

Nuzula, Nila Firdausi; Rahayu, Sri Mangesti; Wulandari, Asih Marini

Article

What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers

Cogent Business & Management

Provided in Cooperation with:

Taylor & Francis Group

Suggested Citation: Nuzula, Nila Firdausi; Rahayu, Sri Mangesti; Wulandari, Asih Marini (2023) : What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 10, Iss. 2, pp. 1-21, <https://doi.org/10.1080/23311975.2023.2234149>

This Version is available at:

<https://hdl.handle.net/10419/294533>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers

Nila Firdausi Nuzula, Sri Mangesti Rahayu & Asih Marini Wulandari

To cite this article: Nila Firdausi Nuzula, Sri Mangesti Rahayu & Asih Marini Wulandari (2023) What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers, Cogent Business & Management, 10:2, 2234149, DOI: [10.1080/23311975.2023.2234149](https://doi.org/10.1080/23311975.2023.2234149)

To link to this article: <https://doi.org/10.1080/23311975.2023.2234149>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 10 Jul 2023.



[Submit your article to this journal](#)



Article views: 614



[View related articles](#)



[View Crossmark data](#)



Received: 16 April 2023
Accepted: 04 July 2023

*Corresponding author: Nila Firdausi Nuzula, Department of Business Administration, Universitas Brawijaya, Indonesia
E-mail: nilafia@ub.ac.id

Reviewing editor:
Collins G. Ntim, Accounting,
University of Southampton, UK

Additional information is available at
the end of the article

ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers

Nila Firdausi Nuzula^{1*}, Sri Mangesti Rahayu¹ and Asih Marini Wulandari²

Abstract: The study examined the impact of firm size and ownership structure on the comprehensiveness of intellectual capital disclosures (ICDs) using manufacturer companies listed on the Indonesia Stock Exchange during 2014–2021. The article applied partial least squares and found that firm size and ownership structure are significant in creating ICDs; however, the directions are negative. The availability of resources to create and issue more information about ICDs varies. The study also found that institutional shareholders that dominate the ownership structure could not take their potential role to supervise and encourage managers to improve ICDs. Next, the result shows that Indonesian-listed manufacturing companies rely more on short-term debt. Consequently, Leverage does not affect ICDs since the debt lenders have less intention to interfere with the managers' performance in managing and reporting annual ICDs.

Subjects: Finance; Business, Management and Accounting; Industry & Industrial Studies

Keywords: corporate governance; intellectual capital disclosure; capital and ownership structure; institutional investors

1. Introduction

Intellectual capital (IC) in Indonesia has yet to show progressive growth. According to the Human Capital Index published by the World Economic Forum (Schwab & Zahidi, 2020), Indonesia still requires implementing national and business-level policies that provide healthcare infrastructure, access, and innovation to benefit people and the economy. The country still needs consistent enactment of labor laws and social protection and provides training to improve employees' skills, including skill set mismatch, digital skills, and critical thinking in teaching. At the same time, the skills are categorized at the business level as the treasured IC. They are believed to be an intangible vital resource capable of generating value for the company (Choong, 2008). Intellectual capital management is indicated as one of the main agenda of company executives (Martin de Castro et al., 2006). IC is significant for capital market players, management and boards, and other stakeholders as part of intangible assets. If used effectively, IC is formed from knowledge, experience, expertise, skills, and technological capacities that can generate competitive advantages for companies. Due to its worth, examining intellectual capital management has become a fruitful topic that complements the traditional view of accounting-based performance valuation (Chahal & Bakshi, 2015; Kamukama, 2013).



However, one challenge of examining IC is due to its various definitions. In 2001, the Organization for Economic Cooperation and Development perceived IC as the value of structural and human capital (OECD, 2001). Goh and Lim (2004) defined it as a structural and human capital group with economic value. Firer and Williams (2005) state that it can be a non-traditional, intangible asset; its accumulation, transformation, and valuation lie at the heart of knowledge management. Khalique et al. (2013) define IC as hidden or intangible assets that create value, including an organization's human, customer, structural, social, technological, and spiritual capitals. Dumay and Stefano Zambon (2016) defines IC as the sum of any assets that create a competitive edge for the company. It includes intellectual material, knowledge, experience, intellectual property, and information managers can use to create value. Massaro et al. (2018) explain that studies on IC have evolved over the years, starting from creating a shared understanding of the role of IC for the firm to measuring and reporting IC, then implementing IC in practice, and expanding IC into broader ecosystems out of the company's boundary. It causes the definition evolves, comprising various intangible aspects and creating difficulty for managers to quantify and assess them.

Along with the growing attention toward implementing IC, the need for IC disclosure has also developed. In the early 1990s, considering that implementing IC-related strategies would create good value for the firm, corporations started reconstructing corporate annual reporting to include IC-related activities (Petty & Guthrie, 2000). Publishing IC lets small shareholders obtain information that large and managerial shareholders can usually access. The information includes the intellectual capacity of the employees, strong relationships with customers, and the firm's strategic vision (White et al., 2007). Bruggen et al. (2009) note that the foremost motive for disclosing is to reduce information asymmetry. It eventually leads to lessening the costs of capital due to better prediction of firm risk and increasing firm value. Reporting a voluntary report such as intellectual capital disclosure (ICD) can reduce information asymmetry, investors' uncertainty about prospects, and agency problems (Li et al., 2012). It also reflects an organization's orientation towards critical stakeholders and a legitimacy tool-seeking exercise during changing societal conditions (Vithana et al., 2021).

One approach to improve the ICD is implementing sound corporate governance principles (Kamath, 2017; Li et al., 2012; Wang & Hussainey, 2013). Corporate governance is crucial in analyzing firms' performance in the recent globalization. Companies that implement corporate governance will not only be able to generate firm value progressively but will also achieve growth in other aspects, such as intellectual capital. Al Sartawi (2017) justifies that the development of intellectual capital depends on corporate governance practices carried out by companies. Inappropriate governance practices and a lack of disclosure might lead stakeholders, particularly investors, to deal with risk and lack of confidence due to information asymmetry (Elfeky, 2017).

The stakeholders today emphasize procedures and quality of corporate governance public disclosure, as they want to know what is published and how. They demand much information but also want effective corporate governance and increased corporate transparency through available public information to lower the risk and uncertainty related to their investment (Albu & Flyverbom, 2019). Therefore, transparency about the business performance, operation, transaction, knowledge management, and intellectual capital become critical components of successful corporate governance (Amitava & Ghosh, 2021).

On another side, Indonesian Accounting Standard adopted the provision of International Accounting Standards on intangible assets, meaning that the firms should disclose their actions regarding components of IC. The provision suggests the firms provide information about research & development and internally generated intangible assets separate from acquired intangible assets. However, IC has yet to be fully reported in the firms' annual financial reports because the accounting standard only recognizes a source as an asset if it provides economic benefits in the future and its cost can be measured reliably (Widarjo et al., 2020). Under the circumstance,

and considering that managers have acknowledged the importance of ICDs for the companies, what is the level of ICDs in the Indonesian case? What are the factors that define the disclosure?

Most previous papers mainly study factors that determine intellectual capital disclosure in developed countries, and their findings concerning the capital structure choice in developed countries may not be applicable in Indonesia. Previous studies found that firm size influences the comprehensiveness of ICDs (Bruggen et al., 2009; Ousama et al., 2012; Wang & Hussainey, 2013; Whiting & Woodcock, 2011). Recent studies found that larger companies have more resources to motivate managers to publish more comprehensive IC-related activities (Abhayawansa & Guthrie, 2016; Mubarik et al., 2019) because it could reduce agency problems that may be potentially greater along with the more considerable assets invested in the company. Large size allows the company to minimize the marginal costs of information production and to achieve an efficient management system. Examining the effect of firm size in the Indonesian case would be fascinating to reveal whether the same hypothesis is also applicable.

The authors also study whether Indonesian manufacturers' ownership structure is influential in encouraging managers to publish ICDs. Previously, Wang and Hussainey (2013) stated that institutional investors intend to monitor management performance. Garcia-Meca and Sanchez-Ballesta (2010) explain that dispersed Ownership creates a conflict of interests between managers and broad shareholders. Both situations lead the managers to put more significant efforts into disclosing the firms' performance voluntarily. Anggraini and Widarjo (2020) found that the average institutional Ownership in Indonesia was 67.7%. This study provides new information about the impact of institutional holding on the enhancement of ICDs since no previous study has scrutinized it yet. This current study also tests hypotheses involving the presence of Leverage and corporate governance as mediating and moderating variables.

