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Exploring the 0.09 Level of Fibonacci Retracement

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Abstract

Fibonacci retracement has long served as a foundational tool in capital market trading strategies for identifying potential support and resistance levels. The classical Fibonacci retracement ratios—0.236, 0.382, 0.5, 0.618, 0.786, and 1—are widely employed by traders to determine optimal entry and exit points. Among these ratios 0.618 is commonly referred to as the golden ratio due to its frequent occurrence in price retracement behaviour. Over the years, extensive empirical and theoretical studies have examined the effectiveness of these classical Fibonacci levels across various asset classes and market conditions. However, the Fibonacci sequence generates several additional ratios beyond the commonly accepted levels, many of which remain largely unexplored in academic and applied research. This study focuses on one such unconventional yet mathematically valid retracement ratio, 0.09, derived from extended Fibonacci relationships. The primary objective of this research is to evaluate the effectiveness of the 0.09 Fibonacci retracement level as an early entry point in swing trading strategies. Using empirical analysis, the study examines whether this deeper retracement level can significantly enhance risk–reward dynamics, reduce downside risk, and improve overall trading performance.

Keywords: *Fibonacci, Capital Market, Stock Market, Technical Indicators, RSI, ADX.*

I. INTRODUCTION

Identifying accurate support and resistance levels is essential for making well-timed trading decisions in financial markets. Traders rely on various analytical tools to estimate these levels, but the outcomes often depend heavily on parameter selection and subjective interpretation [1]. Moving averages produce vastly different signals depending on the chosen lookback period.

Bollinger Bands rely on standard deviation settings, and altering the default multiplier of 2 to any other values can drastically compress or widen the upper and lower bands. These changes may lead to interpretational inconsistencies and confusion among traders, particularly when assessing market volatility [2].

In contrast, Fibonacci retracement provides stable reference levels because they are anchored to structural swing highs and lows rather than rolling calculations. Fibonacci levels help quantify these movements, enabling traders to identify potential reversal or continuation zones.

While classical Fibonacci ratios dominate both academic and practitioner discourse, unconventional ratios such as 0.146 and 0.09 have received limited attention, despite arising naturally within extended Fibonacci relationships. Behavioural finance research suggests that traders often react to mathematically salient or visually prominent price levels, reinforcing their importance regardless of strict mathematical justification [3]. This observation provides a theoretical basis for assessing the empirical validity of lesser-studied Fibonacci ratios.

Volume 65 | Issue 05 | May 2026
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This study evaluates whether the 0.09 retracement level of Fibonacci ratios can function as a structurally meaningful early-entry point. Using four years of daily NSE data and integrating RSI and ADX filters, the study aims to determine whether this unconventional ratio enhances risk-adjusted performance and strategy robustness.

II. BACKGROUND OF FIBONACCI

Fibonacci numbers form an infinite numerical sequence in which each term is derived by summing the two preceding numbers. Beginning with 0 and 1, the sequence grows as 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, and so on. This recursive structure is represented mathematically as:

$$F_n = F_{n-1} + F_{n-2} \qquad (1)$$

Dividing one number by the subsequent number in the series we get a ratio. Mathematically we can see it as below:

$$\frac{F_n}{F_{n+1}} = \frac{F_{n-1} + F_{n-2}}{F_{n+1}} \qquad (2)$$

$$\frac{F_n}{F_{n+2}} = \frac{F_{n-1} + F_{n-2}}{F_{n+2}} \qquad (3)$$

Equation (1) provides the Fibonacci series. Equation (2) provides the first Fibonacci ratio of 0.618 and the equation (3) provides the 2^{nd} Fibonacci ratio 0.382.

These ratios are as shown below:

Table I: Fibonacci series and ratios

Fib No	55	89	144	233	377	610
Fib Ratio	0.618	0.382	0.236	0.146	0.090	0.056

In Table 1, the ratios 0.09, 0.146, 0.236, 0.382 and 0.618 are visible. The ratio 0.5 is used along with this ratio series even though it is not a derived Fibonacci ratio, but has significance in the securities price movements. Interestingly the ratios lower than 0.236 are rarely discussed in the academic or trading communities. The normal Fibonacci ratios also have close mathematical relationship with one another. Out of these ratios 0.618 and 0.382 are called Golden ratios. These ratios are found in various forms in nature, art and architecture.

While Fibonacci is credited with introducing the sequence to Western mathematics, historical evidence suggests earlier origins. Ancient Indian scholar Acharya Pingala (2nd–3rd century BCE), in his treatise Chhandasastra, described a recursive metrical enumeration system using long (guru) and short (laghu) syllables. His rule—Ankatyopantya Yog Pare Pare Matranam—mirrors the additive properties of Fibonacci numbers and is considered an early form of binary recursion [5].

Fibonacci retracement levels provide consistent reference points because they remain unchanged until the swing high or swing low shifts. In contrast, indicators such as RSI, moving averages, and Bollinger Bands continuously update. This structural stability allows traders to anticipate potential support, resistance, or reversal zones more reliably.

Prices tend to move in waves rather than straight lines. These oscillations form the logical foundation for Fibonacci retracement tools. When retracement levels—including classical ratios and extended ratios such as 0.146 and 0.09—are drawn between swing highs and lows, they create zones where price reactions frequently occur. Behavioural finance studies confirm that trader clustering around Fibonacci levels amplifies their significance [6].

