Advances in Economics, Business and Management Research, volume 191
Proceedings of the 3rd Annual International Conference on Public and Business Administration (AICoBPA 2020)

Determinant Factors of Intellectual Capital Disclosure:

Evidence from Indonesia

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***Abstract*—The paper examines the determining factors of intellectual capital disclosure (ICD) published by manufacturing companies in Indonesia. The results showed that the firm size and ownership structure contributed significantly but negatively to determine the degree of ICD. However, the finding shows that leverage does not play a substantial role in determining ICD. The study also examined whether the firm size and ownership structure had an impact on leverage. The findings confirm the considerable impacts of both variables on the dependent variable.**

Keywords—firm size, ownership structure, leverage, intellectual capital disclosure

I. INTRODUCTION

The knowledge-based economy development in developing countries such as Indonesia tends to be slower than in developed countries. Australia had turned to knowledge-based economic development in 2011 [1]. Even among other ASEAN countries, its Knowledge Economy Index (KEI) was at 3.29 (score 1-10), number 5 after Singapore, Malaysia, Thailand, and the Philippines. The index fell in 2012 to reach 3.11 [2]. The facts provide reasons for examining the knowledge-based economy's implementation in intellectual capital disclosure in manufacturing companies in Indonesia.

The knowledge economy is noticeable in forming a flexible management and production process to overcome the risks of falling purchasing power [3]. Companies must use their unique knowledge and build their capacity to maintain a competitive position. Knowledge and other intangible assets such as skills, attitude, intellectual agility, and human resources competence to set procedures and create innovation, social value, and cooperation develop intellectual capital [4].

The concept of intellectual capital has been around since the late 1990s when managers realize that they should develop better relationships with stakeholders and that the networks create higher competitiveness. Later, interdependence with stakeholders requires knowledge capital and continuous strategic innovation determined by developments in information and technology. The need to improve the competitiveness and the growth of information technology in the current knowledge-based economy has prompted many researchers to analyse and measure intellectual capital [5].

Intellectual capital disclosure (ICD) is vital to reduce information asymmetry and increase transparency, accountability, lower capital costs, and market value [6]. On the contrary, some negative consequences of ignoring the ICD emerge, such as small but influential shareholders obtaining limited information about intangible assets and the rise of managers' opportunistic behaviour [7]. Firms should manage "soft" intangible assets such as employee knowledge, customer relationships, and strategic vision to increase its value. It is what makes researchers agree that companies need to implement ICD.

This research contributes to showing the factors that contribute to determining ICD in Indonesia. Several researchers have researched this topic in developed countries [1,7-9]. There are also several studies in developing countries such as Malaysia [10,11], India [12], and Srilanka [13]. This research shreds evidence from Indonesia's perspective that firm size and ownership structure significantly influence the content of ICD. The authors also examine whether leverage affects the ICD since the first-mentioned two latent variables significantly affect leverage. However, the results show that leverage does not determine ICD. This study also finds that implementing CG does not alter the influence of ownership structure on ICD.

II. LITERATURE REVIEW

A. Firm Size and ICD Relationship

There are three relevant theories to explain the ICD: signalling theory, legitimacy theory, and stakeholder theory [13]. Signalling theory explains the usefulness of qualified information as a good signal for reassessing the firm value and reducing capital costs. Legitimacy theory emphasizes how a company seeks approval to function and operate in a social community environment. Stakeholder theory describes how

large companies publish intellectual capital reports because they are more visible to their stakeholders.

Stakeholder theory becomes an analytical perspective on why firm size contributes to the ICD [13]. The larger the company's size, the more important management is to meet diverse stakeholders' needs and expectations. Some previous studies have confirmed the influence of firm size on ICD [9], [11]. Large companies have complex business networks, and as a consequence, they potentially have conflicts between managers and diverse stakeholders. This conflict increases agency costs. The preparation and distribution of ICD can increase the intensity of information and reduce agency costs. Firm size encourages companies to submit voluntary disclosures such as ICD [14].