The study finds that firm size and ownership structure significantly create ICDs directly or through Leverage as the mediating variable. However, the availability of resources to create and issue more information about ICDs varies, causing the ICDs level is not sufficiently comprehensive. The study also results that institutional shareholders dominate the ownership structure. However, the shareholders could not take their potential role to supervise and boost managers to improve ICDs. Both findings suggest further studies to test positivism agency theory from the perspectives of creditors and shareholders to balance current studies that analyze from the manager's side. The study also found that Indonesian listed manufacturing companies rely more on short-term debt and have less long-term debt. It explains why Leverage does not affect ICDs, since short-term debt lenders have less intention and access to interfere with managers regarding their performance in managing and reporting annual ICDs.

2. Background

As an emerging country, Indonesia follows the trend in developed countries, in which the governments appreciate the efforts of the business firms to provide intellectual capital information in their annual reports. The Indonesian Financial Accounting Standards (PSAK) contain regulations encouraging companies to disseminate intellectual property in financial reports. However, these regulations still need to state how managers must define indicators for managing intellectual capital at the company level (Hayati et al., 2015).

This study took the Indonesian manufacturer's case because they are public companies that represent the valuation of companies in Indonesia. Manufacturer companies in Indonesia run a competitive business. The sector emphasizes its process and product innovation and intensifies investment in innovation to win the markets (Zahra & Das, 1993). Anggraini and Widarjo (2020) explain that manufacturing companies are the most significant industrial sectors in the Indonesia Stock Exchange. It also has higher business complexity than others. Hence, the industrial sector can represent business companies' engagement in intellectual capital activities and reporting in the Indonesian case.

Several previous studies scrutinized the development of equity and debt markets in emerging countries, including Indonesia. Sharma et al. (2019) found that Indonesia is at a promising phase of financial market development. According to the authors, Indonesia has a similar market size level to well-recognized emerging markets, such as Russia and Brazil. From 2008 to 2019, the Indonesian market growth was 7.9%, beating all major emerging markets. Under the development stage, information evolves and becomes moderately more flawed. The study found that capital expenditure becomes the most successful stock return predictor, then the financial ratios follow. The article highlights that firms will use capital expenditure to go public and increase their capital. Otherwise, other schemes would be riskier. Bonser-Neal et al. (1999) studied the Indonesian Stock Exchange transaction costs two decades before. The study used data from September 1992 to January 1995, representing the period of fast economic development before the 1997 Asian Crisis occurred. The authors emphasized that the Indonesian markets' execution costs and trading difficulty levels were similar to those of developed countries. The article found that small firms experienced more difficult trades and high execution costs, which ranged about 1.2%, than the costs for large firms of 0.54%. Mitton (2007) examined the credit market development in emerging countries, including Indonesia. Using 1980 to 2004 data, he found that the debt ratios augmented since the firm's ability to obtain debts from foreign sources improved. However, the escalation was insignificant because the effect of stock market development offset it.

These previous studies describe how the Indonesian institutional financial system creates firms' economic behavior. Since the early development of Indonesian financial markets, large firms have likely taken advantage of entering stock markets to finance their expenditures. The Indonesian Federal Bank surveyed the growth of credits toward 40 banks in early 2023 and found that the realization of bank credit growth reached 8.9%. The number was lower than a similar indicator taken in 2022, which reached 11.35%. However, it was still higher than in 2021, which was realized at 5.2%. The survey shows that both debt and stock markets in Indonesia grow at similar levels and reach appropriate and available sources of funds for businesses.

3. Theoretical literature review

Previous studies acknowledge that scholars who introduced agency theory were Jensen and Meckling (1976). However, Bendickson et al. (2016) recognize that the theory was developed through seminal articles that typically seek out information about the theory. For example, Panda and Leepsa (2017) do a literature review by collecting notable articles that discuss agency theory, principal-agent problem, agency relationship, ownership structure, board structure, agency cost, and governance mechanisms. The authors attempt to define the evolution of agency theory from the main ideas, perspectives, problems, and issues.

Agency theory says that the shareholders, as the principal or owners, hire managers as their agents, to act on the shareholder's behalf (Jensen & Meckling, 1976; Ousama et al., 2012; Panda & Leepsa, 2017). The principles are that a healthy company has a separation of owners and agents; therefore, the firm develops control mechanisms to ensure the agents address the owners' interests. However, the agents may only sometimes act consistently in the principal's best interest, even if they may be self-serving. Agents may behave opportunistically, particularly if their interests conflict with the principals. In this case, agency problems arise due to diverging interests between these two parties, and the principal needs more information about the agent's contribution. The features define the problem, resulting in costs and inefficiencies because both parties must pay attention and action to resolve the conflicts (Bendickson et al., 2016; Bosse & Phillips, 2016).

Scholars develop and distinguish two forms of agency theory: positivist and principal-agent (Bendickson et al., 2016; Panda & Leepsa, 2017). Positivist researchers emphasized governance mechanisms in large corporations to protect shareholder interests, minimize agency costs, and ensure agent-principal interest alignment. Under this circumstance, agency theory prescribes various governance mechanisms, including executive compensation and governance structures. The second form, principal-agent, is more concerned with technical and mathematical

relationships that quantify the principal and agent contract. This current study utilizes the positivist framework as the basis for analysis.

Positive agency theory is developed based on assumptions that managers are self-interests, goal conflict, bounded rationality, information asymmetry, the preeminence of efficiency, risk aversion, and seeing information as a commodity (Bendickson et al., 2016). According to Panda and Leepsa (2017), the positive agency model assumes that the agents are logical and reward seekers. Bosse and Phillips (2016) explain it as bounded self-interest, in which managers seek to maximize their self-interest, but only so long as perceived norms of fairness are not violated. The assumptions are beneficial to explain the potential causes of agency problems and determining the costs involved (Panda & Leepsa, 2017). Then, academicians propose two propositions to design actions to minimize agency costs and to align principal-agent interests. Firstly, if the outcome of the contract is incentive-based, then the agents act in favor of the principal; secondly, if the principal has information about the agents, then the principal could use it to discipline the action of the agents. The actions or mechanisms focus on executive compensation and governance structures (Bendickson et al., 2016).

In its development, positive agency theory expands to various principal-agent type relationships that involve and examine stakeholder contractual relationships. They include majority with minority shareholders, managers with creditors or bondholders, and shareholders with creditors (Bendickson et al., 2016). It shows that agency problems may expand involving various influential events and impulses stretched governance mechanisms to mitigate and reduce the potential conflicts. Zogning (2017) explains that agency theory asserts progressively following the role redefinition of parties while focusing on verifying the agent acts under the contracts. It allows scholars to explore various signals of good or bad management and to predict the effects.

As aforementioned, information asymmetry becomes one prominent factor that may cause agency problems. Panda and Leepsa (2017) explain that managers look after the firm and are aware of all the information related to the business. At the same time, owners depend upon the managers to obtain the information. Therefore, the information may reach the owners in a different manner. According to Bosse and Phillips (2016), when owners do not have perfect information about CEO behavior, self-interested CEOs conceal selfish actions, and firms bear the costs. Bendickson et al. (2016) mention that principals use socially intended information issued by the company as a basis for screening and monitoring actual and potential agents. It also provides readily used investment decision-making information (Sullivan & Gouldson, 2012). The latter article states that principals require voluntary and supplementary reports on specific aspects and opportunities that influence the firm performance, such as the involvement in climate change and the development of new products or technology in renewable energy.

Scholars have examined whether agency theory is still relevant for broader contracts among stakeholders. Bendickson et al. (2016) identify that firm size matters in studying organization that applies agency theory. Large-scale enterprises must employ various middle and top managers to monitor and controllable coordinate work. Due to layered leadership within the organization, the potential principal-agent conflicts at each management level might be more significant. Therefore, more prominent firms need more efforts to clarify and minimize conflicts by creating and implementing governing mechanisms that drive managers' behavior leading to desired outcomes for the owners. Panda and Leepsa (2017) explain that agents are key players in decision-making and decision control. The role may be more straightforward in non-complex firms since one person could handle these two processes. Therefore, the agency problem may be less exist. However, in complex firms, the agency problem arises in the management decision process because the decision-makers who initiate and implement the firm's decision differ from the actual bearer of the wealth effects of their choices. For example, as explained by Bosse and Phillips (2016), in public firms controlled by a dominant shareholder, CEOs may increase the firm size, at the expense of the

firm, to increase their rewards once they perceive that they are unfairly underpaid relative to other CEOs in similar conditions.