Volume 65 | Issue 05 | May 2026
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The Fibonacci Retracement drawing is drawn from the swing high to the swing low. This draws horizontal parallel lines for each Fibonacci ratio level. The default levels are 0, 0.236, 0.381, 0.5, 0.618, 0.786, 1, 1.618 and so on. One can however modify the levels and add the levels like 0.146 and 0.09.

Fig 1: Sensex Daily Time Frame Fibonacci Retracement with 0.09

Unlike the technical indicators Fibonacci levels are constant irrespective of the time frame, as long as the swing high and low do not change. This is a significant advantage for determining the entry and exit levels.

III. NEED TO EVALUATE 0.09 FIBONACCI RATIO

A favourable risk–reward ratio (R:R) is essential for profitable long-term trading. A strategy becomes attractive when potential rewards significantly outweigh potential risks—preferably by a factor of three or more. This allows profitability even with moderate win rates, as substantial winners outweigh smaller losses [7].

Deeper retracement levels such as 0.146 and 0.09 offer far better asymmetry. With a stop-loss at the swing low and a target at 0.618, entries at 0.146 and 0.09 produce estimated R:R values of 3.24 and 5.87, respectively. This improvement substantially increases the strategy's expected value even if the win rate declines [8].

Empirical studies suggest that deeper retracement points often correspond to periods of volatility contraction and early momentum accumulation—conditions conducive to low-risk entries. When these entries are validated using directional and momentum-based indicators such as ADX, RSI, and volume filters, false signals can be significantly reduced [9].

Thus, evaluating the 0.09 Fibonacci level extends beyond theoretical exploration; it represents a practical inquiry into whether early structurally justified entries can materially enhance risk–reward dynamics and overall strategy performance. The R:R is demonstrated in the table below:

Table II: Fibonacci ratios and Risk Reward Ratio

Fib No	21	34	55	89	144	233	377
Fib Ratio			0.618	0.382	0.236	0.146	0.090
R:R					1.62	3.24	5.87

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

In Table II, the calculation is based on assumption that the entry is taken at the indicated Fibonacci retracement level and profit is to be booked at 0.618 level or the loss is to be booked at 0 level. Entry at 0.236 level and exit at 0.618 level gives the R:R as 1.62, the same for 0.146 level is 3.24 and that for 0.09 level is 5.85.

Table III: Fibonacci ratios and Risk Reward Ratio at different levels of exit

		Exit	0.382	0.5	0.618
Entry	0.236	R:R	0.62	1.12	1.62
Entry	0.09	R:R	3.24	4.56	5.87

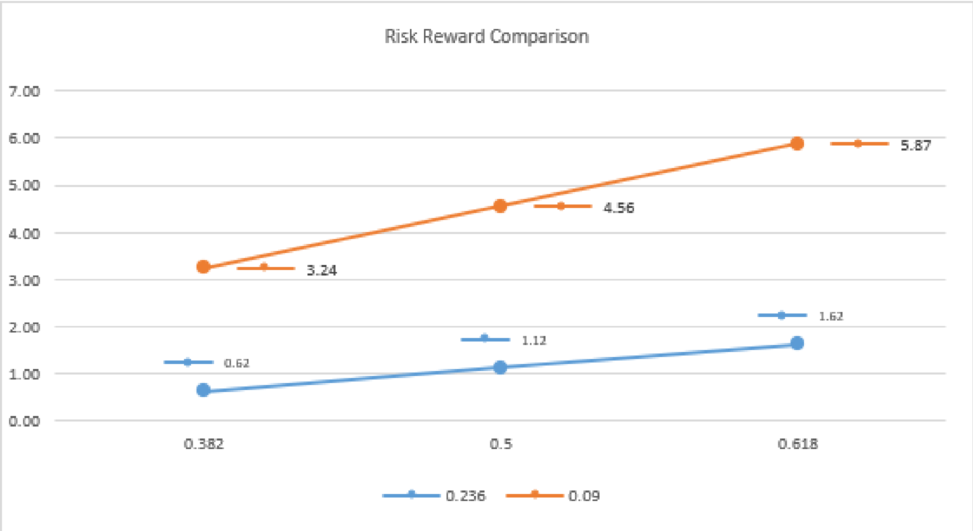

Fig 2: Risk Reward Ratio at different levels of Entry and exit

However, an entry at 0.09 level offers R:R of 5.87 given that the profit is booked at 0.618 and stop loss is kept at 0 level. These values are calculated by the entry level ratio with the target ratio. The R:R with 0.09 looks quite good and promises to give much larger net profit even with a low win rate. Hence it is important to evaluate the usefulness of this level for an early entry and improving the R:R.

IV. LITERATURE REVIEW

Recent literature highlights substantial developments in technical analysis, trading-rule effectiveness, and return predictability. Studies from 2020 to 2025 demonstrate renewed interest in Fibonacci-based forecasting models across equities, commodities, and currency markets. Both classical Fibonacci ratios and unconventional levels such as 0.09 show potential for identifying structural support and resistance zones, particularly in trending environments where behavioural clustering reinforces price reactions [10].

