



# Impact of Technical Analysis Tools in Short-Term Trading Decisions in the Indian Stock Market

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## ABSTRACT

The Indian stock market is witnessing rapid growth due to digitization, widespread internet access, and significant participation of retail investors. In this dynamic environment, short-term traders often resort to technical analysis including Relative Strength Index, Moving Average Convergence Divergence, and Moving Average to determine the correct entry and exit points for investments. Hence, the current study aims at determining the impact of technical analysis tools on short-term trading behavior of Indian retail investors. First, data were collected using a survey questionnaire comprising Likert scale questions from a sample of 101 active short-term traders sampled using purposive sampling techniques. Techniques such as percentage analysis, correlation, ANOVA, and regression analysis were employed to analyze the gathered data in Microsoft Excel and SPSS programs. According to the results, 61.4% of the respondents utilize technical analysis for their trades, whereas 52.5% rely on different technical analysis indicators to affirm decisions. Conversely, 60.4% of the respondents indicated satisfaction with technical analysis in making decisions. More so, regression analysis confirms that proper utilization of technical analysis boosts trading effectiveness and satisfaction. Additionally, correlation suggests that technical analysis can assist traders in minimizing risks and avoiding losses.

**Keywords:** Technical Analysis, Short-Term Trading, Indian Stock Market, RSI, MACD, Moving Averages, Trading Decisions, Risk Management.



## INTRODUCTION

Due to technological advancements, increased internet connectivity, and participation of retail traders in stock trading, there has been tremendous growth in the Indian stock markets. The trading platforms made available by the National Stock Exchange and Bombay Stock Exchange have helped in making trading of stocks efficient, easy, and transparent for investors across the nation. There has been an increased popularity of short term investment strategies like swing trading and intraday trading because of the opportunities provided by the stock market. In light of these factors, it is crucial for traders who want to make quick returns on their investments to be equipped with accurate decision-making techniques based on sound data. Technical Analysis can be considered one such strategy for decision-making in case of stock trading. Technical analysis involves analyzing past prices and volumes to forecast the future prices of a security. Some of the widely used technical indicators include Moving average, RSI, MACD, Bollinger Bands, and candlestick pattern analysis. The paper aims at analyzing the efficacy of the aforementioned techniques in short term trading and traders' views on the same.

## OBJECTIVES OF THE STUDY

- To analyze the effectiveness of technical analysis tools in short-term trading decisions in the Indian stock market.
- To study the use of common technical indicators such as RSI, MACD, and Moving Averages among retail traders.
- To evaluate how technical indicators help traders identify entry and exit points.
- To examine the impact of combining multiple technical tools on trading accuracy.
- To assess the role of technical analysis in managing risk and minimizing losses in short-term trading.
- To identify the limitations of technical analysis in volatile market conditions.

## NEED OF THE STUDY

Since the number of retail investors participating in the Indian stock market is rising very fast, most of the people are involved in short-term trading without having any knowledge regarding the functioning of the stock market. They mostly follow the information and advice received from social networking sites and other similar forums that lead to monetary loss. The application of technical analysis assists traders as it offers them a rule-based approach for analyzing price behavior and risk management, but the available literature mainly deals with the assessment of various technical indicators individually, rather than as a group. Also, the study on the application of technical analysis is done from a historical angle, but not from the trader's point of view. Therefore, it is necessary to explore how the current active traders of India think about technical indicators and their application.

## PROBLEM OF THE STUDY

The Indian short-term trading system is highly unpredictable and calls for instant decisions. Despite the wide variety of trading tools available and marketed as being of significant assistance, the reality is that a lot of people involved in the trading system end up receiving conflicting signals due to the existence of noise in the market or even due to some tool giving out a wrong signal. People in the trading business who are still new at what they do often find themselves incapable of choosing the right tools for trading and forget about risk management techniques.



