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TECHNICAL ANALYSIS IN STOCK PRICE MOVEMENTS USING *THE HISTORICAL PRICE* METHOD AND *CHART PATTERN* IN THE ENERGY SECTOR INDUSTRY IN THE COMING YEAR

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Abstract

The capital market plays a very important role in long-term investments. However, the capital market often also involves high risks because it depends on market price movements that cannot be predicted with certainty. The most popular financial instruments in the capital market are stocks. This stock is used by investors to gain profit. In the world of investing, there are two ways to analyze stocks: technical analysis and fundamental analysis. Technical analysis examines past stock price patterns to predict future price directions, without considering the company's conditions. Meanwhile, fundamental analysis looks at factors such as company management and financial performance to estimate the future value of the stock. Out of 81 companies in the energy sector that were evaluated, 22 companies are experiencing an uptrend. Using chart patterns, there are five companies, namely Adaro Energy Indonesia (ADRO), Trans Power Marine Tbk (TPMA), Delta Dunia Makmur (DOID), Elnusa Tbk. (ELSA), and Resource Alam Indonesia Tbk (KKGI), among those predicted to continue experiencing positive growth in the future. The use of candlestick charts and the Exponential Moving Average (EMA) indicator has helped in identifying upward trends in stock prices. In addition, chart pattern methods, particularly the Cup and Handle and Inverted Head and Shoulders patterns, provide additional insights into the potential continuation of bullish trends in several energy sector companies. The analysis of this graphic pattern allows investors to project stock price movements more accurately, aiding in making more informed investment decisions.
Keywords*: Technical Analysis, Stock Prices, Historical Price, Chart Pattern, Energy Sector, Indonesia Stock Exchange*

INTRODUCTION

In the economy, the capital market has a very important role for long-term investment. However, the capital market is not only for long-term investment because the capital market has an important role also as a means of short-term investment or trading that provides large profits with a short period of time but often involves high risk because it depends on market price movements that cannot be predicted with certainty. The difference between this market and other markets is the object of the transaction. The capital market or Stock Exchange is classically defined as the business of buying and selling securities such as stocks, bonds and other securities (Putra & Januarita, 2024).

The most popular financial market instrument in the capital market is stocks. When a Company chooses to raise capital, one of their options is to issue shares. Stocks are securities that represent the ownership of a company. Stocks are an investment tool that is widely favored by investors because they can provide attractive profit levels (Sukamulja, 2022). Investors must know how to profit from buying and selling stocks.

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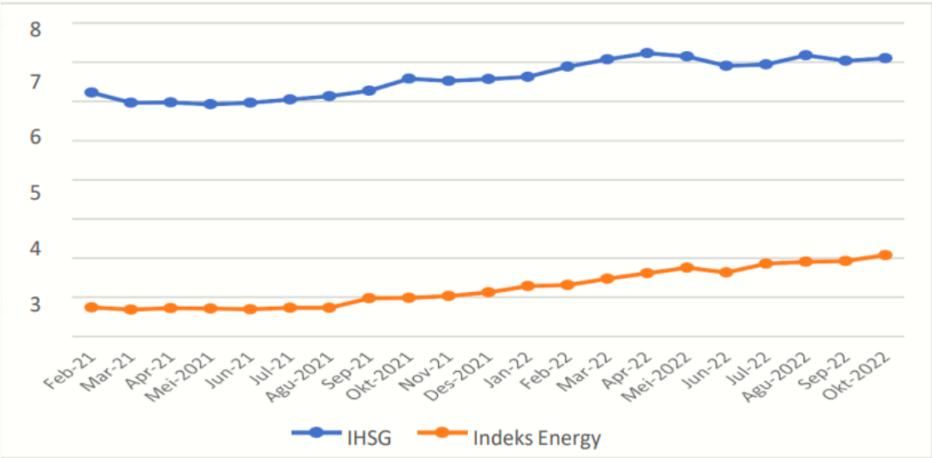
Investors can buy stocks at low prices and sell when prices are high. It is not easy to be able to know when the stock price will rise and when the stock price will fall, nor can it be certain how much the stock price will be when it rises or falls, because it is all related to what happens in the future and beyond the wishes of investors. Investors can use a variety of techniques, methods and tools to predict and forecast all of that.

