CHAPTER II :LITERATURE REVIEW

As described in the previous chapter, even though modern approaches such as algorithmic trading and machine learning have gained popularity in trading community, traditional methods such as RSI remain widely used and relevant among investors. In this chapter, a more critical evaluation of RSI will be introduced, which includes its relevance, advantages, limitations and developments. In addition, this chapter will introduce relevant theoretical frameworks including the Efficient Market Hypothesis (EMH), Random Walk Hypothesis (WRH) and the Adaptive Market Hypothesis (AMH), which help to contextualise the use and limitations of RSI in practice. These theories are necessary to explain why RSI, despite being a technical indicator, can still offer value in semi-efficient market like Malaysia. This review supports the foundation that the development of a new RSI model that incapsulates market capitalisation as an alternative input for better signal measurement in the context of corporate actions.

2.1 Theoretical Foundations and Perspectives

This study's foundation is based on financial theories that describe how market efficiency, investor behavior and price changes are interrelated. The EMH, being one of the most popular frameworks, claims that stock prices in an efficient market accurately reflect all available information (Fama, 1970) and that, even with the help of technical analysis, it is impossible to consistently generate abnormal returns. Three types of EMH can be identified: weak, semi-strong and strong.

According to Cheian et al. (2013), the Malaysian stock market is thought to have semi-strong form features, meaning that all information that is available to the public is

factored into stock prices, although Bahrain et al. (2016) and Ibrahim and Yong (1991) suggest otherwise.

While EMH assumes rational investor behaviour, subsequent research has challenged its universality. The Overreaction Hypothesis suggests that investors tend to overreact to news, resulting in exaggerated price movements (De Bondt & Thaler, 1985). Similarly, the Uncertain Information Hypothesis (UIH) (Brown et al., 1988) argues that investors might be in shock and react to unexpected news by undervaluing securities. These criticisms highlight potential weaknesses in EMH, which emphasise on the role of timing, particularly in emerging or developing markets.

In response to these limitations, Lo (2012) introduced the AMH, which integrates principles from EMH and behavioural finance. According to AMH, market efficiency is not static but evolves based on environmental conditions and investor adaptability, as the market neither in the extreme of fully efficient or complete irrational. This theory supports the idea that technical indicators like the RSI may be useful during certain market regimes, as a certain degree in market inefficiency can contribute to information asymmetry and thus, abnormal return opportunity.

In addition to EMH and AMH, the RWH also deemed relevance in this study. This theory suggests that stock price movements are inherently unpredictable and follow a stochastic path (Umoru et al., 2020). In short, RWH proposes that neither historical nor present price data can be used to predict future return profitably. However, empirical studies (read: Dangl & Halling, 2012; Hoque et al., 2007) have shown that short-term patterns and momentum may still exist, justifying the continued interest in momentum-based indicators such as RSI and providing a potential contradiction to the strict assumptions of RWH.

Collectively, these theories provide the conceptual lens through which the effectiveness of the proposed RSI_{MC} model can be evaluated. While EMH and RWH imply that technical signals should be ineffective, AMH allows for periods of inefficiency where tools like RSI_{MC} may yield value, particularly in accounting for variables caused by corporate actions.

2.2 Advantages and Relevance of RSI

The traditional RSI is a widely adopted and highly regarded technical analysis tool among investors, offering numerous benefits that contribute to its popularity. Renowned for its efficacy in identifying potential overbought and oversold conditions in financial markets, this RSI has established itself as an invaluable asset for both investors and analysts. Its reliability is further substantiated by the implicit assumption of dependency between historical data and future price movements (Ţăran-Moroşan, 2011).