Agency theory also explains how firm size affects the extent of disclosure. Larger companies have a more complex nexus; therefore, they are more likely to have conflicts between managers and their stakeholders and higher agency costs. Large companies voluntarily disclose more information to alleviate costs (Ousama et al., 2012). Large established firms usually look at and require management to provide knowledge and human capital (Bendickson et al., 2016). Managing human capital becomes one strategic way to leverage innovation to disrupt markets. The strategic approach requires a different way of thinking and acting, which poses different agency issues since it involves both opportunity-seeking and advantage-seeking behaviors. Ousama et al. (2012) also state that agency theory can also explain the effect of Leverage to the extent of information disclosure. High Leverage manifests the more significant risks of financial distress and inability to pay back the obligations. Thus, creditors and debt holders demand more information disclosure to reduce information asymmetry.

Agency theory also becomes a significant reference to illustrate the relationship between ownership structure and Leverage. Ganguli (2013) explains that concentrated shareholders have similar interests as creditors in India, where banks and financial institutions dominate the debt financing system. Since the latter provide collateral security to address and mitigate agency problems, owners can use the debts as a discipline mechanism to monitor the managers. Therefore, the higher debt coupled with concentrated shareholding might help resolve collection action problems and reduce managerial discretion. Bendickson et al. (2016) explain that expanding the number of institutional forces at work provides motivated managers with cognition, access to capital, and the opportunity to engage in entrepreneurial agency. The agency issues are more complex and require unique governance mechanisms.

4. Empirical literature review and hypotheses development

4.1. Firm size and ICD

Firm size becomes a critical driver for publishing ICD. This study suggests that large companies are more visible to their stakeholders, and managers feel more urgency to meet the expectation of their stakeholders (Bruggen et al., 2009; Wang & Hussainey, 2013). The larger the company, the more complex its business networks. The likelihood of conflicts between managers and varied stakeholders is greater than that of smaller firms. Under agency theory, issuing ICDs enables shareholders to comprehend and monitor managers' performance, reducing potential conflicts (Ousama et al., 2012). More recent studies also found that larger firms can minimize the marginal cost of information production and achieve efficient management accounting systems that facilitate better external intellectual capital reporting. It suggests that larger firms will likely make more ICDs (Abhayawansa & Guthrie, 2016). Dang et al. (2018) explain that more outstanding companies have more resources and pay top management more excellent compensation. It could motivate managers to manage various IC-related activities and provide more information or a better internal management information system. Firms with a greater scope would enjoy more information disclosure. Following the explanation, this study hypothesizes that firm size leads the company to create ICD.

H1: Firm size affects ICD

4.2. Ownership structure and ICD

This study uses institutional, managerial, and public ownership indicators to examine ownership structure. Institutional shareholding dominates the ownership structure within Indonesian companies. The current study assumes this significant and dominant shareholder would give an effective external monitoring scheme of managerial discretion in ICD. According to Wang and

Hussainey (2013), since institutional investors provide significant funds, they would actively monitor management performance. Therefore, management aims to disclose extra voluntary information to fulfill the investors' interests.

The percentage of managerial Ownership in Indonesia is small. However, examining whether managerial Ownership contributes to creating an exemplary ICD is interesting. Under agency theory, managerial Ownership becomes a worthy means to minimize information asymmetry and align the interests of management and other shareholders. Therefore, the more significant the number of shares owned by managers, the broader the scope of voluntary disclosure. However, Wang and Hussainey (2013) argue that the executive director's Ownership motivates them to maximize their control over private benefits by reducing voluntary disclosure. The third indicator is public Ownership. With widely dispersed Ownership, the primary conflict of interest between managers and shareholders arises, and the more outstanding efforts to disclose firms' performance voluntarily. Thus, the author submits the second hypothesis as follows.

H2: Ownership structure affects ICD

4.3. Leverage and ICD

The study hypothesizes that the use of debts affects ICD. Companies with debt-dominated capital structures are usually subject to creditors and shareholders asking to provide more comprehensive information. This information is primarily related to the results and investment in intangible assets and intellectual capital, generally not accommodated in conventional financial statements (Bruggen et al., 2009). Later, Ousama et al. (2012) and Abhayawansa and Guthrie (2016) state that under agency theory, once external debt exists, agency costs arise due to the different interests of shareholders and creditors. The greater the debt level, the more significant risks the shareholders must bear. However, information asymmetry could disappear once the managers release relevant information, and monitoring costs may lessen.

In summary, debts lead management to issue broader public material, including intellectual capital. The higher the financial Leverage, the more comprehensive voluntary ICD. The following hypothesis is stated as follows.

H3: Leverage affects ICD

4.4. Firm size and leverage

According to agency theory, firms with more investment in assets have less Leverage because they have strong incentives to avoid underinvestment and asset substitution inefficiencies that can arise from the stockholder-bondholder agency problems (Butt, 2016). The managers have gained trust and legitimation from their stockholders to use retained earnings to finance their additional investments. As a result, larger firms tend to have fewer debts in their capital structures.

Under agency theory, however, the relationship between firm size and Leverage can be positive. Bhat et al. (2020) state that firm size significantly affects corporate finance practice. The bigger the firm size, the more extraordinary the firm's reputation can gain. In turn, it influences the firm's financing choice. The monitoring hypothesis, derived from agency theory, suggests that principals can use external finance to monitor managers and reduce potential agency conflict (Hutten, 2023). Therefore, the greater the firm size, the bigger the Leverage since it is an adequate internal corporate governance mechanism to reduce agency problems. Larger firms create more complexity and need more effective monitoring costs (Dang et al., 2018). The following is the fourth hypothesis statement of this current study.

H4 Firm size affects Leverage

4.5. Ownership structure and leverage

According to the agency theory, interests and considerations among management shareholders and other types of shareholders for making decisions are different. Also, internal or managerial, institutional, and individual block-holders effectively adjust managers' behavior in developing strategies to use external funding (Al-Fayoumi & Abuzayed, 2009). Under the theory, managerial Ownership is more sensitive to the risk of bankruptcy if the company uses more debt. The theory also explains that managers use and determine capital structure to minimize tax rates and consider bankruptcy costs as parts of actions to boost their value.

On the other side, there is the possibility that these large shareholders fringe with insider managers against the interests of dispersed shareholders. Under this situation, large shareholders' presence reduces the percentage of long-term debt and lessens the Leverage. Ganguli (2013) explains that debts act as a disciplining mechanism because the creditors monitor the action of the managers. In countries where the most favored mechanisms for resolving the collection action problem appear to be partial ownership and control concentration in the hands of a few large shareholders, the block shareholders share the monitoring actions with the creditor. In other words, debts can be a mitigating device for agency problems.

H5 Ownership structure affects Leverage

4.6. Corporate governance as the controlling variable

This study predicts that implementing a good level of corporate governance (CG) would make ownership structure have a better impact on the level of ICD. Agency theory explains that shareholders ask managers to publish voluntary intellectual capital reports to reduce the information asymmetry regarding the creation and utilization of IC (Goebel, 2015). Kamath (2017) said that dominant owners might determine the range and the depth of information on ICD, then practicing CG would offset it and create a better-quality ICD. Wang and Hussainey (2013) explain that firms owned by concentrated institutional shareholders tend to issue more voluntary information to maintain investor confidence. In any circumstance of ownership structure, conducting CG would preserve the fine quality of ICD because CG could decline the agency problems that might have existed.

Implementing CG has a good impact on voluntary disclosure. Wang and Hussainey (2013) confirm that suitable practices in CG can improve the quality of ICD. Li et al. (2012) said adequate audit committees were crucial to minimizing information asymmetry between the firm and stakeholders. The audit committee has independence, comprehends the principles and good practices in financial and accounting issues, and has a sufficient membership size. Also, the greater authority of the board of commissioners would supervise managers to create exemplary ICDs.

This research proposes that corporate governance's implementation increases ownership structures' influence on ICD. The ownership structure of manufacturing companies in Indonesia is dominated by institutional Ownership. The dominant institutional owner would have such authority and access to determine the shape and character of the ICD. Therefore, a competent audit committee and respectful board of commissioners would offset the imperfect composition of the ownership structure and improve the quality of ICD. This study defines the sixth hypothesis as follows.

