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ANALYSIS OF ABNORMAL RETURN AND TRADING VOLUME ACTIVITY BEFORE AND AFTER THE BINOMO CASE ON STOCK PRICE OF COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

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Abstract: The purpose of this study was to determine whether there was a difference in the average abnormal return and trading volume activity between before and after the Binomo case, and whether there was a difference in the average abnormal return and trading volume activity between before and after the information that Indra Kenz was named a suspect. Data are collected and analyzed using descriptive statistical test dan normality test. Method of hypothesis testing by paired sample t-test. The results obtained from this study indicate (1) there is no difference in the average abnormal return between before and after the Binomo case, (2) there is no difference in the average trading volume activity between before and after the Binomo case, (3) there is no difference the average abnormal return between before and after Indra Kenz was named a suspect, (4) There was a difference in the average trading volume activity between before and after Indra Kenz was named a suspect

Keywords: *Abnormal Return, Trading Volume Activity, Binomo case*

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1. Introduction

The term 'investment' sounds very familiar to us, but in today's world everyone should understand how important investments are to their business and their future. In accordance with the Financial Services Authority (OJK), investing is the long-term investment activity of purchasing stocks and securities for profit.

The investment world faces many problems, most of which are related to false or fraudulent investments. Often these are fraudulent activities and the losses incurred are very high. However, only a few cases have been proven to be actual insider trading or illegal investment practices. The case of Binomo, which has been linked to money laundering by popular TV show Indra Kenz, is similar, allegedly making improper investments through known online investment platforms. Binary options trading (also known as binary options trading) involves determining how the value of an asset will change at certain predetermined points in a binary system (Dwiputra et al., 2022).

This scandalous incident began when eight victims of the Binomo trading application felt deceived and victimized. They reported the incident to police on February 3, 2022 regarding the existence of criminal fraud committed by Indra Kesuma or popularly known as Indra Kenz. The method Indra Kenz uses to attract investors' interest is to show them how to play

his modified Binomo application in a way that appears profitable to the trader. After that, many people were attracted to the application, downloaded it, registered, and deposited money. Contrary to Indra Kenz's promise, casualties continued. However, further investigation revealed that the trading application used was an investment application that violated the laws of the binary system (Tarigan et al., 2023).

The purpose of studying events is to examine how markets react to circulating events and information about economic or non-economic issues (Kudus & Sutrisno, 2019). Abnormal returns can be used as an indicator for event research to see if there are differences in returns and abnormal stock trading volumes before and after the Binomo incident that trapped Indra Kenz. Additionally, the volume of stocks traded can be measured by trading volume activity.

The purpose of the research conducted is to provide information and opinions on market efficiency to the public or potential investors, and to closely monitor stock prices and stock price changes to enhance knowledge and insight on market efficiency. is to provide benefits to potential investors who need to pay attention to. Amount of inventory affected by events resulting from legal action. It is hoped that the results of the research conducted will serve as a reference for further research, provide students with knowledge on relevant topics, and serve as a source of information for literature research.

2. Research Method

This research is a quantitative research based on external data (data sourced from outside the organization or group). This research was conducted using secondary research supporting data obtained from the Indonesian Stock Exchange website, Investing.com, and Google Finance. Companies listed on the Investor33 Index, that is, there are 33 companies as a population. Sampling using saturated sampling technique, where all members of the population are used as samples.

This research was conducted using data collection techniques by observation. Any method of collecting data by recording systematic events without communicating with or questioning the subject (person), the behavior of an object (object), or the people under investigation is considered an observational data collection technique (Supranto, 2016). The period observed in this study was 28 days: 7 days of observation before and after the information on the Binomo case, and 7 days of observation before and after an influencer named Indra Kenz was named a suspect. Observation results obtained in the form of:

1) An article dated February 3, 2022 on information related to the Binomo incident and an article dated February 24, 2022 on information naming Indra Kenz as a suspect, extracted from journals.
2) A list of companies listed on the Index Investor33.
3) Closing price data for 33 companies.
4) Data on composite stock price index investor33.
5) Information on the number of shares traded.
6) information regarding the number of shares outstanding.