One of the primary advantages of the RSI lies in its computational simplicity, which incorporates several basic components (Panigrahi et al., 2021). This simplicity enables investors to comprehend the underlying significance of the numerical outputs. In contrast to more sophisticated Machine Learning tools, which may present challenges in interpretation and understanding of their results (Economou and Kontos, 2023; Rodríguez-González et al., 2011), the RSI's clarity provides a level of comfort in deciphering the rationale behind its overbought or oversold indicators. Moreover, its simplicity facilitates analysis using accessible tools such as Microsoft Excel (Alhilfi, 2019). Another notable attribute of the RSI is its capacity for cross-stock comparison. By utilising units rather than absolute prices or indices, the RSI overcomes the difficulties associated with comparing different stocks or securities. Its finite range of 0

to 100 units allows for comprehensive analysis across multiple panel data, enabling comparisons both temporally and across various securities.

This traditional technical indicator has not only stood the test of time but has also evolved to become a foundational element for numerous enhancements and applications. A substantial body of literature demonstrates the versatility and ongoing relevance of RSI in various analytical contexts. For instance, researchers have employed RSI as a comparative benchmark against more advanced techniques, including Machine Learning methodologies (Xue & Freymueller, 2023). Furthermore, RSI has been extensively utilised in the assessment of fundamental investment strategies, such as the simple Buy-Hold approach. Multiple studies (Choudhuri, 2019; Marek et al., 2017; Zatwarnicki et al., 2023) have incorporated RSI in their analyses of these strategies, underscoring its continued relevance in evaluating basic yet crucial investment methodologies. Notably, RSI has been employed in strategies based on Kelly Gambling principles (Cover & Thomas, 2005; Kelly, 1956; Marek et al., 2017). Moreover, recent research has positioned RSI as a key variable in the development of advanced trading strategies (Lin et al., 2023). In conclusion, from serving as a benchmark for evaluating novel techniques to its integration in complex trading strategies, RSI demonstrates remarkable versatility. Therefore, even traditional RSI has been around for more than 4 decades and with the existence of more sophisticated machine learning tools for investment decisions, its relevance is still valid until this day.

2.3 Limitations of RSI

Despite RSI being one of the popular TA tools among investors, it is undeniable RSI is nowhere near perfect and flawed to a certain extent. One of them and relevant to this study is uncertainty in determining the price win and loss with regards to certain

corporate actions such as stock split, right issues and warrant conversion. Traditional RSI relies heavily on price difference as the main variable and should this variable be misrepresented, then so will the RSI measurement be. Market price movements tend to blend together impact from demand and supply sentiment and theoretical price influence due to corporate actions. These two categories need to be separated because RSI is a valuable momentum oscillator to determine overbought or oversold (Panigrahi et al., 2021) and more accurate signals can bring an edge to the investors.

Daniswara et al. (2022) were able to conduct a study that RSI was capable to reflect more optimal accuracy performance than Bollinger Band and Moving Average. Nevertheless, from the perspective of buy/sell signal against actual market price direction, there was lack of transparency in terms of the stock selections from LQ45 stock index. Concern of how many of them are having corporate actions (which the focus of this study) and the short time period chosen (February 2021 to July 2021) may exclude crucial piece of evident that may distort their findings. Similarly, Putri and Sihombing (2020) conducted a study that yielded compelling evidence regarding the impact of stock splits on abnormal returns. Their research demonstrated a statistically significant disparity in abnormal returns when comparing pre-split and post-split periods. This finding challenges the conventional interpretation of stock splits by the RSI. While the RSI might interpret the price reduction following a stock split as a price loss, the study's results suggest that stock splits can actually enhance profitability (despite price drops).

This challenges the conventional interpretation of stock splits by the RSI, which tends to treat post-split price reductions as losses. This contradiction highlights a potential limitation in the RSI's ability to accurately assess the implications of corporate actions such as stock splits on a security's performance.

Therefore, to address this specific limitation, this study aims to introduce an alternative input for RSI formula that incorporates market capitalisation instead of closing price. This approach is expected to more accurately reflect structural changes in stock prices caused by corporate actions, leading to improved signal interpretation and profitability.