Advances in machine learning have expanded Fibonacci applications. Hybrid models integrating retracement levels with regression, SVM, and LSTM frameworks show enhanced predictive accuracy and robustness over standalone technical indicators [11]. These approaches leverage nonlinear pattern-recognition capabilities to anticipate market turning points more reliably.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

Empirical research across cryptocurrencies, equity indices, and sectoral markets reports Fibonacci based success rates between 70% and 74% under specific conditions, suggesting conditional validity rather than universal reliability [12]. Behavioural research further indicates that price clustering around salient numerical ratios strengthens the practical significance of Fibonacci levels, irrespective of mathematical necessity. Cognitive biases such as anchoring and herd behaviour amplify these effects [13].

Nonetheless, studies caution against indiscriminate use of certain ratios (e.g., 14.6%, 76.4%) due to inconsistent performance across market regimes. Market structure, liquidity, and volatility significantly influence retracement reliability, underscoring the importance of indicator confluence rather than single-indicator dependency [14].

Multiple studies confirm improved accuracy when Fibonacci tools are combined with EMA, MACD, Stochastics, or RSI supporting the multi-indicator framework used in this research.

V. RESEARCH GAPS AND JUSTIFICATION OF THE STUDY

While some of the existing literature supports the effectiveness of both Fibonacci retracement and RSI in trading strategies, research focusing on their combined application in Indian stocks remains scarce. Many stand-alone studies of Fibonacci retracement on Indian stocks indicate that this tool is at the most ineffective.

There are quite a few studies on western markets where it is concluded that Fibonacci retracement is a self-fulfilling strategy. The argument provided is, the retracement levels behave like support and resistance, since most market participants react at those levels. Otherwise, those levels have no significance.

Moreover, optimizing RSI parameters to align with Fibonacci retracement levels has not been extensively explored in prior research. This study aims to fill this gap by developing and testing an optimized strategy specifically tailored for Indian stocks, providing valuable insights for traders, investors and market analysts.

So far, all studies related to the Fibonacci Retracement in the securities market deal with the generally accepted Fibonacci ratios. There is a need to search for a relevant ratio which may lead to much larger risk reward ratio. This article attempts to study this unexplored area.

VI. RESEARCH DESIGN

Screener or scanner is a tool which filters out securities which fulfil a set of conditions. The conditions could be for a long or short entry or even for an exit. There are around 2200 listed stocks in the National Stock Exchange (NSE). For the study a screener is required to identify stocks which fulfilled the entry conditions on any trading date. The stocks could be filtered based on various conditions.

A screener is created in www.chartink.com, which is one of the most versatile screener solutions for the Indian stocks listed in the NSE. The screener provides 9 months historical results in a free account if daily time frame is used.

There is an option to download the historical data of a screener for a decided time period. For this study four years historical data is downloaded. The time period is from 2021 till 2025.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

The historical data captures the trigger date, stock symbol, industry sector and market capitalisation name.

This screener scans all stocks of NSE with the below mentioned conditions:

- Closing price of the daily candle crossed above 0.09 level of the Fibonacci retracement drawn from the quarterly high and low levels.
- Close price is below the 0.146 level of the Fibonacci retracement drawn from the quarterly high and low levels.
- ADX is greater than the previous day ADX value. This is done to ensure that the ADX is upward trending.
- Daily volume is greater than the simple moving average volume of the previous 20 days.
- RSI(14) is greater than 60
- The stock price has gone up by at least 0.05% above the previous day's closing price.
- Other conditions are put to eliminate ETFs and Indices.

The filter short lists stocks which have crossed above the 0.09 Fibonacci level on the quarterly high and low and are less than the 0.146 level. This is done to identify stocks which have just fulfilled the entry condition but have not moved far away from the entry level. This provides an opportunity for the price to move up in days to come. Here is an attempt to avoid stocks which have crossed multiple Fibonacci levels in a single candle on the day of trigger.

ADX or Average Directional Index is a technical oscillator which indicates the strength of a trend. A rising ADX value indicates that the trend has strength. This means if there is bullish trend, along with a rising ADX, then the bullish trend is likely to continue till the ADX direction changes.

The same holds true for a bearish trend. Unlike any other technical indicator and oscillators, this one needs to go up to indicate the strength of the trend. This also means that even if the price goes up or down and the ADX does not have an upward trend, then the price movement may not be sustainable.

This helps eliminate false signals. The parameters of RSI are changed to 60 and 40 from 70 and 30. The default parameter value of RSI SMA is used for this study. The objective of using RSI value 60 for a long entry trigger is used with the following philosophy:

The security becomes bullish when the RSI value crosses above 60. There after there is reasonable head room for the security price to move up. Hence instead of considering a sell trigger at or above 70, a buy trigger is generated when the value crosses above 60. It is also assumed that the RSI value does not go above 65 when it crosses 60. Such a scenario permits the security price to move up after the cross over.

RSI is considered to be a leading indicator. This indicates the price movement before the actual movement takes place. In order to make the screener robust and more dependable RSI is used. The combination of ADX, Volume and RSI makes the entry condition stronger and helps eliminate most of the false signals.

The percentage change over the previous day close is used as a filter to exclude the stocks which might have fulfilled all the previous conditions but have a negative trend on the day of trigger. This may be a false signal. Hence such signals are excluded.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

The syntax for creating a screener in the Chartink platform would be different from the natural language logic. There are options to take help of inbuilt artificial intelligence tool in the platform to create a screener. However, they have their limitations. Hence the screener is created from the scratch. The screener is created in Chartink platform with the syntax and logic given in Fig. 3.