Abnormal Return

According to (Sari & Dewi, 2021), abnormal returns include the difference between actual and expected returns. To calculate the failure return variable, we can do the following:

$$RTN_{i.t} = R_{i.t} - E\,[R_{i.t}]$$

Information:

$RTN_{i.t}$ = abnormal return

$R_{i.t}$ = realized return on stock i that occurs in t
E [$R_{i.t}$] = expected return for stock i at t

$$AAR_{i.t} = \frac{RTN_{i.t}}{n}$$

Information:
$AAR_{i.t}$ = the average abnormal return for stock i on the t event
$RTN_{i.t}$ = abnormal return for stock i on event t
n = research sample quantity

Trading Volume Activity

According to (Sari & Dewi, 2021), a stock's volume activity, or commonly referred to as volume activity, is the ratio of the number of shares traded to the number of shares outstanding at any particular moment. On the other hand, (Aperlina & Sulistianingsih, 2017) use stock trading volume activity to learn whether investors and shareholders are reacting positively or negatively before and after an event or announcement. claims to be possible. Procedure for calculating the volume activity variable is :

$$TVA = \frac{volume\ of\ shares\ traded}{the\ number\ of\ shares\ outstanding}$$

$$ATVA = \frac{Total\ Trading\ Volume\ Activity\ of\ the\ shares}{Total\ samples\ studied}$$

Descriptive Statistics Analysis Test

Descriptive statistics are the methods researchers use to collect, present, represent, and process observational data for the purpose of detailed analysis of phenomena that occur scientifically (Faih, 2022).

Normality Test

Classical acceptance testing takes the form of normality testing of variable returns and volume activity. A normality test determines if the residual values of a regression are regularly distributed. In this study the test used was the one-sample Kolmogorov-Smirnov test with Sig < 0,05 the data distribution is atypical. When Sig > 0,05 The data distribution is regular (Hanifah, 2020).

Paired Sample T-test

In (Hanifah, 2020), the level of significance of the hypotheses formed in the study can be determined by using the Paired Sample T-test, or the average difference test of two paired samples, with a significance level used of 5% (0.05).
The requirements that must be met in the Paired Sample T-test are if the significance value of the research results is <0.05 then H0 is rejected and if the significance value of the research results is > 0.05 then H0 is accepted.

3. Results and Discussion

3.1 Results

Descriptive Statistics Analysis Test

A descriptive statistical analysis is an analysis that provides an initial description of each survey variable: Average Abnormal Return (AAR) and Average Trading Volume Activity (ATVA). This descriptive statistical analysis conveys information about the characteristics of the survey variables in the form of data sets, maximum, minimum, mean and then standard deviation values. The results of the descriptive statistical analysis test of the survey AAR and survey ATVA over a 28-day period were split into two survey events:

Table 3.1
Descriptive Analysis Test Results After Binomo Case Published

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
AAR Before	7	-0,00827	0,00520	-0,0004243	0,00524579
AAR After	7	-0,00695	0,00345	-0,0021129	0,00359715
ATVA Before	7	0,00120	0,00170	0,0014343	0,00020485
ATVA After	7	0,00118	0,00226	0,0016171	0,00035818

Source: SPSS 23 was used to process the data

Based on table 3.1 the results of the descriptive statistical analysis test for abnormal returns and trading volume activity during the 7-day observation period before and after the Binomo Case was published on 03 February 2022, it can be seen that:

1) The minimum pre-event AAR is -0,00827 and the maximum pre-event AAR is 0,00520. Additionally, the pre-event mean AAR value is -0,0004243 and the standard deviation value is 0,00524579. A value for the standard deviation greater than the mean indicates that the distribution of the data used is too broad to be considered good.
2) The minimum post-event AAR is -0,00695 and the maximum post-event AAR is 0,00345. The mean AAR value after the event is -0,0021129 with a standard deviation value of 0,00359715. The distribution of the data used is not very good, as the standard deviation is larger than the mean.
3) The minimum pre-event ATVA is 0,00120 and maximum pre-event ATVA is 0,00170. Also, the pre-event ATVA value is 0,0014343 and the standard deviation value is 0,00020485. A standard deviation value less than the mean indicates that the data used are either unbiased or more accurate.
4) The minimum post-event ATVA is 0,00118 and the maximum post-event ATVA is 0,00226. The post-event ATVA value is 0,0016171 and the standard deviation value is 0,00035818. A standard deviation value less than the mean indicates that the data used are either unbiased or more accurate.

