the VAIC model developed by Pulic (2000), modified to include relational capital, which was not part of the original model (Ulum, 2017; Ulum et al., 2014, 2017). This adjustment corresponds with the definition provided by The CIMA (Chartered Institute of Management Accountants) (Starovic & Marr, 2005), which characterizes IC as consisting of three capitals including human, structural, and relational.

The MVAIC is computed through a series of six essential steps. It starts by calculating the value added (VA), which is the total of operating profit, employee expenses, depreciation, and amortization. The next step involves determining capital employed efficiency (CE) by dividing VA by the capital employed, reflecting how efficiently both physical and financial resources are utilized. Following this, human capital efficiency (HC) is calculated as the ratio of VA to human capital, which is represented by employee costs. Structural capital efficiency (SC) is derived by dividing structural capital by VA, showcasing the role of organizational infrastructure. Likewise, the efficiency of relational capital (RC), which is based on marketing expenditures, is calculated as the ratio of relational capital to VA to evaluate the value generated from external partnerships. The final MVAIC score aggregates CE, HC, SC, and RC into a single measure.

The second response variable, EM, is assessed using discretionary accruals (DAC), which represent managerial discretion in financial reporting through accrual-based adjustments (Enomoto et al., 2015). This study employs the modified Jones model, incorporating changes in revenue, accounts receivable, and PPE to estimate DAC (Dechow et al., 1996; Dechow & Dichev, 2002). The process begins by calculating total accruals (TAC) as the difference between net income and operating cash flows. Next, an Ordinary Least Squares (OLS) regression estimates expected accruals, using total assets, changes in revenue, and fixed assets as predictors. Based on this, nondiscretionary accruals (NDA) are determined by adjusting revenue changes for accounts receivable, isolating the portion of accruals not influenced by managerial discretion. Finally, DAC is derived by subtracting NDA from scaled total accruals. This approach allows for quantifying the extent of EM by separating discretionary and nondiscretionary components of accruals.

Finally, the explanatory variable representing corporate valuation is assessed using Tobin's Q (Q), a market-based firm value approach, a metric that contrasts a company's market value against the cost of replacing its assets (Tobin, 1969). It is widely used as an indicator of market performance and investment potential [53]. Tobin's Q is calculated by adding the market value of equity (MVE) to total debt (DEBT), and then dividing the result by total assets (TA). To isolate the effects of the response variables, several control variables are included comprise of return on assets (Fatima et al., 2023), leverage (Kodongo et al., 2015), asset turnover (Harahap et al., 2020), firm size (Dang et al., 2020), and return on equity (Badruzaman et al., 2022).

This study utilizes a quantitative methodology that incorporates multiple linear regression to evaluate the hypotheses. The analysis is conducted on panel data, which merges time-series and cross-sectional information, utilizing EViews 13. As noted by Baltagi (2005), panel data increases variability, mitigates multicollinearity, and improves the precision of econometric estimations. The selection of the model is determined through the Chow and Hausman tests to identify the most suitable model among the common effect, fixed effect, and random effect approaches.

The primary regression model is intended for the first hypothesis, which aims to investigate the impact of intellectual capital effectiveness toward the firm value. Furthermore, it is crucial to uncover which MVAIC's capitals have the greatest impact on Q. Thus, the first hypothesis will be split into two regression models, as follows.

$$Q_{it} = \alpha + \beta_1 MVAIC_{it} + \beta_2 FS_{it} + \beta_3 LVG_{it} + \beta_4 ROE_{it} + \beta_5 ROA_{it} + \beta_6 AT_{it} + \epsilon \quad (1A)$$

$$Q_{it} = \alpha + \beta_1 CE_{it} + \beta_2 HC_{it} + \beta_3 SC_{it} + \beta_4 RC_{it} + \beta_5 FS_{it} + \beta_6 LVG_{it} + \beta_7 ROE_{it} + \beta_8 ROA_{it} + \beta_9 AT_{it} + \epsilon \quad (1B)$$

To test the second hypothesis, a second regression equation was developed to explore the association between EM and firm value. The model is composed in the following manner.

$$Q_{it} = \alpha + \beta_1 DAC_{it} + \beta_2 LVG_{it} + \beta_3 FS_{it} + \beta_4 ROA_{it} + \beta_5 ROE_{it} + \beta_6 AT_{it} + \epsilon \quad (2)$$

RESULTS AND DISCUSSION

This study employs descriptive statistics to systematically and thoroughly detail the features of the data, facilitating precise interpretation. Table 1 presented the descriptive data analytics for the five consecutive years spanning from 2020 to 2024.