H6: Corporate governance controls the influence of ownership structure on ICD

5. Research design

Following the research problems, this manuscript defines two exogenous (firm size or FSize and Ownership structure or Ownership) and two endogenous variables (Leverage and ICD). This study applies three proxies for FSize: the log of total assets (Total assets) and log of total sales (Total Sales), and end-year closing price market capitalization (MCap) (Dang et al., 2018). Market capitalization indicates to what extent the markets recompensed the firms for working on and publishing intangible capital (Kamath, 2017). The larger the total market capitalization of the outstanding shares, the company is categorized in the large-capitalized group. For Ownership, we apply three proxies: the percentage of managerial Ownership (Managerial), the percentage of institutional shares (Institution), and the percentage of public Ownership (Public). For Leverage, the indicators are total debt or liabilities to total assets (TDTA), total long-term liabilities to total assets (LTDTA), total liabilities to total equities (TDTE), and total long-term obligation to total equities (LTDTE) (Dang et al., 2018). For ICD, the authors gather data hand-collected from the firms' annual reports. We used the items of ICD used by Widiatmoko et al. (2020) as the benchmark and then unweight dichotomously and set a score of one of the items in the annual report. Otherwise, it is zero. The method is applied to quantify three formative proxies for ICD: human capital index (Human), internal capital (Internal), and external capital (External). Each proxy has the disclosure rate measured from the quantitative score divided by the total items in the category. For corporate governance (CG), the indicators are the number of audit committee members and the number of members of the board of commissioners.

The study gathered data from manufacturing firms listed on the Indonesia Stock Exchange that were not suspended from 2014 to 2021. OECD and Jakarta Stock Industrial Classification (or JASICA) classify the companies as knowledge-packed or knowledge-laden industries. The authors employ annual reports for each sample company to source all data. This research population comprised 105 manufacturing companies, including multi-industry and consumer goods sectors. Eventually, the authors used and ran 840 firm years of data. The authors then apply partial least squares (PLS) as a statistical technique to test the hypotheses.

According to Hair et al. (2014), PLS can evaluate the measurement of latent variables while also testing relationships between latent variables. It explains why PLS has two stages of evaluating the research model: outer and inner models. In the outer model, the authors examine the contribution and validity of each indicator to form latent variables. The results then lead to testing the inner model, which aims to evaluate the effect of the construct variables. Below are the formulas applied for outer models.

$$\text{FirmSize}(\text{FSize}_{x1}) = \beta_{10} + \beta_{11}\text{Total Assets}_t + \beta_{12}\text{Total Sales}_t + \epsilon_{1t}$$

$$\text{Ownership}(\text{Ownership}_{x2}) = \beta_{20} + \beta_{21}\text{Total Assets}_t + \beta_{22}\text{Total Sales}_t + \beta_{23}\text{Total Sales}_t + \epsilon_{2t}$$

$$\begin{aligned} \text{Leverage}(\text{Leverage}_{y1}) = & \beta_{30} + \beta_{31}\text{Total Debt Assets}_t + \beta_{32}\text{Longterm Debt to Total Assets}_t \\ & + \beta_{33}\text{Total Debt to Total Equities}_t + \beta_{34}\text{Longterm Debt to Total Equities}_t \\ & + \epsilon_{3t} \end{aligned}$$

$$\begin{aligned} \text{Intellectual Capital Disclosure (ICD}_{z1}) = & \beta_{40} + \beta_{41}\text{Human Capital Index} + \beta_{42}\text{Internal Capital Index}_t \\ & + \beta_{43}\text{External Capital Index}_t + \epsilon_{4t} \end{aligned}$$

$$\text{Corporate Governance (CG}_{y2}) = \beta_{50} + \beta_{51}\text{Audit Committee}_t + \beta_{52}\text{Board of Commissioners}_t + \epsilon_{5t}$$

For testing the inner model, the formula is here.

$$\begin{aligned} \text{Intellectual Capital Disclosure (ICD}_{z}) = & \beta_0 + \beta_1\text{FSize}_{x1} + (\beta_2 + \beta_4\text{CG}_{y2})\text{Ownership}_{x2} + \beta_3\text{Leverage}_{y1} \\ & + \epsilon_{6t} \end{aligned}$$

After evaluating the explanatory and predictive power of the model, the next step is to assess the statistical significance and relevance of the path coefficient to test the hypothesis. The study applies bootstrapping method. The range of standardized coefficient values is -1 to 1 , where the coefficient value closes to 1 , meaning the relationship's direction is positive, and vice versa. The influence of construct variables is significant if the p -value $< 0,05$.

6. Empirical results and discussion

Table 1 shows descriptive statistical indicators for this study. The standard deviation for market capitalization is the largest among the three proxies, indicating that market capitalization data varies. Observing the maximum and average number of the three indicators shows that the samples were dominantly large companies.

Most of the Ownership is held by institutions that recorded up to 77.32%. Generally, public Ownership in Indonesian manufacturing companies is 22.3%, while managerial Ownership is only 0.38%. Next, this study uses four proxies to measure Leverage. The total debt to total assets is 77.2% on average. Considering that the percentage of long-term debt is only 13.32%, the samples depend dominantly on short-term liabilities. This pattern also applies to the analysis of total debt usage compared to total equity, where short-term debt dominates the firms' capital structure.

The index for external capital disclosure was the highest (at 0.07), as the human and internal capital indexes were 0.04 and 0.05, respectively. Surprisingly, human capital achieved the lowest index. The average number of audit committee members was six, while the least was two. For information, implementing CG in Indonesia requires companies to assign at least two individuals to the audit committee. The average number of the Board of Commissioners is three members, of which most are five individuals for one period.

The advantages of PLS are that it allows the study to minimize the dimensionality of correlated variables since the research model comprises multiple exogenous and dependent variables, and the technique allows the analysis to construct the variables. Table 2 reports the outer model test results from the statistical method.

Results of outer model testing indicate that MCap is insignificant. It is likely due to the deviation standard being the largest. We re-ran the path analysis after removing MCap from the outer model. Figure 1 below shows the result.

Figure 1 illustrates the results of path analysis and variable p -values in the research model. The inner model's test results showed H1's acceptance that FSize had a significant effect on Leverage with a total impact of $|0.377|$. Researchers also received H2 that FSize affects ICD in real terms with a total impact of $|0.511|$. This figure has the more significant coefficient of other latent variables, implying that firm size is essential in determining ICD. Furthermore, the study results suggest that the authors accept zero hypotheses for H3 and H4. Ownership data considerably influences the Leverage of $|0.424|$ and against ICD of $|0.298|$. However, the study results reject the H5 and H6 assertions that Leverage variables do not contribute significantly to forming ICD. CG variables play no fundamental role in moderating Ownership's influence on ICD.

The subsequent analysis is in the direction of influence. The study found fascinating results that firm size (FSize) affects Leverage and ICD negatively. The movement of ownership structure (Ownership) influence on Leverage has a positive direction, while Ownership's effect on ICD is negative. The Table 3 below depicts the results of six hypothesis testing.

6.1. Firm size on ICDs

This study finds that firm size negatively impacts ICDs. The finding is opposed to previous studies by Bruggen et al. (2009), Ousama et al. (2012), Wang and Hussainey (2013). It also differs from the recent articles such as Abhayawansa and Guthrie (2016) and Mubarik et al. (2019) that firm size

Table 1. Descriptive Statistic						
Variables/Indicators	Scale	n	Mean	SD	Minimum	Maximum
Firm Size (FSize)						
Total Asset (Total Asset)	Rupiahs	840	58,976,711,435,380	209,180,000,000,000	53,681,000,000	598,429,237,000,000
Total Sales (Total Sales)	Rupiahs	840	27,756,418,004,828	64,450,600,000,000	23,040,693,451	229,810,572,000,000
Total Market Capitalization (MCap)	Rupiahs	840	39,945,099,754,136	97,263,600,000,000	59,928,960,000	282,310,000,000,000
Ownership Structure (Ownership)						
Management Ownership (Managerial)	Ratio	840	0.38688	1.71985	0.00000	8.40000
Institutional Ownership (Institutional)	Ratio	840	77.32530	16.91242	25.00000	99.97000
Public Ownership (Public)	Ratio	840	22.29618	16.55199	0.03000	75.00000
Leverage (Leverage)						
Total Debt to Total Asset (TDTA)	Ratio	840	0.81186	1.26640	0.00025	7.40924
Long-Term Debt to Total Asset (LTDTA)	Ratio	840	0.13332	0.13862	0.00195	0.94566
Total Debt to Total Equity (TDTE)	Ratio	840	1.25771	3.03443	0.00033	28.30532
Long-Term Debt to Total Equity (LTDTE)	Ratio	840	0.29856	0.50475	0.00311	3.50949
Intellectual Capital Disclosure (ICD)						
Human Capital Disclosure (Human)	Ratio	840	0.04656	0.02056	0.00000	0.05556
Internal Capital Disclosure (Internal)	Ratio	840	0.05455	0.00723	0.00000	0.05556
External Capital Disclosure (External)	Ratio	840	0.07249	0.12281	0.00000	0.61111

(Continued)

