How Integrated Reporting Quality Affects Asymmetry Information during COVID-19? A Study in Southeast Asia

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Abstract. This research aims to examine the Integrated Reporting impact to Information Asymmetry during COVID-19 in Southeast Asia. There are 78 companies in Southeast Asia used as sample in this study. The data is taken from S&P Capital IQ over two periods from 2019-2020 and examined using a fixed-effect regression model by STATA. The integrated reporting quality is assessed by analyzing the content and quantifying the scores of integrated reporting dimensions such as organizational overview, and impression scores. Our findings reveal that integrated reporting significantly affects the asymmetry information along with other financial factors, such as profitability and leverage. This evidence implies that integrated reporting plays an important role to reduce an information asymmetry between the companies and external parties. It also extends integrated reporting and information asymmetry literature especially in Southeast Asia.

Keywords: COVID-19 Pandemic, Information Asymmetry, Integrated Report

1 Introduction

ASEAN countries were one of the first regions infected with the COVID-19 virus. In 4 May 2020, there were 3,529,808 global cases worldwide, while over 49,900 cases happen in ASEAN countries [1]. The increase in COVID-19 virus infections in Southeast Asia was impacted to direct disruption to the economic downturn, global financial shocks, and recession. As a superior external trade partner and investor in the ASEAN countries, China has 17.1% shares ownership to Southeast Asia's total trade and supported until 6.5% of the total FDI inflows into the Southeast Asia region in 2018 [1]. Therefore, the beginning of COVID-19 pandemic in China became an emergency of economic condition in ASEAN countries since the ASEAN countries' supply chain highly depended on the China's manufacturing sector.

The widespread impact of COVID-19 on most organizations triggered the company's intention to have pandemic-related information as one of material information stated in the companies' disclosures. Sánchez, et al. [2] suggested that Integrated Reporting (IR) was a great instrument to demonstrate the leverage of COVID-19 pandemic on corporate governance and company's value creationsince pandemic affect the company businessprocess. Burke & Clark [3] also argued that IR offers an extension or evolution of corporate disclosure that provides a longer company's performance with a more comprehensive picture in a single document. Brammer & Pavelin [4] supported that IR is also able to reduce information asymmetry issues and improve business transparency.

IR is expected to be able to satisfy stakeholders by presenting the risks, opportunities and decisions made in the middle of the vulnerable condition of companies during the pandemic. IR's framework is able to provide a concise and objective report in order to disclose the side effects of pandemics on the value creation process [2]. It supports the function of IR as a tool to improve information transparency between a company and its stakeholders. Therefore, the objective proposed in this research is to examine how IR associate and influence the information asymmetry during the COVID-19 pandemic in the Southeast Asia.

2 Literature Review

2.1. Stakeholder Theory

The theory of stakeholder is an important concept in business studies [5]. The theory of stakeholder refers to organizational management and ethics theory that aims to map responsibility within an organization [6]. The nature of stakeholder theory comes from maintaining and managing the relationship between companies and stakeholders [7]. According to Vitolla, et al. [7] and Perego, et al. [8], the involvement of various stakeholders creates various perceptions, which indicates that each stakeholder has specific interesting information. Those research also added that IR is expected to be a comprehensive information disclosure to assist stakeholders in their decision-making [7], [8]. IR may gain stakeholder‘s trust and credibility because it provides high-quality information on various aspects in an integrated way [9]. Therefore, IR is one of accountability tools to stakeholders due to its ability to provides a company's information in comprehensive view in order to manage management relationship with stakeholders [10].

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2.2. Integrated Reporting

Integrated Reporting (IR) defines as "A concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" [11, p.8]. IR was established by International Integrated Reporting Council (IIRC). IR's objectives are not only as the summarization of information that is distributed in the several reports, but also relevant information provider to show the company's value in a multiple time frame. Research conducted by Landau, et al. [12] proposed that corporate disclosures with the application of IR standards can improve reporting quality. The Framework of IR provides a holistic view to cover Six capitals include the company's resources, relationships, and interactions with a wider society, economy and environment in a short, medium, and long term [11]. Therefore, these factors are relevant to address the impact of pandemic COVID-19 in the corporate's information disclosure.

