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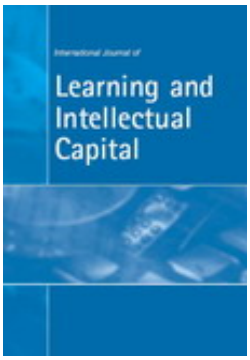

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Does managerial ability play a role in increasing the value relevance of intellectual capital?

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Abstract: This study aims to examine the value relevance of intellectual capital (IC) and role of managerial ability increasing the value relevance of IC. This study uses 640 observations from 128 manufacturing companies listed on the Indonesia Stock Exchange in the period of 2016 to 2020. The sub-categories of IC used are human capital, relational capital, process capital and innovation capital. Value relevance refers to Ohlson's (1995) model. The findings of this study suggest that only process capital has value relevance. It also finds that managerial ability only plays a role in strengthening the relationship between human capital and firm value. On the other hand, it plays a less role in other IC sub-categories.

Keywords: intellectual capital; firm value; managerial ability; market value.

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1 Introduction

From an accounting perspective, employee expenses are significant for predicting future company performance (Schiemann and Guenther, 2013). The expenditures intended for employee development and the resulting performance are not just expenses but can be used as an investment if there are benefits generated in the future. One of the organisational success factors is intellectual capital (IC) which many researchers use resource-based theory and knowledge-based theory as the root of IC research (Khalique et al., 2013). In the last two decades, there have been at least three approaches that focus on strategies to increase competitive advantage, including industrial organisation (Porter, 1981), resource-based value (Barney, 1991) and dynamic capabilities (Teece et al., 1997). IO emphasises the external environment such as price, advertising, capacity and quality. RBV highlights the company's distinctive resources and capabilities such as tangible assets and knowledge. Company resources are strategic things to generate competitive advantages including; value, rareness, imitability and substitutability (Barney, 1991). These resources can be tangible or intangible assets, such as the company's management skills, organisational processes and routines, and the information and knowledge it controls (Barney et al., 2001). IC which is an important part of this strategy is slowly shifting the business paradigm that does not only focus on tangible assets but also on intangible assets. IC is not only managed but can also be created. Thus it becomes a competitive advantage for industry and knowledge-based companies (Wang, 2013).

Financial statements provide information for users as one of the considerations in making decisions. Then, this information absorbed by the market if it is considers as significant. However, market reacts and vice versa if it is not. IC can drive company performance (Alfraih, 2018; Lin et al., 2014; Scafarto et al., 2016). Although IC is a strategic thing, the question that arises is whether it may effect on how the market reaction. Previous research has found that IC has value relevance (Kim and Taylor, 2014; Sakakibara et al., 2010; Wang, 2013). IC information is not only in the form of recognition but also disclosure. Hashim et al. (2012) discovered that IC is an important component in the company because it can increase the value of the company, as well as the findings of Vafaei et al. (2011) and Wang (2015) show the relevance value of IC.

Management of IC is a strategy for obtaining competitive benefits. IC information in financial statements is considered useful when it is well absorbed by the market. Previous research has found that IC has value relevance (Kim and Taylor, 2014; Sakakibara et al., 2010; Wang, 2013). In general, previous studies have divided IC into sub-categories of human capital (HC) and structure capital (SC) and the research of Ferraro and Veltri (2011) uses HC, relation capital (RC), process capital (PC) and innovation capital (InC). Generally speaking, past studies have separated IC from one to another. Other results show that HC, InC and PC have no value relevance (Ferraro and Veltri, 2011), as well as Hamdan (2018) shows that SC and HC have no relationship with Tobin's Q, and even have a negative impact without significance statistics on market value (MV).

Managers have a role in managing the company, including IC. Singh and Narwal (2015) stated that HC has different effects on financial performance and market performance. Financial performance can increase and vice versa on stock performance. It can be realised if IC is managed properly. Skilled managers use company resources efficiently by better understanding in industry needs (Chen and Lin, 2018). On the hands of a capable manager, IC is managed to increase the value of the company. Based on the view of the upper-echelon theory explains that the characteristics of the managerial background predict organisational outcomes-strategic choices and levels of performance (Hambrick and Mason, 1984). Previous studies focused on the value relevance of IC which showed inconsistent results. This study fills the gap from previous studies by including the moderating role of managerial ability (MA) because superior managers increase competitive advantage (Lee and Liu, 2018).