Table 1. (Continued)						
Variables/Indicators	Scale	n	Mean	SD	Minimum	Maximum
Corporate Governance (CG)						
Number of Committee Audit (Audit)	Person	840	6	2.42356	2	13
Number of Commissioners (Comm)	Person	840	3	0.55172	2	5

Table 2. Results of Outer Model Testing

Indicators	FSize	Ownership	Leverage	ICD	CG	CG*OwnS	Type	SE	p-value
Total Asset	0.903	-0.139	-0.03	-0.165	-0.229	-0.018	Reflective	0.077	<0.001
Total Sales	0.903	0.139	0.03	0.165	0.228	0.018	Reflective	0.077	<0.001
MCap	0.002	0.338	0.03	0.256	0.209	0.19	Reflective	0.098	0.494
Managerial	0.209	0.377	-0.013	0.347	-0.454	-0.688	Formative	0.088	<0.001
Institutional	0.029	-0.992	-0.002	0.048	-0.063	-0.096	Formative	0.075	<0.001
Public	-0.051	0.974	0.004	-0.085	0.112	0.169	Formative	0.075	<0.001
TDTA	0.353	-0.214	0.512	0.118	-0.288	-0.018	Reflective	0.085	<0.001
LTDTA	0.086	0.146	0.774	0.2	0.096	-0.064	Reflective	0.079	<0.001
TDTE	-0.046	-0.083	0.87	-0.13	-0.014	0.047	Reflective	0.077	<0.001
LTDTE	-0.238	0.079	0.868	-0.116	0.098	0.021	Reflective	0.078	<0.001
Human	0.047	0.063	-0.108	0.568	-0.082	-0.286	Formative	0.084	<0.001
Internal	0.291	-0.021	0.243	0.334	0.069	0.131	Formative	0.089	<0.001
External	-0.152	-0.035	-0.025	0.817	0.029	0.145	Formative	0.079	<0.001
Audit	-0.171	-0.131	-0.016	-0.144	0.844	-0.033	Reflective	0.078	<0.001
Comm	0.171	0.131	0.016	0.144	0.844	0.033	Reflective	0.078	<0.001
CG*OwnS	0	0	0	0	0	1	Reflective	0.075	<0.001

Note: FSize is for firm size, proxied by the log of total assets (Total Asset) and log of total sales (Total Sales), and end-year closing price market capitalization (MCap). Ownership is for ownership structure: the percentage of managerial Ownership (Managerial), percentage of institutional shares (Institution), and percentage of public Ownership (Public). Leverage is for Leverage proxied by total debt or liabilities to total assets (TDTA), total long-term liabilities to total assets (LTDTA), total liabilities to total equities (TDTE), and total long-term obligation to total equities (LTDTE). ICD is for intellectual capital disclosure, proxied by the quantities of human capital (Human), internal capital (Internal), and external capital (External) checklists stated explicitly in the firms' annual reports. CG is for corporate governance, proxied by the number of audit committee members (Audit) and the board of commissioners (Comm) members. CG*OwnS represents the contribution of CG to determine Ownership (OwnS). Type is for the contribution of the indicators to its variable, either reflective or formative. SE is for standard error. The p-value is less than 0.05.

becomes a driver to increasing information supplied by management. On the demand side, larger firms experience greater demand for information from stakeholders due to their impact on the economy and society. Descriptive data on firm size implies that the manufacturers achieved significant growth in assets and sales (Table 1). However, the standard deviations for three indicators of firm size are immense, implying that the firm sizes disperse among companies. It implies that the availability of resources to create and issue more information about ICDs varies. Some Indonesian manufacturers have sufficient resources to improve the ICDs level. The finding implies that Indonesian manufacturing companies need to optimize their resources to improve their ICDs. In that case, the results warn that the companies that are holding significant tangible assets only sometimes leads to a well-achieved knowledge management level.

Big firms are more progressive and innovative because the managers manage sufficient resources to achieve the business goals. Kumar et al. (1999) mentioned technological theories to describe the behavior of firm size. The theories emphasize that the larger the company, the more significant the number and capabilities of human and technological capital involved. The organizational structure is also more hierarchical than smaller companies. However, the circumstance may create diminishing returns in supervision within the firm because there is a likelihood that the managers would lose control as the firm size increases. There is also a likelihood that the managers of large companies need more intention and capacity to distribute organizational knowledge. Therefore, it causes a failure to maximize the resources and achieve intended objectives (Tsoukas, 1996). Further studies are suggested to define whether the managers' capacity to supervise and share knowledge decreases with the firm size's amplification.

6.2. Does ownership structure harm ICD?

The study finds that ownership structure affects the ICDs level substantially. However, the coefficient is negative. Descriptive statistical data signals a slight decrease in public Ownership during the research period while a slight increase in institutional ownership percentage. Nowadays, the position of institutions as large shareholders of manufacturing companies in Indonesia is increasingly robust and dominant, up to 77.3%. Back to the data that institutional holding dominates the ownership structure of Indonesian public companies, the results reveal a fruitful thought that the dominant institutions cannot improve the quality of ICD.

The finding implies that dominant institutional shareholders cannot make voluntary disclosure more comprehensive. In other words, this institutional Ownership likely could not take their normative role of supervising managers to create such comprehensive and astonishing voluntary ICDs. This action is not in line with the intentions of the institutional shareholders, who likely emphasize reducing information asymmetry. Subsequently, the action may result in suboptimal ICDs. In this instance, the usefulness of agency theory is questioned. In its present state, the theory needs more explanatory power to address this issue. The foundations that eloquent the evolution of agency theory offer little insight that scholars must also examine shareholders. Panda and Leepsa (2017) explain that agency theory is too unconcerned about the principals who may deceive, shirk, and exploit the agents. The agents may be unknowingly dragged into a hazardous working environment where principals act opportunistically.

What are the reasons the dominant institutional owners could not maintain and guide the quality of the information in the market? Further studies are required to test agency theory from the principal perspective, especially when institutional shareholders dominate the ownership structure. Zogning (2017) states that academicians should consider including prominent group players in business ownership because it could create new social and political consequences. The traditional view of private Ownership toward means of production is no longer relevant to the current business landscape.

6.3. Leverage does not affect ICD: the dominant use of short-term debts

For Hypothesis 3, the study finds that Leverage has nothing to do with ICD. The finding differs from previous studies, such as Bruggen et al. (2009) and Ousama et al. (2012). The authors predict that the finding is typical due to the standard financial behavior of Indonesian manufacturing companies to prefer short-term over long-term debts, as indicated by descriptive statistical data. The mean for LTDTA was 13.332%, meaning using short-term debt to total assets was 86.67%. On average, total debt ratios are far more extensive than long-term debt ratios. Short-term obligations would not raise agency problems compared to long-term debts (Abhayawansa & Guthrie, 2016). Therefore, there is no urgency to spend costs to generate comprehensive information on the use and the performance of managing intellectual capital in the company.

On the other hand, the nature of short-term debt is not powerful enough to improve the quality of ICD. From the agency's perspective, short-term debt lenders have less intention and access to interfere with managers regarding their performance in managing ICD. This result would vary if long-term debt dominated the Leverage. Mubarik et al. (2019) found that firms with high Leverage have higher external pressure from creditors and other stakeholders. Therefore, they will typically disclose more voluntary information. Since the Indonesian case shows that the samples tend to use short-term debts, the finding implies that short-term creditors would not pressure managers to have comprehensive ICDs. This study suggests that further research scrutinizes whether varied external financing would behave differently toward ICD.

6.4. Firm size has a negative effect on Leverage

The study results showed that firm size significantly negatively influences Leverage. Descriptive data from Table 1 shows that manufacturing companies tend to attain the average Total Assets of Rp 58,976,711,435,380. However, the standard deviation is enormous, even much larger than the average values, meaning that the average firm sizes were dispersed. A similar trend happens for Total Sales and Total Market Capitalization, showing a significant variation in the firm sizes. On the other hand, indicators for Leverage (TDTA and TDTE) show that the use of debts dominates compared to equities. However, further analysis illustrates the enormous use of short-term debts compared to long-term debts. In short, sizable Indonesian manufacturing companies tend to use less long-term debt.

