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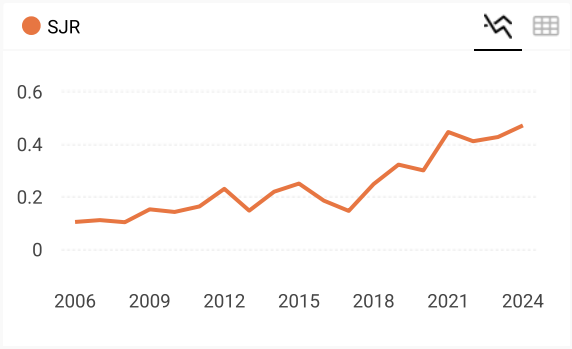

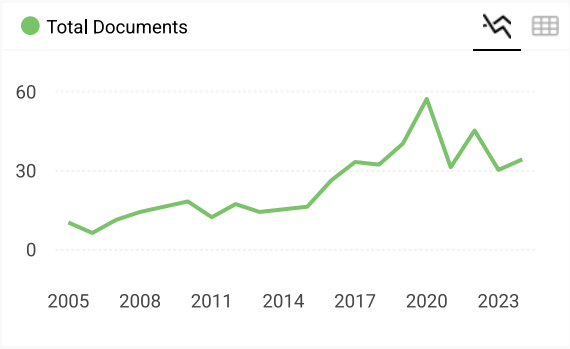

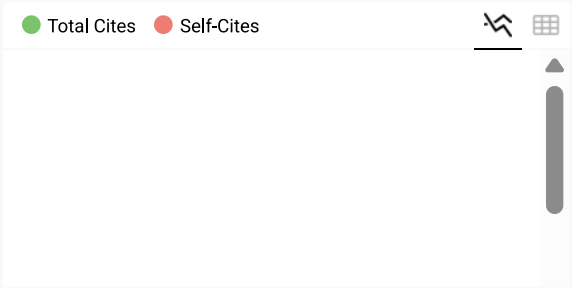

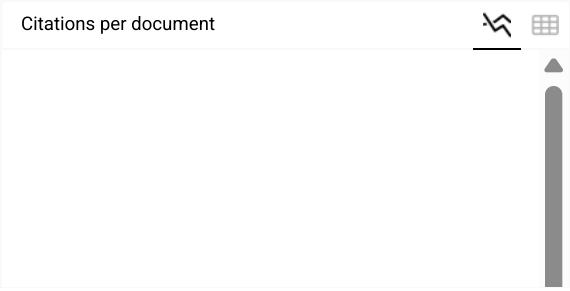


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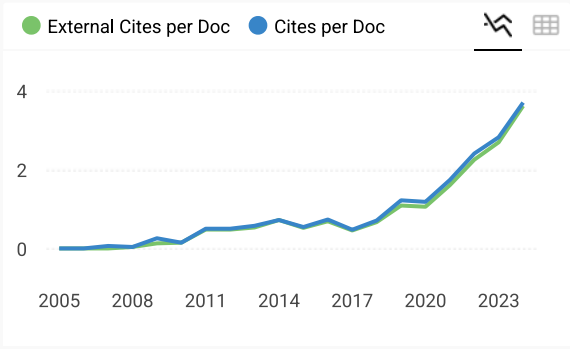
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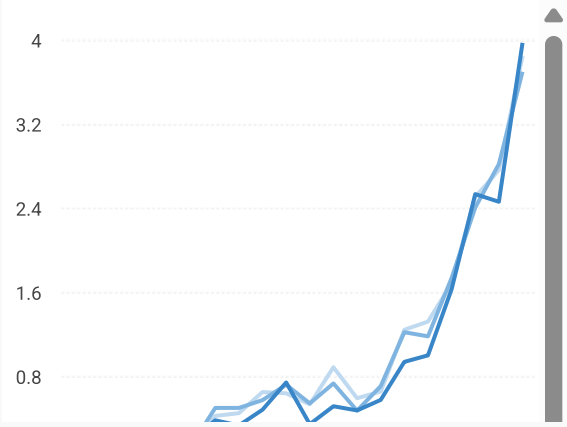
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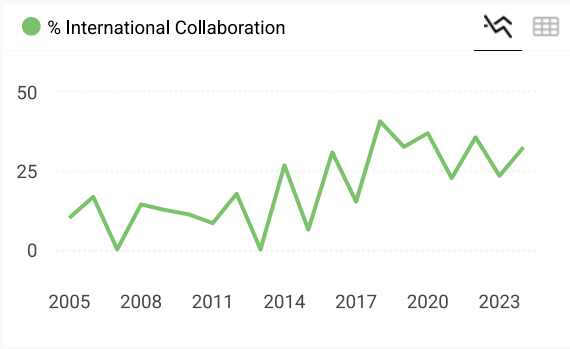
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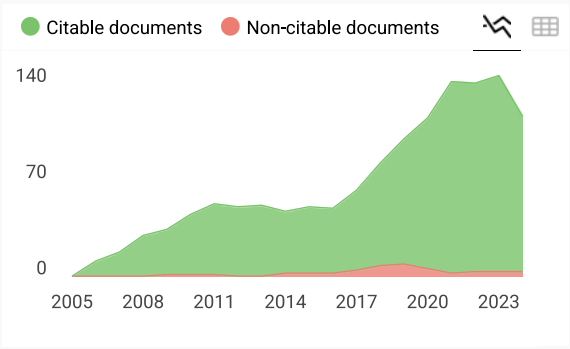
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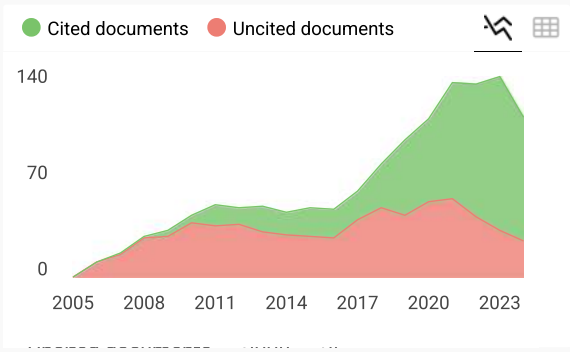
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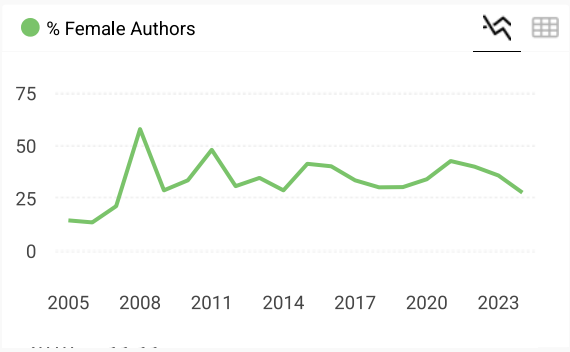
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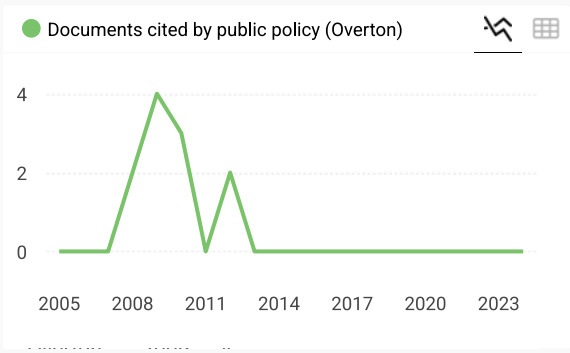
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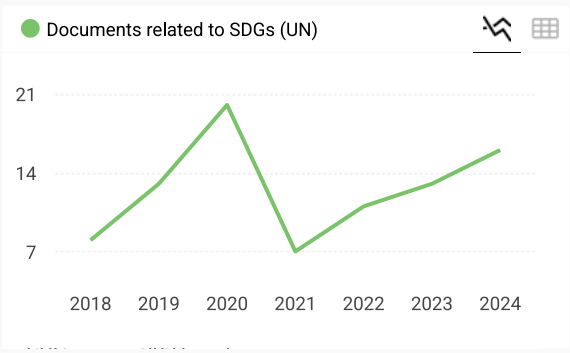
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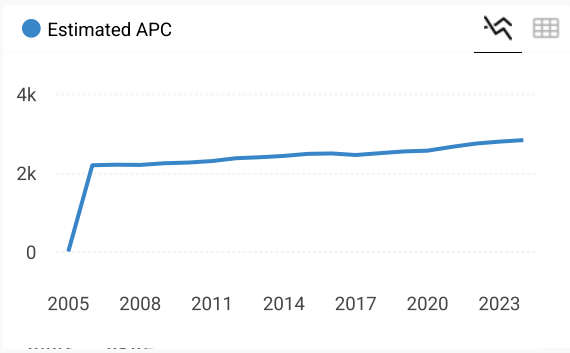
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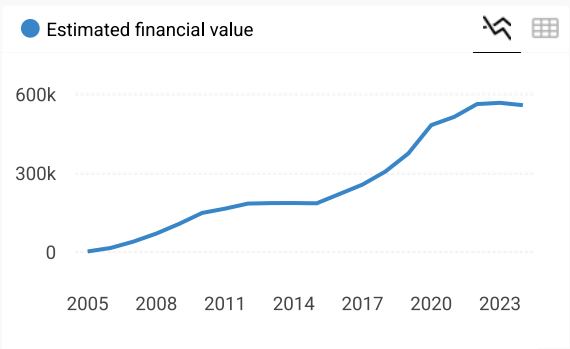
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The contributing factors of intellectual capital disclosures in agriculture and mining sectors of Indonesia and Thailand