Table 1. Descriptive Data Analytics

Variables	Average	Median	Maximum	Minimum	Standard Deviation
Q	1.9478	1.7801	18.6234	0.0148	1.6923
CE	0.4781	0.4256	1.9345	-1.1321	0.3789
HC	4.5342	4.2345	19.2345	-6.0123	3.1678
SC	0.7156	0.7378	6.9234	-4.2345	0.6823
RC	0.0632	0.0192	1.9123	-1.0678	0.2478
MVAIC	5.7912	5.4567	21.4567	-5.9123	3.4789

DAC	-0.0865	-0.0016	0.9234	-3.7890	0.4389
FS	30.5678	30.4345	35.2345	25.0987	2.2456
LVG	1.1321	0.5156	7.9345	0.0002	1.5123
ROE	0.0402	0.0623	0.3678	-1.4678	0.1945
ROA	0.0156	0.0123	0.1678	-0.1245	0.0381
AT	0.1434	0.1034	0.6345	-0.0356	0.1245

Source: Primary Data (2025)

Table 1 displays the descriptive statistics for the variables in this study. The average firm value (Q) over the five periods is 1.9478. A Q ratio exceeding one indicates that the stocks owned by companies are considered overvalued, trading at a premium compared to the replacement cost of its assets, which can encourage new investments (Sudiyatno & Puspitasari, 2010). Since the average Q ratio exceeds 1 that the majority of financial services firms registered on the IDX demonstrate significant market value. Although the COVID-19 pandemic considerably slowed the financial performance of financial service firms, its overall effect up to 2024 was not substantial.

Organizations that achieve an MVAIC score higher than 3.5 can be classified as high achievers (Ulum et al., 2014). According to the five-year average MVAIC score of 5.7912, the financial services companies examined in this study are recognized as top performers. Additionally, the study disaggregates MVAIC into four components: human capital efficiency (HC), capital employed efficiency (CE), structural capital efficiency (SC), and relational capital efficiency (RC), for more granular analysis.

Over the five-year period, the discretionary accruals (DAC) ranged from a minimum of -3.7890 to a maximum of 0.9234. A positive DAC suggests upward EM, profits previously deferred are recognized in the current period, often to reduce tax liability. Conversely, a negative DAC indicates downward EM, in which firms delay income recognition or accelerate expense recognition, reflecting a conservative accounting approach to reduce reported profits.

To determine the appropriate panel data regression model, a series of tests was conducted beginning with the Chow test. A significant F-probability value (below 5%) leads to the rejection of the null hypothesis, suggesting that the Fixed Effect Model (FEM) is the appropriate model. Otherwise, the Common Effect Model (CEM) is preferred. The findings for the three regression models, which include the performance of IC, EM and the the value of firms, along with the control variables.

Table 2. Chow Test Outcome

Models	Test of Effects	Statistics	df	Results
1A	F-test for cross-sectional effects	9.912**	(69,274)	FEM
	Chi-square test for cross-sectional effects	418.567**	69	
1B	F-test for cross-sectional effects	10.512**	(69,271)	
	Chi-square test for cross-sectional effects	434.789**	69	
2	F-test for cross-sectional effects	9.467**	(69,274)	
	Chi-square test for cross-sectional effects	408.912**	69	

Source: Primary Data (2025)

As illustrated in Table 2, the null hypothesis is dismissed, indicating that the FEM is the most appropriate method. Nonetheless, to confirm this choice, a comparison between the FEM and the

Random Effect Model (REM) needs to be performed through the Hausman test. In the Hausman test, if the p-value is lower than 0.05, the null hypothesis is rejected, supporting the FEM. Conversely, if the p-value is higher than 0.05, the null hypothesis is accepted, suggesting that the REM is more suitable. Table 3 displays the results of the test.