Previous studies attempted to justify why the managers of large companies avoid extensive use of long-term debts. Butt (2016) explains that the total asset plays an essential role in determining

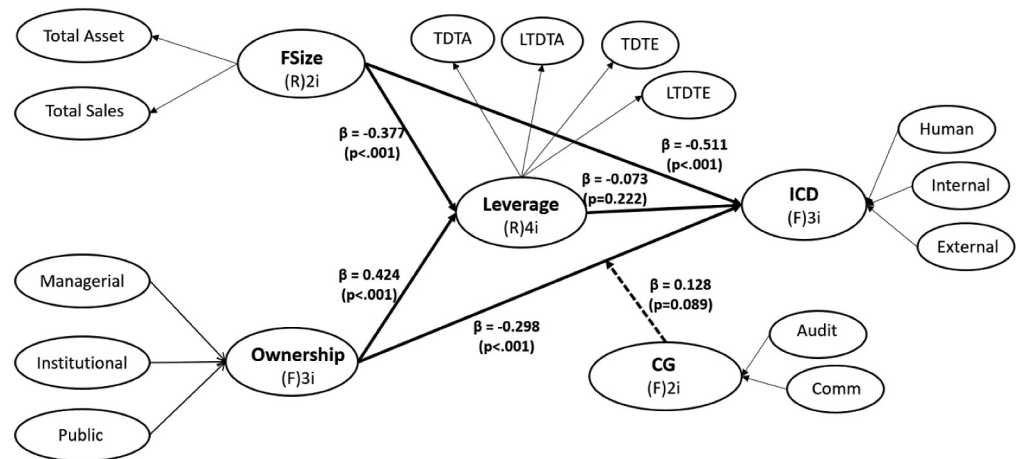
Table 3. Results of Hypotheses Testing

Paths	β	p-values
H1: Firm size affects intellectual capital disclosure	-0.511	<0.001*
H2: Ownership structure affects intellectual capital disclosure	-0.298	<0.001*
H3: Leverage affects intellectual capital disclosure	-0.073	0.222
H4: Firm size affects Leverage	-0.377	<0.001*
H5: Ownership structure affects Leverage	0.424	<0.001*
H6: Corporate governance moderates the influence of ownership structure on intellectual capital disclosure	0.128	0.089

Note: p-value ≤ 0.05

Figure 1. Results of Overall Model Testing.

Note: p-value ≤ 0.05



the prospect of the firm. Firms with significant assets have less Leverage because they have strong incentives to avoid underinvestment and asset substitution inefficiencies that can arise from the stockholder-bondholder agency problems. From this perspective, it is interesting for further study to define the motive of Indonesian manufacturers, in this case, to choose long-term debts, not short-term ones. Is it likely because of underinvestment and asset substitution inefficiencies in Indonesian manufacturing companies? It also becomes a substantial academic agenda to determine whether agency problems exist in the industry and their impact on the decision to use external financing. Hutten (2023) explains that when firms use a trim level of external financing, the managers cannot expect the role of creditors to monitor and become an effective internal corporate governance mechanism. As the principals, shareholders may not provide permission to add the debts. The principals may calculate that the possible bankruptcy cost is greater than the benefits taken from the efficiency achieved from smaller monitoring costs toward managers.

Ibhagui and Olokoyo (2018) found that large-sized companies have less reliance on short-term debts and more reliance on long-term debts as an optimal strategy for the companies. However, this study proves that large Indonesian manufacturers need more external financing. It is fruitful to examine the proposition that firms with greater size may create low- or moderate-debt ratios, asserting that the managers may intentionally prefer to maintain low- or moderate leverage levels since asymmetric information created from equity financing is relatively more minor than if the company uses debt financing. The lower likelihood of asymmetric information impacts the lesser equity cost (Morellec & Schurhoff, 2011). Therefore, large companies tend to choose equity financing and avoid using long-term debts to maintain the low cost of funding.

6.5. Ownership structure positively affects Leverage: the dominance of institutional owners

The results confirm the significant impact of the ownership structure to leverage level. Three types of Ownership, managerial, institutional, and public Ownership, are substantial in constructing the variable. Table 1 descriptive statistics show that the mean for institutional shareholders was 77.32%, which dominates the ownership structure. Meanwhile, the average of total debt to total assets was 81.86%. In other words, the dominance of institutional shareholders has significantly led to using a large percentage of total debts in the capital structure.

The finding supports Al-Fayoumi and Abuzayed's (2009) explanation of how dominant block holders are significant in determining external financing. Table 1 shows that the LTDTA was small, meaning that the companies used extensive short-term debts compared to long-term ones. The type of shareholders might have powerful authority to suggest strategies to minimize the financial risk and to justify why managers should choose lower-risk short-term debts.

These findings shed fascinating light on Indonesian companies' financial behavior: the more significant firm size and dominant institutional shareholdings lead to larger magnitudes of short-term debts. Ganguli (2013) states that if institutional investors could reach greater monitoring efficacy in the status quo, the equity holders would become one contributing resolution to minimize the agency problem. One strategy to maintain the situation is to avoid using long-term debt financing. The explanation is relevant for Indonesian manufacturing companies with more significant short-term debts. However, the proportion of total debts is still much more significant than that of equity.

Academics may be intrigued that maintaining short-term debt is more costly since shorter debt maturity faces frequent renegotiations (Custodio et al., 2013). The article predicts that among large companies in the US, large quantities of short-term debts indicate that the firms face higher levels of information asymmetry, low institutional Ownership, more managerial Ownership, and minimum agency costs of debts. The previous study evokes an idea to examine to what extent information asymmetry occurs among Indonesian manufacturers by which ownership structure, dominated by institutional shareholders, allows the firms to maintain less long-term debts. What motives do these dominating shareholders ask managers to hold short-term debts? Further studies may find it fruitful to describe the situation in the Indonesian case.

6.6. Corporate governance does not hold a moderating role in increasing the ICDs level

The study also finds that CG is insignificant in leading the effect of ownership structure on ICDs moderates (Hypothesis 6). Interestingly, the result varies from previous studies (Kamath, 2017; Li et al., 2012; Wang & Hussainey, 2013). A deeper analysis of the indicators shows that the audit committee and the board of commissioners do not significantly encourage the institutional shareholders to create a well-formatted ICD (see descriptive statistics from Table 1). Following the previous explanation that ownership structure affects ICD negatively, the results promote a fascinating issue that institutional shareholders do not guarantee to be commanding and capable of improving the quality of ICD.

6.7. Robustness test

Next, the statement raises questions: To what extent do Indonesian institutional investors attain sophisticated capacities to build an effective monitoring mechanism for their managers? To confirm the role of institutional shareholders in determining Leverage, the authors conduct a robustness test by using similar data and re-running the research model. However, the study removes Fsize to emphasize the impact of Ownership on Leverage and ICD. For Ownership, the study employs the percentage of institutional holding as the primary indicator. The authors also control indicators for the Leverage by eliminating total debt-related measurements. The results (see Figure 2 below) are interesting in that institutional owners do meaningfully reduce the use of long-term debts. The test also defines that corporate governance practices still cannot significantly accelerate the power of institutional shareholders to improve ICD.

The robustness test proves that the Ownership's impact on Leverage is significant and negative. Previously in the first running, when the three owners constructed the ownership variable, they could positively affect Leverage. In contrast, robustness tests show that Institutional Ownership leads to minimizing Leverage (see Table 1). The findings imply that the managerial and public holders hold different interests from the institutional holders. Therefore, it suggests the presence of agency problem type II that there are different interests between majority and minority owners (Panda & Leepsa, 2017).

The findings confirm that shareholder diffusion and minimum involvement of long-term creditors are common characteristics of Indonesian companies. The finding argues Ganguli's (2013) explanation that large and controlling shareholders involve creditors to share monitoring actions toward managers. Custodio et al. (2013) said that using short-term debt minimizes agency debt costs by avoiding preventable managerial actions such as overinvestment and asset substitution.

Under the explanation, there is a possibility that Indonesian manufacturers can reduce high information asymmetry (by using more short-term debts). The circumstance results in no urgency for the short-term creditors to ask managers to publish ICDs annually.

Conversely, it is robust that institutional shareholders are proven to be significantly assertive in pushing managers to publish ICDs. Zogning (2017) explains that institutional investors force managers of companies they invest in to maintain and guide the quality of information acquired at the market and the proper business conduct. Abhayawansa and Guthrie (2016) explained that firms disclose non-financial information because creditors do monitor and require managers to report their actions extensively. Considering that the capital structure in Indonesian manufacturers is dominated by short-term debt, the motive of publishing ICDs is likely due to the needs of institutional shareholders to attain information related to intellectual capital intensities in the industry. Abhayawansa and Guthrie (2016) explain that information about the firms' IC is important for shareholders in reducing the uncertainty associated with predicting future firm performance and value.