Saarce Elsye Hatane, Josua Tarigan, Elenne Stefanie Kuanda and Elizabeth Cornelius

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Abstract

Purpose – This study aims to examine the factors affecting intellectual capital disclosure (ICD), especially in the agriculture and mining sectors in Indonesia and Thailand. Additionally, this study discusses the difference in ICD levels between Indonesia and Thailand.

Design/methodology/approach – The sample used is companies listed on the Indonesia Stock Exchange and Stock Exchange of Thailand from 2013 to 2017. The method used is a content analysis of 380 annual reports (150 from Thailand and 230 from Indonesia). This study uses a panel regression model. Variables tested are firm size, market shares, minority shareholders, profitability, leverage and the focus on ICD components such as human capital disclosure, structural capital disclosure and relational capital disclosure.

Findings – IC disclosures in financial statements are generally oriented to past events and focus more on the human capital component. Overall, ICDs in Thailand are more qualified than in Indonesia. The findings support the stakeholder and legitimacy theories. It was found that the greater the company's resources, the higher the quality of disclosure of all intellectual capital (IC) components. Conversely, when associated with the position in the market, companies reduce the disclosures. As the company has gained the government's legitimacy, management's passion for revealing more about its ICD is diminishing.

Research limitations/implications – This study focuses on the agriculture and mining sectors in Indonesia and Thailand. The annual report is the primary medium to observe IC in qualitative and quantitative ways, yet firms would use other means to disclose their IC. This study deploys the content analysis method, in which the determination of scores is based on the researchers' judgment.

Originality/value – This study contributes to the ICD-related literature by focusing on the agriculture and mining industries and multinational scopes. The ICD valuation is extended to the quality of disclosures, in which numerical and monetary figures also support the disclosures. This study also examined minority shareholders' role in ICD quality, which is infrequent in ICD literature.

Keywords Indonesia, Thailand, Intellectual capital disclosures, Quality of disclosures, Market share, Minority interest

Paper type Research paper

1. Introduction

In the manufacturing-based economy era, shareholders and stakeholders made decisions and decided the value of a firm based on tangible assets reporting, such as through financial performance report. However, in the current knowledge-based era, they no longer consider not only tangible assets but also intangible assets in a firm (Cuozzo *et al.*, 2017; Chowdhury *et al.*, 2018; Beretta *et al.*, 2019). The intangible assets of a firm are also called intellectual

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capital (IC). In a firm, IC can be in the form of research and development (R&D), human resources, employee training, relationship with external parties, information system (Maaloul and Zéghal, 2015; Martín-de Castro *et al.*, 2019; Dameri and Ferrando, 2021), firm performance, database, employee capabilities and other intangible assets (Huang *et al.*, 2010; Mardini and Lahyani, 2020). One of the instruments used to inform about the IC owned by companies is through annual reporting.

The significance of IC earns the attention of investors and becomes the object of many studies. Based on previous research studies, IC is divided into the following three categories: human capital (HC), structural capital (SC) and relational capital (RC) (Alfraih, 2018; Ginesti *et al.*, 2018; Mardini and Lahyani, 2020). HC covers knowledge, experience, the ability to innovate and each individual's professional behavior. SC includes the company's internal culture and the process to help employees develop and become more productive, effective and innovative. Meanwhile, RC refers to the relationship between a company and the market channel, such as customers and suppliers (Boujelbene and Affes, 2013; Yu *et al.*, 2017). Thus, if all IC categories can be integrated properly, they can be a competitive advantage for a firm in the middle of the current global competition (Dameri and Ferrando, 2021). The three components of IC can be integrated in a report that documented some of the non-financial aspects that important for a firm's responsibility and sustainability.

To improve the benefits of using IC, it is necessary to know what factors affect the size of IC disclosure in the annual report. Previous studies have discussed several factors that influence IC, e.g. size, industry type, market share, profitability and leverage, where it was found that these variables significantly affect IC disclosure (ICD). However, several studies found conflicting results. For instance, Ousama *et al.* (2012) and Mardini and Lahyani (2020) found a significant relationship between profitability and ICD, but Yau *et al.* (2009) did not find any significant relationship between the variables. Similarly, with leverage, Rashid *et al.* (2012) discovered that leverage influences IC disclosure while Whiting and Woodcock (2011) stated that leverage is not proved to influence ICD significantly. On variable size, Ferreira *et al.* (2012) presented that variable size significantly affects IC disclosure, whereas according to Huang *et al.* (2010), size does not significantly affect ICD.

The agricultural industry was chosen as according to the results of Rice Market Monitor, organized by the Food and Agriculture Organization of the United Nations (FAO), Indonesia and Thailand are the two largest rice producers in the world in 2017 (Ministry of Agriculture of the Republic of Indonesia, 2017). Additionally, based on gross domestic product (GDP), both are the two largest countries in the Association of Southeast Asian Nations (ASEAN) Economic Community (AEC). Based on the World Bank's data, Indonesia has a population of 263.9 million and a GDP of US$1.016tn. It makes Indonesia the country with the largest population and GDP in AEC. The agricultural sector alone contributes to 14.3% of total GDP and absorbs 38.9% of total labor. Thailand is in the following position with a GDP of US$455.3bn and a population of 69.03 million. Its agricultural sector contributes 12.10% of the total GDP (Kijboonchoo *et al.*, 2018) and uses 32.8% of labor in 2017. It can be concluded that although agricultural contribution to GDP is not very high, this sector absorbs a third of the total labor force.