2.3. Information asymmetry

Asymmetric information occurs when one party has more secure and specific information in the business than the other market participants [13]. Scott [14] mentioned that market is imperfect due to the existing of information asymmetry that might lead to collapse. The issue of asymmetry information has been discuss for a long time through many studies so that it is often linked directly. Sánchez & Gámez [15] proposed the study in which they believe the intention of company to reduce information asymmetry in the company's disclosure happen when the company have prospect to growth opportunities, profitability and abnormal results. Furthermore, the research proposed by Wahl, et al. [16] examined the broader information disclosure resulted in more efficient internal decision-making and have positive relation within stakeholder's point of view towards company's future cash flow goals.

2.4. Hypothesis Development

There are some researches, which discussed and examined the concept of integrated reporting (IR) more frequently in the last decades to evaluate corporate disclosure quality with the adoption of IR standards. Study proposed by Akker [17] examined the relation between IR and information asymmetry using analysis cumulative abnormal return to 29 North- American firms that adopt IR standard in 2010-2015 & 32 control groups that do not adopt the IR standard. The research found that IR provides more relevance information to stakeholders. The lower level of spread represented a group that adopts IR standard in its companies' disclosure. Thereby, Akker [17] agreed that the adoption of IR standard could be negatively associated with information asymmetry because IR may increase the stock liquidity by reducing the spread. This result is in line with the researches of [15], [18], and [19].

Lee and Yeo [18] found that the adoption of IR standard triggered an increasing of external financing needs and higher company valuations. Furthermore, this result supported the evidence of IR's ability to mitigate the information asymmetry between management and stakeholders by improving the information transparency. In addition, Sánchez & Gámez [15] discovered that IR might overcome the market friction problem at the time of share issuance by increasing the availability of information amongst market participants. As a result, IR is able to incorporate critical information into a complete report. Moreover, IR also allows a wide range of investors to make more accurate estimation of future transaction costs at the acquisition time. Sánchez & Gámez [19] also discovered that corporate's incentive is one of the important predictor in IR adoption, together with institutional state pressure and company transparency. When the company experiences less asymmetry issues, the contractual environment, on the other hand, plays a complimentary function.

The above research is contradicted with researches by Martinez [20] and Sriani & Agustia [21], which agreed that no significant relationship was found between IR and information asymmetry. Martinez [20] found that there is a positive association between IR, market value, and predicted future cash flows, but there is no relationship with spread or implicit cost of capital was discovered. This meant that while IR increased stakeholders' perceptions of the company's future cash flows, it had no effect on the company's transparency culture. While research by Sriani & Agustia [21] supported that within European and Asian companies, a declined association between IR quality and information asymmetry was discovered.

To evaluate the inconsistent result of the research, this research investigates the use of spread mostly exist in previous studies whether is used as explicit model to be investigated or implicit result [21], [20], and [17] in the empirical investigation on information asymmetry and its relationship with IR. Since the pandemic of COVID-19 is a pressure to the company, the IR quality is expected to satisfy the result in this empirical studies. The hypothesis is as follows:

H_1: The Spread model is significant to reflect the Information asymmetry during COVID-19 Pandemic

3 Research Method

This research uses quantitative and qualitative analysis. The qualitative analysis in this research is identifying the allignment of company's IR with the International Integrated Reporting Framework issued by

IIRC. Meanwhile, quantitative analysis uses the results of qualitative analysis to determine the IR quality score and then applies it to the regression model.

This research uses secondary data from S&P Capital IQ during 2020 and 2019. The research's object is the Southeast Asia region's companies, which adopt the IR standard by International Integrated Reporting Committee (IIRC) on their companies disclosures during 2019 and 2020. The sample size in this study is 78 companies, which excludes financial institutions because their nature differs with other businesses [21].

The regression model used in this research is as follows:

$$Spread = \beta_0 + \beta_1 X_{IRQ} + \beta_2 X_{Size} + \beta_3 X_{Leverage} + \beta_4 X_{Growth} + \beta_5 X_{Profitability} + \beta_6 X_{LN\ Price} + \beta_7 X_{Revenue7} + \beta_8 X_{OCF} + \beta_9 X_{Industry} + \epsilon$$

Following previous studies [17], [20], and [21], the dependent variable in this research is Spread, which represents information asymmetry. This also supported by Zhou, et al. [22]'s research that spread was a sensitive variable towards public news to reflect the asymmetric information. Moreover, Spread in this research will use the natural logarithm of average closing price according to data availability in the database. While, the independent variables are quality of the IR, company's size, leverage, growth, profitability, natural logarithm of the adjusted price (LNPrice), revenue, and operating cash flow (OCF).