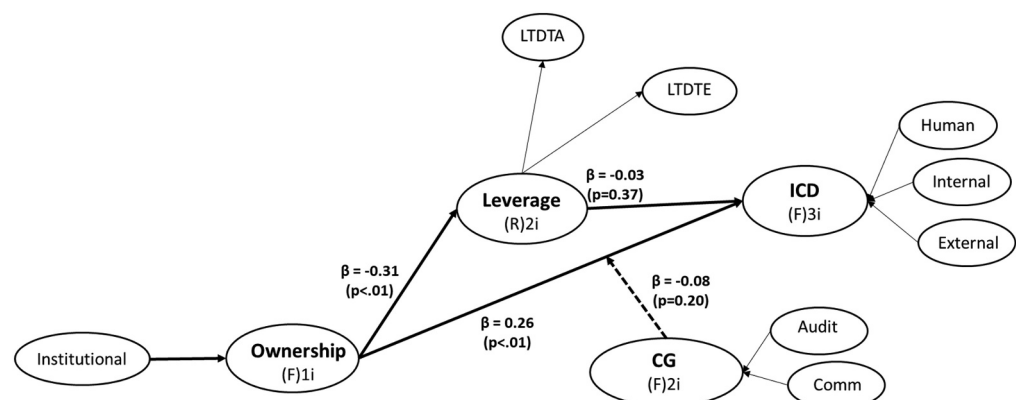
The finding also confirms the first test that CG does not substantially enhance the impact of dominated institutional Ownership to improve ICDs. Wang and Hussainey (2013) studied the contribution of corporate governance to publishing voluntary disclosure in UK companies. The country's corporate ownership structure is diverse and generally has high-quality corporate governance. The article found that better corporate governance improves reporting practices because forward-looking statements of well-governed firms improve the stock market's ability to anticipate future earnings. Also, institutional investors as external monitors have little impact on the level of voluntary forward-looking statements in the UK. The different results of the current study from the previous study evoke curiosity about the quality of corporate governance implementation among manufacturing companies in Indonesia. Further studies are suggested to examine the issue since it is commonly accepted that good corporate governance reduces the information asymmetry between managers and owners and improves the levels of corporate disclosure.

7. Summary and conclusion

The study found that firm size and ownership structure are significant factors that determine the quality of ICDs, but not Leverage. Further hypothesis testing shows that firm size and ownership structure determine the level of Leverage in Indonesian manufacturers during the analysis period. Corporate governance does not play a moderating role in the influence of ownership structure on ICDs. The study conducted a robustness test by including the percentage of shares held by the institution as the indicator for Ownership and the long-debt measurements for Leverage and Corporate Governance. The findings show that institutional shareholders reduce the use of long-term debts significantly. Also, corporate governance does not accelerate the power of institutional shareholders to improve ICDs.

Figure 2. Robustness Test.

Note: p-value ≤ 0.05



This study will assist practitioners and the government in understanding why companies issue comprehensive ICDs. The Indonesian government has established a corporate governance code and guidelines since 2014. However, the Guideline has yet to include the obligation for public companies to disclose intellectual capital information. The findings could trigger the government to develop policies encouraging large companies to issue better ICDs. Firstly, the government could set and restructure the accounting and reporting system to properly facilitate the need for solid intellectual capital management. A reliable report is valuable not only for external stakeholders but also for evaluating the managerial skills at combining latent capabilities, competencies, and tangible and intangible resources for generating value. Managing intangible assets is critical since it requires transparency, high management awareness, consensus, and transparent procedures. Secondly, the government could also provide incentives, such as tax provisions or grants to business organizations to invest in human, internal, and external capital. The study finds that more than a voluntary approach is needed to deliver the level of consistency investors require. While institutional investors also have an essential role in pushing companies to publish a more comprehensive level of voluntary ICDs, a combination of public and private activities offers the most significant potential for managing and reporting intellectual capital.

For practitioners, large firms often have diverse stakeholders with different interests and information needs regarding intellectual capital. Managers should proactively engage stakeholders to identify their information requirements and expectations regarding ICDs. Managers should also develop systematic resource allocation and strategies that enable them to gather, manage, and disclose intellectual capital information. Integrating intellectual capital management with the firm's overall strategy and performance management enables better decision-making and resource allocation. After all, the available samples describing intellectual capital management in their annual reports are limited, and the results could be different if an upcoming study adds the number of samples.

Author details

Nila Firdausi Nuzula¹

E-mail: nilafia@ub.ac.id

ORCID ID: <http://orcid.org/0000-0001-6523-0403>

Sri Mangesti Rahayu¹

Asih Marini Wulandari²

¹ Department of Business Administration, Universitas Brawijaya, Indonesia.

² Department of Business Administration, Universitas Pembangunan Nasional Veteran, Yogyakarta, Indonesia.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Citation information

Cite this article as: What factors lead companies to release intellectual capital disclosure? Evidence from Indonesian manufacturers, Nila Firdausi Nuzula, Sri Mangesti Rahayu & Asih Marini Wulandari, *Cogent Business & Management* (2023), 10: 2234149.

References

- Abhayawansa, S., & Guthrie, J. (2016). Does intellectual capital disclosure in analysts' reports vary by firm characteristics? *Advances in Accounting Incorporating Advances in International Accounting*, 35, 26–38. <https://doi.org/10.1016/j.adiac.2016.04.002>
- Albu, O. B., & Flyverbom, M. (2019). Organizational transparency: Conceptualizations, conditions, and consequences. *Business & Society*, 58(2), 268–297. <https://doi.org/10.1177/0007650316659851>
- Al-Fayoumi, N. A., & Abuzayed, B. M. (2009). Ownership structure and corporate financing. *Applied Financial Economics*, 19(24), 1975–1986. <https://doi.org/10.1080/09603100903266807>
- Al Sartawi, A. M. (2017, January 8). The Level of Disclosing Intellectual Capital in the Gulf Cooperation Council Countries. *Musleh Al-Sartawi, Abdalmuttaleb, the Level of Disclosing Intellectual Capital in the Gulf Cooperation Council Countries (January 8, 2017). International Research Journal of Finance and Economics*, 159, January 2017, Available at SSRN: [https://ssrn.c\(159\)](https://ssrn.c(159)), pp. 1110. Retrieved from <https://ssrn.com/abstract=2929414>
- Amitava, M., & Ghosh, C. (2021). Effect of intellectual capital disclosure on cost of equity capital: A study on Indian companies. *Asian Journal of Accounting Research*, 6(2), 165–179. <https://doi.org/10.1108/AJAR-08-2020-0069>
- Anggraini, Y., & Widarjo, W. (2020). Political connection, institutional Ownership, and tax aggressiveness in Indonesia. *European Journal of Business and Management Research*, 5(5), 1–7. <https://doi.org/10.24018/ejbmr.2020.5.5.528>
- Bendickson, J., Muldoon, J., Liguori, E., & Davis, P. E. (2016). Agency theory: The times, they are a-changin'. *Management Decision*, 54(1), 174–193. <https://doi.org/10.1108/MD-02-2015-0058>
- Bhat, D. A., Chanda, U., & Bhat, A. K. (2020). Does firm size influence Leverage? Evidence from India. *Global Business Review*, 24(1), 1–10. <https://doi.org/10.1177/0972150919891616>
- Bonser-Neal, C., Linnan, D., & Neal, R. (1999). Emerging market transaction costs Evidence from Indonesia. *Pacific-Basin Finance Journal*, 7(2), 103–127. [https://doi.org/10.1016/s0927-538x\(99\)00003-7](https://doi.org/10.1016/s0927-538x(99)00003-7)
- Bosse, D. A., & Phillips, R. A. (2016). Agency theory and bounded self-interest. *Academy of Management Review*, 41(2), 276–297. <https://doi.org/10.5465/amr.2013.0420>