2.4 Developments of RSI

The traditional RSI, a cornerstone of technical analysis since its introduction by J. Welles Wilder (1978), has undergone significant evolution over the years. Various researchers and analysts have sought to enhance its effectiveness by addressing its limitations and adapting it to modern market conditions. These studies have led to several innovative modifications of the traditional RSI, each aiming to provide more reliable signals for traders and investors in diverse market scenarios. This section highlights RSI enhancements that are relevant to this study's comparison model, with reference to Table 2.1 as a summary.

Table 2.1: Summary on Development of RSI variants

Type of RSI	Abbreviation	Developed by	RSI Main Scope
Traditional RSI	RSI	Wilder, J. W. (1978)	Momentum Oscillator
Modified RSI	RSI_M	Morosan, A. T. (2011)	Include Volume Variable
Improved RSI	iRSI	Gonzalez et al. (2011)	Use AI to change setting like time period & market behaviour indicators
Trend-Normalised RSI	TN-RSI	Sahin, A. & Ozbayoglu, A. M. (2014)	Normalised Trend
Adjusted RSI	adjRSI	Gurrib & Kamalov (2019)	RSI to cater currency pairing
Market Capitalisation-based RSI	RSI_{MC}	Proposed model by author	Replace Closing Price with Market Capitalisation

2.4.1 Traditional RSI

Traditional RSI, a seminal contribution to technical analysis, was developed by J. Welles Wilder Jr. in 1978. Since then, this momentum oscillator has developed into a crucial instrument for traders and financial analysts, offering insights into the direction and pace of price movements across a range of markets. This RSI's primary function is to measure the internal strength of an asset relative to its price history, offering a perspective on potential overbought or oversold conditions.

In its original formulation, Wilder proposed a 14-period calculation period for the RSI. This timeframe was carefully selected to balance sensitivity and reliability, allowing for meaningful analysis across different market conditions. The RSI's output is normalised to oscillate between 0 and 100, with Wilder suggesting that readings above 70 indicate overbought conditions, while those below 30 signify oversold states. These threshold indications, however, are flexible and can be changed in accordance with the particulars of the asset or market being studied. Beyond its primary application in identifying overbought and oversold conditions, the RSI has proven versatile in other analytical contexts. Additionally, the RSI can be employed to confirm the overall trend of an asset, complementing other technical indicators and fundamental analysis.

2.4.2 Modified RSI (RSI_M)

In 2011, Ţăran-Moroşan introduced an innovative enhancement to the traditional RSI, a widely used TA tool originally developed by J. Welles Wilder in 1978. This modified version, known as the RSI_M, addresses several limitations inherent in the traditional RSI by incorporating trading volume into its calculations.

The primary contribution of Ţăran-Moroşan's RSI_M lies in its integration of trading volume data alongside price movements. This modification offers traders and

analysts a potentially more accurate representation of market strength and weakness. By considering both price changes and the volume of trades associated with those changes, RSI_M enhances the sensitivity of the indicator to significant market moves.

The traditional RSI's exclusive concentration on price changes is one of its main drawbacks; this can occasionally result in signals that are misleading, especially in low-volume conditions. RSI_M addresses this issue by weighing price changes with their corresponding trading volumes. This approach gives more significance to price movements backed by higher trading volumes, potentially reducing the occurrence of false overbought or oversold signals that can arise when using the traditional RSI.

Furthermore, the incorporation of volume data in RSI_M provides additional context to price movements. With this additional dimension, market conditions can be interpreted better, giving traders a better understanding of the strength of trends and the possibility of reversals. The RSI_M 's formula modifies the traditional RSI calculation by integrating volume and price changes. This methodological adjustment represents a significant advancement in technical analysis tools, potentially offering more reliable signals for entry and exit points in various financial markets.

2.4.3 Improved RSI (iRSI)

In 2011, Gonzalez et al. introduced an enhanced RSI model known as iRSI, integrated within their CAST. Their version uses neural network techniques to improve the responsiveness and accuracy of RSI signals compared to the original 1978 version by J. Welles Wilder. The main improvement is the application of machine learning algorithms to make better predictions. The iRSI can change important settings like the period length and thresholds based on market dynamics. This helps it adapt to market changes better than the traditional RSI.