The quality of IR is defined as alignment between companies's IR and IR's framework based on prior studies [21], [22]. The scoring framework of Integrated Reporting Quality's (IRQ) in study of Sriani & Agustia [21] represents the quality of IR in this research, which is consistent with the IIRC's International Integrated Reporting Framework in 2013. Ernst and Young (EY) professionals also assessed and supported the framework [21].

The sample's size, leverage, growth, profitability, LNPrice, revenue, and Operating Cash Flow (OCF) are research control variables that had been used in the previous studies [15], [17], [21]. First, the research is conducted by Akker [17] used the natural logarithm of total assets to measure the company's size. The size variable in Marrone Oliva [23]'s study had a positive relationship with the IR framework implementation. Second, Lang & Lundholm [24] measure the leverage variable by divided the total liabilities to total assets. The leverage variable represented the company's capability to pay interest and principal payments as a result of financial leverage which critical during this pandemic condition [25]. Third, this research follows Akker [17]'s research that growth variable is represented by market value to book value ratio. The elements of growth variable closely relates with the transparency information due to its fluctuation based on the shareholders' information access [26]. Fourth, net income before taxes is divided by book value of shareholder equity treated as the profitability variable. This profitability variable measurement is supported by Frias-Aceituno, et al. [27]'s research, which found that companies who attempt to empower their resources in developing IR by improving the public information visibility tend to be more profitable. Fifth, according to research of Sriani & Agustia [21], LNPrice is represented by the natural logarithm of the adjusted price. Sixth, revenue variable is measured by the ratio of net revenue to total assets following the reseacrh of [17]. Seventh, OCF variable following Sriani & Agustia [21] is reflected by the ratio of the net operating cash flow to total assets. Last, industry variable is categorized by each sectors, with details: 1 as Utilities and energy sectors, 2 as materials sector, 3 as consumer staples sector, 4 as Industrials sector, 5 as others.

4 Result and Discussion

4.1. Descriptive Result

Table 1. Descriptive Result

Variable	Obs	Mean	Std. Dev.	Min	Max
spread	156	-1.096234	1.86205	-5.521461	3.721589
irq	156	63.79487	1.466697	60	66
size	156	7.037163	1.652829	2.815409	10.28405
leverage	156	.5129634	.2063534	.0290608	.9612961

growth	156	3.877463	10.64245	.1766859	59.92796
profitabil~y	156	.2166278	1.023732	-2.891971	7.998844
lnprice	156	-1.143661	1.845236	-5.521461	3.679334
revenue	156	.0585702	.0701377	.0008298	.423373
ocf	156	.0893282	.0841777	.0011758	.4198499
industry	156	3.564103	1.433153	1	5

The statistical testing was conducted to 78 companies' financial data during 2019 and 2020. Hence, the data panel in this study is 156 observations. The data panel has been tested as it satisfied all classical assumption tests to see whether the data fulfills the statistical requirements and meets the linear analysis requirement. Before examining the hypotheses, descriptive statistics test is performed to test the data panel. Table 1 explains the descriptive statistics for 2019 and 2020 data in annual basis. The Table 1 shows a result of the high standard deviation coming from the Growth variable which reach 10.64245. It is interesting because during the COVID-19 pandemic periods, not all sectors experienced production declining (e.g. pharmaceutical, cleaning products, food and nutrition sectors). This result indicates the reason of high variation, which is represented by standard deviation of growth. The minimum value of growth is coming from the Utilities Industry, while the maximum value is from Consumer Staples industry.

4.2. Regression Result

Table 2. Fixed-Effect Model Regression

Fixed-effects (within) regression — Number of obs = 156

Group variable: companyid — Number of groups = 78

R-sq: — Obs per group:

within = 0.9805 — min = 2

between = 0.9864 — avg = 2.0

overall = 0.9863 — max = 2

F(8,70) = 438.84

corr(u_i, Xb) = 0.1298 — Prob > F = 0.0000

spread	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
irq	.0001638	.0026974	0.06	0.952	-.0052159	.0055436
size	-.1261905	.0644753	-1.96	0.054	-.2547825	.0024015
leverage	.46383	.1582101	2.93	0.005	.14829	.7793701
growth	-.0030513	.0057786	-0.53	0.599	-.0145764	.0084738
profitability	-.0136284	.0183015	-0.74	0.459	-.0501297	.0228728
lnprice	1.039391	.0196238	52.97	0.000	1.000252	1.078529
revenue	-.055533	.1488326	-0.37	0.710	-.3523703	.2413043
ocf	-.0419477	.1202838	-0.35	0.728	-.2818462	.1979507
industry	.0033198	.0079679	0.42	0.678	-.0124275	.0190671