H_1: Firm size influences ICD

B. Ownership Structure and ICD Relationship

Previous research has analysed the influence of ownership structure on ICD and found mixed results. Institutional ownership had little impact on the efforts to deliver voluntary annual reports [14]. Privately-owned companies tend to be better prepared to disclose their IC performance than public sector companies [12]. A study found that public companies held by limited owners were less likely to disclose IC than companies with more diffused ownership [15].

Agency theory and information asymmetry explain why ownership structures affect ICD negatively [1]. Preferences in risk, time horizon, and managerial interests between management and shareholders lead to the emergence of agency conflicts. If shareholders spread, the conflict of interest would be potent as well. Management uses inclusive ICD to minimize agency problems and information asymmetry.

H_2: Ownership structure influences ICD

C. Leverage and ICD Relationship

The third factor that affects ICD is leverage. Agency theory explains that external debt leads to the emergence of existing agency costs due to differences of interest between shareholders and creditors. Releasing relevant information may reduce interest differences and monitoring costs [1]. Also, debt elevates the agency cost due to the increasing level of financial distress risk. High leverage causes these creditors and bondholders to require information about its performance while reducing information asymmetry and cost monitoring. Therefore, companies with high leverage levels generally encourage companies to issue complete ICD since creditors and shareholders ask to do so [9,11].

H_3: Leverage influences ICD

D. Firm Size and Leverage Relationship

This article tests the pecking-order hypothesis and the trade-off theory to explain the relationship between the company's size and leverage. According to the pecking-order hypothesis, the larger the company's size, the lower the leverage [6]. That is, companies are less likely to use long-term debt, while trade-off theory states otherwise. Small companies tend to have a limited operating scale. Then financial institutions are hesitant to provide loan funds to them. Small companies also consider the risks if funding comes from debt to these third parties will increase debt costs, bankruptcy, and eventual loss of ownership. Therefore, based on the trade-off theory, small company sizes will have a low leverage level because it is more funded by its capital [6].

H_4: Firm size influences leverage

E. Ownership Structure and Leverage Relationship

We suspect that the ownership structure affects leverage due to two assumptions [16]. First, there is a difference of interests between management and the owner in decision making. Second, managerial, institutional, and individual block shareholders' ownership contributes to controlling managers' behaviour in determining funding strategies. Agency theory explains that the interests of owners lead to deviations in the optimal capital structure.

H_5: Ownership structure influences leverage

F. Corporate Governance, Ownership Structure, and ICD Relationship

Corporate governance determines voluntary disclosure in the annual report, especially in narrative sections [14]. Acceptable CG practices can effectively improve reporting practices. The audit committee has the nature of independence, can understand financial practices and theories, and has adequate size. With this function, the audit committee contributes positively to the delivery of ICD since it reduces information asymmetries [17].

This article assumes that CG implementation determines the direction and effect of ownership structure on ICD. The breadth of information on ICD varies according to the ownership structure [12]. An increasingly diffuse ownership structure has a low agency cost, resulting in higher ICD disclosure rates. Thus, acceptable governance practices can reduce agency costs, so that if the ownership structure will affect the ICD. To improve the quality of ICD, the company needs adequate oversight and supervision of the audit committee and the board of commissioners. The number or size of auditors can determine the ICD [1].

H_6: Corporate governance moderates the influences of ownership structure towards intellectual capital disclosure.

III. METHODS

This study applies samples from secondary sector companies included as a knowledge-packed industry per the OECD classification and the Jakarta Stock Industrial Classification (JASICA). It involves all multi-industry and consumer goods sector companies listed on the Indonesia Stock Exchange that are not experiencing suspension during the 2014-2018 period. For each of the sample companies, the

authors employ annual reports as the source of all data. The population of this research is 142 manufacturing companies. The research involved 105 firm-years observable data.