## REVIEW OF LITERATURE

**Singh (2022)** Analyzed indicators such as Moving Averages, MACD, stochastic oscillators, and candlestick patterns on NSE-listed stocks. The study concluded that combining multiple indicators gives better short-term trading decisions than relying on a single indicator. **Kaur, Mahajan & Narang (2023)** Found that technical analysis helps traders identify market trends and reversals in the Indian stock market, though accuracy can be affected by global and economic events. **Logambal & Kanagasabapathy (2024)** Tested SMA, RSI, and MACD on Indian stocks and concluded that technical indicators significantly support short-term traders, especially during volatile market conditions. **Sen, Waghela & Rakshit (2024)** Reported that no single technical indicator performs best across all sectors, and that combining indicators improves trading reliability and decision accuracy. **Tadas et al. (2023)** Examined Nifty 50 stocks and found that technical analysis strategies perform effectively during trending markets but become less accurate in sideways market conditions. **Kumar & Jain (2021)** Concluded that technical analysis provides better timing for short-term trading decisions compared to fundamental analysis, making it more suitable for active traders. **Sharma & Kaur (2023)** Found that RSI is useful in identifying overbought and oversold market conditions, but combining RSI with other indicators improves reliability in trending markets.

## RESEARCH GAP

The past studies on the application of technical analysis in the Indian stock market have mostly focused on the analysis of one indicator and price-based backtesting. However, in actual practice, the traders who trade through technical analysis apply a combination of indicators in their decision making, which gets further influenced by news and emotion. There exists very limited knowledge on the role of technical analysis from the perspective of the perceptions of short-term traders and its influence on risk management and confidence. This study aims to bridge this research gap by conducting primary research on 101 short-term traders.

## RESEARCH METHODOLOGY

The method of research employed herein involves descriptive research approach coupled with quantitative research methodology. The primary data was obtained from 101 active short-term traders within the Indian stock market using a well-formulated questionnaire on a five-point Likert Scale rating (Strongly Disagree to Strongly Agree). Purposive sampling was utilized where only those traders who had first-hand experience in short-term trading and usage of technical analysis instruments were selected for the research. The secondary data was collected from various academic journals, financial websites, and books based on literature review of the subject matter. Variables being considered in this research paper include: Use of technical analysis before investing; Usage of different technical analysis instruments; Confidence in the application of technical analysis instruments; Satisfaction level with the usage of technical analysis; Technical analysis in lowering investment risks and losses; and Influence of technical analysis on trading outcomes.

## CONCEPTUAL FRAMEWORK

The proposed theoretical framework of this study is about the relationship between the use of technical analysis tools and the trading performance. Independent variables of this study involve using technical analysis prior to trading, using multiple indicators (such as RSI, MACD, and Moving Averages), and relying on predictions made by technical analysis. These variables influence mediating variables like decision making, risk management, and avoidance of losses. On the other hand, trading performance and satisfaction derived from technical analysis will be regarded as dependent variables. In line with that, traders who make use of technical analysis and several indicators are assumed to exhibit quick decision making, sound risk management, and general satisfaction.



## DATA ANALYSIS AND INTERPRETATION

**Table 1: Demographic Profile of Respondents (N = 101)**

Variable	Category	Frequency	Percentage (%)
Gender	Male	42	41.6
	Female	56	55.4
	Others	3	3.0
Age	Below 20	20	19.8
	21 – 25	35	34.7
	26 – 30	23	22.8
	31 – 40	13	12.9
	Above 40	10	9.9
Occupation	Student	27	26.7
	Salaried Employee	31	30.7
	Self-Employed / Business	32	31.7
	Professional (CA, Doctor)	8	7.9
	Other	3	3.0
Trading Experience	Less than 1 year	39	38.6
	1 – 3 years	31	30.7
	3 – 5 years	21	20.8
	More than 5 years	10	9.9
Monthly Income	Below ₹20,000	24	23.8
	₹20,000 – ₹50,000	30	29.7
	₹50,000 – ₹1,00,000	32	31.7
	Above ₹1,00,000	10	9.9