Table 3. Hausman Test Outcome

Models	Test of Effects	Statistics	df	Results
1A	Random effects (cross-sectional dimension)	9.234	6	REM
1B		14.789	9	
2		9.012	6	

Source: Primary Data (2025)

Based on Table 3, all three regression models show p-values greater than 0.05, indicating that the null hypothesis can be accepted. As a result, the subsequent step involves performing the Lagrange Multiplier (LM) test to ascertain whether the REM or the CEM is more suitable. The LM test is utilized to differentiate between the REM and the CEM. Should the chi-square p-value fall below 0.05, the null hypothesis will be rejected in favor of the REM; otherwise, the CEM will be favored. Table 4 provides a summary of the LM test findings.

Table 4. Lagrange Multiplier Test Outcome

Models	Test of Effects	Statistics	Results
1A	One-sided test (entity effects)	192.345**	REM
	One-sided test (time effects)	0.1045	
	Two-way effects test	192.450**	
1B	One-sided test (entity effects)	191.876**	
	One-sided test (time effects)	0.1692	
	Two-way effects test	192.045**	
2	One-sided test (entity effects)	188.567**	
	One-sided test (time effects)	0.0045	
	Two-way effects test	188.572**	

Source: Primary Data (2025)

According to Table 4, the decision is to reject null hypothesis. Consequently, the REM is deemed as the appropriate estimation technique from all of the regression models.

Table 5 presents the regression results for Models 1A and 1B using the REM. The F-statistic is significant, confirming that the model specification is more suitable.

Table 5. Outcome of Panel Data Analysis for Model 1A and Model 1B

Models	Variables	Coefficient	t-Statistics
1A	Constant	2.9654	1.1432
	MVAIC	0.1167	3.0456**

	FS	-0.0443	-0.5321
	LVG	-0.0017	-0.0209
	ROE	-2.8345	-4.1567**
	ROA	25.3456	5.4876**
	AT	25.3456	-1.9987
	Constant	0.7321	0.2812
	CE	-0.1078	-0.3178
	HC	0.1201	2.7345**
	SC	0.1745	1.3567
1B	RC	2.3678	4.9456**
	FS	0.0218	0.2512
	LVG	0.0378	0.4234
	ROE	-3.2789	-4.8567**
	ROA	29.3456	6.4456**
	AT	-3.2567	-2.1789**
	R ² :	1A= 0.145	1B= 0.221
	F-Statistics:	1B= 7.234**	1B= 8.012**

Source: Primary Data (2025)

Model 1A investigates the direct effect of the performance of IC or MVAIC on firm value, with the control variables. The t-statistic of 3.0456 and a significance level below 0.05 indicate a significant positive relationship between IC performance and firm value. Therefore, H1 is accepted.

Model 1B further examines which components of MVAIC most significantly influence firm value. The t-statistics for CE, HC, SC, and RC are -0.3178, 2.7345, 1.3567, and 4.9456, respectively. Among these, HC and RC have p-values below 0.05, indicating that they significantly and positively influence firm value. In contrast, CE and SC have no significant effect. The findings imply that both HC and RC are the main contributors to firm value within the IC model. The R² statistics demonstrate that the response variables account for 14.5% of the variation in firm value in Model 1A and 22.1% in Model 1B.

Table 6 presents the regression results for Model 2, which assesses the impact of EM on firm value. As with the previous models, the F-statistic confirms the appropriateness of the regression model.

Table 6. Outcome of Panel Data Regression for Model 2

Model	Variables	Coefficient	t-Statistics
	Constant	1.8123	0.7056
	DAC	0.1345	1.2987
	FS	0.0065	0.0765
2	LVG	0.0027	0.0289
	ROE	-2.7567	-3.9345**
	ROA	26.1234	5.5345**
	AT	-2.0345	-1.4012
	R ² = 0.119		
	F-Statistics= 5.789**		

Source: Primary Data (2025)

According to Table 6, the p-value for the EM variable exceeds 0.05, and the t-statistic is 1.2987. This indicates that EM has no statistically significant effect on firm value, thus H2 is accepted. The R² value shows that the model explains 11.9% of the variance in firm value.