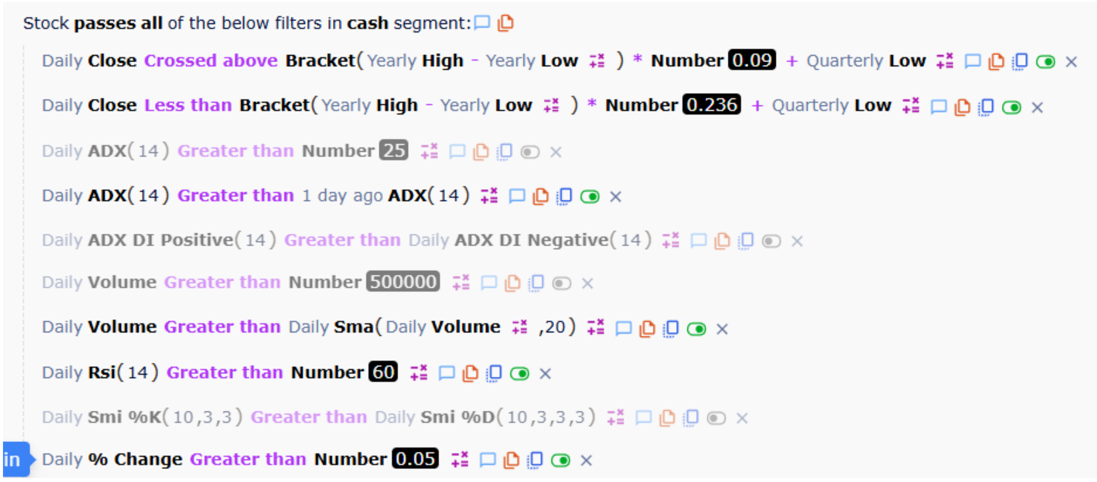

Fig 3: Screener algorithm in Chartink.com

VII. RESEARCH OBJECTIVE

This study aims to explore the possibilities of using Fibonacci retracement 0.09 level as an entry point. This study is only for long entries and in daily time frame. Hence it is a swing trade position.

1) To evaluate the return on investment of different holding periods.
2) To find out maximum draw down for each holding period.
3) To compare the outcome of the strategy if the positions are closed on 30th day, 60th day, 90th day and 120th day of the trigger date.

VIII. METHOD

In this study the historical data is used to derive closing prices of the stocks in fixed intervals. This is the classical back testing approach. These are treated with statistical tools to arrive at the conclusions. Following steps are taken for the study:

- The Chartink screener is run to find out triggers generated in the previous four years. The historical data is downloaded in a csv file.
- A back testing tool is created in Google Sheets tool using Googlefinance function is used to extract further data for calculation and analysis.
- The data is further cleaned. For some of the stocks the historical data could not be extracted through Googlefinance. Few such signals are removed from the study.
- The holding period considered are 30, 60, 90 and 120 days. Hence all those entries from the historical data are excluded which have not completed 120 days from the date of signals.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

Findings of the study (From Dec 2021 to Sep 2025)

Table IV: Summary of the study

Holding Period in Days	30	60	90	120
Period ROI	8.50%	18.40%	27.48%	36.71%
Avg +ve ROI	16.56%	27.18%	38.70%	48.46%
Avg -ve ROI	-5.46%	-6.10%	-6.15%	-7.01%

In the above Table IV, it is seen that the return on investment (ROI) has a strong correlation with the days of holding the stock. The ROI keeps increasing from 8.5% to 36.71% as the holding period increases from 30 days to 120 days. Some of the signals triggered in the screener did not move the way it was anticipated. This is the nature of the securities market. Some stock prices moved up after it was bought and the price of some others went down after buying. The average positive ROI also improved significantly and progressively as the holding period increased.

The improvement in the positive ROI from 30 days to 60 days is 64.51%. The ROI percentage improved by 64% due to the change in the holding period. There after the incremental improvements in ROI percentage are 42.39% and 25.23%. This indicates that the percentage improvement in return on investment gradually tappers down as the holding period increases. Analysing the ROI of the positions where the price dropped after taking the position reveal little different story. In this case the negative ROI also increase as the holding period increases. However, at 30days holding the negative ROI is at -5.46% and it goes up to -7.02% at 120 days holding. The rate of change in the negative ROI with the increase in the days of holding is much lower compared to that of positive ROI change . Anyways the negative ROI is significantly low compared to the positive ROI and need not be a cause of concern.

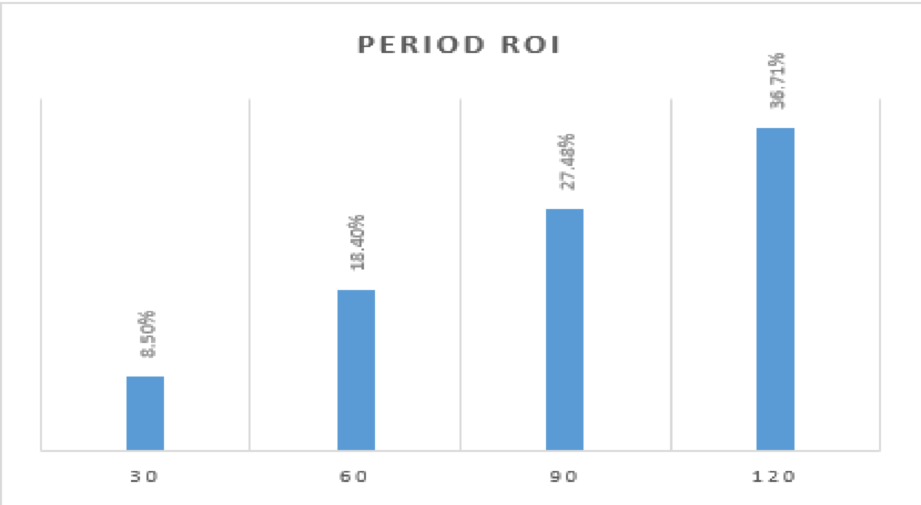

Fig 4: Holding period and period ROI

In Fig 4 the period ROI data is visualized. This helps to interpret the data with ease.