	Prefer not to say	5	5.0
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**Interpretation:** The demographic profile shows that 55.4% of respondents are female and 41.6% are male. The majority (34.7%) belong to the 21–25 years age group, followed by 26–30 years (22.8%), indicating that short-term trading attracts young participants. By occupation, 31.7% are self-employed, 30.7% are salaried, and 26.7% are students. About 38.6% of respondents have less than one year of trading experience, suggesting that most are early-stage traders. In terms of income, 31.7% earn ₹50,000–1,00,000 and 29.7% earn ₹20,000–50,000 per month, confirming that respondents are mainly from the middle-income category.

**Table 2: Trading Practices and Perceptions of Technical Analysis**

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
I regularly engage in short-term trading	18.0	43.0	25.0	11.0	3.0
I use technical analysis before trading	22.8	38.6	23.8	9.9	5.0
I use multiple indicators for confirmation	17.8	34.7	25.7	15.8	5.9
Technical tools enable faster decision-making	18.8	36.6	24.8	11.9	7.9
Technical indicators provide accurate signals	20.8	37.6	23.8	11.9	5.9
I use RSI, MACD, and Moving Averages	20.8	29.7	25.7	15.8	7.9
I am satisfied with technical analysis	21.8	38.6	28.7	6.9	4.0

**Interpretation:** The findings reveal that 61.0% of respondents engage regularly in short-term trading and 61.4% use technical analysis before placing a trade. About 52.5% combine multiple indicators for confirmation, and 55.4% feel technical tools help them make faster decisions. A combined 58.4% agree that indicators generate accurate signals, and 50.5% specifically use RSI, MACD, and Moving Averages. Overall, 60.4% express satisfaction with technical analysis as a trading aid, confirming that these tools are widely accepted and trusted by short-term Indian traders.



## CORRELATION ANALYSIS

**Table 3: Correlation Matrix among Key Variables**

Variable	Confidence in TA	Satisfaction with TA	Managing Risk through TA	Minimizing Losses through TA
Confidence in TA	1	0.096	—	—
Satisfaction with TA	0.096	1	—	—
Managing Risk through TA	—	—	1	0.312**
Minimizing Losses through TA	—	—	0.312**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).  $N = 101$ .

**Interpretation:** The correlation matrix reveals two key relationships. First, the correlation between confidence in technical analysis and satisfaction with technical analysis is 0.096, indicating a very weak positive relationship. This suggests that confidence alone does not strongly determine satisfaction; other factors such as actual trading outcomes and market conditions also matter. Second, the correlation of 0.312 between managing risk through technical analysis and minimizing losses through technical analysis indicates a low-to-moderate positive relationship, meaning that traders who use technical tools to manage risk are also more likely to view these tools as helpful in minimizing losses. This connection supports the view that technical analysis contributes meaningfully to short-term risk control.

## ONE-WAY ANOVA

### Hypotheses:

- $H_0$ : There is no statistically significant difference between use of technical analysis before trading and the belief that technical analysis is essential for successful trading.
- $H_1$ : There is a statistically significant difference between the two groups.

**Table 4: ANOVA – Use of Technical Analysis Before Trading vs. Technical Analysis is Essential for Successful Trading**

Source of Variation	SS	df	MS	F-value	P-value	F crit
Between Groups	0.005	1	0.005	0.0041	0.9489	3.8884
Within Groups	240.614	200	1.2031			
Total	240.619	201				

**Interpretation:** Since the p-value (0.9489) is greater than 0.05, the null hypothesis is accepted. This means there is no statistically significant difference between using technical analysis before trading and viewing technical analysis as essential for successful trading. Traders who apply technical analysis in practice also tend to believe in its importance, suggesting consistency between trading behavior and perception.



