

Development of a Stock Rebound Prediction Model on the LQ45 Index Using Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo Analysis

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ABSTRACT

This research aims to analyze the effectiveness of technical indicators, namely Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo, in predicting stock rebound patterns in the Indonesian stock market between November 2024 and September 2025. The study investigates how these indicators react to sharp price declines and the potential for price recovery. Using historical data from selected stocks listed in the LQ45 index, this research examines the occurrence of oversold conditions, signal accuracy, and trend reversals. The results show that RSI effectively signals potential rebound opportunities when the stock reaches oversold levels, although false signals occur during periods of market inefficiency. While MA provided useful trend analysis through crossing signals, the resulting price movements often lacked the sustainability of a full recovery. Similarly, Ichimoku Kinko Hyo, despite indicating strong support levels and potential bullish trends, also failed to predict consistent price rebounds, especially during sideways market conditions. This study contributes to the understanding of how technical indicators perform in volatile market conditions, highlighting both their strengths and limitations. The findings suggest that while these indicators can provide valuable insights into price movements, relying solely on them without considering broader market factors may lead to inaccurate predictions. The research recommends combining multiple technical indicators with other forms of analysis, such as fundamental analysis and market sentiment, to improve investment decision-making processes. The study's implications are relevant for investors, offering insights into the use of technical analysis in times of market uncertainty and the importance of recognizing the contextual limitations of technical indicators in predicting stock price recovery.

Keywords : *Relative Strength Index (RSI), Moving Average (MA), Ichimoku Kinko Hyo, Stock Rebound, Technical Indicators, LQ45, Oversold, Market Inefficiency, Price Recovery, Trend Analysis.*

INTRODUCTION

The Indonesian capital market has undergone rapid transformation over the past decade, marked by rapid growth in the number of investors. According to data from the Indonesian Central Securities Depository (KSEI), the number of Indonesian capital market investors increased dramatically, from 7.4 million in 2021, a 102.4% increase over five years to 15.1 million investors in January 2025 (KSEI, 2025). This phenomenon reflects the global process of equalizing financial access, where digital technology has enabled broader access to investment instruments.

However, the rapid growth of the Indonesian capital market poses challenges for investors in making rational investment decisions. One important indicator is the movement of the Jakarta Composite Index (JCI), which reflects investor activity and sentiment in the Indonesian capital market. Over the past five

years, the JCI has increased by 17.67%, from 6,582.19 points at the end of 2021 to 7,745.78 points on September 1, 2025. This increase demonstrates the stability and attractiveness of the Indonesian capital market and strengthens its role as a financial intermediary before analyzing sectoral indices such as the LQ45.

The LQ45 serves as a benchmark index for leading stocks in Indonesia, comprising 45 companies with high liquidity and capitalization, and is therefore often used by investors to assess market conditions. Research by Hapsari et al. (2025) found that stock return volatility in the LQ45 index is influenced by fundamental and market factors. Furthermore, Dewa & Sundari (2025) confirmed that stock liquidity positively influences volatility among LQ45 companies. Research by Prasetyo et al. (2024) also showed that the LQ45 exhibits significantly different levels of volatility compared to other indices on the Indonesia Stock Exchange. This suggests that movements in the LQ45 index provide important insights into the dynamics of the Indonesian stock market.

Volatility in the Indonesian stock market, particularly in the LQ45 index, which reflects blue-chip stocks with high liquidity, showed a significant pattern during the period from November 2024 to September 2025. The sharp decline in the LQ45 index occurred in line with foreign investor selling and growing concerns about global economic conditions. On December 19, 2024, the Jakarta Composite Index (JCI) fell approximately 1.46% due to negative sentiment affecting the Indonesian stock market, with foreign investors continuing to sell in large numbers (CNBC Indonesia, 2024). A sharper decline occurred on March 18, 2025, when the JCI fell more than 5%, triggering a temporary trading halt, due to global uncertainty that increased investor concerns about the Indonesian market outlook (Xinhua News, 2025). Selling pressure also occurred on June 23, 2025, when all sectors experienced pressure due to massive selling, resulting in a 1.74% decline in the JCI (The Jakarta Post, 2024).