Table V: Annualised ROI

Holding Period in Days	*30*	*60*	*90*	*120*
Annual ROI	103%	112%	111%	112%
Annual + ve ROI	202%	165%	157%	147%
Avg - ve ROI	-5%	-6%	-6%	-7%

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

The observed returns are converted to annualised numbers to compare the effectiveness of the strategy. The ROI of 30 days holding is divided by 30 and multiplied with 365 to arrive at the annualised return. The annualised return from the period return is derived by applying equation (4) shown below:

$$\frac{Perod\ Return}{Holding\ Period}\ X\ 365 \qquad (4)$$

In Table V, annualised returns are captured. This approach helps to compare the returns of different holding periods in one standardised parameter. However, this approach has a significant assumption that every 30days there is opportunity to deploy the realised capital in the same or similar trade with same return, which may or may not be practically true.

Fig 5: Holding period and annualised ROI

The annualised return tells a very different story. Fig 5 captures the visualised annual ROI. Though the net ROI keeps on improving as the holding period increases, the change is insignificant. At 30 days holding, the annualised ROI is 103%, at 30 days it is 112% and it does not improve as we change the holding period to 60 days, 90 days and 120 days. This leads to a finding that one needs to decide if one should hold such positions longer than 30days.

The trades having positive returns actually showed decrease in return as the holding period increased. The negative returns were not annualised since it does not have any practical significance. All those negative trades need to be closed at the end of the holding period. That capital is invested in the next available opportunity. Hence those are not annualised.

It is pertinent to study the win rate of the strategy involving 0.09 level of Fibonacci retracement. In this study the win rate in 30 days of holding is 54%, that for 60 days holding is 62%, for 90 days it works out as 60% and that for 120 days holding is 67%. These numbers do indicate that the win rate is directly proportional to the holding period. Comparing the win rate and annualised ROI of different holding periods indicate that there is a particular pattern to the returns and win rate.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

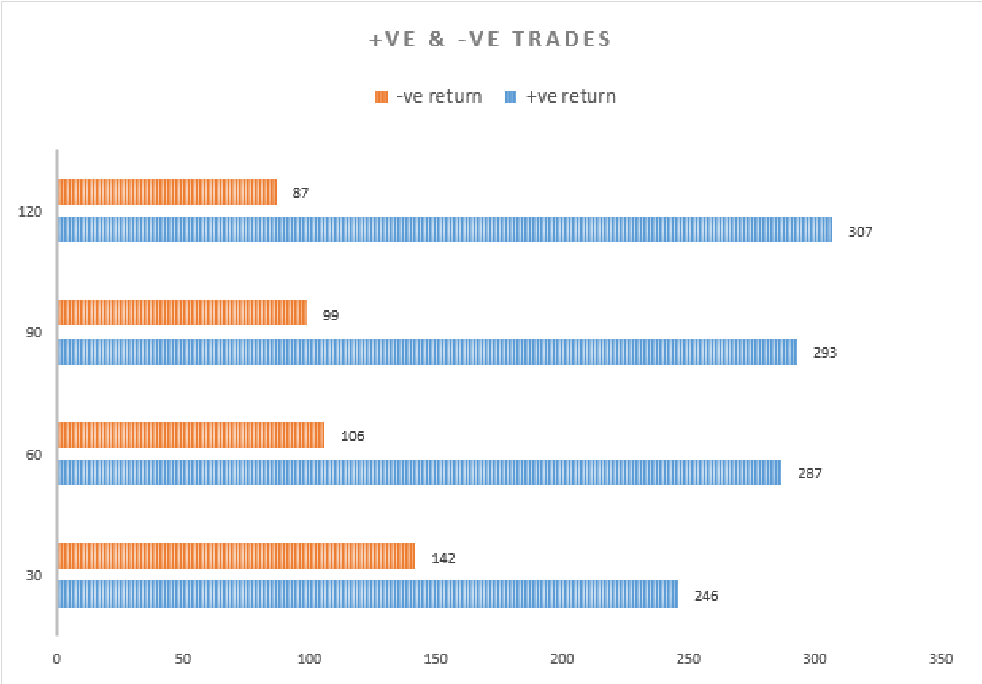

Fig 6: Period wise +ve and -ve trade counts

Fi 6 depicts the number of trades ending up as positive and negative ones based on its return. In this study along with the win rate, stop loss trades are also studied. Stop loss of -8% is considered for the study.

While all negative trades may not be considered as trades where stop loss was hit, yet all stop loss hit trades are negative trades. There are two different ways of looking at the negative trade and stop loss hit trades.

For 30 days to 120 days holding the percentage of trades which hit stop loss are 14%,16%,15% and 17% respectively. This shows that there is uniformity in stop loss behaviour across all the holding periods.