Thailand and Indonesia are also part of the ASEAN Economic Community. The enactment of AEC, which removes trade barriers in Southeast Asia, motivates economic improvement in Southeast Asian countries. However, at the same time, it also increases intraregional competition. Consequently, economic agents would need to change their strategy, maintain their competitive edge in the middle of an increasingly aggressive situation, continue their existence and keep pace with competition (ASEAN Economic Community, 2021). IC becomes a form of capital that should be sustained and developed for

firms to compete (Chowdhury *et al.*, 2018). Previous firm strategy, which focused on products, as well as physical and financial assets, now turns toward IC, such as capabilities to innovate, knowledge and human resource.

Through President Joko Widodo, Indonesia has realized the importance of IC, especially on HC and SC like technology. It is visible from efforts to change, notably in human development and productivity increase in accomplished projects during 2014–2018, four years of his tenure (BkkbN, 2018). Having excellent human resources, manifested through increased education, health and social protection, is significant and warrants a yearly increase in the state budget. Productivity improvement is demonstrated by holding education, training, certification program and internship activities. President Widodo's rule also focuses on advancing research and technology to welcome Industry 4.0 to better compete in the international market (Ministry of Industry of the Republic of Indonesia, 2021).

Thailand, as the largest rice exporter in the world, is also evolving in technology usage. During the past two years, Thailand has begun to implement Agriculture 4.0 using the concept of *smart farming*. Currently, nearly 90% of all farming processes in Thailand uses technology. The Thai Government also implemented a policy to encourage technology utilization, in the form of tax exemption for five years for all business entities which apply the technology of production modernizing in private farming (Poapongsakorn and Chokesomritpol, 2017).

Finally, this study examines the factors that influence ICD quality in the agriculture and mining sectors in Indonesia and Thailand. This study contributes to providing awareness for policymakers in companies about financing company resources, such as assets, debt, profit and market share, in influencing the number and quality of ICDs. This study also examines information asymmetry, measured by the number of minority shareholders, in influencing the quality of IC disclosure. Furthermore, this study is arranged as follows: Section 2 discusses the literature and prepares a set of hypotheses; Section 3 discusses the research method; Section 4 discusses research results. Section 5 concludes the discussion study. Finally, managerial implications and conclusions are shown in Sections 6 and 7.

2. Literature review and hypothesis development

2.1 Intellectual capital disclosure

Intellectual capital is a set of firms' "hidden assets" that cannot be included in the financial statements, as financial statements only show the tangible assets of a company (Roos and Roos, 1997; Davey, 2016). Intellectual capital disclosure (ICD) is information or intangible asset that can show a firm's value and long-term sustainability (Farooq and Nielsen, 2014). However, there is no clear definition regarding IC (Tawy and Tollington, 2012; Martín-de Castro *et al.*, 2019). The lack of understanding and established definition creates the difference between the company's market value and book value (Cheng *et al.*, 2010). Sheiby (1997) split IC into the following three categories: HC, SC and RC. These three categories are then widely used by subsequent studies (Hossain, 2011; Striukova *et al.*, 2008; Martín-de Castro *et al.*, 2019).

2.2 Human capital disclosure

HC is the capability and knowledge owned by a person and used to reach a company's goal. According to Ellis and Seng (2015), HC is classified into three dimensions. The first is knowledge earned from experience, formal education and training. The second dimension is abilities such as leadership, method of communication and professional know-how. The last one is behavior, which covers the feeling of ownership, flexibility and creativity.

2.3 Structural capital disclosure

SC refers to existing knowledge in organizational structures, procedures, systems and cultures created and brought by employees yet would remain even after employees have left the organization (An *et al.*, 2011). According to Scafarto (2016), SC can be categorized into innovation capital and process capital. Innovation capital involves innovation by a company through R&D. Process capital comprises procedures and techniques of a company to increase process quality and operational efficiency.

2.4 Relational capital disclosure

According to Bruggen *et al.* (2009), RC is the knowledge that appears during relations with outside parties. RC is the relationship between firms and external parties, such as customers, suppliers, government and others or the relationship between a company's internal parties with its external parties (Duff, 2018; Al-Sartawi, 2018). Through this relationship, a perception is created by external parties on the company, such as the image of the firm, customer satisfaction, reputation and customer loyalty.

2.5 Research hypothesis

In longitudinal studies on ICD, it was found that ICD increases over a period of time (Sihotang and Winata, 2008; Haji and Ghazali, 2012; Wagiciengo and Belal, 2012; Kamath, 2017; Martín-de Castro *et al.*, 2019). The change in the business environment causes an increase in demand for information relevant to decision-making (Haji and Ghazali, 2012; Al-Sartawi, 2018). It results in firms having to provide this information to satisfy stakeholders, supporting stakeholder theory. Thus, logically, ICD will increase over time.

Some studies compared the level of human capital disclosure (HCD), structural capital disclosure (SCD) and relational capital disclosure (RCD) and found mixed results. Research by Manolopoulou and Tzelepis (2014) in Greece found that RC-related information is the one most disclosed. Specifically, studies by Sihotang and Winata (2008) in Indonesia, Haji and Ghazali (2012) and Campbell and Rahman (2010) discovered that RC is the most common disclosure, followed by HC and SC while Yi and Davey (2010) and Nerantzidis (2014) ranked RC then SC in report materials. Other studies found SC-related information as receiving the most disclosure, followed by RC and HC (Yau *et al.*, 2009; Bruggen *et al.*, 2009; Mardini and Lahyani, 2020). Wagiciengo and Belal (2012) discovered HC to gain the most report; particularly, Branco *et al.* (2010) in Portuguese and Kamath (2017) in India found that HC is reported the most, followed by RC and SC. However, logically, HC should receive more disclosure in labor-based sectors, such as agriculture and mining (Yusoff and Lim, 2011). These labor-based companies must be supported by excellent management and operation or R&D team, shown in SCD. The company's dependence on its staff's knowledge and skills increases; hence, HCD gains more attention than the other IC components (Petty and Guthrie, 2000). The expectation set is that HC is the most highly disclosed material, followed by SC and RC.

There are arguments that cultural and institutional settings, including regulation, could affect the decision and action of corporate governance, including ICD (Adnan *et al.*, 2018). For example, from a cultural perspective, uncertainty avoidance, as mentioned in Hofstede's cultural dimensions theory, is defined as how the public reacts toward ambiguity and lack of certainty. A nation with a low level of uncertainty avoidance, such as Indonesia, will be more tolerant of an ambiguous situation and withstand uncertainty risk. On the other hand, a nation with high uncertainty avoidance levels, e.g. Thailand, tends to manage the potential risk of uncertainty (Amar and Chelli, 2018). Thus, it is expected that Thailand will disclose more information to avoid undesirable conflict with stakeholders. Both Thailand and

Indonesia have similar regulations on public company reporting; they have the same legal system (civil law) and low shareholder protection (Jatmiko and Kusumastuti, 2017; Thanatawee, 2012). Therefore, in this research, the institutional setting is not discussed in depth.

Li *et al.* (2008) and Al-Sartawi (2018) also reported that structural ownership affects disclosure. Both Thailand and Indonesia have highly-concentrated ownership. Companies in Thailand are owned mainly by institutions (Thanatawee, 2012) while in Indonesia, companies are mostly owned by the family (family firms) (Setiawan *et al.*, 2016). When a company's ownership structure is concentrated on institutional ownership, supervision will be tighter (Thanatawee, 2014). This forces firms in Thailand to provide more disclosure in annual reporting. Lepore *et al.* (2017) added that when a firm's ownership structure is more concentrated on family, agency conflict can be reduced. When agency conflict is reduced, then monitoring costs such as disclosure can be diminished.

Based on the explanation above, three hypotheses are formed as follows:

H1. ICD increases over the period of study.

H2. HC component receives most disclosure, followed by SC and RC, in sectors agriculture and mining in Thailand and Indonesia.