These conditions indicate that the Indonesian stock market remains heavily influenced by external dynamics such as global policy uncertainty, geopolitical tensions, and fluctuations in foreign capital flows. The outflow of foreign capital from Indonesia in November 2024 triggered a decline in LQ45 stock prices that continued into early 2025. Global economic uncertainty and negative sentiment toward the domestic market were the main factors depressing blue-chip stocks in the LQ45 index. In the first half of 2025, foreign investor selling continued to dominate the market and negatively impacted index performance. However, despite the significant decline, the market began to show signs of stabilization following the emergence of clearer economic policies and global trade agreements, which boosted investor optimism.

After experiencing pressure from economic tensions and global trade policies, the Indonesian stock market began to show a recovery in 2025. This recovery was marked by a rebound in stock prices after reaching a low in April 2025. The Relative Strength Index (RSI) indicator showed healthier conditions after being in an oversold state, indicating that selling pressure was starting to ease. Furthermore, the formation of a higher low pattern indicated market strengthening

and reduced selling pressure from investors. In June 2025, the stock price broke through the 800-point level with a stable bullish pattern and high trading volume, reflecting increasing market optimism regarding the economic outlook. This strengthening trend continued until September 2025 and was supported by recovering global and domestic sentiment.

Trading volume fluctuations during this period also demonstrate significant market dynamics. From April to May 2025, trading volume experienced a significant spike, peaking at over 9 billion, indicating strong selling pressure in the market. This surge in volume indicates intense trading activity due to market uncertainty and investor selling. However, in June 2025, trading volume began to decline to the range of 5 to 7 billion, indicating that selling pressure was easing and the market was entering a stabilization phase. Furthermore, from August to September 2025, trading volume stabilized again at the range of 5 to 6 billion, reflecting increased investor participation and the emergence of buying interest along with strengthening stock prices.

These trading volume movements reinforce the idea that the price rebound was not merely a short-term correction but also reflects the potential for a more stable market recovery. The surge in volume during the initial decline indicated strong selling pressure, while the stabilization of volume during the recovery phase indicated that the market was beginning to find a new equilibrium. Therefore, trading volume analysis supports the interpretation that the price rebound that occurred in April 2025 signaled a more solid market recovery.

The phenomenon of a stock price rebound after experiencing a sharp decline is an important aspect of risk management and the optimization of investment returns. A rebound can be defined as a condition in which a stock price that previously experienced a significant drop subsequently bounces back within a certain period of time. In the context of the Indonesian capital market, which is dominated by retail investors with relatively short investment horizons, understanding rebound patterns becomes highly relevant for the development of effective trading strategies (Hammam et al., 2022). Therefore, investors require analytical tools that are capable of identifying price recovery momentum more accurately.

One widely used approach in stock market analysis is technical analysis. Technical analysis is a method used to predict stock price movements by analyzing historical data such as price and trading volume. This approach assumes that all information affecting the market is reflected in stock prices and that price movements tend to follow certain patterns that can be identified through charts and technical indicators (Herlambang et al., 2024). Research by Melda et al. (2025) shows that technical analysis is effective in identifying market momentum and determining the right time to buy and sell.

Some technical indicators commonly used in stock market analysis include the Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo. The RSI is a momentum indicator used to identify overbought and oversold conditions to provide more accurate trend reversal signals (Sangkala, 2025).

Previous research has shown that the RSI with 14-period parameters has a predictive accuracy of up to 97% in identifying buy and sell signals on the LQ45 index (Melda et al., 2025).

Besides the RSI, the Moving Average (MA) is also a widely used technical indicator to identify the direction of price movements. Cahyani & Mahyuni (2020) found that a 10-period MA generated 154 optimal signals out of 202 signals with a 76% accuracy rate for IDX Sharia Growth stocks. Mahajan et al. (2025) also showed that the Simple Moving Average (SMA) remains one of the main indicators in analyzing market trends and identifying price reversal signals. Research by Daniswara et al. (2022) showed that the use of the MA on LQ45 stocks provided significant results in predicting the direction of stock price movements, although this indicator has limitations in highly volatile market conditions.

Another widely used technical indicator is the Ichimoku Kinko Hyo, a comprehensive technical analysis system developed by Goichi Hosoda. This indicator consists of five main components: Tenkan-sen, Kijun-sen, Senkou Span A, Senkou Span B, and Chikou Span. Research by Losman et al. (2023) on LQ45 stocks showed that using the Chikou Span component resulted in an optimal return of 6.7%, with 32 of the 35 issuers generating capital gains. Ichimoku's advantage lies in its ability to provide a multidimensional perspective on market conditions, not only identifying current trends but also projecting future support and resistance levels through the Kumo Cloud.