The traditional RSI had a fixed 14-period time period. This could cause slow signals in fast markets or miss long-term trends. iRSI addresses this limitation by allowing dynamic adjustment of parameters based on real-time learning. This can give faster and more accurate signals.

The traditional RSI also did not account for different market behaviours in various assets or timeframes. iRSI adapts its calculation using correction layers within the neural network to reflect asset-specific characteristics. This helps give more reliable overbought and oversold signals, which is important in today's complex markets. The integration of iRSI within the CAST framework represents a significant advancement in technical analysis, combining traditional analysis with machine learning. This mix could help traders and analysts make better decisions and manage risks more effectively.

2.4.4 Trend-Neutral RSI (TN-RSI)

In 2014, Sahin and Ozbayoglu introduced the TN-RSI. This new version fixes problems with the traditional RSI from 1978, where RSI tends to provide inaccurate signals in trending markets. TN-RSI uses linear regression to measure the market trend. It then uses this information in its calculations. This helps it show an asset's strength more accurately within the current trend. As a result, it reduces false signals that happen with the traditional RSI in strong trends (bullish or bearish).

TN-RSI works well in different market conditions. In sideways markets, it acts like the traditional RSI. But in trending markets, it adjusts its signals to match the trend direction, giving more reliable buy and sell signals. Unlike the traditional RSI, TN-RSI does not use fixed levels for overbought and oversold conditions. Instead, it adjusts

these levels based on the trend. This helps spot potential trend reversals and continuations more accurately.

2.4.5 Adjusted RSI (adjRSI)

In 2019, Gurrib and Kamalov introduced an improved version of the RSI, specifically tailored for currency pairs, addressing a significant limitation of the original 1978 indicator. While the traditional RSI failed to consider the relative pricing between assets, their innovative adjRSI rectified this issue, making it particularly valuable for foreign exchange trading analysis.

The traditional RSI had issues accurately showing market conditions, particularly for paired assets like currencies. The adjRSI solves this by including the relative price levels of currency pairs in its calculations. This change makes the indicator better at analysing market strength and weakness.

The primary enhancement of the adjRSI lies in its consideration of the exchange rate between two currencies, whereas the traditional RSI solely focused on price changes of a single asset. By examining the relationship between two currencies, the adjRSI provides traders with a clearer perspective on market dynamics, thus offering a more comprehensive analysis of forex trading conditions.

2.4.6 Justification for RSI Models Selected

This study evaluates four RSI-based models: the traditional RSI, RSI_M, TN-RSI, and the proposed RSI_{MC}. These models were selected based on their conceptual relevance to the study's objective, which aims to identifying whether price signals distorted by corporate actions can be more effectively interpreted through modified RSI frameworks.

The traditional RSI, developed by Wilder (1978), serves as the benchmark model due to its evergreen use and foundational role in technical analysis. It has been referenced towards enhanced versions of RSI, which deemed suitable to be chosen for this study. Its inclusion also provides a reference point to measure how far other enhancements deviate in terms of interpretation and signal reliability.

RSI_M, proposed by Ţăran-Moroşan (2011), was selected for its incorporation of trading volume into RSI computation. Since volume reflects market participation and conviction behind price movements, RSI_M offers an improvement over the traditional RSI in terms of signal strength and credibility, which believed to be an essential factor when differentiating between market-driven price changes and structural adjustments. It is particularly useful in verifying whether price momentum is supported by strong market engagement, a valuable layer when analysing reactions to corporate actions.

TN-RSI, introduced by Sahin and Ozbayoglu (2014), was chosen because it dynamically adjusts RSI readings based on trend strength. This aligns well with this study's focus on structural market distortions, such as those introduced by corporate actions, where trend-based misreadings could lead to false signals. By normalising RSI thresholds, TN-RSI enhances the adaptability of the RSI under non-static market conditions. Its design mitigates the risk of premature reversal signals during trending phases, which often arise after major corporate restructuring.