H3. There are different quantities and quality of disclosure between Thailand and Indonesia in the mining and agriculture sectors (Thailand will disclose more information than Indonesia).

Many studies have shown the relationship between size and IC disclosure (Khlif and Souissi, 2010; Domínguez, 2012; Ousama *et al.*, 2012; Eddine *et al.*, 2015; Mardini and Lahyani, 2020). Larger firms naturally have a more varying activity and a supporting information management system. Consequently, more resources are being owned and can be reported. Furthermore, larger firms have more resources, like expertise and can pay more to measure and disclose than smaller firms.

By theoretical framework, the relation between size and IC disclosure can be explained using agency theory (Ousama and Fatima, 2010). The complexity of large firms causes the gap between the manager (agent) and stakeholders (principal), increasing agency costs. To lessen the agency cost, companies will reveal more information. Additionally, using the framework of stakeholder theory, larger firms have more stakeholders. Accordingly, firms will receive more demand to disclose information to meet each stakeholder's interest. Large companies will draw more interest from stakeholders. They will be carefully watched in that they tend to reveal relevant information, including IC. It will increase firm transparency, decrease the cost of capital and maintain company reputation. Thus, hypothesis four is that firm size positively affects HCD, SCD and RCD.

The relationship between market shares with IC disclosure is still rarely studied in ICD. The market share shows the total firm sales compared with other firms or competitors in the same industry (O'Regan, as cited in Etale *et al.*, 2016). When a firm has received the public's attention and great trust, it reduces IC disclosure. As it already obtained a good reputation, it does not have any other reason for disclosing IC. Further, after reaching a certain level, a firm will reduce disclosure so competitors cannot use it to harm the company (Bagchi *et al.*, 2015). Therefore, the adverse influence of market share on ICD in Indonesia and Thailand is the fifth hypothesis.

In a company, agency problems can occur when the majority share ownership is very high; a takeover of minority shareholders' interests can happen (Hope, 2013). The interest of minority shareholders must be met by providing accurate information regarding firm value

so that the minority party can avoid the deception of majority shareholders and company management (Haidar, 2009). Based on research by Cuasdrado-Ballesteros *et al.* (2016), if there is a difference in the information received between the majority and the minority, the party with less information will expect a more massive return, increasing the cost of capital. As a result, the sixth hypothesis states that minority interest positively affects ICD in Indonesia and Thailand.

The association between profitability with IC disclosure can be explained using signaling theory. Companies with enormous profits will give a signal to stakeholders by disclosing their IC. It is done to attract stakeholders' attention and show that they have better performance (Ousama *et al.*, 2012) and avoid undervalued stock (Domínguez, 2012). Mardini and Lahyani (2020) mention that companies with high profitability tend to show conservative disclosure practices. They prefer to withhold the disclosures regarding creativity, knowledge and research plan to manage the risk of competitive disadvantages. Moreover, IC can become one factor that helps firms reach higher profit; consequently, firms will disclose IC to stakeholders.

In agency theory, the management of companies that have better profit will reveal IC to shareholders to convince them that the management has the capability to manage the company satisfactorily. The management can hold their position or earn compensation/incentive from shareholders (Ferreira *et al.*, 2012). The research about the relationship between profitability and IC disclosure has been done many times (Taliyang *et al.*, 2012; Domínguez, 2012; Ousama *et al.*, 2012). Previous studies have found that profitability significantly has a positive effect on HC and SCD. Therefore, from this discussion, the seventh hypothesis is that profitability is favorable for ICD in Indonesia and Thailand.

Firms with a higher level of leverage will get more attention from stakeholders, particularly creditors (debtholder). In agency theory, this kind of company has substantial agency cost due to higher risk levels (e.g. financial distress) and the possibility of wealth transfer from debtholders to shareholders or managers (Ferreira *et al.*, 2012). To reduce agency costs, firms will disclose more information, including IC, to fulfill stakeholders' wishes. Besides, firms usually reveal their IC to convince stakeholders that firms depend on other factors besides financial performance, such as IC (Ousama *et al.*, 2012).

Leverage and IC disclosure have been researched many times. Whiting and Woodcock (2011), Ferreira *et al.* (2012) and Eddine *et al.* (2015) found that leverage does not significantly affect IC disclosure. On the other hand, Rashid *et al.* (2012) and Kamardin *et al.* (2017) found the reverse. Mardini and Lahyani (2020) found mixed results in relationships of leverage toward IC disclosures and the disclosure of IC components particularly. Thus, hypothesis eight is about and the positive impact of leverage toward ICD in Indonesia and Thailand.

The *H4–H8* are framed in Figure 1.

3. Research method

3.1 Sample selection and data collection

This study uses agricultural and mining companies based on data from Bloomberg. Indonesia's total population is 21 agricultural companies and 43 mining companies while for Thailand, it is 59 agricultural companies and 63 mining companies. The sample is chosen based on annual reports and financial statements as follows: consecutively present between 2013–2017 and available in English. Thus, this research sample includes 46 companies from Indonesia (18 from agriculture and 28 from mining) and 30 companies from Thailand (15 from agriculture and 15 from mining).

3.2 Variable measurement

3.2.1 Dependent variable. The purpose of the study is to decide on what factors influence ICD. This study's dependent variable is thereby ICD, with this study focusing on the following three components of ICD: HCD, SCD and RCD.

The first step is to determine the related terms regarding HC, SC and RC, representing ICD. Using the survey from previous research studies (Sihotang and Winata, 2008; Branco *et al.*, 2010; Campbell and Rahman, 2010; Taliyang *et al.*, 2012; Yi and Davey, 2010; Wagiciengo and Belal, 2012; Morariu, 2013; Manolopoulou and Tzelepis, 2014; Bagchi *et al.*, 2015; Abhayawansa and Guthrie, 2016; Kamath, 2017; Yan, 2017), the related terms used in this study are collected in Tables 3–8. The next step is performing content analysis on annual reports from the sample that has been set. Content analysis is used as one of the most common and relevant methods used by researchers (Yau *et al.*, 2009; Kamath, 2017; Wagiciengo and Belal, 2012). This content analysis involves reading, identifying and indexing-related terms existing in the annual report.

For this reason, this method is relevant to stakeholder theory and legitimacy theory, as companies would disclose the information related to their interests and legitimacy through the annual report as one of the media (Kamath, 2017). This research uses a content analysis method manually by researchers, with no differentiation between voluntary disclosure and mandatory disclosure. The first step that has been carried out in this content analysis was to determine the items used to measure each component in the ICD. This study combines the items in the research of Yau *et al.* (2009) and Kamath (2017). Then, the researcher determines several keywords for each category item related to each other through their content or context. After that, the research team was divided into 2. The first team read each company's annual reports per year to Codes 0–3 for each item category based on the predetermined keywords. To test the accuracy of reading and coding, the second research team reread the data collection, and the results were tested by a senior examiner appointed by the research institution.

The disclosure index on this research uses four scoring methods, with a range from 0 to 3. A score of 0 is given if there is no disclosure, 1 if there is a disclosure in narration or description, 2 if there is disclosure followed by numerical data (such as percentage or number of years) and 3 if the disclosure is provided with financial numbers, i.e. Indonesia Rupiah on Indonesian companies' annual report and Thai Baht on Thai companies' annual report. As shown in the equation below, the scoring form and indexing follow Yau *et al.* (2009). The score of HCD, SCD and RCD are measured by dividing the total disclosure index on an individual component by the total number of related terms on the individual component (30 items in HC, 22 items SC and 19 items in RC).