Demerjian et al. (2013) concluded that MA can improve earnings quality. In line with his study results, Luo and Zhou (2017) implied the market reacts to companies that have superior managers when earnings announcements occur. Capable managers have both company and industry knowledge. Chen and Lin (2018) found that short-term market reactions are higher when managed by capable managers. Under highly skilled managers, the risk of falling stocks can be reduced by providing a large amount of voluntary information to indicate their abilities (Park and Jung, 2017). Furthermore, Nadeem et al. (2021) indicated that highly skilled management can increase HC, InC and RC which are subcategories of IC. A capable manager will also manage IC to generate future benefits. This study involves MA as a moderating variable on the relationship between IC and firm value.

This study aims to prove the role of MA in moderating the relationship between IC and MV as a proxy for value relevance. This study uses 640 firm-year observations of manufacturing companies listed on the Indonesia Stock Exchange for the 2016–2020 period. This study contributes to the IC and MA literature. First, our results vary for the value relevance of each sub-category of IC. PC has value relevance, while HC, RC and InC are not supported. Second, companies with competent managers strengthen the value relevance of HC while relationships in other sub-categories are not supported. To answer the research questions, we use Ohlson (1995) model by including IC and MA.

This study is divided into several parts. In Section 2, we present a literature review and hypothesis. The methodology is discussed in Section 3. Followed by the results and discussion in Section 4. In Section 5, we present the conclusions.

2 Literature review and hypothesis

2.1 IC and value relevance

Previous studies used the Ohlson (1995) model to analyse the value relevance where the Ohlson model (OM) relates MV to accounting data and other data (Ferraro and Veltri, 2011; Vafaei et al., 2011). In addition to book value (BV) and earnings per share (EPS), this study includes IC to find the relevant value of IC. Ulrich (1998) explains that there are direct and indirect factors in developing competitive advantage, namely; knowledge and differentiate themselves in customer service. Knowledge that comes from individuals within the organisation. He added that the challenge for organisations is to ensure they have the ability to find, assimilate, develop, create and retain these talented individuals.

Value added intellectual coefficient (VAICTM) uses accounting as a tool to develop IC management (Pulic, 2000). Pulic concluded that the better the company's resources (utilised capital and IC) have been utilised, the higher the efficiency of the company's value creation (where HC, is a determining factor of modern business value creation). The IC management process is useful for the desire of organisations to increase and manage their stock of IC (Isaac et al., 2010). Liu and Wong (2011) proved that IC is a consideration in financial decisions, using patents and R&D as IC proxies. Alfaro et al. (2011) investigated the relationship between IC and economic growth in the European Union, Japan and USA and the results show that intangible capital and its efficiency are positively correlated with personal income (GDPpc). IC has long-term effects. Companies with highly educated CEOs will invest more in research and development (Harymawan et al., 2020). Human uncertainty, structural and relational capital can be reduced if managers develop their organisation's control system properly (Herremans et al., 2011). Martín-de-Castro et al. (2016) firmly underlined that 'knowledge worker' as well as 'knowledge creating company' is a key role in knowledge-based or intellectual competition. IC development also follows commensurate business ethics (Su, 2014), IC development is in line with ethical strengthening.

IC is seen as a non-financial asset where brain power and training fuel the future of the company which in turn increases value relevance (Gogan and Draghici, 2013). In cellular telecommunications companies, Han and Han (2004) suggested that companies can apply decision criteria and weights to prepare IC reports. The presentation of IC information can be in the form of recognition and disclosure. The concept of 'mandatory disclosure', and highlights some of the key issues that IC researcher should consider (Dumay and Guthrie, 2017). Salvi et al. (2020) concluded that high-quality IC disclosures in integrated reports increase firm value. Further details of the higher-level analysis show that this positive impact is not exclusively related to the overall quality of IC disclosure, but also to each type of IC information. Research on banks in Portugal shows that the higher the IC, the better the performance (Neves and Proença, 2021). Expenditures in the form of R&D, labour and advertising have future benefits that can be attributed to MV (Sydler et al., 2014).

The identity and properties of IC elements are variable, dynamic and transformative (Abhayawansa et al., 2018). There is a positive relationship between ICD and performance, which means that more intellectual disclosure will be followed by an increase in company performance (Alfraih, 2018; Hashim et al., 2012; Lin et al., 2014; Scafarto et al., 2016; Tseng et al., 2013). IC also provides value relevance. There is a role for corporate governance in the relationship between IC and firm value (Wang, 2015). White et al. (2010) presented that the average customer ICD is higher in companies with high leverage compared to companies with low leverage. IC efficiency can also lead to information asymmetry (Yang, 2019).