Although various studies have examined the effectiveness of each of these technical indicators, most studies still examine them separately. Sangkala's (2025) study highlighted the effectiveness of the RSI in detecting overbought and oversold conditions on the Indonesia Stock Exchange, while Daniswara et al.'s (2022) study demonstrated the high accuracy of the Moving Average (MA) in predicting stock price movements on the LQ45 index. Meanwhile, Losman et al.'s (2023) study examined the use of Ichimoku Kinko Hyo in trending market conditions but did not address the indicator's effectiveness in predicting price recovery after a sharp correction.

These limitations indicate a research gap in the literature on technical analysis in the Indonesian capital market, particularly regarding the integration of multiple technical indicators in predicting stock price rebounds. However, dynamic and complex market conditions demand a more comprehensive analytical approach to provide more accurate signals to investors.

Thus, based on the market phenomena and research gaps described, this study focuses on developing an analytical approach that integrates the RSI, MA, and Ichimoku Kinko Hyo indicators to understand the dynamics of stock rebounds in the LQ45 index in the Indonesian capital market. This approach is expected to provide a more comprehensive understanding of stock price recovery patterns and contribute to the development of more effective investment strategies.

LITERATURE REVIEW

Efficient Market Hypothesis

Market Hypothesis (EMH) argues that stock prices already reflect all available market information. Therefore, it is impossible to consistently outperform the market using only available information. However, despite the popularity of the EMH among academics, numerous studies have shown that markets are not always efficient. Research by Afifah et al. (2023)[End Page 10] on the Indonesian Islamic stock market during the COVID-19 pandemic indicates that the Indonesian stock market was not fully efficient during that period, primarily due to the phenomenon of **overreaction** to available information.

Dow Theory

Dow Theory is a theory used to identify market trends, which are divided into three categories: primary trends, secondary trends, and minor trends. According to Hosseini et al. (2024), this theory helps investors identify overall market trends, which are then used to plan more effective investment strategies. Primary trends indicate the long-term direction of the market, while secondary and minor trends focus more on shorter-term price movements. According to research conducted by Eugster & Uhl, (2023), Dow Theory is an integral part of technical analysis used to identify stock market trends through price movements and trading volume.

Rebound Effect

Rebound effect in the stock market refers to the phenomenon where sharply falling stock prices begin to rebound . This typically occurs after prices reach a strong support level, attracting investors to buy shares in the hope that prices will rise again. According to Melda et al. (2025), the use of technical indicators such as the RSI and MA can help identify these rebound points , allowing investors to capitalize on the opportunity to buy shares at low prices and sell them when prices rise again.Guan et al. (2022) The rebound effect in the context of capital markets refers to a phenomenon where, despite a sharp decline in stock prices due to a major event, such as a market crisis or pandemic, stock prices can recover relatively quickly.

Capital market

The capital market is a crucial pillar of the Indonesian economy, serving as a means for companies to obtain long-term funding through the issuance of shares and bonds. Through the capital market, companies can access the capital needed for business expansion, innovation, and product development. Furthermore, the capital market also provides opportunities for investors to participate in economic growth through investments in available financial instruments. According to Selasi et al. (2024), the capital market plays a strategic role in supporting economic growth by increasing investment and funding for companies. This research shows that the capital market contributes significantly to the country's economic development by providing a platform for companies to obtain funds and for investors to invest their funds productively.

LQ45 Index

The LQ45 Index is a stock index that includes 45 companies with large market capitalization and high liquidity on the Indonesia Stock Exchange (IDX). This index is designed to reflect the overall performance of the Indonesian stock market, taking into account companies with strong fundamentals and good growth prospects. Companies included in the LQ45 index are considered a key barometer for investors in assessing the condition of the Indonesian stock market. According to Nurmatama & Priono (2025), companies listed in the LQ45 index have solid financial performance, as reflected in financial ratios such as Earnings Per Share (EPS), Quick Ratio (QR), and Total Asset Turnover (TATO). This study shows that the financial performance of LQ45 companies significantly influences stock prices, which in turn affects company value. This indicates that the LQ45 index not only reflects general market performance but also provides an indication of the health and prospects of the companies included in it.

