

The Relationship Between PT Astra International Tbk Corporate Communication Strategy on Google Trends and ASII Stock Price Returns

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ABSTRACT

Astra International Tbk is one of the blue-chip companies listed on the Indonesia Stock Exchange. Established in 1957, the company has multiplied with many subsidiary companies. It also carries out corporate communication strategies and publishes them in the media. Many previous studies investigate and find the relationship between news, trending search, and stock price movements. However, the study uses machine learning methods that are hard to use by regular investors. This research aims to find the relationship between ASII stock price returns and Astra corporate communication strategies that are popular on Google Trends weekly reports. This research uses descriptive statistical analysis to find the patterns and relationship between stock price returns and Google Trends' weekly rising keywords related to Astra from April 1st, 2022, to May 6th, 2023. The result of this research shows no significant relationship between those variables. However, this research discovers several patterns that can be useful for short-term traders. For example, career on Astra is a trending search keyword often followed by positive stock returns. In contrast, keywords related to Astra subsidiary businesses and corporate news are followed by the slightest chance of positive returns. Moreover, trending search keywords related to the company's corporate social responsibility actions are followed by a 50% chance of positive stock returns. Finally, traders must consider other indicators besides Google Trends, such as news sentiment, before making trading decisions. Furthermore, this research also benefits corporate communication professionals as a reference to their strategy, especially during this post-pandemic era.

Keywords: *ASII, Astra, stock returns, Google Trends, Corporate Communication, Investor Attention*

INTRODUCTION

PT Astra International Tbk is one of the blue-chip companies listed on the Indonesian Stock Exchange (Wijayanti, 2023). Established in 1957, the company has multiplied with many subsidiary companies. PT Astra International Tbk started its initial public offering in 1990 under the ASII ticker (Purwaningtyas et al., 2023). As an international corporation, PT Astra International Tbk conducts many activities that relate to its corporate communication strategies, such as corporate social responsibilities (CSR), investor relations, and employee relations (Ari Priatmojo Seno et al., 2022; Fathony et al., 2020).

Companies listed on the stock exchange must have an excellent corporate communication strategy, especially for maintaining a good relationship with the investors (Gupta et al., 2022). To manage the relationship, a company should conduct two-way interactive communication with the investors through various channels (Gupta et al., 2022). These investor relation activities aim to deliver information that could increase the company's credibility and valuation, eventually affecting stock prices (Gupta et al., 2022). Furthermore, according to previous research by Brühl & Falkheimer (2023), investor relation officers (IRO) should communicate all types of information to the investors, not only the ones that relate directly to the financial aspect. The information should also imply the intangible value of the company, such as the company's purpose (Brühl & Falkheimer, 2023). IRO should disseminate all the strategies related to the company's purpose, such as activities that support environmental, social, and governmental (ESG) and CSR (Brühl & Falkheimer, 2023). Moreover, Szczygielski et al. (2023) argue that investors actively search for reliable information to help them make and evaluate investment decisions in times of crisis or uncertainty. In addition, Neukirchen et al. (2023) explain that a company's IRO can respond to the investors' increasing attention to the company's stock by providing credible sources of information in the middle of uncertainty and false information about the company's fair valuation.

Previous studies aim to find the relationship between Google Search Trends (GST) and stock market returns. Akarsu & Süer (2022) discover a relationship between investor attention and stock returns in 31 countries with the most important stock markets in Europe, the

Americas, and Asia Pacific. They measure investor attention by analyzing data from Google Search Trends, using relevant terms to the companies listed on the stock markets (Akarsu & Süer, 2022). The study states that in developing countries, investor attention significantly affects unusual stock market returns (Akarsu & Süer, 2022). Akarsu & Süer (2022) also explain that investor attention is related to the reactions toward uncertainty and the efforts to find information regarding the investment.