If it is assumed that any trade which did not hit the stop loss is a winning trade, then the win rate changes significantly. However, in this study only those trades where there is a positive return, are considered to be winning trade.

Table VI: Win Rate

Time Period in Days	**30**	**60**	**90**	**120**
+ve return	247	287	293	307
-ve return	142	106	99	87
Win rate	62%	72%	73%	77%
SL Hit	54	62	59	66

Table VI shows the period wise positive and negative trade counts. It also captures the number of trades in which stop loss was hit. Interestingly the win rate for 30 days holding is 62% and it goes up to 77% for 120 days of holding.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

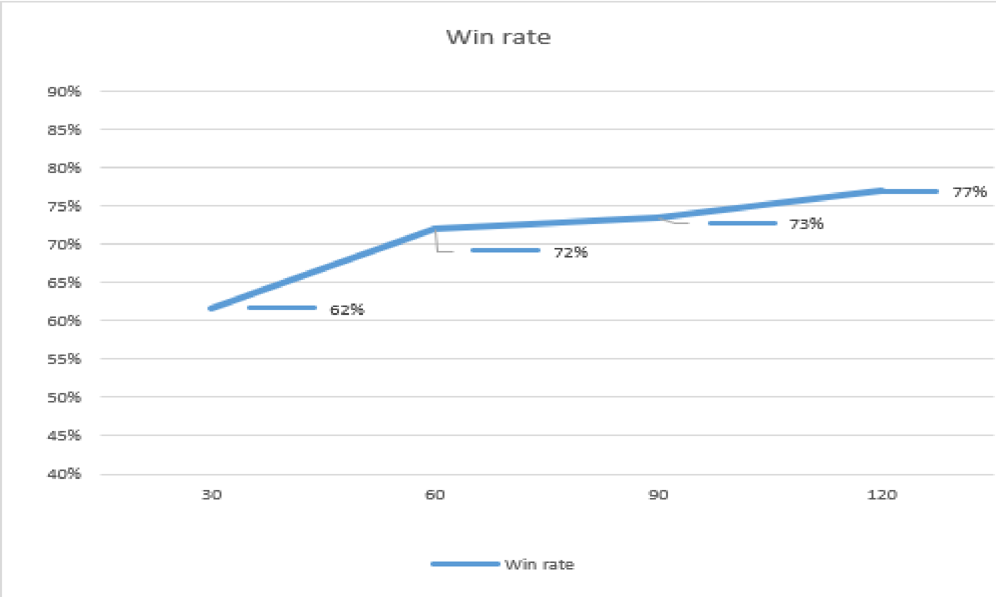

Fig 7: Holding period and win rate

The above chart Fig 7 captures the win rate by holding period. While the rate of change of the win rate is not exponential in nature, yet it is significant. Every percentage point change in the win rate impacts the ROI.

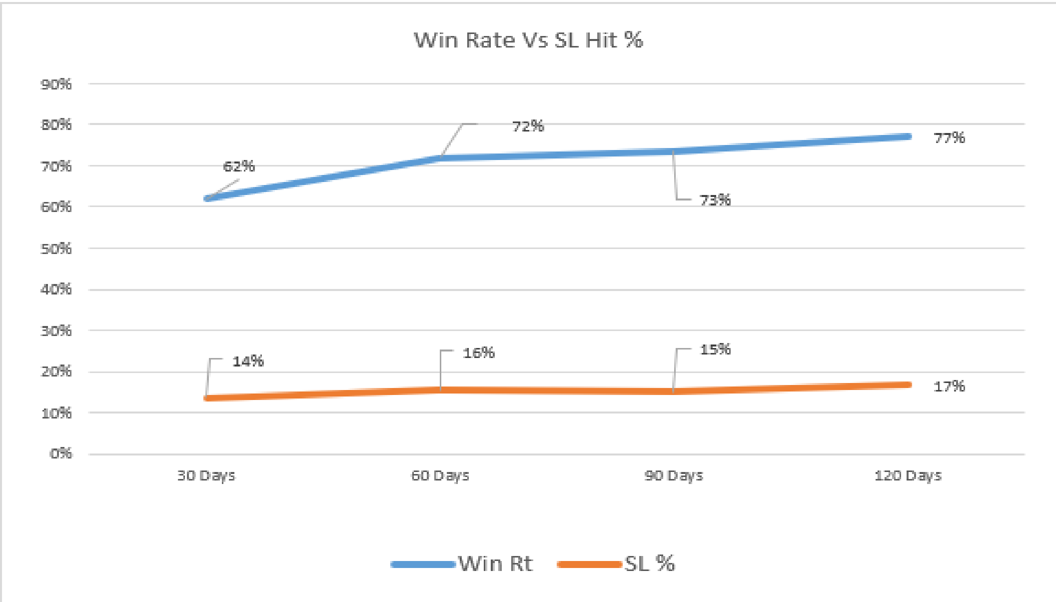

Fig 8: Win rate % vs Stop Loss %

The study shows that while the win rate percentage keeps improving, the stop loss percentage does not change significantly. This is shown in Fig 8. This shows that the strategy has enough inherent robustness to deliver consistent profit while minimising loss.

Another important attribute of a strategy is its risk reward ratio. A higher risk reward ratio indicates the ability of the strategy to deliver much higher returns when the price moves up compared to the losses it may deliver if the market moves in the opposite direction.