Table 3.2
Descriptive Analysis Test Results Indra Kenz Defined as a Suspect

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
AAR Before	7	-0,00198	0,00685	0,0008757	0,00303019
AAR After	7	-0,00630	0,00831	0,0003814	0,00530883
ATVA Before	7	0,00149	0,00199	0,0017500	0,00018859
ATVA After	7	0,00283	0,00655	0,0039500	0,00133766

Source: SPSS 23 was used to process the data

Based on table 3.2 the results of the descriptive statistical analysis test for abnormal returns and trading volume activity during the 7-day observation period before and after the information that Indra Kenz was named a suspect on February 24, 2022, it can be described that:

1) The minimum pre-event AAR is -0,00198 and the maximum pre-event AAR is 0,00685. Additionally, the pre-event mean AAR value is 0,0008757 and the standard deviation value is 0,00303019. The distribution of the data used is not very good, as the standard deviation is larger than the mean.
2) The minimum post-event AAR is -0,00630 and the maximum post-event AAR is 0,00831. The AAR value after the event is 0,0003814 and the standard deviation value is 0,00530883. The distribution of the data used is not very good, as the standard deviation values are larger than the mean.
3) The minimum pre-event ATVA is 0,00149 and the maximum pre-event ATVA is 0,00199. Also, the pre-event mean ATVA value is 0,0017500 and the standard deviation value is 0,00018859. A standard deviation value less than the mean indicates that the data used are either unbiased or more accurate.
4) The minimum post-event ATVA is 0,00283 and the maximum post-event ATVA is 0,00655. In this case, the ATVA value after the event is 0,0039500 and the standard deviation value is 0,00133766. A standard deviation value less than the mean indicates that the data used are either unbiased or more accurate.

Normality Test Results

Data normality tests were performed using the one-sample Kolmogorov-Smirnov test the resulting residual values whether the regression was normally distributed or not. The one-sample Kolmogorov-Smirnov test on company stock data listed on Investor33 was run to find the average difference test to be used. The results of the survey's normality test for variable for 28 days were divided into 2 study events as follows:

Table 3.3
Normality Test Kolmogorov-Smirnov Result After Binomo Case Published

	AAR Before	AAR After	ATVA Before	ATVA After
N	7	7	7	7
Test Statistik	0,222	0,168	0,203	0,223
Asymp. Sig. (2-tailed)	0,200[c.d]	0,200[c.d]	0,200[c.d]	0,200[c.d]

Source: SPSS 23 was used to process the data

In accordance with the results of the One Sample Kolmogorov-Smirnov test above, it is clear that the Asymp. Sig. The anomalous return was 0,200 before and after the binomo case news was released on February 3, 2022. Because the probability value is larger than 0,05 the data is considered to be regularly distributed.

The same is true for the Asymp value. Sig. (2-tailed) trading volume activity was 0,200 before and after the binomo case news was announced on 03 February 2022. Because the probability value is larger than 0,05 the data is considered to be regularly distributed. As a result, the Paired Sample T-test was performed for hypothesis testing.

Table 3.4
Normality Test Kolmogorov-Smirnov Results Indra Kenz Defined as a Suspect

	AAR Before	AAR After	ATVA Before	ATVA After
N	7	7	7	7
Test Statistik	0,219	0,171	0,166	0,271
Asymp. Sig. (2-tailed)	0,200[c.d]	0,200[c.d]	0,200[c.d]	0,130[c]

Source: SPSS 23 was used to process the data

Consistent with the results of the One Sample Kolmogorov-Smirnov test above, it can be shown that the Asymp. Sig. (2-tailed) before and after the information that Indra Kenz was named a suspect on 24 February 2022 was 0,200 each. Because the probability value is larger than 0,05 the data is considered to be regularly distributed.

Likewise with the Asymp value. Sig. (2-tailed) before and after the information that Indra Kenz was named a suspect on 24 February 2022 was 0,200 and 0,130 respectively. Because the probability value is larger than 0,05 the data is considered to be regularly distributed. As a result, the Paired Sample T-test was performed for hypothesis testing.

Hypothesis Testing Results

The basis for decision making for the Paired Sample T-test is that the research results will be accepted if the significance value is below 0,05, otherwise the research results will be rejected if the significance value exceeds 0,05.

Research hypotheses are:

1) H1: There is a difference in the average value of abnormal return before and after the Binomo Case information has been publicized on 03 February 2022.
2) H2: There is a difference in the average value of trading volume activity before and after the Binomo Case information has been publicized on 03 February 2022.
3) H3: There is a difference in the average value of abnormal return before and after the information that Indra Kenz was named a suspect on 24 February 2022.
4) H4: There is a difference in the average value of trading volume activity before and after the information that Indra Kenz was named a suspect on 24 February 2022.