Lastly, RSI_{MC}, a model developed in this study, was included as the main model for evaluation. It substitutes closing price with market capitalisation to better capture the effects of structural changes in stock price due to corporate actions. This modification is designed to address one of the most critical limitations of traditional RSI, which fails to separate sentiment-driven price changes from nominal adjustments. Its inclusion is necessary not only to test its comparative performance but also to assess

its conceptual viability in real trading environments. This model represents the core contribution of the study and serves as a test of whether incorporating structural market elements can yield practical trading benefits.

2.5 Relevance of Market Capitalisation into TA

Market Capitalisation element is usually an element of a FA, instead of TA, which may lead to potential reasonings of limited study that link market capitalisation and TA, let alone linked with RSI. Nevertheless, market capitalisation is not subject to the requirements of scheduled periodic disclosure like quarterly financial reports. It fluctuates in real-time and can be immediately impacted by market-driven events such as corporate actions. Corporate actions can happen at any moment, impacting market capitalisation and also, the stock prices. Nevertheless, corporate actions are part of the elements in market capitalisation that are suitable to be in TA, instead of FA because they impact directly on share prices, rather than market sentiment as a driver. Meaning, some corporate actions impact the share prices first, then only move according to market demand and supply.

As a compare and contrast example, a dividend announcement (not categorised as corporate action) does not affect directly the share prices, but the perceptions of investors towards this announcement drive the price movements. Unlike stock split, even without any investors' intervention yet, the price directly shifted according to split. Then only followed by the market demand and supply. Meylita and Yasa (2015) support this motion when new information exists in the capital market, it will impact on the company's stock price and then only further influencing investors' decision. Though their focal of study revolved around stock liquidity and abnormal return, their concept

is applicable to this study. If the measurement of price gain and loss is distorted, then the RSI calculation will also be inaccurate.

As a different corporate action example, a right issue allows a company to offer its existing shareholders to purchase extra shares at discounted price. Upon announcement, especially as the ex-rights date approaches, the share price adjusts downward automatically to reflect the dilution effect of the new shares being issued at a lower price. The drop occurs before any investor reaction, driven purely by the dilution. Furthermore, right issue aims to add more liquidity by reducing its' price to reach small investors and does not add economic value to the investors (Gusti et al., 2020). While prior research has extensively examined abnormal returns surrounding corporate action announcements, the emphasis has largely been on the timings of the announcements. As a result, there is limited angles addressing how such findings can be operationalised into technical analysis tools or adapted into stock signal generation. Traditional RSI will take this as a loss and falsely lead towards oversold region. Therefore, this study introduces RSI_{MC} model, which assesses RSI performance using market capitalisation differences in place of closing price differences, to correct for structural misreadings caused by corporate actions.

2.6 Corporate Actions

Corporate actions are significant events initiated by companies that can have profound implications for shareholders and the overall valuation of their investments. The landscape of investor ownership could be significantly changed by these acts, which can be either direct or indirect (Juniarti et al., 2023). The ramifications of these corporate decisions can extend beyond mere numerical changes in number of share or price, often influencing market perception, investor sentiment and the long-term

trajectory of the company. Ball et al. (2015) proposed a hypothesis regarding how quickly market prices react to information reflected market capitalisation change, in order to reach an 'efficient' market price. This hypothesis serves as a reference point, suggesting that subsequent to alterations in market capitalisation, the market would respond by adjusting the market price accordingly, reflecting market sentiment. However, it is noteworthy that the RSI primarily utilises stock closing prices as its main variable. Consequently, its unidimensional nature in capturing both the direct price changes (from the corporate actions) and the broader market sentiment impact may result in divergent RSI measurements. This potential discrepancy arises from the RSI's inability to distinguish between price movements driven by company-specific factors and those influenced by overall market sentiment, as reflected in market capitalisation changes.