Developing Human Resource Capital to Enhance IC

The outcomes shown in Table 5 indicate that the performance of IC has a notable and positive impact on the value of a firm. This conclusion is consistent with earlier study (Bala et al., 2021; Choo et al., 2023), which all present comparable findings. These results reinforce the notion that IC plays a crucial role in enhancing firm value. Additionally, the use of MVAIC, is supported by earlier findings (Diyanty et al., 2019; Fikri & Adhariani, 2019; Ulum, 2017; Ulum et al., 2017), which show that MVAIC significantly enhances financial performance.

This outcome corresponds with the theory of agency, which emphasizing the professional contractual relationship between shareholders and managers, grounded in good corporate governance and symmetrical information, fosters mutual benefit. Optimal management of IC also fosters this concept by synchronizing the goals of both sides and improving the value of the firm.

These results further support the previous claim that effectively managing a company's IC as a means of competitive advantage greatly enhances the value of the firm, which is frequently demonstrated by an increase in share prices (Riahi-Belkaoui, 2003; Siswanto, 2021; Yamola et al., 2013). Furthermore, it's recognized that a company's competitive strength does not solely depend on human resources capable of innovation and system development but also on its ability to manage an efficient organizational system (Chuang et al., 2015; Enjang Sudarman, 2024). The growing emphasis on IC for improving operational efficiency can be broadly categorized into three main categories: employees, innovation, and customers. Employee-related information includes intelligence, skills, and compensation; innovation focuses on study utilization and product development; while customer-related information encompasses brand equity, satisfaction levels, and service reliability. These findings underscore the critical role of human and relational capital in attracting investors and enhancing firm value.

IC comprises three interconnected elements. While these elements of IC can be identified separately, they are intertwined and enhance each other's roles. Human capital is particularly crucial, as the advancement of structural and relational capital largely relies on the capabilities of the workforce. For example, the level of customer service is directly influenced by the skills and knowledge of a company's employees.

The findings from the initial hypothesis test indicate that IC has the potential to improve a firm's value, with human capital and relational capital having the greatest impact, whereas structural capital does not contribute significantly. This suggests that an optimal firm, in terms of effectively utilizing IC to boost value, would be one where all three elements play equal roles.

Firm value can be sustained or improved when balanced contributions exist among: 1) human capital, as the team of experts who produce high-quality outputs, 2) Structural capital arises from the knowledge and creativity of employees being transformed into efficient processes and organizational systems, and 3) relational capital, as external relationship-building mechanisms such as communication systems and customer/supplier engagement. In the early stages, companies should prioritize strengthening human capital, as it serves as the foundation for developing both structural and relational capital. As a result, the financial sector firms

examined in this study have not attained the optimal condition, but they are making progress in the right direction, since human capital is already acting as a fundamental force for improving structural capital.

EM is Not The Suitable Tool for Enhancing Firm Valuation

According to Table 6, EM displays a negligible positive impact, suggesting that it does not significantly affect firm value. The results align with the study conducted by Tulcanaza and Lee (2022), who also reported an insignificant and negative effect of EM on firm value. This contradicts previous studies by Jiraporn et al. (2008) and Kustono (2021) who found a significantly positive effect, and other studies which reported a significant negative impact (Nguyen et al., 2025; Tangjitprom, 2013; Yu et al., 2023).

EM is typically employed by managers to adjust financial reports when actual profits fall short of targets, usually for the benefit of the company (Akiba et al., 2016). However, such practices are often undertaken without full disclosure to shareholders. In accordance with agency theory, this reflects information asymmetry, where managers were armed with more comprehensive company knowledge, act independently of shareholder consent. Specifically, when managers fail to meet expected profit levels, they may exploit the flexibility within accounting standards to modify reported earnings (Makhlouf et al., 2022).

Based on this study's findings, we argue that while EM may serve a positive, strategic purpose in maintaining profitability, the resulting financial information does not accurately reflect actual performance. Consequently, EM does not serve as a reliable instrument for increasing firm value and may, in fact, reduce it. While it may be useful in addressing short-term financial challenges, its overall efficacy as a tool to sustainably enhance firm value is limited.