This study measures the firm size with three indicators. They are the logarithm of total assets (Total Asset) and the logarithm of total sales (Total Sales) [6]. The third indicator is the market capitalization value (MCap) at the end of the year. Market capitalization shows how the stock market rewards the performance of companies managing intangible assets [12].

Ownership structure indicators are the proportion of shares owned by managers (Managerial), the percentages of shares owned by the institution (Institution) and owned by the public (Public). Meanwhile, the proxies for leverage are the ratio of total debt to total assets (TDTA), total long-term debt to total assets (LTDTA), total debt to total equity (TDTE), and total long-term debt to total equity (LTDTE) [6]. We measure ICD by applying the human capital index (Human), internal capital (Internal), and external capital (External) [1]. We use the unweighted dichotomous to set a score of 1 for disclosing specific items in the annual report and 0 otherwise. The number of items that scored one compared to the total number of items becomes the measurement of the disclosure rate. We analyse corporate governance through the number of the audit committee and the board of commissioners.

IV. Results

Descriptive data implies that the firm size, proxied by the average total assets, increased slightly in 2018, while total sales and market capitalization were stable during the 2014-2018 period. Of the three proxies, market capitalization has a relatively higher deviation standard, indicating the data is more varied than the total assets and total sales data.

Ownership data shows that institutions hold 77.32% of manufacturing companies, while public ownership is 22.3% on averages. Managerial ownership is only 0.38%. It also shows that 77.2% of manufacturing company assets employ debt for financing the assets. However, the long-term debt used to fund assets is only 13.32%. These two proxies indicated that the manufacturing companies relied primarily on short-term debt. Total debt to total equity also indicates that short-term debt dominates the structure of capital.

For ICD, the external capital disclosure relative index reached the highest value, which is 0.07, compared to internal capital disclosure and human capital disclosure of 0.05 and 0.04, respectively. Disclosure of human resources turned out to be the lowest among the three indicators. Furthermore, the average number of audit committees on the board of directors of sample companies is six individuals, with a minimum number of two individuals complying with implementing good corporate governance in Indonesia. The average number of members of the board of commissioners is three persons, of which the most are five persons for one period.

The outer model test results show that one of the indicators on the FSize variable, i.e., MCap, is insignificant. Therefore, we removed the indicator from the outer model and re-ran the path analysis. The following Figure 1 shows the results of the second test.

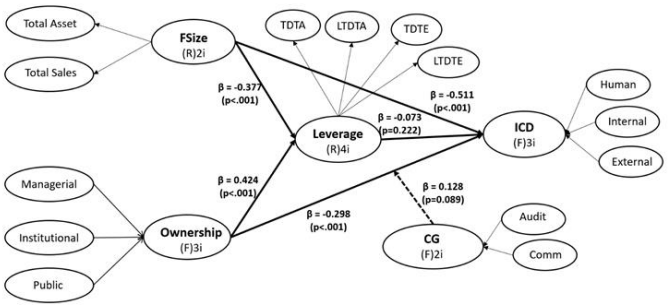

Fig. 1. Models of path analysis.

Table 1 below displays the hypotheses testing results and suggests accepting all hypotheses except for H3.

TABLE I. Results of Hypotheses Testing

Paths	β	p-value
H1: Firm size influences ICD	-0.511	<0.001*
H2: Ownership structure influences ICD	-0.298	<0.001*
H3: Leverage influences ICD	-0.073	0.222
H4: Firms size influences leverage	-0.377	<0.001*
H5: Ownership structure influences leverage	0.424	<0.001*
H6: Corporate governance moderates the influence of ownership structure towards ICD	0.128	0.089

Source: Authors (2020)

The total effect analysis results in the research model (Table 2) illustrate that the variable that contributes the most is FSize to ICD. The smallest effect size is the impact of leverage on ICD.