Yu et al. (2015) show that the Taiwan stock market appears to be more expensive than IT firms' InC but lower than their human, process, and relational capital. In particular, the problem of mispricing is more pronounced in HC than in the other three types of IC. Further examinations present that IC pricing errors are caused by domestic Taiwanese investors rather than foreign institutional investors. Financial analysts will respond to information obtained from IC statements when an IPO occurs (Nielsen et al., 2006).

Ferraro and Veltri (2011) use three IC categories, namely HC, RC and SC where the capital structure is divided into PC and InC. All employee-related expenses are

categorised as HC (Pulic, 2004). RC or in Bontis (1998) referred to as customer capital is the relationship with customers or other stakeholders. SC relates direct and indirect support both physical and intangible developed to commercialise their human resources (Edvinsson and Sullivan, 1996). The proposed hypotheses are:

$H1_a$ HC has a significant positive correlation with MV.

$H1_b$ RC has a significant positive correlation with MV.

$H1_c$ PC has a significant positive correlation with MV.

$H1_d$ Innovative capital has a significant positive correlation with MV.

2.2 Managerial ability

Management skills have been extensively discussed in the previous literature. MA is an important factor in carrying out the company's strategy. It is considered when the market reacts to earnings reports (Luo and Zhou, 2017). Highly skilled managers can reduce the risk of subsequent stock price falls by releasing large amounts of voluntary disclosures to signal their abilities (Park and Jung, 2017). Research on the relationship between MA and goodwill impairment by Sun (2016) shows that more capable managers are better at preventing goodwill decline and reducing the amount of goodwill impairment losses than poor managers. Idiosyncratic volatility can be reduced by competent managers by increasing the company's transparency (Wu et al., 2020). In other words, competent managers disclose quality information to enhance the company's reputation. It can attract a lot of attention and extract information.

MA is also associated with firm value (Gong et al., 2021), tax avoidance (Park et al., 2016) and IC (Nadeem et al., 2021). The results of Gong et al. (2021) show that companies with high CSR will increase the company value if it is managed by a superior CEO. The results of Park et al. (2016) show a negative relationship between MA and tax avoidance, which means that the more capable managers are, the lower the tax avoidance. In addition, the presence of capable managers can weaken the relationship between tax avoidance and firm value. The higher the MA, the higher the IC investment in the form of HC, InC and relational capital.

MA effects state and non-state-owned enterprises differently, where the effect for state-owned enterprises (SO) is more relevant than that of non-state-owned enterprises (NSO), and the negative effects of competition and recession are reduced by highly skilled managers (Naheed et al., 2021). Less capable managers are more worried about their careers than less capable managers, so they invest more long-term in socially beneficial activities, which lead to better CSR performance. The company's innovation will be higher if it is led by an inventor CEO with a higher general ability (Lin et al., 2021).

Dong and Doukas (2021b) used MA-score and HC-value in identifying MA and showed that high MA stocks outperformed low MA stocks. Dong and Doukas (2021a) also documented that in the acquisition process strong managerial abilities realised higher abnormal returns in the announcement period and experienced better post-merger company performance than low-skill management. Exceedingly skilled managers lean toward conservative accounting since it benefits the company and stakeholders. Corporate governance plays a role in the efficient management of IC, especially in the

components of board composition, ownership structure, audit committee size, and audit committee meeting frequency (Li et al., 2008). Monitoring carried out by independent directors will increase the effectiveness in reducing agency costs and information asymmetry. A competent manager will attempt to be efficient in managing the company as well as in managing IC.

In spite of previous research found that IC has value relevance (Kim and Taylor, 2014; Sakakibara et al., 2010; Wang, 2013), other researches indicated certain IC does not have value relevance (Ferraro and Veltri, 2011), as well as Hamdan (2018). These results vary for each sub-category of IC. Even though the company's debt is high indeed, within the hands of profoundly skilled managers, the company's performance increased (Simamora, 2021). It shows the level of the manager's ability affects the company's performance with the strategies it implements. Company performance is generated differently from different levels of MA which can strengthen the relationship between manager character and company performance (Wang et al., 2021). A reliable manager is a person who can perform efficiently in managing IC. Hambrick and Mason (1984) connected managers' strategic choices and performance. This study proposes the following hypothesis to observe the moderating effect of MA on the relationship between IC and MV:

$H2_a$ MA strengthens the relationship between HC and MV.