Furthermore, Ballinari et al. (2022) examine the impact of retail and institutional investor attention on stock return volatility, especially on certain US stocks listed in the S&P 500 universe. They find that retail investor attention significantly influences the increase of stock return volatility, particularly during news releases (Ballinari et al., 2022). In comparison, institutional investor attention has an insignificant effect on volatility (Ballinari et al., 2022). Another study from Papadamou et al. (2023) shows that during the global crisis of the COVID-19 pandemic, investor attention to the pandemic could affect the volatility of stock prices in thirteen countries exposed to coronavirus at the beginning of 2020. The study concludes that the increase of Google search terms related to the pandemic results in high volatility stock index (Papadamou et al., 2023).

This study aims to address the research gap in the previous studies. The previous studies do not use a specific company's stock returns data, but the overall stock returns data from companies in specific regions or countries. Moreover, the studies have not investigated the relationship between post-pandemic stock returns and GST data related to a specific company's performance. Hence, this study aims to find the impact of investor attention measured with GST on corporate communication strategies during the end stage of crisis and post-crisis situations after the end of the COVID-19 pandemic in Indonesia. Second, this study focuses only on specific stock price data of ASII, the PT Astra International Tbk stock. Therefore, this study aims to find the relationship between Astra International Tbk (ASII) stock price returns and corporate communication strategy on Google Trends.

METHOD

This study uses a quantitative method with descriptive statistical analysis. Following the method from Papadamou et al. (2023), this study collects investor attention data from

Google Search Trends (GST) under specific terms related to the topic. The researcher uses "Astra" as the main keyword for the GST term, representing the company's name. Also, the researcher use the top related query data related to "Astra" to measure investor attention. As for the ASII stock return data, this research used data from Investing.com. Adopting the method from Akarsu & Sürer (2022), the researcher used a weekly timeframe to collect GST and ASII stock return data. The researcher collected the data from April 1st, 2022, to May 6th, 2023, representing the end stage until the post-COVID-19 pandemic.

After data collection, the researcher used JASP and Microsoft Excel to conduct descriptive statistical analysis to find patterns and relationships between Astra International Tbk (ASII) stock price returns and corporate communication strategy on Google Trends. The analysis steps are as follows:

- The researcher groups the GST and ASII stock returns data on weekly timeframes.
- The researcher categorizes the GST data based on the type of corporate communication strategy, especially regarding investor relations such as CSR and business reports.
- The researcher also identifies the GST data into two types, rising and breakout search terms.
- The researcher categorized the ASII stock returns into positive and negative returns.
- The researcher finds the patterns and relationships using descriptive statistical analysis to gain insights into corporate communication strategy.

FINDINGS AND DISCUSSION

There are 56 weeks of GST data and ASII stock returns. As detailed in Table 1, the researcher categorize the data according to several variables. For GST data, the researcher identifies several terms categories, which are "business," "corporate," "career," and "CSR." The "business" category consists of GST terms that relate to PT Astra International Tbk subsidiaries businesses, such as "Astra credit company" for finance subsidiaries companies and "Toyota Astra" for automotive subsidiaries companies. Furthermore, the "corporate" category consists of GST terms that relate to information about the corporation of PT Astra International Tbk, such as "PT Astra" and "PT Astra Daihatsu Motor." The researcher also finds the "career"

category, which includes GST terms related to information about the career in PT Astra International Tbk, such as "Astra career" and "recruitment Astra Honda." The last category is "CSR," which consists of GST terms related to CSR activities of PT Astra International Tbk, such as "Astra graduate program 2022" and "koperasi Astra."

Moreover, the researcher conducts descriptive statistical analysis to discover patterns and relationships between the variables. As detailed in Table 2, the researcher uses a contingency table to analyze the relationship between GST categories and ASII stock returns. The researcher finds the P value is 0.087, more than the significant value of 0.05. Therefore, there is no significant relationship between GST categories and ASII stock returns. However, the researcher finds valuable frequency data on the occurrence of each GST category. For example, the "Business" category is the most popular GST term. However, it also associates with 16 negative stock returns (55.172%) from 29 stock returns associated with the category. Also, the "Career" category associates with ten positive stock returns (83.333%) from 12 stock returns associated with the category.