_cons	.7539029	.4983691	1.51	0.135	-.240063	1.747869

sigma_u	.21846873	
sigma_e	.04138057	
rho	.96536571	(fraction of variance due to u_i)

F test that all u_i=0: F(77, 70) = 19.37 Prob > F = 0.0000

The Table 2 shows the regression result tested by the Fixed-effect model. The Number of Obs equal to 156 means that the number of observations is 156 samples. F-value shows how the relationship of all the independent variables and the dependent variable. The null hypothesis will reject if (Prob > F) < α. Table 2 also presented F-value in this regression is 0.000. The significance level in this research is 5%. The result shows that the model used in this research havs a significant influence on the dependent vari able because F 0.000 < 0.05. This result shows the rejection of null hypothesis. While the R-Squared or the goodness of fit shows the coefficient of determination on linear regression, which indicates the amount of the significance model used simultaneously by all independent variables to explain the dependent variable. This result is also stated in Table 2, that the R-squared is 0.9863, indicates that all of the independent variables in this research simultaneously explain the dependent variable as 98.63%. Meanwhile, 1.37% influenced by other variables outside the regression model.

4.3. Discussion

The result stipulates that the model used in this research to reflect the information asymmetry using spread is satisfied and the hypothesis is accepted. The regression result shows that the independent variables, including IRQ influence the information asymmetries significantly. This findings are in line with the previous results that have been conducted by Akker [17] and Sánchez & Gámez [15] who concluded that IR significantly reduced information asymmetry. This finding implies IR able to improve transparency information because it has strong relationship with the IRQ and other companies' parameters.

Refering to its size, larger company demands a higher level of quality of disclosures amd information transparency [23]. This argument is in line with ASEAN condition within this research sample, where larger companies disclose their information more in order to reduce the assymetries information. In addition, this research also align with [25] that ASEAN company tends to comply with the IR framework as they anticipate their ability to pay their debt through their qualified disclosure.

The pandemic's outbreak also had an impact on investment in ASEAN. The emerging investment challenges were reflected in a 25% drop in FDI to $137 billion in 2020. The Foreign Direct Investment (FDI) inflew $182 billion in 2019 and made the ASEAN region became the world's largest recipient of FDI [28]. The result showed by a decreament of the realized investments and a decreament of investment applications number. Given that FDI has long-term development implications, is usually considered as an important line of action for long-term recovery. In comparison to 29 in 2018 and 27 in 2019, ASEAN member states issued economic stimulus packages and implemented more than 50 investment-friendly measures in 2020 [28]. IRQ in this research also can be used to attract and to retain company's investment as the transparency is still on developing to the market participants.

In this research also shows that IR is an enticing tool to address the pandemic-related impact in the company's disclosures, which also aligns with research by Sánchez, et al. [2]. The adoption of IR can lead the ASEAN member to increase the external financing needs during the pandemic, which it is supported by the research of Akker [17]. In addition, the flexibility offered by the IR standard allows companies to adjust the IR disclosure according to their organizational model [21]. Whereas, this research supported that IR is able to provide disclosure of the changes and risks according to each business management and business model to address pandemic-related impacts in term of ASEAN.

5 Conclusion

This research explains how significant IR influences and reduces the information asymmetry in Southeast Asia during the COVID-19 pandemic through the qualified disclosure. The sample used 78 companies financial data and IR in 2019 and 2020. The result shows that IR together with other financial factors significantly influence the information asymmetry. Findings also represents that IR have addressed the pandemic‘s impact and company's value during the testing period. It stipulates that the adoption of IR standard in the Company disclosures during the COVID-19 pandemic enhanced the transparency information between company and the stakeholders.

This research extends literature related to integrated reporting, especially in global vulnerable economic conditions. The research finding provides applied insights for companies to have optimal reporting strategy by adopting IR framework. The implementation may be adapted according to each business model to address company's value more.

There are some limitations that need to be improved in further researches. The number of samples and periods used in this research is relatively small. It is because the pandemic is hype on those periods. Furthermore, the research may involve a subjective assessment in the content analysis. We suggest to have deeper investigation by assesing the IR quality using complex numerical data, not only dummy variable 1-0 or IRQ only, but combined with financial factor that significantly reflect the function of IR (e.g IRQ times Spread) and include the financial data of 2019 – 2021 in further research.

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