- Bruggen, A., Vergauwen, P., & Dao, M. (2009). Determinants of intellectual capital disclosure: Evidence from Australia. *Management Decision*, 47(2), 233–245. <https://doi.org/10.1108/00251740910938894>
- Butt, U. (2016). Profits, firm size, growth opportunities, and capital structure: An empirical test. *Journal of Finance and Economics*, 4(1), 58–69. <https://doi.org/10.12735/jfe.v4i1p58>
- Chahal, H., & Bakshi, P. (2015). Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning. *International Journal of Bank Marketing*, 33(3), 376–399. <https://doi.org/10.1108/IJBM-07-2013-0069>
- Choong, K. K. (2008). Intellectual capital: Definitions, categorization, and reporting models. *Journal of Intellectual Capital*, 9(4), 609–638. <https://doi.org/10.1108/14691930810913186>
- Custodio, C., Ferreira, M. A., & Laureano, L. (2013, April). Why are US firms using more short-term debt? *Journal of Financial Economics*, 108(1), 182–212. <https://doi.org/10.1016/j.jfineco.2012.10.009>
- Dang, C., Li, Z., & Yang, C. (2018, January). Measuring firm size in empirical corporate finance. *Journal of Banking and Finance*, 86, 159–176. <https://doi.org/10.1016/j.jbankfin.2017.09.006>
- Dumay, J., & Stefano Zambon, D. (2016). A critical reflection on the future of intellectual capital: From reporting to disclosure. *Journal of Intellectual Capital*, 17(1), 168–184. <https://doi.org/10.1108/JIC-08-2015-0072>
- Elfeky, M. I. (2017). The extent of voluntary disclosure and its determinants in emerging markets: Evidence from Egypt. *The Journal of Finance and Data Science*, 3(1–4), 45–59. <https://doi.org/10.1016/j.jfds.2017.09.005>
- Firer, S., & Williams, S. M. (2005). Firm ownership structure and intellectual capital disclosures. *South African Journal of Accounting Research*, 19(1), 1–18. <https://doi.org/10.1080/10291954.2005.11435116>
- Ganguli, S. K. (2013). Capital structure - does ownership structure matter? Theory and Indian evidence. *Studies in Economics & Finance*, 30(1), 56–72. <https://doi.org/10.1108/10867371311300982>
- Garcia-Meca, E., & Sanchez-Ballesta, J. P. (2010). The association of board independence and ownership concentration with voluntary disclosure: A meta-analysis. *European Accounting Review*, 19(3), 603–627. <https://doi.org/10.1080/09638180.2010.496979>
- Goebel, V. (2015). Estimating a measure of intellectual capital value to test its determinants. *Journal of Intellectual Capital*, 16(1), 101–120. <https://doi.org/10.1108/JIC-12-2013-0118>
- Goh, P. C., & Lim, K. P. (2004). Disclosing intellectual capital in company annual reports: Evidence from Malaysia. *Journal of Intellectual Capital*, 5(3), 500–510. <https://doi.org/10.1108/14691930410550426>
- Hair, J. F., Jr., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial Least Squares Structural Equation Modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hayati, M., Yurniwati, & Putra, A. R. (2015). The effect of intellectual capital to value relevance of accounting information based on PSAK converge of IFRS. In *2nd Global Conference on Business and Social Science* (pp. 999–1007). Denpasar, Bali: Procedia - Social and Behavioral Science. <https://doi.org/10.1016/j.sbspro.2015.11.133>
- Hutten, E. (2023, 6 18). *University of Twente Student Theses*. Retrieved from. <https://purl.utwente.nl/essays/65216>
- Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics & Finance*, 45(July), 57–82. <https://doi.org/10.1016/j.najef.2018.02.002>
- Jensen, M. C., & Meckling, W. H. (1976, October). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kamath, B. (2017). Determinants of intellectual capital disclosure: Evidence from India. *Journal of Financial Reporting and Accounting*, 15(3), 367–391. <https://doi.org/10.1108/JFRA-01-2016-0003>
- Kamukama, N. (2013). Intellectual capital: Company's invisible source of competitive advantage. *Competitiveness Review: An International Business Journal*, 23(3), 260–283. <https://doi.org/10.1108/10595421311319834>
- Khalique, M., Shaari, J. A., & Isa, A. H. (2013). The road to the development of intellectual capital theory. *International Journal of Learning and Intellectual Capital*, 10(2), 122–136. <https://doi.org/10.1504/IJLIC.2013.052953>
- Kumar, K. B., Rajan, R. G., & Zingales, L. (1999, July). *What Determines Firm Size?* National Bureau of Economic Research. Retrieved from nber.org: www.nber.org/papers/w7208
- Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review*, 44(2), 98–110. <https://doi.org/10.1016/j.bar.2012.03.003>
- Martin de Castro, G., Navas-Lopez, J. E., Lopez-Saez, P., & Alama-Salazar, E. (2006). Organizational capital as the competitive advantage of the firm. *Journal of Intellectual Capital*, 7(3), 324–337. <https://doi.org/10.1108/14691930610681438>
- Massaro, M., Dumay, J., Garlatti, A., & Dal Mas, F. (2018). Practitioners' views on intellectual capital and sustainability: From a performance-based to a worth-based perspective. *Journal of Intellectual Capital*, 19(2), 367–386. <https://doi.org/10.1108/JIC-02-2017-0033>
- Mitton, T. (2007). Why have debt ratios increased for firms in emerging markets? *European Financial Management*, 14(1), 127–151. <https://doi.org/10.1111/j.1468-036x.2007.00430.x>
- Morellec, E., & Schurhoff, N. (2011). Corporate investment and financing under asymmetric information. *Journal of Financial Economics*, 99(2), 262–288. <https://doi.org/10.1016/j.jfineco.2010.09.003>
- Mubarik, S., Naghvi, N., & Mubarik, M. F. (2019). Governance-led intellectual capital disclosure: Empirical evidence from Pakistan. *Humanities and Social Sciences Letters*, 7(3), 141–155. <https://doi.org/10.18488/journal.73.2019.73.141.155>
- OECD. (2001). *The Well-Being of Nations: The Role of Human and Social Capital*. Organization for Economic Cooperation and Development. Retrieved from <http://www.oecd.org/site/worldforum/33703702.pdf>
- Ousama, A. A., Fatima, A.-H., & Hafiz-Majdi, A. R. (2012). Determinants of intellectual capital reporting: Evidence from annual reports of Malaysian listed companies. *Journal of Accounting in Emerging Economies*, 2(2), 119–139. <https://doi.org/10.1108/20421161211229808>

- Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspectives. *India Journal of Corporate Governance*, 10(1), 74–95. <https://doi.org/10.1177/0974686217701467>
- Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting, and management. *Journal of Intellectual Capital*, 1(2), 155–176. <https://doi.org/10.1108/14691930010348731>
- Schwab, K., & Zahidi, S. (2020). *The Global Competitiveness Report (Special Edition 2020)*. World Economic Forum.
- Sharma, S. S., Narayan, P. K., Thiraisamy, K., & Laila, N. (2019). Is Indonesia's stock market different when it comes to predictability? *Emerging Market Reviews*, 40, 1–11. <https://doi.org/10.1016/j.ememar.2019.100623>
- Sullivan, R., & Gouldson, A. (2012). Does voluntary carbon reporting meet investors' needs? *Journal of Cleaner Production*, 36, 60–67. <https://doi.org/10.1016/j.jclepro.2012.02.020>
- Tsoukas, H. (1996). The firm as a distributed knowledge system: A constructionist approach. *Strategic Management Journal*, 17(S2), 11–25. <https://doi.org/10.1002/smj.4250171104>
- Vithana, K., Soobaroyen, T., & Ntim, C. G. (2021). Human resource disclosures in UK corporate annual reports: To what extent do these reflect organizational priorities towards labor? *Journal of Business Ethics*, 169(3), 475–497. <https://doi.org/10.1007/s10551-019-04289-3>
- Wang, M., & Hussainey, K. (2013, May–June). Voluntary forward-looking statements are driven by corporate governance and their value relevance. *Journal of Accounting and Public Policy*, 32(3), 26–49. <https://doi.org/10.1016/j.jaccpubpol.2013.02.009>
- White, G., Lee, A., & Tower, G. (2007). Drivers of voluntary intellectual capital disclosure in listed biotechnology companies. *Journal of Intellectual Capital*, 8(3), 517–537. <https://doi.org/10.1108/14691930710774894>
- Whiting, R. H., & Woodcock, J. (2011). Firm characteristics and intellectual capital disclosure by Australian companies. *Journal of Human Resource Costing & Accounting*, 15(2), 102–126. <https://doi.org/10.1108/14013381111157337>
- Widarjo, W., Rahmawati, B., Widagdo, A. K., & Widagdo, A. K. (2020). Underpricing and intellectual capital disclosure: Evidence from Indonesia. *Global Business Review*, 21(6), 1325–1337. <https://doi.org/10.1177/0972150919857017>
- Widiatmoko, J., Indarti, M. G., Pamungkas, I. D., & Ntim, C. G. (2020). Corporate governance on intellectual capital disclosure and market capitalization. *Cogent Business & Management*, 7(1), 1–15. <https://doi.org/10.1080/23311975.2020.1750332>
- Zahra, S. A., & Das, S. R. (1993). Innovation strategy and financial performance in manufacturing companies: An empirical study. *Production and Operations Management*, 2(1), 15–37. <https://doi.org/10.1111/j.1937-5956.1993.tb00036.x>
- Zogning, F. (2017). Agency theory: A critical review. *European Journal of Business and Management*, 9(2), 1–8.