Next, the "Corporate" category associates with six negative stock returns (66.667%) from 9 stock returns associated with the category. Finally, the "CSR" category has an equal association with both positive and negative stock returns associated with the category. These findings align with previous research by Ballinari et al. (2022) on how investor attention around news releases affects stock market performances. Moreover, they find that different types of information in the news results in different volatility levels (Ballinari et al., 2022). Hence, the researcher suggests that the IRO can be aware when a particular GST category rises as different investor attention categories may associate with different stock return volatilities. The IRO can reduce uncertainty by providing reliable information through credible channels regarding those particular GST categories that are on the rise. Also, consistent with Neukirchen et al. (2023), it is essential to keep continuous communication through trusted private channels with the investors, so it will be easier to reach the investors and provide the actual information regarding the issue. The researcher suggests the utilization of private investor community channels through official groups such as WhatsApp or Telegram channels and groups.

Table 1. Weekly ASII Stock Return and GST data

Data source: The data was collected from Investing.com and Google Trends and compiled by the researcher

Week	Date	ASSI Stock Return		GST data		
		Change %	Return	Terms	Category	Metrics
1	04/03/22	4,48	positive	menara astra	business	breakout
2	04/10/22	-1,79	negative	polman astra	csr	breakout
3	04/17/22	2,55	positive	astra graduate program 2022	career	breakout
4	04/24/22	7,45	positive	astra credit companies	business	breakout
5	05/08/22	-5,94	negative	shc astra	csr	breakout
6	05/15/22	0	positive	astra toll struk online	business	breakout
7	05/22/22	1,4	positive	pt astra international tbk	corporate	rising
8	05/29/22	1,4	positive	recruitment astra honda	career	breakout
9	06/05/22	-5,14	negative	astra credit company	business	breakout
10	06/12/22	0,36	positive	pt astra international tbk	corporate	rising
11	06/19/22	-3,96	negative	astra otoshop	business	breakout
12	06/26/22	-2,25	negative	menara astra	business	rising
13	07/03/22	-8,43	negative	pt astra	corporate	rising
14	07/10/22	-0,42	negative	astra agro lestari	business	breakout
15	07/17/22	2,1	positive	astra life	business	rising
16	07/24/22	4,12	positive	toyota astra	business	rising
17	07/31/22	4,74	positive	astra tol	business	rising
18	08/07/22	4,91	positive	astra virtue	career	breakout
19	08/14/22	0,36	positive	virtue astra	career	rising
20	08/21/22	-1,43	negative	pt astra agro lestari tbk	corporate	breakout
21	08/28/22	0,73	positive	pt astra group	corporate	rising
22	09/04/22	-2,17	negative	toyota astra motor	business	rising
23	09/11/22	1,85	positive	astra karir	career	rising
24	09/18/22	3,62	positive	koperasi astra	csr	rising
25	09/25/22	-7,34	negative	astra credit companies	business	rising
26	10/02/22	-2,26	negative	astra international karir	career	breakout
27	10/09/22	-1,93	negative	asuransi astra	business	rising
28	10/16/22	3,54	positive	koperasi astra	csr	breakout
29	10/23/22	-0,38	negative	pt astra	corporate	rising
30	10/30/22	-1,91	negative	astra life	business	rising
31	11/06/22	0,39	positive	mobil astra	business	rising
32	11/13/22	-3,49	negative	toyota astra motor	business	rising
33	11/20/22	-0,8	negative	toyota astra finance	business	rising
34	11/27/22	-0,81	negative	pt astra daihatsu motor	corporate	breakout
35	12/04/22	-7,35	negative	polman astra	csr	rising
36	12/11/22	1,76	positive	astra tol	business	rising
37	12/18/22	-1,73	negative	astra infra	business	breakout
38	12/25/22	0,44	positive	astra career	career	rising
39	01/01/23	-4,39	negative	astra infra toll road	business	breakout
40	01/08/23	0	positive	astra tol	business	rising
41	01/15/23	8,26	positive	politeknik astra	csr	rising
42	01/22/23	-0,42	negative	recruitment astra honda motor	career	breakout
43	01/29/23	0	positive	astra life	business	rising
44	02/05/23	-2,98	negative	menara astra	business	rising
45	02/12/23	-0,44	negative	astra international	corporate	breakout
46	02/19/23	1,32	positive	astra credit company	business	breakout
47	02/26/23	5,22	positive	yamaha	business	rising
48	03/05/23	-1,24	negative	astra toll struk online	business	breakout
49	03/12/23	-2,09	negative	astra credit company	business	breakout
50	03/19/23	1,71	positive	astra graduate program 2023	career	breakout
51	03/26/23	0,84	positive	astra virtue	career	rising
52	04/02/23	-1,25	negative	astra otoparts	business	rising
53	04/09/23	4,64	positive	astra karir	career	breakout
54	04/16/23	3,63	positive	astra otoshop	business	rising
55	04/23/23	5,06	positive	astra karir	career	breakout
56	04/30/23	-8,89	negative	pt astra daihatsu motor	corporate	breakout