Technical Analysis

Technical analysis is a method for predicting the direction of stock price movements based on historical price and volume data. (Tandelilin, 2010) explains that technical analysis assumes that all market information is reflected in price movements, and that price patterns tend to repeat themselves in the future. In the e-book *Basic Technical Analysis of Financial Markets* states that this technique relies heavily on price charts and technical indicators to assist traders in making investment decisions. This technique differs from fundamental analysis, which focuses more on a company's financial condition, but the two can be used together to increase the accuracy of market predictions. Technical analysis involves the use of various indicators, such as Moving Averages (MA), Relative Strength Index (RSI), and Ichimoku Kinko Hyo, to analyze market trends and provide traders with signals to buy or sell stocks.

Relative Strength Index

The Relative Strength Index (RSI) is a momentum indicator used to measure the strength or weakness of stock prices over a specific time period. The RSI is calculated based on the ratio of price increases and decreases over the same period. Melda et al. (2025) Research shows that the RSI is highly effective in determining overbought and oversold market conditions. Many traders use the RSI to identify price reversal points, providing buy signals when the market is oversold and sell signals when the market is overbought. The RSI can provide stronger signals when combined with other technical indicators, such as moving averages.

Moving Average

A Moving Average (MA) is an indicator used to identify trends by smoothing out stock price fluctuations over a specific time period. Two types of MAs are commonly used in technical analysis: the Simple Moving Average (SMA) and the Exponential Moving Average (EMA). Mahajan et al. (2025) The SMA provides a

simpler overview of price movements, while the EMA is more responsive to recent price changes. Traders often use MAs to identify buy or sell signals based on comparing the current stock price with the average of previous prices. Using MAs is crucial for identifying long-term trends and filtering out irrelevant market fluctuations.

Ichimoku Kinko Hyo

Ichimoku Kinko Hyo is one of the most comprehensive technical indicators, providing information not only on market trends but also on support and resistance levels . Developed by Goichi Hosoda in the 1930s, this indicator is renowned for its ability to provide reliable trading signals in both the short and long term. According to Losman et al. (2023), Ichimoku Kinko Hyo is highly effective in identifying market trends and providing highly relevant buy and sell signals. Research conducted at the Indonesia Stock Exchange found that the Chikou Span component provided optimal returns, indicating that this indicator is more effective in identifying strong market trends than other components.

RESEARCH METHODS

This study uses a descriptive quantitative research approach to systematically describe the effectiveness of technical indicators in predicting stock rebounds without manipulating variables. The study was conducted in Indonesia with a focus on stocks listed in the LQ45 index on the Indonesia Stock Exchange, with a research period from November 2024 to September 2025. The study population was all 45 stocks included in the LQ45 index during that period, while the research sample consisted of 15 stocks selected using a purposive sampling technique based on certain criteria, namely stocks that experienced a decline of more than 40% and had a downtrend pattern. The research instrument used secondary data in the form of daily stock price data obtained from the TradingView platform, including closing price data, highest price, and lowest price. Data collection and analysis techniques were carried out through documentation and downloading of stock market data from the platform, then analyzed using Pine Script code to calculate signals and the accuracy level of technical indicators Relative Strength Index (RSI) , Moving Average (MA50) , and Ichimoku Kinko Hyo .

RESULTS AND DISCUSSION

Combination Analysis Results

The following table shows the results of the accuracy calculation based on a combination of three technical indicators: the Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo, calculated using Pine Script code on the TradingView platform . This calculation aims to evaluate the effectiveness of the combination of these three indicators in providing more accurate buy or sell signals in predicting stock price movements. After the accuracy level is calculated as a percentage using Pine Script , the average accuracy level is calculated using Excel. The results obtained indicate the accuracy of using the indicator combination, which

is then used to assess the combined performance of the three indicators in providing valid signals during the analyzed period.

Table 1. Accuracy Level of Indicators and Combined Indicators

Source: Tradingview and Personal Processed Data

Issuer Code	RSI (%)	Ichimoku (%)	MA (%)	Combination Accuracy of each Issuer (%)
AADI	100	66	32	50.0
ACES	75	57	44	78.0
ADMR	64	59	11	50.0
ADRO	33	55	50	43.0
AMMN	50	51	30	50.0
AMRT	67	55	54	67.0
ARTO	67	59	33	69.0
BBTN	64	57	45	67.0
CTRA	88	58	27	70.0
INCO	20	59	71	20.0
INKP	25	54	50	25.0
ISAT	50	57	40	50.0
MBMA	50	57	36	50.0
MDKA	44	61	36	44.0
UNVR	40	63	71	40.0
Average (%)	55.8	57.9	42.0	51.5

In the following analysis, the accuracy level analysis was conducted using a combination of three technical indicators: the Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo, implemented using Pine Script code on the TradingView platform. This study focuses on the application of these three indicators to analyze stock price movements and obtain more accurate buy or sell signals. The accuracy level per issuer was calculated by applying Pine Script code to all three indicators simultaneously to assess the effectiveness of the indicator combination in providing valid signals in predicting stock price movements during the analyzed period. This discussion aims to interpret the results obtained from the implementation of Pine Script code and evaluate the performance of the combination of RSI, MA, and Ichimoku in providing more accurate and reliable signals for each issuer analyzed.