2.6.1 Stock Split and Reverse Split (Stock Consolidation)

Stock splits is one of corporate actions, that fundamentally alters the structure of a company's outstanding shares. This process involves increasing the total number of shares while simultaneously reducing the nominal value of each individual share. Conversely, a reverse split operates on the opposite principle, consolidating shares and increasing their individual nominal value. These financial maneuvers, while seemingly contradictory in nature, serve various strategic purposes for companies and can have profound implications for market dynamics and investor behaviour. Stock Split is cosmetic in nature as it does not influence the proportion of investors' ownership and cash flow of the companies (Melati & Nurwulandari, 2019). This corporate action merely lowers the nominal value of stocks while concurrently increasing the number of outstanding shares (Anggraini & Jogiyanto, 2000; Ball et al., 2015). Marwata (2001)

posits that this corporate action maintains the market capitalisation of the stock and, in theory, should not generate any economic value. However, empirical evidence suggests a more complex reality. Melati and Nurwulandari (2019) demonstrated that despite the reduction in nominal value, stock splits often result in significant abnormal returns and price increases both before and after the event. This is also supported by Titman et al. (2022), who found stock splits tend to result in short-term positive price reactions, particularly in markets dominated by retail investors (although their study focusing on suspicious splits).

This apparent contradiction between the theoretical expectation of lower nominal prices and the observed price increases post-split presents an intriguing area for further investigation. It suggests that factors beyond nominal price changes are influencing stock valuations, potentially impacting traditional technical analysis tools such as the RSI. This discrepancy underscores the need for a deeper understanding of the elements driving stock prices, particularly in the context of corporate actions like stock splits, and how these factors might affect the efficacy of RSI measurements.

2.6.2 Right Issues

Right Issues (or sometimes being referred to as Right Offers) is a mechanism for the companies to raise capital by offering their stocks at a discount to their existing shareholders (Au Yong et al., 2021). These discounted stocks offered to existing shareholders led to the rise in market capitalisation, but at a lower price per unit (than before Right Issues). After cum-date of the Right Issues, the stock prices drop towards its theoretical price (Sumantika, 2018). Right Issues - price relationship depends on the market reaction, where stock price is expected to increase should the market perceive it as a positive signal, and similarly otherwise (Setionagoro & Djoko Sampoerno, 2022).

Studies conducted by Catranti (2011) showing the price drops on the ex-date, followed by mixed signals of positive and negative returns on separate stocks. Therefore, further supporting the notion proposed by Setionagoro and Djoko Sampoerno (2022) earlier. In short, despite the decline in stock's nominal price at ex-date, the impact of market reaction can amplify the price to go further up or down and distort the potential measurement of RSI.

From a technical analysis perspective, such structural price movements may be wrongly interpreted by RSI as sell signals due to price decline, despite being initiated by corporate actions, rather than market sentiments. This underpins the motivation for models like RSI_{MC}, which aims to separate sentiment-driven changes from structural ones.

2.6.3 Bonus Issues

Bonus Issues is when the existing shareholders received free additional shares, according to their shares currently owned (Alex, 2017). Although Bonus Issues do not raise capital, they serve as a reward mechanism and are often used to improve stock liquidity. They result in an increased number of shares in circulation and a proportion decrease in share price, theoretically leaving market capitalisation unchanged. Despite Bonus Issues lead to dilution of market capitalisation, Pandey et al. (2022) in their studies identified Bonus Issues have significant impacts on expected return ex-date events on or after the event dates. Showing a potential gap where despite its par or theoretical price drops due to the Bonus Issue, market reaction may either amplify or counteract with the adjustments. Therefore, a price-based indicator such as RSI may misinterpret the mechanical price drop as a sign of weakness, even though the firm

fundamentals remain unchanged. RSI_{MC} attempts to address this issue by shifting the basis of calculation from closing prices to market capitalisation.