In the world of investment, there are two ways to analyze stocks, namely technical analysis and fundamental analysis (Makkulau & Yuana, 2021). Technical analysis examines stock price patterns from the past to predict the future price direction, regardless of the company's condition. Meanwhile, fundamental analysis looks at factors such as company management and financial performance to estimate the future value of stocks (Purwanti & Nurastuti, 2020). Technical analysis and fundamental analysis aim to make a profit so that the investor can choose the analysis according to his wishes. The problem that often arises is the number of investors who do not understand effective investment methods (Rido, 2023).

The stocks studied in this study are stocks that are included in the energy industry. The reason for choosing the energy sector is because this sector is greatly affected by the global geopolitical situation. When there is a war or international conflict, energy prices tend to experience significant fluctuations. Thus, studying stocks in this sector provides a deeper insight into how global events can affect the stock market. There are 11 industrial stock indices classified by (Lesmana et al., 2021), including *Energy, Industrial, Basic Material, Consumer non-cyclical, Consumer cyclical, Healthcare, Finance, Properties and real estate, Technology, Infrastructure, Transportation & Logistics.*



source: Journal of Economics, Environment, Energy, and Business, December 2023, 1(1): 62-81

Figure 1. Movement of JCI and Energy Sector Stock Indices on the Indonesia Stock Exchange for the Period of February 2021 - October 2022

In Figure 1, the JCI Stock Index and the energy sector experienced positive growth from February 2021 to October 2022. The movements that occurred in the JCI and the Energy Sector Stock Index are an indication that in the midst of the Covid 19 pandemic and unstable global conditions, the performance of the Indonesian capital market is improving and supported by increasing investor confidence (Purnama et al., 2023). One factor to consider is the geopolitical conflict between Russia and Ukraine. This conflict caused commodity prices to skyrocket, which had an impact on macroeconomic stability and led to a food crisis. The price increase affects people's

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purchasing power and adds to inflationary pressure, which then has an impact on overall economic stability. (Bakrie et al., 2022) argue that Russia is one of the largest energy producers in the world, especially in terms of oil and natural gas production.

Ukraine also has a significant contribution to energy production, although its role is not as large as Russia's. On the other hand, Ukraine is one of the largest food producers in Eastern Europe, especially in the production of grains such as wheat and corn. However, the Organization of the Petroleum Exporting Countries (OPEC) together with partner countries agreed to limit oil production until the end of 2023. This step was taken due to the decline in world oil prices, especially after sanctions from the European Union, the seven richest countries in the world or the G7, and Australia which caused a global oil shortage and price increases (Anwar, 2022).

In addition to having an impact on rising oil prices, the conflict was also responded by the United States Central Bank by increasing interest rates. This is done to reduce the inflation rate arising from the increase in commodity prices (Bakrie et al., 2022). The increase in interest rates by the Fed made other countries follow the policy. This is supported by research conducted by Bond & Kurniati (1994) that domestic interest rates are highly dependent on international interest rates or in this case the Fed interest rate, so that the Central Bank of Indonesia also increases interest rates

In the process of technical analysis, investors need to pay attention to *historical prices* and *chart patterns*. Through *historical price* analysis, investors can identify stock price trends from the past and predict the direction of future price movements. Meanwhile, chart patterns provide an overview of price patterns that appear on stock charts, such as *Triangles*, *Head and Shoulders* and *Inverted head and shoulders* (Rahman, 2020).

Historical price and *chart pattern*, there are several aspects that need to be considered. First, *the historical price* of stocks plays an important role in technical analysis. Second, the ability to recognize and understand chart patterns that appear in stock price movements is very important (Simanjuntak, 2023). However, some investors may be less trained in recognizing these patterns or may misinterpret existing patterns. This can lead to improper investment decision-making. Both, *historical price* and *chart pattern*, are key elements in technical analysis.

The solution offered is to conduct in-depth research on stock price movements in energy sector companies using technical analysis methods, focusing on *historical prices* and *chart patterns*. This research will provide a better understanding of how past price patterns and chart patterns can be used to predict future stock price movements. By doing so, investors can make more informed investment decisions and can increase their chances of making a profit on their investment in the energy sector.