AADI (Adaro Andalan Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Adaro Andalan Indonesia Tbk (ADMR) shares were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 50%. Although all three indicators provided signals, the accuracy rate achieved showed moderate

results with 50% of the signals being valid. This stock also displayed an RSI indicator, indicating that the stock price was above the 50 level, indicating a potential bullish trend. On the other hand, the Ichimoku Kinko Hyo indicator showed the price below the Kumo line, indicating a bearish condition. The MA50 showed a downward price trend below the 50-period moving average line, indicating that the stock price was in a downward phase.

ACES (Aspirasi Hidup Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Aspirasi Hidup Indonesia Tbk (ACES) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 78%. Although all three indicators provided signals, the accuracy rate achieved indicated a very good level of validity, with 78% of the signals being valid. This stock also displayed an RSI indicator, indicating that the stock price was above the 50 level, indicating potential bullishness at some point. Meanwhile, the Ichimoku Kinko Hyo indicator showed the price within the kumo, indicating potential sideways conditions. Similarly, the MA50 displayed a price trend between the 50-period moving average lines, indicating that the price trend was in a sideways phase.

ADMR (Alamtri Minerals Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Alamtri Minerals Indonesia Tbk (ADMR) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 50%. Although all three indicators provided signals, the accuracy rate achieved indicated a moderate level of validity, with only 50% of the signals being valid. This stock also displayed an RSI indicator, which showed the stock price was above the 50 level at several points, indicating a potential bullish condition. Meanwhile, the Ichimoku Kinko Hyo indicator showed the price was above the Kumo line, indicating a potential bullish condition. Similarly, the MA50 displayed a price trend higher above the 50-period moving average line, indicating an upward price trend.

ADRO (Alamtri Resources Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Alamtri Resources Indonesia Tbk (ADRO) shares for the period November 2024 to September 2025. For this stock, the three indicators combined produce a combined accuracy rate recorded at 43%. Although these three indicators provide signals, the achieved accuracy rate indicates a low level of validity, with only 43% of the signals being valid. This stock also displays an RSI indicator, which shows the stock price is below the 50 level at several points, indicating a potential bearish condition. Meanwhile, the Ichimoku Kinko Hyo indicator shows the price is below the Kumo line, which also indicates a

bearish condition. Similarly, the MA50 shows a downward price trend below the 50-period moving average line, indicating a downward price trend.

AMMN (Amman Mineral International Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Amman Mineral Internasional Tbk (AMMN) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined yield a combined accuracy rate of 50%. Although all three indicators provide signals, the accuracy rate achieved indicates a moderate level of validity, with 50% of the signals being valid. This stock also displays an RSI indicator, indicating that the stock price is below the 50 level, with fluctuations at several points. Meanwhile, the Ichimoku Kinko Hyo indicator shows the price is below the Kumo line, indicating a bearish condition. Similarly, the MA50 shows a downward price trend below the 50-period moving average line, indicating a downward price trend.

AMRT (Sumber Alfaria Trijaya Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Sumber Alfaria Trijaya Tbk (AMRT) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 67%. Although all three indicators provided signals, the accuracy rate achieved indicated a fairly good level of validity, with 67% of the signals being valid. This stock also displayed an RSI indicator, indicating that the stock price was below the 30 level at several points, indicating potential oversold conditions. Meanwhile, the Ichimoku Kinko Hyo indicator showed the price below the Kumo line, indicating bearish conditions. Similarly, the MA50 showed a price trend below the 50-period moving average line, indicating a downward price trend.

ARTO (Bank Jago Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Bank Jago Tbk (ARTO) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 69%. Although all three indicators provided signals, the accuracy rate achieved indicated a fairly good level of validity, with 69% of the signals being valid. This stock also displayed an RSI indicator, indicating that the stock price was below the 30 level at several points, indicating potential oversold conditions. Meanwhile, the Ichimoku Kinko Hyo indicator showed the price below the Kumo line, indicating bearish conditions. Similarly, the MA50 showed a price trend below the 50-period moving average line, indicating a downward price trend.