**Table 5: ANOVA – Improved Trading Performance vs. Better Profits Using Technical Analysis**

Source of Variation	SS	df	MS	F-value	P-value	F crit
Between Groups	0.495	1	0.495	0.3978	0.5290	3.8884
Within Groups	248.911	200	1.2446			
Total	249.406	201				

**Interpretation:** The p-value (0.5290) is greater than 0.05, so the null hypothesis is accepted. There is no statistically significant difference between perceived improvement in trading performance and earning better profits through technical analysis. Respondents who experience better performance through technical tools also tend to report better profits, reflecting an aligned perception between performance and profitability.

**REGRESSION ANALYSIS**

**Table 6: Regression – Technical Analysis Improves Decision-Making (IV) vs. Improved Trading Performance (DV)**

Statistic	Value
Multiple R	0.389
R Square	0.151
Adjusted R Square	0.143
Standard Error	1.089
F-value	17.634
Significance F	<0.001
Intercept (Coefficient)	1.872
TA Improves Decision-Making ( $\beta$ )	0.415
t-Stat	4.199
P-value	<0.001

**Interpretation:** The regression analysis reveals that technical analysis improving decision-making significantly explains improved trading performance. The R<sup>2</sup> value of 0.151 indicates that 15.1% of the variation in trading performance is explained by improvement in decision-making through technical analysis. The p-value of less than 0.001 confirms that the relationship is statistically significant, meaning that traders who feel technical analysis helps them make better decisions also tend to report better trading performance. Although the effect is moderate, it demonstrates a meaningful, positive contribution of technical analysis to short-term outcomes.



**Table 7: Regression – Trust in Technical Analysis Predictions (IV) vs. Satisfaction with Technical Analysis (DV)**

Statistic	Value
Multiple R	0.299
R Square	0.090
Adjusted R Square	0.080
Standard Error	0.979
F-value	9.754
Significance F	0.002
Intercept (Coefficient)	2.841
Trust in TA Predictions ( $\beta$ )	0.252
t-Stat	3.123
P-value	0.002

**Interpretation:** The regression result shows a weak-to-moderate but statistically significant relationship between trust in technical analysis for predicting price movements and overall satisfaction with technical analysis. The  $R^2$  of 0.090 means 9.0% of the variation in satisfaction is explained by trust in predictions, with  $p = 0.002$  confirming statistical significance. This suggests that trust contributes to satisfaction, but other factors such as ease of use, real trading outcomes, and combined-indicator strategies also play a role in shaping overall satisfaction with technical analysis.

## DISCUSSION

From the results of this study, one can definitely say that technical analysis is extensively used by Indian traders, who see it as an effective way of making money from the stock market. In particular, many respondents claimed that technical analysis is something they do before entering a trade, whereas some expressed their satisfaction with these tools. As the most preferred indicators, RSI, MACD, and Moving Averages have been identified, which confirms results of previous studies conducted by Mahalakshmi & Rajesh and Patel & Shah. Traders usually use several indicators together as a way of verification, which confirms the results of Singh and Sen and Waghela & Rakshit. With the help of regression analysis, it has been established that technical analysis positively influences traders' success in the market and increases satisfaction, whereas the use of correlation analysis proved that these instruments helped in managing risks and decreasing losses. Yet confidence alone cannot bring satisfaction.



## CONCLUSION

Conclusively, the research shows that technical analysis instruments have a great positive impact on the trading decisions made in India's equity markets. Most respondents apply technical analysis before making trades, employ more than one instrument to confirm their findings, and believe that technical analysis helps in improving their trading performance and making timely decisions. Regression analyses show that decision-making improvement and technical forecasting trust significantly explain the trading performance and satisfaction. Correlation analysis reveals a significant relationship between risk management and minimizing losses. Notably, technical analysis alone cannot guarantee successful trading; it can only improve significantly when integrated with other factors like risk management, multi-instrument analysis, and knowledge of market conditions. Beginner investors are encouraged to take technical analysis as an educational process and not a predictive one. With increased digitization and retail investors entering into trading, technical analysis is expected to grow even more significant in Indian markets.

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