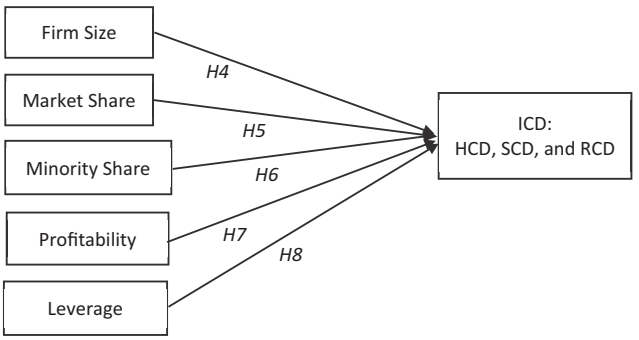

Figure 1.
Research framework

$$HCD,\ SCD,\ RCD = \frac{\sum di}{M}$$

where:

di (disclosure index) = scoring on a certain criterion.

M = the number of related terms on a certain component.

3.2.2 Independent variables. Size: This study uses the logarithm of total assets to measure the firm size (Ferreira *et al.*, 2012; Taliyang *et al.*, 2012; Bruggen *et al.*, 2009; Mardini and Lahyani, 2020). Bloomberg is referred to in collecting data of total assets from each sample firm. Firm size is expected to have a positive relationship with ICD.

Market share: Market share is measured by dividing the company's sales revenues with industry total sales, as used by Etale *et al.* (2016) and Bagchi *et al.* (2015). It reflects on how much a firm dominates the existing market. The data for firm sales and industry sales are taken from Bloomberg. Market share is expected to have a negative relationship with ICD.

Minority shareholders: Minority shareholders are measured using the percentage of minority share ownership. Data are taken from the annual report. Minority shareholders are expected to have a positive relationship with ICD.

Profitability: Profitability is measured using the ratio of return on assets (ROA), as used in previous studies (Domínguez, 2012; Yau *et al.*, 2009; Mardini and Lahyani, 2020). ROA is calculated by dividing net income with total assets, the data taken from Bloomberg. Profitability is expected to have a positive relationship with ICD.

Leverage: Leverage is commonly used to measure external funding. The debt-to-equity ratio (D/E) is used to measure leverage. D/E is calculated by dividing total debt with total equity, as used in previous research studies (Ferreira *et al.*, 2012; Bruggen *et al.*, 2009). The data for total debt and total equity is obtained from Bloomberg. Leverage is expected to have a positive relationship with ICD.

3.3 Panel regression model

This research uses the panel regression model's technique to examine the effect of independent variables on the dependent variable. In this technique, panel testing is done to establish whether the hypothesis will be tested using a fixed-effect model, random effect model, ordinary least squares or weighted least squares if the fixed effect has heteroscedasticity.

$$HCDt, SCDt, RCDt = \beta 0 + \beta 1SIZEt + \beta 2MSHAREt + \beta 3MINSHAREt + \beta 4PROFt + \beta 5LEVt + e$$

where:

HCD	= Human capital disclosure;
SCD	= Structural capital disclosure;
RCD	= Relational capital disclosure;
SIZE	= Firm size;
MSHARE	= Market share;
MINSHARE	= Minority shareholders;
PROF	= Profitability;
LEV	= Leverage;
e	= error; and
t	= year (2013–2017).

4. Data analysis and the main finding

4.1 Descriptive statistics

Table 1 shows the IC disclosure pattern from year to year in both countries' agriculture and mining sectors, except for Indonesia's agriculture, which was stagnant in 2015–2017. These three years was a challenging period for Indonesia's agriculture. From the annual report of various companies (Astra Agro Lestari, Central Proteina Prima, Provident Agro, Sampoerna Agro, SSMS and Tunas Baru Lampung), there were numerous hardships faced by the agricultural sector, prolonged economic growth, strong US dollar and a long dry season due to El Niño. It confirms why industry sales were decreasing from 2014 to 2016. The table also demonstrates that, in 2016, Indonesia's agriculture suffered a decline in the disclosures of the three IC components. According to Indonesia investment, Bloomberg and firms' annual reports, the 2015 dry season's impact and the dramatic drop in commodity prices led by falling oil prices are some of the reasons 2016 was a challenging year for agriculture in Indonesia. These challenges resulted in reduced income, followed by declining costs for less needed (or less urgent) activities, for instance, training, innovation or R&D. However, despite the challenges and some decline in HCD, SCD and RCD in both countries (i.e. Indonesia's agriculture in 2015–2016 for HCD and Thai's mining in 2015–2016 for SCD), ICD increases during the period of the study. Hence, *H1* is accepted.

Table 2 shows the descriptive statistics on ICD, HCD, SCD and RCD in agricultural and mining companies in Indonesia and Thailand, in 2013–2017. The table demonstrates that Thailand has disclosed an average of 77% of the information for the past five years while Indonesia only disclosed an average of 51% of IC-related terms. It can be concluded that both countries already have an awareness of IC's importance for firm sustainability. Both nations exhibit a similar pattern, where the most highly disclosed component is HC, followed by SC and RC. This may be explained by agriculture and mining being fundamentally labor-focused sectors operationally (Yusoff and Lim, 2011). *H2* is, thus accepted. The result is in line with Beretta *et al.* (2019). However, this result is slightly different compared to the study by Noor *et al.* (2017), where RC was revealed more than SC. This result is also different from Mardini and Lahyani (2020) that found SC is superior, followed by RC and HC. It illustrates the high development of SC, such as technology, information system and research development, in both sectors in the past five years. The high standard deviation score, especially in Indonesia, is caused by the uneven disclosure on each IC-related term (shown in Tables 3–6). It can become a point for attention; thus firms in Indonesia could consider other IC-related terms.

Table 1. Disclosure ordered by year (2013–2017)

	Thailand					Indonesia				
Variables	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
					Agriculture (%)					
HCD	42	42	42	42	41	44	45	45	44	46
SCD	31	31	32	31	32	39	39	40	40	39
RCD	27	27	26	27	27	17	17	15	16	15
ICD	77.37	78.87	79.81	80.47	80.66	42.72	45.54	46.40	46.40	46.40
					Mining (%)					
HCD	41	41	42	42	42	43	44	44	44	44
SCD	36	36	36	35	35	35	35	35	34	34
RCD	23	22	22	23	23	22	21	22	22	22
ICD	70.14	72.21	73.90	77.46	79.62	54.18	54.38	55.53	55.48	55.63

Source: Authors' compilation

Countries and sectors	*N*	ICD Mean	SD	HCD Mean	SD	(%)	SCD Mean	SD	(%)	RCD Mean	SD	(%)
Thailand												
Mining	75	0.75	18.68	55.50	16.93	42	64.18	13.66	36	47.32	22.70	23
Agriculture	75	0.79	17.91	58.87	16.13	42	60.32	18.61	31	59.84	20.55	27
Subtotal	150	0.77	33.60	114.37	30.17	42	124.50	30.58	33	107.16	40.71	25
Indonesia												
Mining	140	0.55	45.88	79.73	42.95	44	85.59	49.77	34	62.95	44.86	22
Agriculture	90	0.45	32.11	43.37	29.25	45	51.91	33.14	39	24.42	30.07	16
Subtotal	230	0.51	72.56	123.10	67.65	44	137.50	75.97	36	87.37	69.76	20
Total	380	116.79	56.35	118.73	52.12	43	131.00	57.61	35	97.26	57.22	22

Notes: *N* is the number of sample x in the observed year. Percentage (%) is the percentage of disclosure in the annual report sample
Source: Authors' compilation

Table 2.
Extent of ICD (five years)

Tables 3–6 show the related terms on HC, SC and RC, minimum, maximum and standard deviation values, in addition to the result of discrimination testing. The result in Indonesia indicates that expert seniority is always disclosed, whether followed by numerical data or not. On the other hand, expert seniority is not always revealed in Thailand, but several disclosures are provided with numerical data. Further, firms in Indonesia often disclose the philosophy of management, such as vision and mission, as the basic framework of the establishment and operation of the firm. Meanwhile, some firms still have not divulged their vision and mission on their annual report in Thailand. Conversely, firms' annual reporting in Thailand always publishes the financial amount of company shares. In contrast, several firms in Indonesia still have not published the number of company shares in their annual report.