From the above problems related to technical analysis in the Energy Sector, the researcher draws conclusions as the title of the study, namely "Technical Analysis in Stock Price Movements Using the *Historical Price* And *Chart Pattern* In the Energy Sector Industry in the Coming Year (2024-2026)".

METHOD

This study uses a qualitative method aiming to understand in-depth phenomena through more detailed and interpretive analysis. Qualitative research is suitable for exploring views, experiences, and perspectives that cannot be quantitatively measured. A qualitative approach is used to analyze financial statements and understand the factors that affect a company's financial performance. Descriptive is data collected in the form of words. The descriptive used is qualitative descriptive. This method studies the problems in society and the procedures that apply in it.

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In this study, the author presents an analysis using the historical price method and chart patterns in the energy sector. This study aims to identify stock price trends that appear in the energy sector stock price data on the Indonesia Stock Exchange (IDX). This data was obtained from the results of observations of individual stock price movements of technology companies listed on the Indonesia Stock Exchange (IDX). The location of the research was carried out through the website www.idx.co.id This observation was carried out using software software, namely TradingView. The observations made by the researcher are online from the period January 2021 – June 2024 so that the observations in this study can be made anywhere and anytime.

The approach used is the historical price method that utilizes candlestick chart data. Candlestick charts provide an informative visualization of a stock's price movements, including the opening price, high price, low price, and closing price. Using the Exponential Moving Average (EMA) 21, 51 and 200 indicators. The EMA 21 is depicted through the green line, the EMA 51 is a red line and the EMA 200 is a red line. To say that the EMA indicator uptrend stocks are at 21.51 and 200. A qualitative approach is used to analyze financial statements and understand the factors that affect a company's financial performance.

The data analysis procedure in this study is to reduce data means summarizing, choosing the main things, focusing on the things that are important to the theme and pattern. Thus, the data that has been reduced will provide a clear picture and make it easier for researchers to collect further data. Once the data is reduced, the next step is to present the data. In qualitative research, data presentation can be done in the form of brief descriptions, charts, relationships between categories, and the like. By presenting data, it will make it easier to understand what is happening, plan the next work based on what has been understood.

The data examined in this research needs to be checked for validity, namely with credibility to explore and analyze the movement of company stock prices in the energy sector using *historical price* methods and *chart patterns.* Second, *transferability, which only* aims to understand stock price movements in the energy sector, but also to identify technical patterns that can be applied more widely. To ensure transferability, this study will use *historical price* methods and *chart patterns* that have been proven effective in various stock market contexts. Third, in the context of this research, *dependability* is an important aspect to ensure the reliability of research findings. By using a standardized *historical price* methodology and *chart pattern*, it is hoped that the results of this study can be replicated by other researchers in the future by obtaining consistent results. Finally, that is, confirmability or objectivity to check and re-check all research data. Confirmability is important to ensure that the results of this study not only depend on the subjectivity of the researcher, but can also be verified by other parties.

RESULTS AND DISCUSSION

From the analysis carried out, there are 81 energy sectors that are evaluated, and there are only 22 companies in this sector that are experiencing an uptrend. An uptrend is a condition in which the price of a stock or asset increases continuously over a period of time. This condition shows positive sentiment from investors and good growth potential in the company's performance.

Table 1. Results of Historical Price analysis on the energy sector that is experiencing an Uptrend

CODE	COMPANY NAME	CODE	COMPANY NAME
BYAN	Bayan Resources Tbk.	MYOH	Sandimoro Resources Tbk.

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	(Oil, Gas & Coal)		
DSSA	Dian Swastatika Sentosa Tbk.	SURE	Super Energy Tbk.
ADRO	Adaro Energy Indonesia Tbk.	DOID	Delta Dunia Makmur Tbk.
GEMS	Golden Energy Mines Tbk.	ELSA	Elnusa Tbk.
MEDC	Medco Energi Internasional Tbk.	WINS	Wintermal Offshore Marine Tbk.
AKRA	AKRA Corporindo Tbk.	KKGI	Natural Resources Indonesia Tbk.
ABMM	ABM Investama Tbk.	TPMA	Trans Power Marine Tbk.
BSSR	Baramulti Suksessarana Tbk.	UNIQ	It's a bit of a tbk.
SGER	Sumber Global Energy Tbk.	ITMA	Mainstay Energy Source Tbk.
RAJA	Rukun Raharja Tbk.	PKPK	Perdana Karya Perkasa Tbk.
PTRO	Petrosea Tbk.	LEAD	Logindo Samudramakmur Tbk.