BBTN (State Savings Bank (Persero) Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Bank Tabungan Negara (Persero) Tbk (BBTN) shares for the period November 2024 to September 2025. For this stock, the three indicators combined produce a combined accuracy rate recorded at 67%. Although all three indicators provide signals, the achieved accuracy rate indicates a fairly good level of validity, with 67% of the signals being valid. This stock also displays an RSI indicator, which shows that the stock price is around the 50 level, indicating neutral market conditions, with price movements that are neither overbought nor oversold. Meanwhile, the Ichimoku Kinko Hyo indicator shows the price below the Kumo line, indicating bearish conditions. Similarly, the MA50 shows a price trend below the 50-period moving average line, indicating that the price trend is in a downward phase.

CTRA (Ciputra Development Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Ciputra Development Tbk (CTRA) stock were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined produced a combined accuracy rate of 70%. Although all three indicators provided signals, the accuracy rate achieved indicated a fairly good level of validity, with 70% of the signals being valid. This stock also displayed an RSI indicator, indicating that the stock price was around the 47 level, indicating more neutral market conditions, with price movements that were neither overbought nor oversold. Meanwhile, the Ichimoku indicator showed the price below the Kumo line, indicating bearish conditions. Similarly, the MA50 showed a price trend below the 50-period moving average line, indicating a downward price trend.

INCO (Vale Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Vale Indonesia Tbk (INCO) shares for the period November 2024 to September 2025. For this stock, the three indicators combined produce a combined accuracy rate recorded at 20%. Although these three indicators provide signals, the achieved accuracy rate indicates a very low level of validity, with only 20% of the signals being valid. This stock also displays an RSI indicator, which shows the stock price is around the 60 level, indicating a more neutral market condition, with price movements that are neither overbought nor oversold. Meanwhile, the Ichimoku indicator shows the price trending below the Kumo line, indicating bearish conditions. Similarly, the MA50 shows a price trend that tends to be below the 50-period moving average line, indicating a downward price trend.

INKP (Indah Kiat Pulp & Paper Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Indah Kiat Pulp & Paper Tbk (INKP) shares for the period November 2024 to September 2025. For this stock, the three

indicators combined produce a combined accuracy rate recorded at 25%. Although these three indicators provide signals, the achieved accuracy rate indicates a very low level of validity, with only 25% of the signals being valid. This stock also displays an RSI indicator, which shows the stock price is around the 50 level, indicating a more neutral market condition, with price movements that are neither overbought nor oversold. Meanwhile, the Ichimoku indicator shows the price trending below the Kumo line, indicating a bearish condition. Similarly, the MA50 shows a price trend that tends to be below the 50-period moving average line, indicating a downward price trend.

ISAT (Indosat Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, trading signals for PT Indosat Tbk (ISAT) shares were provided for the period from November 2024 to September 2025. For this stock, the three indicators combined yield a combined accuracy rate of 50%. Although all three indicators provide signals, the accuracy achieved indicates a moderate level of validity, with 50% of the signals being valid. This stock also displays an RSI indicator, indicating that the stock price is around the 54 level, indicating market conditions that are neither overbought nor oversold. Meanwhile, the Ichimoku indicator shows the price trending below the Kumo line, indicating bearish conditions. Similarly, the MA50 shows a price trend that tends to be below the 50-period moving average line, indicating a downward price trend.

MBMA (Merdeka Battery Materials Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Merdeka Battery Materials Tbk (MBMA) shares for the period November 2024 to September 2025. For this stock, the three indicators combined produce a combined accuracy rate recorded at 50%. Although these three indicators provide signals, the achieved accuracy rate indicates a moderate level of validity with only 50% of the signals being valid. This stock also displays an RSI indicator, which shows the stock price hovering around the 59 level at several points, indicating relatively neither overbought nor oversold conditions. Meanwhile, the Ichimoku indicator shows the price trending below the Kumo line, indicating a bearish condition. Similarly, the MA50 shows a price trend that tends to be below the 50-period moving average line, indicating a downward price trend.