A disclosure is considered to have quality if its score reaches number 2 or 3 if numerical or financial data follow the disclosure. This is, as the data provided will be considered more accurate if given along with a measurable value and can increase decision-usefulness (Yau *et al.*, 2009). However, it needs to be noted that some disclosures could not possibly reach a score of 2 or 3, like corporate culture.

Disc. (Disclosure) in Tables 3–6 shows how often related terms are disclosed by companies, whether in descriptive, numerical or financial data. In Indonesia, information regarding expert teams, training and development and work experiences are frequently disclosed (>95%). In contrast, in Thailand, employees' know-how, work experiences and training and development are IC-related terms that are always disclosed (100 %). Innovative capabilities, employee satisfaction and cultural diversity are still low in both countries. Nonetheless, if observed closely, disclosure of these terms is still done more times in Thailand (<45%) compared to Indonesia (<15%). It means that companies in Thailand realize more on the importance of satisfaction, innovative capabilities and cultural diversity of their employees than in Indonesia.

For SCD-related terms, Indonesia and Thailand have a high level of disclosure (>99%) concerning organizational and management structure, corporate governance and network system. It may happen due to government regulations that require the disclosure of corporate governance in publicized reports. The disclosure of patents and copyright in Indonesia is still deficient, being <5%. Thailand has disclosed around 50% of the copyright and 23% of owned patents. According to Global Innovation Index (GII) 2017, Thailand

Table 3.
Related terms of HC (related to employee performance)

HCD items	Related terms	Indonesia				Thailand				Compare means	
		Min	Max	Std	Disc. (%)	Min	Max	Std	Disc. (%)	Sig.	Mean difference
HCD1	Employee performance	0	2	0.572	50.87	0	3	0.755	76.67	0.001	−0.432
HCD2	Employee training	0	3	0.937	96.09	0	3	0.825	96.00	0.012	0.236
HCD3	Employee development	0	2	0.552	59.13	0	3	0.702	93.33	0.001	−0.641
HCD4	Employee know-how	0	2	0.537	59.57	1	2	0.197	100.00	0.001	−0.418
HCD5	Employee competency	0	3	0.618	45.65	0	2	0.535	73.33	0.001	−0.293
HCD6	Employee expertise	0	3	0.592	20.43	0	2	0.559	77.33	0.001	−0.612
HCD7	Employee attitude, commitment and satisfaction	0	2	0.677	34.35	0	2	0.639	65.33	0.001	−0.319
HCD8	Innovative capabilities	0	2	0.378	7.39	0	3	0.632	32.00	0.001	−0.287
HCD9	Expert teams	0	3	0.941	96.96	0	3	0.963	96.00	0.001	0.798
HCD10	Specialist	0	2	0.624	60.43	0	3	0.851	55.33	0.413	−0.062
HCD11	Training and development	0	3	0.934	96.52	1	3	0.817	100.00	0.003	0.291
HCD12	Performance and results from senior executives	0	3	0.709	29.57	0	3	0.792	50.67	0.001	−0.3
HCD13	Motivation	0	3	0.625	46.96	0	1	0.484	63.33	0.042	−0.112

Source: Authors' compilation

HCD items	Related terms	Indonesia				Thailand				Compare means	
		Min	Max	Std	Disc. (%)	Min	Max	Std	Disc. (%)	Sig.	Mean difference
HCD14	Division qualification	0	3	0.957	58.26	0	2	0.509	84.67	0.339	0.081
HCD15	Educational qualifications and management team	0	2	0.296	95.65	0	2	0.59	78.00	0.059	0.087
HCD16	Successful planning	0	2	0.621	36.09	0	3	0.568	74.00	0.001	−0.39
HCD17	Diversity issues	0	2	0.544	59.57	0	2	0.479	78.00	0.001	−0.194
HCD18	Labor union activity	0	2	0.601	38.70	0	3	0.598	58.00	0.009	−0.177
HCD19	Expert seniority	1	2	0.146	100.00	0	2	0.335	98.67	0.005	0.072
HCD20	Employee satisfaction	0	2	0.557	14.78	0	2	0.66	34.00	0.002	−0.216
HCD21	Employee safety and health	0	3	0.693	92.61	0	3	0.663	94.67	0.073	0.122
HCD22	Cultural diversity	0	2	0.383	14.35	0	1	0.495	42.00	0.001	−0.268
HCD23	Employee retention	0	3	0.649	24.78	0	3	1.064	80.00	0.001	−0.994
HCD24	Personnel	0	3	1.117	45.65	0	2	0.51	94.67	0.001	−0.365
HCD25	Human resources	0	2	0.731	67.39	0	2	0.499	91.33	0.004	−0.189
HCD26	Work experience	0	2	0.573	95.65	1	2	0.444	100.00	0.001	−0.333
HCD27	Working environment	0	3	0.552	63.04	0	2	0.393	92.67	0.001	−0.35
HCD28	Employee education	0	3	0.737	18.26	0	3	0.672	66.00	0.001	−0.46
HCD29	Employee engagement	0	2	0.581	11.74	0	2	0.587	56.67	0.001	−0.416
HCD30	Appreciated employee	0	2	0.514	65.22	0	3	1.104	84.67	0.001	−1.826

Source: Authors' compilation

Table 4.
Related terms of HC (others)

Table 5.
Related terms of SC

SCD items	Related terms	Indonesia				Thailand				Compare means	
		Min	Max	Std	Disclosure (%)	Min	Max	Std	Disclosure (%)	Sig.	Mean difference
SCD1	Quality	0	2	0.416	83.48	1	2	0.473	100.00	0.001	−0.472
SCD2	R&D	0	3	1.111	60.00	0	3	1.06	91.33	0.001	−0.682
SCD3	Innovation	0	3	0.652	28.26	0	3	0.727	87.33	0.001	−0.781
SCD4	Intellectual property	0	2	0.445	24.78	0	3	1.049	65.33	0.001	−0.774
SCD5	Trademarks	0	2	0.435	23.04	0	3	0.99	78.00	0.001	−0.945
SCD6	Copyright	0	1	0.16	2.61	0	3	0.972	51.33	0.001	−0.741
SCD7	Patent	0	2	0.147	0.87	0	3	0.85	22.67	0.001	−0.374
SCD8	Strategy	0	3	0.512	87.39	0	3	0.625	99.33	0.001	−0.353
SCD9	Technology	0	3	0.7	61.30	0	3	0.636	99.33	0.001	−0.574
SCD10	Management philosophy	1	1	–	100.00	0	1	0.305	96.67	0.186	−0.027
SCD11	Corporate culture	0	1	0.356	85.22	0	1	0.396	80.67	0.245	0.046
SCD12	Achievements	0	3	0.79	80.43	0	3	0.849	98.00	0.001	−1.306
SCD13	Organizational and management structure	1	1	–	100.00	1	2	0.44	100.00	0.001	−0.26
SCD14	Management processes	0	3	0.74	37.83	0	3	0.648	86.00	0.001	−0.622
SCD15	Organizational and business expertise	0	2	0.526	98.70	0	2	0.432	92.67	0.001	0.482
SCD16	Leadership	0	2	0.556	25.65	0	2	0.562	62.67	0.001	−0.369
SCD17	Network system	1	2	0.093	100.00	0	3	0.245	99.33	0.527	−0.011
SCD18	Organizational learning	0	3	0.685	39.13	0	3	0.733	86.00	0.001	−0.653
SCD19	Organizational flexibility	0	3	0.797	67.39	0	3	0.84	85.33	0.001	−0.651
SCD20	Information system	0	3	0.653	50.43	0	3	1.089	92.00	0.001	−1.506
SCD21	Corporate governance	1	3	0.918	100.00	1	2	0.492	100.00	0.001	0.43
SCD22	Business model	0	2	0.546	58.70	0	2	0.573	52.00	0.349	0.057