2.6.4 Share Buybacks

Share Buyback is one of corporate actions where the company chooses to repurchase a portion of its own shares from the open market, usually at premium, resulting dilution in market capitalisation (Wee Pat, 2020). There are several ways to execute Share Buybacks. First is via Tender Offer, where shareholders are offered higher than the current market price (at premium). Secondly is via Open Market Offer, where the market shall determine the actual price but within the minimum and maximum buyback price set by the company (Bhargava & Agrawal, 2015). Signaling effects tend to be the reason behind the triggering point of the increase in share price, following the repurchase. Nevertheless, as Share Buyback sends signals that the company has the incentive to correct the share price due to undervaluation of intrinsic values, the increase in price provides gain of exceptional profit to the company (Wee Pat, 2020). Therefore, as the Share Buyback dilutes the market capitalisation from the reduction in number of share and maintaining its share price (during the Share Buyback exercise), the signaling effect may influence RSI readings. This highlights the importance of separating structural drivers like share repurchases from sentiment-driven price fluctuations, further justifying the RSI_{MC} model which leverages market capitalisation in RSI computation.

2.6.5 New Share Issuance

A company's market capitalisation can be significantly impacted by new share issuance (or sometimes referred as stock dividend), which is the process by which it issues and sells more shares to investors while preserving the nominal value of each

individual share. Although the nominal value remains static, the increase in total shares affects valuation metrics and trading ratios, often triggering structural adjustments in price. Interestingly in Woolridge (1983) criticizing earlier studies that chose to use closing price (instead of opening price) on the ex-date of stock dividend and ignore the price adjustment as the ex-date open. This is reflective on the objectives of this study, where price adjustment due to market reaction and change in nominal value should be separated from RSI measurement.

2.6.6 Employee Stock Option Schemes (ESOS)

Contractual arrangements between a company (serving as option seller) and its employees (the option holder) are known as Employee Stock Option Schemes (ESOS). These agreements give employees the right to buy company stock at a predetermined strike price within a given time frame (Rosalina & Artiono, 2023). They added that this dilution effect is caused by the increase in the total number of shares (from exercising the option) and stock prices are further influenced by market reaction on the difference in exercise price and current market price. This dual influence (structural dilution and sentiment-driven price movements) can mislead technical indicators like RSI. Therefore, this study considers ESOS as a relevant corporate action for evaluating the robustness of RSI interpretations, particularly through the lens of RSI_{MC} model (that captures market capitalisation effects).

2.7 Conclusion

In conclusion, based on existing empirical and theoretical literature reviewed throughout this chapter, this research addresses the limitations of traditional RSI by proposing an enhancement (named RSI_{MC}), which replaces closing price differences with market capitalisation differences. This modification aims to acknowledge the

separation between the nominal value change caused by corporate actions and genuine price changes driven by market sentiment.

The chapter began by outlining foundational theories including EMH, RWH and AMH, which establish the context for why RSI remains relevant despite criticisms. It then highlighted the advantages of the traditional RSI, while also presenting its known shortcomings, especially in misreading structurally induced price shifts. Subsequent sections reviewed RSI variants (which are RSI_M, TN-RSI, iRSI and adjRSI) which address specific performance issues but do not fully consider the role of corporate actions.

Market capitalisation was explored as a technically viable and underutilised variable in TA, particularly because corporate actions such as stock splits, rights issues, bonus issues, share buybacks, new share issuance and ESOS alter stock price structures in ways that may distort RSI signals. By revisiting these corporate actions and referencing key literature that confirms their effects on stock price and market capitalisation, the chapter built a comprehensive justification for recalibrating RSI.

Overall, this chapter supports the use of market capitalisation as a structural variable in RSI calculations to improve its interpretive accuracy, particularly in environments affected by frequent corporate actions. The next chapter will detail the methodological framework employed to empirically evaluate RSI_{MC}'s performance in comparison with other RSI models.