MDKA (Merdeka Copper Gold Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Merdeka Copper Gold Tbk (MDKA) shares for the period November 2024 to September 2025. For this stock, the three indicators combined to produce a combined accuracy rate recorded at 44 %. Although these three indicators provide signals, the achieved accuracy rate indicates a low level of validity, with only 44 % of the signals being valid. This stock also

displays an RSI indicator, which shows that the stock price is below the 30 level at several points, indicating a potential oversold condition. Meanwhile, the Ichimoku indicator shows the price tending below the Kumo line, which indicates a bearish condition. Similarly, the MA50 shows a price trend that tends to be lower below the 50-period moving average line, indicating that the price trend is in a downtrend.

UNVR (Unilever Indonesia Tbk.)

Based on the technical indicators used, namely the RSI, MA50, and Ichimoku Kinko Hyo, providing trading signals for PT Unilever Indonesia Tbk (UNVR) shares for the period November 2024 to September 2025. For this stock, the three indicators combined produce a combined accuracy rate recorded at 40%. Although these three indicators provide signals, the achieved accuracy rate indicates a low level of validity, with only 40% of the signals being valid. This stock also displays an RSI indicator, which shows the stock price is below the 30 level at several points, indicating potential oversold conditions. Meanwhile, the Ichimoku indicator shows the price trending below the Kumo line, indicating a bearish condition. Similarly, the MA50 shows a price trend that tends to be lower below the 50-period moving average line, indicating a price trend in a downtrend.

Discussion

Based on data obtained from analysis using technical indicators calculated through the platform Using TradingView and Excel, the following are the analysis results for each issuer analyzed for the period November 2024 to September 2025. The three technical indicators used are the Relative Strength Index (RSI), Moving Average (MA), and Ichimoku Kinko Hyo .

1. Relative Strength Index (RSI)

The average accuracy rate achieved by all stocks analyzed using the RSI indicator was 55.8%. Stocks like AADI showed 100% accuracy, while others like INCO only recorded 20% accuracy, indicating variation in the RSI's effectiveness in predicting price movements.

2. Ichimoku Kinko Hyo

Ichimoku indicator produced an average accuracy of 57.9%. Stocks like AADI and UNVR showed higher accuracy at 66% and 63%, respectively, while stocks like AMMN had the lowest accuracy at 51%, indicating that the Ichimoku indicator provides stronger signals for most stocks than other indicators.

3. Moving Average (MA)

For the Moving Average , this indicator showed lower accuracy than the other two indicators, with an average accuracy of only 42%. Stocks like ADMR and CTRA had the lowest accuracy rates, at 11% and 27%, respectively, while stocks like INCO and UNVR showed the highest accuracy at 71%. Although the MA50 showed lower accuracy compared to the other indicators, it still holds significant relevance in this study. This indicator helps provide a more stable picture of the medium-term trend and reduces market noise compared to other, more sensitive indicators, such as the RSI. The MA50 is often used to identify

dynamic support and resistance levels, which is crucial in predicting stock rebounds, particularly for stocks in the LQ45 index, which tend to be stable. Furthermore, using the MA50 provides better balance when combined with other indicators, as it is smoother and less affected by short-term fluctuations. Therefore, despite the MA50's lower accuracy, it remains a useful tool in this analysis, particularly for identifying medium-term trend direction and providing more consistent signals related to stock price recovery (rebounds).

4. Combination of Three Indicators

When these three indicators were combined, the average accuracy was 51.5%. The stock with the highest accuracy was ACES at 78%, while the stock with the lowest accuracy was INCO at 20%. This combination of indicators yielded better results than using a single indicator alone.

From this analysis, it can be concluded that although the signal accuracy of each indicator and the combination of the three still show varying results, the combined indicators provide more useful results for predicting stock price movements. Stronger signals are obtained from using Ichimoku and RSI, while Moving Averages tend to provide signals with lower accuracy.

The results of this study show similarities and differences with previous studies regarding the use of technical indicators in analyzing stock price movements. Based on research conducted by Sukarno et al. (2025), specifically on Ichimoku, the study yielded an accuracy rate of 54%, similar to the results of a study conducted with an Ichimoku accuracy of 57.9%. Research by Daniswara et al. (2022) using RSI, MA, and Bollinger Bands also showed that RSI was more accurate, with similar results in this study, which showed an RSI accuracy of 55.8%.

Research conducted by Cahyani and Mahyuni (2020) on the use of Moving Averages (MA) to predict stock price movements on the LQ45 index on the Indonesia Stock Exchange shows that although MA is widely used in technical analysis, its accuracy is not always optimal. Their research found that Moving Averages have limitations in predicting stock price direction consistently, especially in volatile market conditions. This is in line with the findings in this study, where MA showed lower accuracy (42%) compared to other technical indicators, such as RSI and Ichimoku, indicating that although Moving Averages are effective in identifying market trends, they are less able to provide accurate signals in dynamic markets.