$H2_b$ MA strengthens the relationship between RC and MV.

$H2_c$ MA strengthens the relationship between PC and MV.

$H2_d$ MA strengthens the relationship between InC and MV.

3 Methodology

3.1 Data

This study uses manufacturing companies listed on the Indonesia Stock Exchange (IDX). The overall population is 221 companies but only 128 companies complete the sample. The number of observations is 640 firm years. The data source comes from the OSIRIS database with the observation year 2016–2020.

3.2 Dependent variable

The dependent variable in this study is MV. MV is the market value at the end of the fourth month at $t + 1$. We used Ohlson's (1995) model which was modified according to the variables involved in this study to observe value relevance.

3.3 Independent variables

The independent variables were BVS, EPS, HC, RC, PC and InC. Book value per share (BVS) is the BV per share at the end of period *t*. EPS is earnings per share at the end of period *t*. IC is measured using the four dimensions of IC used by Ferraro and Veltri (2011), namely HC, RC, PC and innovative capital which are shown in Table 1.

Table 1 IC measurement

IC dimension	*Variable proxy*
Human capital (HC)	Salaries and benefit expenses/N of shares
Relation capital (RC)	Sales/N of shares
Process capital (PC)	Selling, general and administrative expenses/N of shares
Innovation capital (InC)	Intangible assets/N of shares

3.4 Moderating variables

MA as a moderating variable uses Demerjian et al. (2012) which is described in equations (1) and (2). There are two steps to developing MA. The first step is to use data envelopment analysis (DEA) to estimate firm efficiency within the company. The DEA score is between 0 and 1. The interaction between MA and IC is indicated by HC.MA, RC.MA, PC.MA and InC.MA.

$$\max_{v} \theta = (Sales).\left(v_1 COGS + v_2 SGNA + v_3 PPE + v_4 OpsLease + v_5 R\,\&\,D + v_6 Goodwill + v_7 OtherIn\tan\right) \quad (1)$$

Sales operating revenue

COGS cost of goods sold

SGNA sales and general administrative expenses

PPE tangible assets (tangible assets-land-tree-construction in progress-assets in transit)

OpsLease operating lease

R&D research and development

Goodwill goodwill

OtherIntan other intangible assets.

After calculating the DEA score, it is continued by calculating the company's efficiency as in equation (2). The residual of the estimate is the MA score (MA-score).

$$\text{Firm efficiency} = \beta_0 + \beta_1 SIZE_i + \beta_2 MS_i + \beta_3 FCF_i + \beta_4 AGE_i + \beta_5 BUSEG_i + \beta_6 FCI_i + T\sum_{t=1} \phi_t YEAR_i + \eta \quad (2)$$

Firm efficiency the firm efficiency measured by DEA

Size natural log of total assets

MS firm revenue/total industry revenue

FCF 1 if free cash flow (net income before depreciation – change in operating capital – capital expenditure) > 0, otherwise 0

Age natural log of (the number of years the firm has been listed + 1)

BUSEG business segment concentration is the ratio of individual business segment sales to total sales, summed across all business segments for year *t*

FCI the absolute magnitude of foreign currency translation accounts (foreign currency gain, foreign currency translation loss, gain on foreign currency transactions, loss on foreign currency transactions)/total revenue.

3.5 Control variables

Following Alfraih (2018), Ousama and Fatima (2015), Shiri and Mousavi (2015) and Wang (2013, 2015) the control variable used in this study are leverage (Lev), which is the total debt divided by total equity and size is the natural logarithm of total assets. This model is also controlled by return on assets (ROA), which is net income divided by total assets because it affects firm value (Hamdan, 2018; Scafarto et al., 2016).