Table 2. Contingency table for ASII Stock Return and GST data

Data source: The data was collected from Investing.com and Google Trends, analyzed with JASP and compiled by the researcher

	ASII Stock Return		
GST Category	Negative	Positive	Total
Business	16	13	29
	55.172%	44.828%	100%
Career	2	10	12
	16.667%	83.333%	100%
Corporate	6	3	9
	66.667%	33.333%	100%
CSR	3	3	6
	50%	50%	100%
Total	27	29	56
	48.214%	51.786%	100%
Chi-Squared Test			
	Value	df	P
X ²	6.581	3	0.087
N	56		

Furthermore, the researcher discovers that the GST categories do not always directly related to financial news or ASII stock information. Those categories show that investors look for information related to the firm's characteristics, the company's businesses and industries, and the company's value. Therefore, these findings support the previous research by Brühl & Falkheimer (2023) about IRO and the company's purpose. Although it is essential always to give credible information about a company's financial performance, they also find it crucial to deliver information about intangible aspects of a company as part of the strategic investor relations communication (Brühl & Falkheimer, 2023).

As listed in Table 2, the "Career" category is associated with the most considerable percentage of positive returns (83.333%). This finding is consistent with research by Gartenberg et al. (2016) that discovers the importance of a good company purpose. Especially they find that companies with good management and employee relations have better stock market performances (Gartenberg et al., 2016). Hence, the researcher argues that IRO should

deliver more information about careers and employment in a company to increase investors' confidence in their investment.

As mentioned before, the “CSR” category has an equal association with positive and negative stock returns. These findings are consistent with Fathony et al. (2020), who analyze the relationship between PT Astra International Tbk CSR activities and the ASII stock returns. They explain that CSR activities do not significantly influence investors in making investment decisions (Fathony et al., 2020). Furthermore, these findings are also similar to previous research by Ergen Keleş et al. (2023) about how CSR news affects corporate financial performance. The research concludes that the effects depend on many indicators, such as the type of CSR activities, the firm's business industries, and the firm's characteristics (Ergen Keleş et al., 2023). It also finds that positive CSR news does not always result in a positive stock performance (Ergen Keleş et al., 2023). For example, CSR news about donation has no effect, but if the donation news also mentions employee participation in the activity, it affects the stock performance positively (Ergen Keleş et al., 2023). Therefore, aligned with Ergen Keleş et al. (2023) research, this study finds that investor attention to PT Astra International Tbk CSR activities has an equal association with positive and negative ASII stock returns. This study also finds that investor attention to CSR activities related to employees' co-operative credit union with the GST term "koperasi Astra" always associate with ASII positive stock returns. Based on these findings, the researcher suggests that IRO should publish more about CSR activities related to employees' welfare and put it in the story's headlines in public and private channels.