From ***the History Price*** analysis , then continued using the chart pattern, there are 22 energy sectors that are evaluated with ***the History Price***, and there are only 5 companies in this sector that have a chart pattern. Here is Table 2. About the results of *Chart Patterns* analysis on the energy sector.

Table 2. About the results of *Chart Patterns* analysis on the energy sector.

Code	Company Name	Chart Pattern	
		Cup And Handle	Inverted Head And Shoulder
ADRO	Adaro Energy Indonesia Tbk.	V	
TPMA	Trans Power Marine Tbk.	V	V
DOID	Delta Dunia Makmur Tbk.	V	
ELSA	Elnusa Tbk.	V	
KKGI	Natural Resources Indonesia Tbk.	V	

Analysis using chart pattern methods, especially the Cup and Handle and Inverted Head and Shoulders patterns, helps identify significant patterns in the movement of stock prices in the energy sector. Of the 22 energy sectors evaluated by historical prices, only 5 companies showed chart patterns.

Adaro Energy Indonesia Tbk.

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Figure 2. Adaro Energy Indonesia Tbk Chart Pattern Prediction.

Determining the selling target is by making a vertical line like example number one then the line is moved to the handle or number two. Line number two is the target to sell ADRO shares in the future, ADRO can touch the price of 3,580 in November 2024.

Trans Power Marine Tbk

Figure 3. Trans Power Marine Tbk. Chart Pattern Prediction (2024)

The way to determine the target is to form a horizontal line from point B to resistance and form no one and move the line no one and form no two. TPMA's prediction for August 2024 is at a share price of 750.

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Figure 3. Trans Power Marine Tbk. Chart Pattern Prediction (2025)

The determination of the sell target makes a vertical line like example no one then the line is moved to the handle or number two. Line number two is the target to sell TPMA shares predicted to touch the share price of 1,160 in September 2025.

Delta Dunia Makmur Tbk

Figure 4. Chart Pattern Prediction Delta Dunia Makmur Tbk.

Determining the selling target creates a vertical line like example no one then the line is moved to the hendel or no two. Line number two is the target to sell DOID shares predicted to touch the share price of 815 in February 2025.

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Elnusa Tbk

Figure 5. Elnusa Tbk Chart Pattern Prediction.

Determining the selling target creates a vertical line like example no one then the line is moved to the hendel or no two. Line number two is the target to sell ELSA shares predicted to touch the share price of 705 in January 2025.

Resource Alam Indonesia Tbk

Figure 6. Chart Pattern Prediction for Natural Resources Indonesia Tbk

Determining the selling target creates a vertical line like example no one then the line is moved to the hendel or no two. Line number two is the target to sell KKGI shares predicted to touch the share price of 850 in April 2025.

CONCLUSION

This study concludes that technical analysis with historical price methods and chart patterns is effective in predicting stock price movements in the energy sector for 2024-2025. Of the 81 companies in the energy sector that were evaluated, 22 companies experienced an uptrend, using a chart pattern, there are five companies, namely Adaro Energy Indonesia (ADRO), Trans Power Marine Tbk (TPMA), Delta Dunia Makmur (DOID), Elnusa Tbk. (ELSA) and Resource Alam Indonesia Tbk (KKGI), among which are predicted to continue to experience positive growth in the

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future. The use of candlestick charts and Exponential Moving Average (EMA) indicators has helped in identifying upward trends in stock prices.

In addition, chart pattern methods, especially the Cup and Handle and Inverted Head and Shoulders patterns, provide additional insight into the potential for the continuation of bullish trends in several energy sector companies. This chart pattern analysis allows investors to project stock price movements more accurately, assisting them in making more informed investment decisions.

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