3.6 Regression model

We use Ohlson's (1995) model to show that IC information is value relevant. The regression model in this study is shown in the equation.

$$\begin{aligned} MV_{t+1} = {} & \beta_0 + \beta_1 BVPS_t + \beta_2 EPS_t + \beta_3 HC + \beta_4 RC + \beta_5 PC \\ & + \beta_6 InC + \beta_7 MA + \beta_8 HC.MA + \beta_9 RC.MA + \beta_{10} PC.MA \\ & + \beta_{11} InC.MA + \beta_{12} ROA + \beta_{13} LEV + \beta_{14} Size + \varepsilon \end{aligned} \tag{3}$$

4 Result and discussion

4.1 Descriptive statistics analysis

Descriptive statistics of MV, IC, and MA are shown in Table 2. The average MV is 6,604.210. IC is measured using HC, RC, PC and InC. The mean of HC was 3,139.526, RC was 56,973.080, PC was 3,949.608 and InC was 333.190, respectively. The average MA is 1.087.

Table 2 Descriptive statistics

Variable	*SD*	*Mean*	*Min*	*Max*
Market value	2,432.98	6,604.210	29	83,200
Book value	2,457.546	13,678.960	–3,867.010	231,169.2
Earnings per share	431.166	3,644.896	–1,625.899	60,656.35
Human capital	436.798	3,139.526	0.188	49,123.58
Relation capital	7,033.793	56,973.080	0.466	80,3693.9
Process capital	615.142	3,949.608	0.204	52,416.88
Innovation capital	38.729	333.190	0	6,642.26
Managerial ability	0.447	1.087	–0.5826	5.536
Return on asset	4.675	13.282	–60.570	73.01
Leverage	0.924	33.650	–753.358	370.574
Size	21.587	1.588	17.555	26.587

4.2 Correlation analysis

The presentation of the Pearson correlation coefficient for the dependent, independent, and control variables can be seen in Table 3. BV and EPS are positively and significantly correlated with MV. Each IC sub-category is also positively correlated with MV. Meanwhile, MA is negatively correlated with MV. These results imply that companies with high IC sub-categories will produce high firm values. Several high pair coefficients were found for the independent variables, including BV and EPS (0.95), BV and HC (0.76), BV and RC (0.92), BV and PC (0.92), EPS and RC (0.99), EPS and PC. (0.95).

Table 3 Correlation between the dependent and independent variable

Variable	*MV*	*BV*	*EPS*	*HC*	*RC*	*PC*	*InC*	*MA*	*ROA*	*Lev*	*Size*
MV	1.00										
BV	0.48	1.00									
EPS	0.44	0.95	1.00								
HC	0.38	0.76	0.78	1.00							
RC	0.39	0.92	0.99	0.85	1.00						
PC	0.44	0.92	0.95	0.94	0.98	1.00					
InC	0.08	0.03	0.00	0.00	–0.00	0.01	1.00				
MA	–0.34	–0.00	–0.00	–0.01	–0.00	–0.00	–0.04	1.00			
ROA	0.26	0.08	0.10	0.06	0.07	0.08	0.02	–0.06	1.00		
Lev	–0.00	0.00	0.00	0.00	0.00	0.00	–0.00	0.04	0.04	1.00	
Size	0.33	0.06	0.01	0.00	–0.00	0.02	0.23	–0.12	0.20	–0.01	1.00

4.3 Regression result

Table 4 presents the regression results of MV and IC where Adjusted R2 shows that IC, MA and control variables together explain 71% of the variation. Testing the relationship between MV and each sub-category of IC shows mixed results. This study's findings empirically support (H1c) since the p-value is below 0.05 which is 0.000. It is PC that increases MV. Sales, administration and general, promotion costs are operational costs. These costs are also an investment to support the achievement of company targets. For example, to ensure that products are known by customers, promotion is needed or to ensure products reach customers, distribution of costs is needed.

H1a and H1b have p-values below 0.05 each (0.000) but the direction is not in accordance with the hypothesis so that H1b is not supported. This indicates that high HC and RC reduce MV. HC that is too high is only a burden if it is not followed by high productivity. HC is something related to employees, including salaries including compensation for managers such as bonuses. The market responds negatively if the compensations given to managers are not followed by increased performance. The results of H1b indicate that high RC lowers MV. This finding is somewhat surprising, but the explanation is that high RC can be caused by high HC or driven by high debt so that the market responds negatively. H1d cannot be supported because the p-value is above 0.05, which is 0.132. The uncertainty inherent in InC makes the market more cautious.