Source: Authors' compilation

RCD items	Related terms	Indonesia				Thailand				Compare means	
		Min	Max	Std	Disclosure (%)	Min	Max	Std	Disclosure (%)	Sig.	Mean difference
RCD1	Customer	0	2	0.666	41.30	0	3	0.748	87.33	0.001	−0.825
RCD2	Customer appreciation	0	1	0.5	47.39	0	3	0.515	78.00	0.001	−0.353
RCD3	Customer retention	0	2	0.391	16.96	0	3	0.67	82.67	0.001	−0.793
RCD4	Customer service	0	2	0.463	28.26	1	1	–	100.00	0.001	−0.713
RCD5	Customer feedback system	0	2	0.596	30.43	0	2	0.512	68.00	0.001	−0.341
RCD6	Disabled customer	0	0	–	0.00	0	1	0.082	0.67	0.13	−0.007
RCD7	Company name	0	3	0.43	13.48	0	3	0.692	69.33	0.001	−0.71
RCD8	Corporate image and reputation	0	3	0.409	12.61	0	3	0.558	82.67	0.001	−0.797
RCD9	Brand recognition	0	1	0.24	6.09	0	2	0.625	62.67	0.001	−0.659
RCD10	Brand	0	2	0.278	6.96	0	3	0.695	50.00	0.001	−0.526
RCD11	Brand development	0	3	0.859	36.52	0	3	0.72	74.67	0.002	−0.325
RCD12	Business collaboration	0	3	1.05	82.61	0	3	1.233	78.67	0.001	−0.707
RCD13	Value of the company's shares	0	3	0.341	98.70	3	3	–	100.00	0.152	−0.039
RCD14	Goodwill	0	3	1.405	66.09	0	3	1.442	38.67	0.001	0.654
RCD15	Permission agreement	0	3	1.164	78.70	0	3	0.807	93.33	0.001	−0.952
RCD16	Market shares	0	3	0.946	36.96	0	3	0.245	99.33	0.001	−1.329
RCD17	Profitable contract	0	3	1.189	39.57	0	3	0.725	98.67	0.001	−1.852
RCD18	Financial relation	0	3	1.25	78.70	0	3	1.312	70.00	0.05	0.268
RCD19	Franchise contract	0	1	0.066	0.43	0	3	1.108	22.67	0.001	−0.562

Source: Authors' compilation

Table 6.
Related terms of RC

ranked 51 and Indonesia 87, meaning Indonesia still lags on innovation. Due to the poor innovating capabilities of human resources in Indonesia, which is led by low education, restricting government regulations, lack of awareness on the usage of patent and copyright and inadequate R&D in Indonesia (60%, compared to 91% for Thailand).

Both countries have almost always disclosed the share performance and the firms' share prices. Share's performance is disclosed as the firm's performance indicator while contract and disabled customers are hardly ever disclosed. A possible explanation for this is that both agriculture and mining industries very rarely own a franchising system in their operations.

Next, if the significance is less than 0.1, statistically, there is a significant difference between Indonesia and Thailand. There are only several-related terms with no differences in disclosure among Indonesia and Thailand, e.g. management philosophy, network system, the value of company's shares and disabled customer. The absence of difference may because this information being either commonly or rarely disclosed by both countries.

If there is a significant difference and the mean difference shows a positive result, Indonesia has a higher average than Thailand and vice versa. Tables 3–5 show that Indonesia only has better disclosure from Thailand in some-related terms such as employee training, employee safety and health and corporate governance. It would mean that Indonesia is more specific in disclosing these related terms than Thailand, for instance, with numerical or financial data. Even so, an overall more negative mark than positive ones on mean difference indicates that Thailand discloses more information (whether quantitative or qualitative) in contrast to Indonesia. Therefore, *H3* is accepted.

4.2 Panel regression analysis (Tables 7 and 8)

5. Discussion

In all ICD components, the most common form of expression is narrative. These results align with those expressed by Beretta *et al.* (2019) that the ICD is more in the form of actionable information that is not fully supported by numerical data. The conclusion of the panel model is shown in Table 7. Table 8 presents for Indonesia and Thailand, and size significantly affects HCD, SCD and RCD. The larger the company, the more information it discloses. Therefore, *H4* is accepted. The reason is that larger firms will have more resources and activities to be disclosed.

Additionally, larger firms have a more complex relationship between agent and principal, leading to a more necessary disclosure. Stakeholders will give more attention and supervision to larger firms, which results in firms publicizing more information regarding its legitimacy. Companies will also try to meet the interests of stakeholders through the provided information. This result supports previous studies (Eddine *et al.*, 2015; Taliyang *et al.*, 2012; Ferreira *et al.*, 2012; Ousama *et al.*, 2012).

In Indonesia, market share is adverse for HCD while in Thailand, it negatively affects SCD. These results imply that *H5* is failed to be accepted. In this study, market share is calculated by dividing firm sales by industry sales. Market share indicates how much a firm has dominated the market and earned public trust. When a company has obtained the public's attention, IC disclosure will be reduced as there is no more purpose to reveal more information. In addition, disclosure is reduced, so the information will not be exploited to harm the company (Bagchi *et al.*, 2015). The difference in government demands can explain the disparity of results between Indonesia and Thailand. For Indonesia, under the leadership of Joko Widodo, the government is focusing more on developing human resources. It makes companies in Indonesia disclose more of their human resources through HCD as one

Panel diagnostic tests	Indonesia			Thailand		
	HCD	SCD	RCD	HCD	SCD	RCD
Fixed estimator	2.23E-59	2.11E-48	9.24E-73	4.58E-25	3.22E-33	1.23E-33
	Fixed effect	Fixed effect	Fixed effect	Fixed effect	Fixed effect	Fixed effect
Breusch-Pagan test	2.11E-66	3.72E-60	1.88E-79	5.07E-32	1.54E-25	1.72E-37
	Random effect	Random effect	Random effect	Random effect	Random effect	Random effect
Hausman test	0.0407399	0.464063	0.704018	0.0467965	2.21E-09	0.00337373
	Fixed effect	Random effect	Random effect	Fixed effect	Fixed effect	Fixed effect
Conclusion	Fixed effect	Random effect	Random effect	Fixed effect	Fixed effect	Fixed effect

Note: Number of *p*-values
Source: Authors' compilation

Table 7.
Panel test

Variables	Indonesia HCD	Indonesia SCD	Indonesia RCD	Thailand HCD	Thailand SCD	Thailand RCD
Firm size	0.297 ***	0.106 ***	0.099 **	0.487 ***	0.578 ***	0.516 ***
Market share	−0.720 ***	0.148	0.628	−0.468	−4.815 ***	−0.342
Minority shareholder	0.007	−0.109	−0.010	−0.190	0.294	0.733 ***
Profitability	0.183 **	0.027	−0.040	0.511 **	0.583 ***	−0.056
Leverage	−0.002	0.000	−0.001	0.018	0.016	0.016
p-value (F)	0.000 ***	0.005 ***	0.098 *	0.000 ***	0.000 ***	0.000 ***
Adjusted R^2	0.501	0.152	0.171	0.194	0.394	0.219

Table 8.
Panel regression

Notes: statistical significance is at the following levels: *** = 1%; ** = 5%; * = 10%
Source: Authors' compilation

legitimation. Despite that, after earning public trust and disclosing HC as regulated by the government, companies will reduce the less-needed HCD.