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

Fig 9: Risk reward Ratio by holding period

A strategy is usually considered to be very good if the risk reward ratio is greater than 3. In Fig 9 the risk reward is calculated with annualised ROI and the stop loss of -8%. While the average negative returns of different holding periods are much better than -8%, yet for the purpose of making the strategy much more reliable, stop loss of -8% is considered. As shown in Fig.9 the risk reward ratio (R:R) ranges from 12.92 times to 13.96 times. This indicates that such a strategy has immense potential to deliver superlative returns with very high R:R.

A trading strategy's effectiveness can be measured by many parameters. In this study maximum draw down (Max DD), Sharpe Ratio and System Quality Numbers (SQN) are considered for evaluation.

Table VII: Strategy Parameters

Time Period in Days	**30**	**60**	**90**	**120**
Number of Trades	399	399	399	399
Max Drawdown (%)	-2.06%	-2.1%	-1.62%	-1.31%
Sharpe Ratio	6.05	8.46	10.73	11.2
System Quality Number (SQN)	0.88	1.29	1.65	1.72

Maximum Draw Down (Max DD) is a parameter which is derived by calculating the largest loss in an investment from its peak value. This can be shown as an absolute value or in percentage terms. In this study it is shown in percentage terms in Table VII. In practice, Max DD of greater than -6% is considered to be good. In this study the Max DD has been extremely good.

Sharpe Ratio measures the risk adjusted return of a strategy. It shows the excel return a strategy earns per unit of risk. It is calculated by subtracting the risk-free rate of return from the investment's return and dividing by the investment's standard deviation (volatility).

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

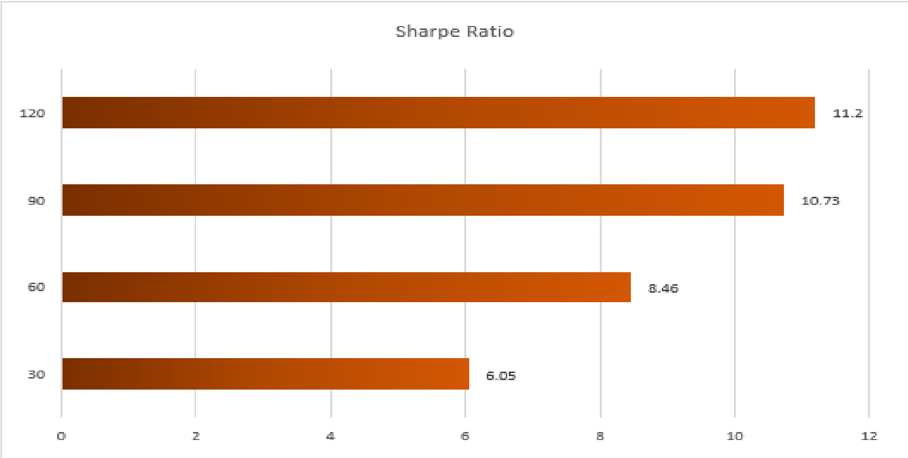

Fig 10: Sharpe Ratio by holding period

The study considered a stop loss (SL) of -8% and a holding period of 7 days, 15 days and 30 days from the date the stock buy was triggered. The date is calculated on calendar dates and not trading days. Hence it might so happen that because of Saturday, Sunday or holidays the actual trading days between trigger date and exit dates may be less than the duration considered. The entry and exit prices are considered on the EOD close price. The Sharpe Ratio by holding days are shown in Fig.10.The ROI is considered without factoring in the trade cost like brokerage, slippage and government taxes. Nifty 50 ROI is considered based on a buy and hold strategy. The return of Nifty 50 is calculated on the closing price of 1st Nov 2024 and the same as on 31st may 2025. The strategy ROI is calculated by taking average of all the trades after capping the SL at -8%. That average ROI is divided by the number of holding days and multiplied with 365 to derive the annualised ROI. For 30 days holding the strategy ROI is divided by 30 and then multiplied with 365.

Max Draw Down (Max DD), System Quality Number (SQN) and Sharpe Ratio are calculated using a python code. The input for the calculation was entry date, entry price, exit date and exit price. These data were stored in an excel file. The python programme read the data from the file and returned the strategy performance metrics. Max DD is shown graphically in Fig 11 below.

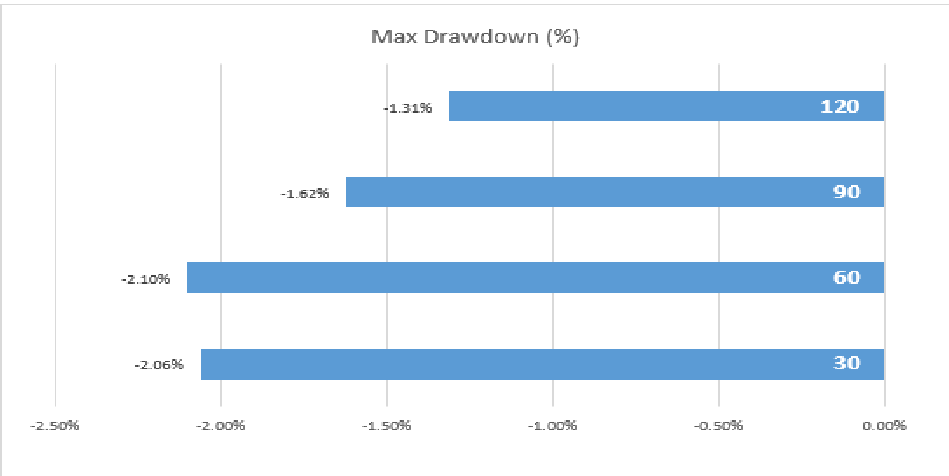

Fig 11: Maximum Draw Down by holding period

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

For 15 days holding, if the entry date is 10-12-2024, the exit date will be 25-12-2024. However, if the calculated exit date is a holiday or a Saturday or Sunday, then the exit date is taken as the closing price of the subsequent trading date. In case the exit date is a Friday and it is a holiday, then the exit date is considered as the following Monday.