The finding that EM does not significantly influence firm value suggests that, even when conducted within the parameters of accepted accounting standards in publicly listed financial institutions, it falls short of achieving its intended objective of value enhancement. Theoretically, EM can either increase, decrease, or exert no influence on firm value, as illustrated in Figure 3.

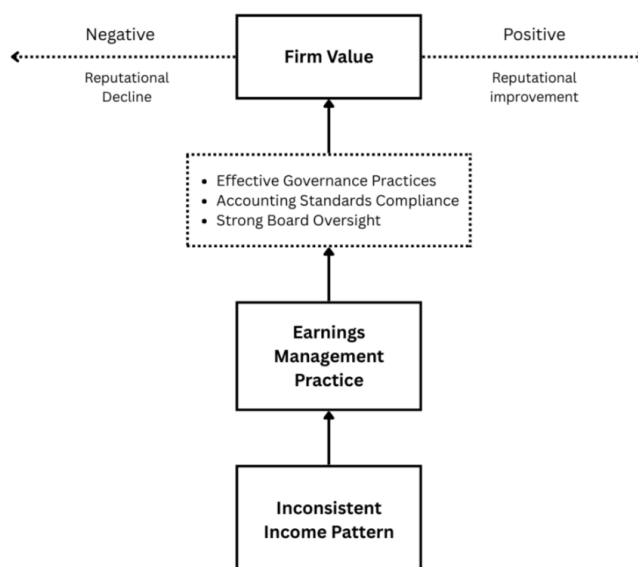


Figure 3. The Potential Impact of Earnings Management on The Value of Firms
Source: Author's own work

Figure 3 depicts EM as a legally acceptable practice facilitated by the flexibility of accounting. It is designed to mitigate performance shortfalls and potentially preserve or increase firm value. When implemented in accordance with applicable accounting standards, governed by sound corporate governance principles, and subject to oversight by the board of commissioners, EM is fundamentally distinct from earnings manipulation, which constitutes fraudulent behavior (Beneish, 2016; Beneish et al., 2013).

Accordingly, study on the impact of EM on firm value may yield divergent results depending on contextual variables such as geographic location, time period, and industry characteristics. In this study, EM demonstrated no significant effect on firm value. Nevertheless, this does not suggest that the practice is entirely without merit. Although EM may be undertaken with constructive intent, it must be exercised cautiously, selectively, and on a limited basis. If applied repeatedly, particularly following initial success, it risks evolving into fraudulent conduct with potentially detrimental consequences for the firm and its stakeholders.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The findings from the preliminary regression analysis indicate that IC plays a crucial role in increasing the value of companies in the financial services industry that are listed on the IDX between 2015 and 2018. In the elements of intellectual capital, human capital and relational capital play a more significant role in enhancing firm value than structural capital. The results are seen as positive, yet not quite ideal, since only two of the three factors demonstrate a notable effect. This suggests that the overall effectiveness of IC has not yet achieved its maximum potential. In the second regression analysis, it was determined that EM does not significantly affect firm value, neither in a positive nor a negative way. Consequently, it may not be an effective strategy for improving firm value.

The limitations recognized after analyzing and interpreting the data in this research. First, this study considers only two factors, IC and EM, while other factors might also affect firm value. Second, the analysis is confined to the financial services industry from 2015 to 2018, which limits the relevance of the results to other sectors. It would be valuable for other studies to examine the impact of extraordinary events such as the pandemic or monetary crisis, on the stability of IC and the extent of EM practice, either during such periods or through comparative analyses across different time frames.

Suggestion

Considering the conclusions and constraints mentioned earlier, the following recommendations are suggested. Firstly, company leaders should focus on optimizing IC by recruiting individuals with notable personal skills, refining work processes, and improving product marketing networks to boost company performance and value. EM should be approached with care, utilized only in a limited and infrequent basis. Secondly, investors should be careful in assessing the essence of financial statements prior to making investment choices. Lastly, OJK should take steps to enhance regulatory frameworks for publicly traded companies to guarantee the provision of detailed and systematic financial disclosures.

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