Moreover, the Thai Government encourages technology (machines), new methods and research development in finding new or superior seeds. The new development is called AgriTech, which uses the use of global positioning system and automation with robots. With the same logical thinking, after gaining public trust and disclosing SC under the government's regulations, companies will reduce their less-urgent SCD.

The result of the regression panel reveals that minority shareholders in Indonesia do not affect IC. The companies in Indonesia's samples do not disclose an IC to fulfil the information needs of minority shareholders. The result is in line with Bruggen *et al.* (2009). A possible interpretation is that firms deliver the information using different means other than annual reports so that minority shareholders do not depend on the annual report disclosure. Conversely, in Thailand, minority shareholders positively affect RCD, which corresponds with Orens *et al.* (2009), which found a connection between disclosure and information asymmetry amongst the majority and minority shareholders. Thus, *H6* is accepted for Thailand's companies. When the number of minority shareholders is high, information asymmetry will be greater. This gap of information causes minority shareholders to demand more returns. To figure out the gap, disclosure is indispensable to reduce asymmetry information.

This research found that profitability positively influences HCD in Indonesia while in Thailand, it positively affects HCD and SCD. Therefore, *H7* is accepted. This result corresponds with signaling theory, where the company with enormous profit will signal to stakeholders to inform the favorable firm performance in reaching profitability. It is to reduce the possibility of share value being undervalued. This study also discovered that firms with high profitability would disclose more IC, especially on HC (in Indonesia and Thailand) and SC (in Thailand). Furthermore, Domínguez (2012) found that companies with enormous profitability will pay more attention to the social environment, whether internally (employees) or externally, to maintain sustainability. Consequently, firms will disclose more information related to employees in HCD. This study supports Khlif and Souissi (2010) and Eddine *et al.* (2015).

Leverage does not significantly affect ICD in Indonesia and Thailand; thus *H8* is failed to be accepted. It is in line with previous studies by Ferreira *et al.* (2012), Whiting and Woodcock (2011), Ousama *et al.* (2012) and Eddine *et al.* (2015), but different from studies by Rashid *et al.* (2012), Bagchi *et al.* (2015) and Kamardin *et al.* (2017). Creditors may see more from the financial report than IC disclosure, as they prioritize a firm's capability to pay its

debts to creditors. The annual report, which exhibits financial data, can represent a firm's financial risks. Accordingly, non-financial data, i.e. IC, becomes less interesting for creditors. Moreover, the existence of contracts like debt covenants, which monitor managers' activities, is one reason ICD does not solve the conflict of interest between debt holders and management (Nazir *et al.*, 2012; Silva *et al.*, 2013). There is a possibility that firms do not use only annual reports and other media to communicate with debt holders to mitigate conflicts and reduce agency costs (Ousama *et al.*, 2012).

Cuozzo *et al.* (2017) stated that empirical findings on the factors influencing ICD are very mixed. Various findings such as company size, business concentration, profitability can increase, decrease or even not affect the ICD. In general, there is no coherent argument to show a strong relationship between the company's financial performance and the company's motivation to be more likely to withhold IC information or disclose it (Schaper *et al.*, 2017; Cuozzo *et al.*, 2017). In addition, there is a need to rise the internal awareness of directors and management about the role of IC It is also important for increasing the internal awareness of managers and physicians about the importance and role of IC (Dameri and Ferrando, 2021). The awareness may lead to a better understanding of management to improve the performance of IC as the firm's intangible asset and disclose the IC activities and performance as a communication media to stakeholders.

6. Managerial implication

In Thailand, the results show that companies in the agricultural sector have a higher quality of disclosure in HCD and RCD; meanwhile, mining companies have a higher quality of disclosure regarding SCD. The opposite is found in Indonesia. For the three ICD components, a higher quality of disclosure was found in mining companies. Overall, the number of items disclosed in each component of the ICD is also seen to be higher for agricultural companies in Thailand and higher for mining companies in Indonesia. These findings indicate that agricultural companies in Thailand have a higher interest in ICD than mining companies. On the other hand, mining companies in Indonesia pay more attention to the disclosure of intellectual capital.

The development of the agricultural industry in Indonesia is lagging behind Thailand (OECD-FAO, 2017). Thailand is well-known as one of the countries with advanced plant cultivation technology. Using research and technological engineering involving world experts and experts, Thailand uses superior seeds to produce superior agricultural products. After conducting various research to obtain productive and efficient seeds, these superior seeds are produced in government programs, raja programs, private programs and university programs (OECD-FAO, 2017).

Although no mining company from Indonesia has crossed the market capitalization limit of US$5.3bn and entered the category of the world's 40 largest mining companies in 2017, the mining industry in Indonesia has also shown good performance as commodity prices recover and increase in commodity demand globally (PWC Indonesia, 2018).

In both industry and country, the highest quality disclosure is found in the SCD component. The highest quality score is when numerical and financial data support the disclosures. The SC items are very supportive for companies to disclose down to the numerical and financial levels, for example, the number of patents and copyrights, organizational and management structure and corporate governance. In this regard, Thailand is also superior to Indonesia. It may be due to Indonesia's low innovation index compared to Thailand (GII, 2017). It should be the concern of the Indonesian Government, especially in the agricultural industry. The increasing number of government grants for

universities to conduct research and community service can help answer Indonesia's backwardness in innovation.

The results showed that the more prominent and higher the company's profitability, the better the ICD quality. The company is considered more capable of providing more disclosure, both in narrative information and even numerical and financial data. This study also indicates that companies with a high market share will reduce HCD and SCD. When the company has gained the public trust and a good reputation, it will be better for the company to reveal how the company manages human resources and SC, such as training, capacity building, employee retention, corporate governance and corporate capital management. It will further strengthen investor confidence in the company.

7. Conclusion

This study examines the factors that affect ICD in sectors of agriculture and mining in Thailand and Indonesia. The content analysis method is used on 75 mining annual reports and 75 annual agriculture reports in Thailand and 140 annual reports of mining and 90 annual agriculture reports in Indonesia. The period of observation is in 2013–2017. This study finds an increase of ICD during the research period and that both countries have similar patterns in IC disclosure, with HC being the most common disclosure followed by SC and RC. On the whole, Thailand discloses more information (both quantitative and qualitative) compared to Indonesia. The main finding is that firm size influences ICD in Thailand and Indonesia while market shares affect HCD in Indonesia and HCD in Thailand. Minority shareholders do not significantly influence ICD in Indonesia but affect SCD in Thailand. In Indonesia, a firm's higher profitability means higher HCD while in Thailand, it increases HCD and SCD. This research finds that leverage does not affect ICD, both in Indonesia and Thailand.

This research contributes to previous studies on IC, especially in mining and agriculture, which have not been explored before. Longitudinal and multinational approaches contribute to previous research, which only used single-year and single-country approaches. A more extensive IC disclosure will create transparency between a company and its stakeholders and convince potential investors. Because of this, the government should start pushing businesses to disclose IC by implementing rules or regulations, so businesses can have a competitive edge in facing business competition, particularly in the era of AEC.

This study has several limitations. For instance, it only uses the annual report to understand IC both in qualitative and quantitative ways. Future research studies should use other media to regard IC, such as the company website. There is a possibility that firms use different means to disclose their IC. This study also uses the content analysis method manually, where the scores' determining is based on researchers' judgment. Future studies may double-check by using software and reading manually. The application of content analysis can also be accompanied by other methods such as questionnaires and interviews. Future studies can also use other variables, like corporate governance, to complement this study.

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