However, this study provides an additional contribution by combining the three indicators and finding a combined accuracy rate of 51.5%. This difference may be due to the broader coverage of issuers in this study, which includes all LQ45 stocks, while previous studies often focus on specific issuers or sectors. In addition to differences in issuer coverage, the low combined accuracy rate may also be influenced by the signal aggregation method used in this study. This study uses **OR** and **AND logic operations** in Pine Script to combine signals from the RSI, Moving Average (MA), and Ichimoku Kinko Hyo indicators. Using **AND logic** requires all indicators to provide the same signal before a decision is made, resulting in a more

selective and fewer signals. Meanwhile, using **OR logic** allows signals to appear when one indicator provides a signal, which can increase signal frequency but also potentially increase noise. The combination of these two approaches affects signal distribution and can result in a lower combined accuracy rate compared to the accuracy of each indicator individually. Overall, although the combined accuracy produced in this study is lower, these results are still relevant in demonstrating the potential and limitations of using technical indicators in predicting stock price movements.

The results of this study can be linked to several theories used, namely the Efficient Market Hypothesis (EMH), Dow Theory, and the Rebound Effect. Based on the accuracy results obtained from combining the RSI, MA, and Ichimoku Kinko Hyo indicators, which only reached 51.5%, this indicates that the Indonesian stock market, especially those listed in the LQ45 index, is not fully efficient. According to the EMH theory, the market should reflect all available information, which makes stock price prediction very difficult. However, with the results showing relatively low accuracy of technical indicators, this implies the existence of information imbalances and the possibility of market anomalies that cannot be explained only by the information reflected in stock prices, which indicates that the Indonesian stock market may not be fully efficient as described in the EMH theory.

On the other hand, Dow Theory emphasizes the importance of identifying market trends, which can be done using technical indicators such as moving averages. This study shows that moving averages are effective in identifying market trend direction, but they are not always accurate in predicting price changes or rebounds. This supports the Dow Theory's contention that even if a major market trend can be identified, fluctuating or saturated market conditions can cause signals generated by technical indicators to not always reflect actual trend changes.

Finally, the concept of the Rebound Effect is also relevant to the findings of this study. Although all three indicators point to a potential rebound or recovery in stock prices, the low accuracy rate indicates that predicting a rebound using technical indicators alone remains challenging. This suggests that while technical indicators can provide potential signals for price recovery, external factors or more complex market dynamics may influence the final price movement, making predictions less accurate.

Overall, the results of this study provide significant insights into the effectiveness of using technical indicators in predicting stock price movements, particularly in the Indonesian stock market. Although the resulting combined accuracy is lower than that of previous studies, these findings remain relevant in highlighting the challenges faced in using technical indicators to predict price movements, particularly in markets that are not fully efficient. The Efficient Market Hypothesis (EMH), which states that stock prices should reflect all available information, may explain the low accuracy found in this study. Furthermore, Dow Theory also underscores the importance of identifying market trends, which, even using indicators such as moving averages, remains challenging in volatile markets. The concept of the Rebound Effect also suggests that while technical indicators can

provide signals for price recovery, external factors and complex market dynamics often affect predictive accuracy. Therefore, this study not only contributes to understanding the limitations of technical indicators but also underscores the importance of combining indicators with a broader approach to stock market analysis.

CONCLUSION

This study aims to analyze the signal accuracy of three technical indicators widely used in stock analysis: the Relative Strength Index (RSI), the Moving Average (MA), and the Ichimoku Kinko Hyo . The results show that these three indicators provide signals with varying accuracy across the various issuers analyzed. The RSI has proven effective in identifying overbought and oversold market conditions, providing fairly accurate signals of potential rebounds . However, the RSI also showed weakness in avoiding false signals during periods of market uncertainty, indicating that, while useful, it needs to be combined with other indicators. While moving averages (MAs), particularly the 50-day moving average (MA), perform well in depicting medium- and long-term trends, its weakness lies in its inability to respond to sudden price movements or conditions of high volatility. Therefore, MAs are more suitable for identifying long-term trends. The Ichimoku Kinko Hyo provides a more comprehensive perspective by showing support and resistance levels in the form of a kumo and price reversal signals. Its weakness lies in its limited effectiveness in volatile and sideways market conditions.

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