Table 4 shows that the hypothesis (H2a) which indicates the MV relationship and the interaction of MA and HC produces a p-value of 0.000 which means the hypothesis is supported. This indicates that although HC is high, in the hands of highly skilled managers, this HC will be managed properly so that productivity will increase. While H2b even though it has a p-value of 0.000, the resulting direction is not in accordance with the hypothesis, so it is not supported. For H2c and H2d it is not supported because the p-values are above 0.05, which are 0.759 and 0.908 respectively. The control variable test, only size is supported with a p-value of 0.000.

Table 4 Regression of MV and IC

Variable	*B*	*Std. error*	*t-stat*	*p-value*
Intercept	–10,103.62	2,129.854	–4.74	0.000
BV	0.2406	0.070	3.43	0.001***
EPS	6.664	0.544	12.23	0.000***
HC	–6.583	0.613	–10.75	0.000
RC	–0.595	0.035	–17.02	0.000
PC	8.574	0.858	9.99	0.000***
InC	–0.907	0.602	–1.51	0.132
MA	0.496	138.197	0.00	0.997
MA × HC	3.233	0.576	5.61	0.000***
MA × RC	–0.334	0.044	–7.59	0.000
MA × PC	0.285	0.928	0.31	0.759
MA × InC	–0.261	2.253	–0.12	0.908
ROA	20.758	11.310	1.84	0.067*
Lev	–5.084	4.166	–1.22	0.223
Size	519.650	99.458	5.22	0.000***
Adj. R^2	0.71			
F-stat	115.14			
N	128			

Note: *, **, ***Significant at ≤ 0.10, 0.05 and 0.01.

5 Concluding remarks

This study's discoveries present varied results for the MV relationship and the respective proxies of IC. Our findings are in line with Ferraro and Veltri (2011) that the HC coefficient is significant but the direction is not in accordance with the hypothesis (H1a). It indicates that high salaries and benefits will be viewed by the stock market as a low value of HC. Distinctive results are appeared in the moderating effect of MA (H2a). In contrast to direct relationships, MA strengthens the relationship between HC and MV. When the company has high HC, the manager adjusts other expenses as an efficiency measure. For example, by reducing the capital structure. HC and SC are inversely related which indicates that the less HC is involved in value creation, the more SC is involved (Pulic, 2000).

The RC coefficient is significant but not in the predicted direction, so this hypothesis is not supported (H1b). RC is part of HC which is related to the company's relationship with parties outside the organisation (Abhayawansa and Guthrie, 2016). Brands, business collaborations, corporate image and reputation customer relationships and financial relations are some of the RC sub-categories. High RC as a result of high HC contribution. Even though the RC is high, the market gives the opposite response because it considers the company to be less efficient in managing company expenses, especially HC.

The relationship between PC and MV was tested (H1c) and presented significant positive results. Tools, systems, techniques and procedures are part of the PC adopted by organisations to achieve process quality and operational efficiency (Ferraro and Veltri, 2011; Scafarto et al., 2016). For example, when a company has quality equipment, it can increase productivity which in turn makes the market respond positively. Innovatively, employee knowledge and experience can be duplicated and applied with the existence of capital processes in the organisation (Wang, 2008). Although PC and MV are directly related, MA does not show to strengthen the relationship between PC and MV (H2c). Efficiency cannot be applied by managers when there is a lot of expenditure on tools or systems.

There is no noteworthy positive effect between InC and MV (H1d). Innovation is not just an investment but some risks may arise so companies must be careful, the result of innovation is quite uncertain (Holmstrom, 1989). Our findings support the results of Ferraro and Veltri (2011). From the perspective of agency theory, managers are agents who represent the principal to exercise decision-making authority (Jensen and Meckling, 1976). This study unable to prove that MA strengthens the relationship between InC and MV (H2d). Older and longer managers tend to enjoy a 'quiet life'. Thus, they are less innovative to generate new ideas (Chen et al., 2015).

This study has several limitations. Firstly, this research only focuses on manufacturing companies even they have a high investment in HC, but they are limited to InC. It is recommended that further researchers consider other types of companies that focus on updating innovations such as banking, electronics, telecommunications and computers. Secondly, measurements used in this study have not been able to capture the overall IC proxy being targeted. Future research may consider using other intellectual measurements such as disclosure of IC or VAIC. Other variables related to manager characteristics such as age and time occupying certain positions is suggested to be observed. This research has implications for the industrial world, especially related to InC. Surprisingly, this study's discoveries that innovation capital does not affect MV. Managers not only consider innovations to improve company performance but also the risks inherent when innovations are developed. Further research can consider the financial risk variable as an observable thing.

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