IX. CONCLUSION

The research throws light on many significant factors. The return on investment in all the holding periods, 30 days to 120 days are substantially better than the risk-free return. If we consider the risk-free return in India in the year 2025 as 7.5%, then the ROI of each of the holding periods are at least 14 times of that. Usually if a strategy gives a return of two multiples of the risk-free return it is considered to be a very good strategy. In this study we conclude that the returns are way above the conventional threshold of a good strategy return. The results derived are theoretical in nature. In practice the returns may be lower.

Here some of the findings of interest:

- Fibonacci ratio of 0.09 is a significant level to be considered for long entry. This is an unconventional level and there is hardly any study on this aspect.
- Fibonacci Retracement like any other technical analysis tool should be used along with another technical analysis tool to reduce false signals.
- Holding period of 30, 60, 90 and 120 days do not change the annualised ROI significantly in the strategy. However, the win rate is positively corelated to the holding period.
- The actual annualised return may decrease after accounting for the transaction cost, brokerage and slippages.

From the study it is apparent that an annualised return of at least 51% is achievable even considering 50% of the theoretical derived ROI by using the proposed strategy by holding a stock once triggered for a period of 30 days with a stop loss of -8%. The reduction from 103% annualised ROI to 51% is based on assumptions that an investor or trader may not be able to buy every stock triggered at the trigger price. It may so happen that the stock is bought at a higher price after the trigger date. Similarly, the exit date and prices may practically change based on the actual date of exit. In that case the mathematically derived return may reduce since the exit date and prices are determined based on the trigger date. In reality returns from a strategy back test is taken as a reference point and is considered as the maximum theoretical yield. Real world returns are most often lower than the theoretical numbers.

The strategy performance metrics Max DD indicates the extent of risk inherent to the strategy. This strategy, for 30, 60, 90 and 120 days holding these factors are -2.06%, -2.1%, -1.62 and -1.31% respectively. This indicates that the built in risk in the trading strategy is very low and hence is impressive. Such low numbers indicate that the net investment requirement in the strategy will be substantially low. As a thumb rule is believed that the Max DD of greater than equal to -6% is very good.

System Quality Number or SQN, is a metric which indicates the strength or robustness of a strategy. This number is more reliable if the number of trades is around 500. In this study the number of trades for 30 days holding period is 433. That for 60 days holding is 428. For 90 days holding number of trades is 414 and that for 120 days holding is 399. In order to make the

Volume 65 | Issue 05 | May 2026
DOI: 10.5281/zenodo.20024160

analysis unbiased, total number of trades considered for the strategy parameter calculation is 399.

A Sharpe Ratio of 1-2 is considered good and above 3 is exceptional. In our study this factor is exceptionally high for all the three strategies ain all the three holding periods. This actually indicates that the strategy is strong and have the potential to give significantly excess return above the risk-free rate per unit of risk. Maximum Draw Down, Risk Reward Ratio, Win Rate and Sharpe Ratio in this study indicate that the strategy is not only robust, it also indicates that it has huge potential to deliver consistent high returns.

This structured research design ensures a rigorous evaluation of the proposed 0.09 of the Fibonacci-RSI – ADX strategy, aiming to bridge the gap in existing literature while providing actionable insights for traders and analysts.

Essentially this study concludes that Fibonacci ratio 0.09 is an entry level which must be considered for creating a robust long strategy. This improves the risk reward ratio substantially while reducing the risk.

X. RESEARCH LIMITATIONS

Although the study yields promising insights, several limitations should be acknowledged to contextualise the findings: - The analysis includes only NSE-listed equities, excluding commodities, currencies, derivatives, and global markets. The generalisability of results to other asset classes remains untested. - The research period spans four years, which, while substantial, may not capture broader structural cycles, black-swan events, or multi-regime market transitions.

A longer dataset could reveal additional dynamics. - The strategy employs only RSI and ADX as confirming indicators. Numerous other technical and machine-learning models could further refine or challenge the screening criteria. - The use of quarterly swing highs and lows introduces the possibility of candle repainting, where past signals disappear once new highs or lows form.

Such repainting effects cannot be fully accounted for in historical backtesting and may influence real-time execution. - Practical implementation challenges—such as liquidity constraints, order-execution delays, slippage, and timing mismatches—are not fully reflected in the theoretical backtest. - Fibonacci ratios used in most platforms represent conventional levels. This study focuses on an extended ratio (0.09), and additional less-explored ratios could reveal alternative high-performance strategies.

These limitations open avenues for future research, including multi-time-frame validation, alternative indicator combinations, extended historical datasets, and cross-asset testing to assess the universal applicability of the 0.09 Fibonacci retracement level.

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