Moreover, the researcher also analyzes the most popular GST category, "business," especially those associated with negative ASII stock returns. As detailed in Table 3, various GST terms in the "business" category are related to PT Astra International Tbk subsidiaries business, such as finance and automotive. The researcher analyzes each GST term to gain insight into corporate communication strategy. For example, from November 13th to 19th, 2022, the most popular GST term is "Toyota Astra motor." The researcher discovered that during that week, several media published news about the launch of Innova Zenyx as Indonesia's first Toyota hybrid car (Aszhari, 2022). However, despite the positive news that has increased investor attention, ASII stock return was negative by the end of that week.

Furthermore, the researcher discovered that in the same week, Bank Indonesia increased the interest rate by 50 bps to 5.25% (Kusnandar, 2022). These findings are consistent with a previous study by Tjahyana (2023) that explains how general financial market conditions significantly influence a company's stock returns, regardless of the company's fundamental aspect. Therefore, consistent with Neukirchen et al. (2023), the researcher argues that IRO should provide investors with reliable information about a company's accurate valuation. Moreover, Neukirchen et al. (2023) explain that private investor relations practices positively affect stock returns during an uncertainty. Hence, similar to Neukirchen et al. (2023), the researcher concludes that besides using public channels such as news media, the IRO should utilize private investor relations communication channels to increase investors' trust in a company's accurate valuation. The researcher suggests that IRO can use exclusive channels for different levels of investors, such as private meetings through both online and onsite channels.

Table 3. Weekly ASII Stock Return and GST data for the "Business" Category with "Negative" Return

Data source: The data was collected from Investing.com and Google Trends and compiled by the researcher

Week	Date	ASSI Stock Return		GST data		
		Change %	Return	Terms	Category	Metrics
9	06/05/22	-5,14	negative	astra credit company	business	breakout
11	06/19/22	-3,96	negative	astra otoshop	business	breakout
12	06/26/22	-2,25	negative	menara astra	business	rising
14	07/10/22	-0,42	negative	astra agro lestari	business	breakout
22	09/04/22	-2,17	negative	toyota astra motor	business	rising
25	09/25/22	-7,34	negative	astra credit companies	business	rising
27	10/09/22	-1,93	negative	asuransi astra	business	rising
30	10/30/22	-1,91	negative	astra life	business	rising
32	11/13/22	-3,49	negative	toyota astra motor	business	rising
33	11/20/22	-0,8	negative	toyota astra finance	business	rising
37	12/18/22	-1,73	negative	astra infra	business	breakout
39	01/01/23	-4,39	negative	astra infra toll road	business	breakout
44	02/05/23	-2,98	negative	menara astra	business	rising
48	03/05/23	-1,24	negative	astra toll struk online	business	breakout
49	03/12/23	-2,09	negative	astra credit company	business	breakout
52	04/02/23	-1,25	negative	astra otoparts	business	rising

CONCLUSION

This research finds no significant relationship between PT Astra International Tbk corporate communication strategy on Google Trends and ASII stock price returns. However, some patterns can give valuable insights into corporate communication strategy, especially investor relations communication. Based on the GST data, there are several terms categories related to Astra, which are "business," "corporate," "career," and "CSR." Each term is associated with different ASII stock returns in the weekly timeframe. The IRO of a company should be aware if GST data shows popular terms related to the "business" and "corporate" categories because, according to the data, those categories are often associated with negative stock returns. Therefore, IRO should also deliver more positive information to the investor about the business and corporation of a company to make the investor acknowledge the company's actual value and become more confident in their investment. The "career" category also often associates with positive stock returns; therefore, IRO should publish more career and employee management information. Furthermore, the "CSR" category has no significant influence as it has an equal association with positive and negative stock returns. However, the investor should not rely on GST data on their investment decision but also consider other indicators such as news sentiment and general financial market conditions.

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