The results of testing the hypothesis are described as follows:

Table 3.5
Paired Sample T-test Results Before and After the Binomo Case Published

Variable	Significance
AAR Before Case – AAR After Case	0,536
ATVA Before Case – ATVA After Case	0,189

Source: SPSS 23 was used to process the data

The significance value was 0,536, based on the paired sample t-test findings for the average abnormal returns before and after the Binomo case were released. The significance level of 0,536 is larger than the significance level of 0,05. Therefore, the results of this hypothesis indicate that H1 is rejected.

On the other hand, the significant value of the matched paired sample t-test findings for the average trading volume activity before and after the disclosure of the Binomo event was 0,189. The significance threshold is higher than or equal to 0,05. As a result, the findings of this investigation show that H2 is rejected.

Table 3.6
Paired Sample T-test Results Before and After Indra Kenz Defined as a Suspect

Variable	Significance
AAR Before Case – AAR After Case	0,825
ATVA Before Case – ATVA After Case	0,006

Source: SPSS 23 was used to process the data

The significance value was 0,825, based on the results of a paired-sample t-test of the mean abnormal returns before and after Indra Kenz`s information as a suspect. The significance threshold is more than or equal to 0,05. Therefore, the results of this hypothesis indicate that H3 is rejected.

The significance value of the paired-sample t-test result for the average trading volume activity before and after being informed that Indra Kenz was named as a suspect was 0,006. The significance value is less than the level of significance of 0,05. As a result, the findings of this inquiry show that H4 is acceptable.

3.2 Discussion

The paired-sample t-test results shown in Table 3.5 suggest a significance value of 0,536 for the mean anomalous return before and after the Binomo cases. H1 is rejected if the significance threshold is greater than or equal to 0.05 (0,536 > 0.05). Based on the above test results, we can conclude that there is no difference in average anomalous returns before and after the publication of the Binomo case on February 3, 2022. This proves that the Binomo incident contains weak information, so it will not affect investment, and investors do not feel a strong signal because of this incident. Investors also do not believe that this incident will have a significant impact on future stock price fluctuations.

Similarly, the difference in average trade volume activity before and after the Binomo event is noteworthy at 0.189. If this significance level is larger than the 0.05 threshold (0,189 > 0,05), H2 is rejected. From the above test results, we can conclude that on February 3, 2022, there was no difference variation in average trading volume activity before and after the disclosure of the Binomo case. This also suggests that stock trading volumes on the Indonesian Stock Exchange have not changed significantly. Because the Binomo affair did not send a strong signal, it did not respond to investors.

The results of the paired-sample t-test, shown in Table 3.6, suggest a significance value of 0,825 for the average abnormal return before and after identifying Indra Kenz's information as a suspect. The significance threshold is more than or equal to 0,05 (0,825 > 0,05). According to these findings, there is no change in the average abnormal return before and after the information that Indra Kenz was named as a suspect on 24 February 2022. This proves that the news contains weak information and therefore does not affect investment levels and investors do not feel a strong signal. as a result of this incident. The case has been under investigation for some time, but investors also do not believe the case will have a material impact on future share price movements.

The average abnormal return before and after Indra Kenz's information as a suspect showed a significance value of 0,006. The significance value is below the significance level of 0,05 (0,006 < 0,05). According to this result, it can be said that there is a difference in the average turnover before and after the information that Indra Kenz was nominated as a suspect on February 24, 2022. This differs from Hypothesis 2, where the incident originally occurred, and requires further investigation. Hypothesis 4 names influencer Indra Kenz as a suspect in promoting a binary options trading application under the guise of fraudulent investments. The charges are online gambling, fraud and money laundering. This indicates that the news contains powerful information that triggered the market reaction to stock trading activity around the information that Indra Kenz was named as a suspect.

4. Conclusion

From the results of data analysis and discussion it can be concluded that:

1) There is no difference in the average abnormal return to stock prices of companies listed on the Indonesia Stock Exchange before and after the announcement of the Binomo Case on February 3, 2022.
2) There is no difference in the average trading volume activity of companies listed on the Indonesia Stock Exchange before and after the publication of the Binomo Case on February 3, 2022.
3) On the stock prices of firms listed on the Indonesia Stock Exchange, there is no difference in the average abnormal return before and after the notification that Indra Kenz was labeled a suspect on February 24, 2022.
4) When comparing the share prices of corporations listed on the Indonesia Stock Exchange, there is a difference in the average trading volume activity before and after the announcement that Indra Kenz was named a suspect on February 24, 2022.

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