TABLE II. Analysis of Total Effects

Effect sizes for total effects	FSize	OwnShip	Leverage	CG*OwnShip
Leverage	0.111	0.148	-	
ICD	0.207	0.082	0.01	0.016

Source: Authors (2020)

V. Discussion

This research supports previous research that the firm size is an essential factor in preparing and disseminating ICD (H_1). However, the direction of the firm size relationship and ICD is negative, contrary to the previous argument that firm size affects ICD positively [9,11]. This study argues that large companies do not always have sufficient resources to disclose IC information voluntarily. Descriptive data confirms that the ICD index during the 2014-2018 period was not improving.

The result approves the previous studies that large companies tend to be more progressive and innovative because they have sufficient resources to publish ICD [1]. Assuming that the company is honest and compiles ICD following the actual performance and management activities of knowledge

management, these findings indicate that the business of manufacturing companies in Indonesia is still far from optimizing resources and carrying out competitive strategies.

H_2 testing supports previous research that ownership structure determines ICD [12,14]. Interestingly, the direction of variable ownership structure influence on ICD is negative. Descriptive data shows a trend of a striking decrease in the percentage of public ownership during the research period, while institutions as a large shareholder of Indonesia's manufacturing companies are increasingly robust and dominant. On the other hand, aggregate ICD data on all indicators is likely to remain during 2014-2018. Since institutional ownership dominates the shareholding structure of public companies in Indonesia, it is thought-provoking that institutions as dominant shareholders have not improved the quality of ICD.

A more in-depth analysis shows that leverage does not significantly affect ICD (H_3). These results do not support previous research [1,9,11]. According to descriptive data, companies prefer to use short-term debt. Under agency theory, short-term debt lenders cannot monitor and supervise management to improve ICD. We suspect this result would be different if long-term debt dominates the debt structure. Further research is needed to clarify these predictions.

We find that firm size and ownership structure affect leverage. H_4 testing shows that firm size affects leverage negatively. If the companies have a small size, they tend to use funding sources derived from their capital, not debt [6]. This study finds that the sample companies fall into large companies and that the average company has more short-term debt than long-term debt. This fact approves the trade-off theory for Indonesian manufacturing companies that an increase in the firm size makes the company more likely to avoid long-term debt. It is possible because long-term debt has the consequences of debt costs and the potential for more prominent bankruptcy, even causing the owner to lose his shares [6].

Similarly, H_5 test results that ownership structure contributes significantly to determine firm leverage. Descriptive statistical data shows that institutional ownership dominates the ownership structure, which is up to 77.3%. We assume that large shareholders in these institutions influence and intervene in capital structure decisions, encouraging companies to use short-term debt to finance asset procurements. This result confirms that block-holders play a role in determining leverage [16]. Large shareholders agree with ideas to reduce the risk of using long-term debt and opt for lower-risk short-term debt.

This study finds that CG does not act as a moderating variable that determines the direction and effect of ownership structure on ICD (H_6). Although ownership structure has a direct and significant effect on ICD, implementing CG does not improve the impact of ownership structure on ICD. Seemingly, the audit committee's existence and the board of commissioners has not been significant to encourage large shareholders to improve the quality of the ICD.

VI. Concluding Remarks

The study reaffirms the supremacy of institutional ownership in Indonesian manufacturing companies. It significantly determines the content of the annual ICD, characterized as external capital disclosures. This study also reinforces previous studies that the firm size manifestly determines ICD. However, the direction of both test results is marked negative. We suggest further research to analyse in what situation ownership structure and firm size in the Indonesian context may affect ICD positively. Secondly, it is fruitful to scrutinize to what extent the current quality of ICD might evoke the awareness of capital market participants to use the report as a vital source of reassessing the firm value. A fruitful finding is that CG practices do not moderate the influence of ownership structures on the content of ICD.

Acknowledgment

The authors thank the Faculty of Administrative Science, Universitas Brawijaya, for the professorship grant.

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