European Economic Letters
ISSN 2323-5233
Vol 14, Issue 2 (2024)
http://eelet.org.uk

# Evaluating the Effectiveness of Technical Analysis in Enhancing Financial Efficacy for Traders and Investors in Mumbai

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**Abstract:**
This research evaluates the effectiveness of technical analysis in enhancing financial efficacy for traders and investors in Mumbai, India's financial capital. Amidst the dynamic and diverse markets of Mumbai, technical analysis plays a pivotal role in guiding investment decisions by offering insights derived from historical market data. Through empirical analysis and examination of practical applications, this research assesses the efficacy of technical analysis methodologies. Additionally, the study investigates challenges and limitations inherent in the Mumbai market environment that may impact the successful implementation of technical analysis. By providing practical insights and recommendations, this research aims to empower market participants with the knowledge and tools necessary to navigate Mumbai's financial markets effectively and optimize their investment outcomes. The research aims to find out the relationship between the financial efficacy and trading and investment performance of traders and investors in Mumbai, whether Traders and investors of Mumbai use Technical analysis as the key tool for making investment decisions and to evaluate the financial behaviour of respondents.

**Hypothesis 1**
Null hypothesis (H0): Respondents are not having high Financial Self-Efficacy.
Alternative hypothesis (H1): Respondents are having high Financial Self-Efficacy.

**Hypothesis 2**
Null hypothesis (H0): There is no significant correlation between risk taking ability and Financial Self-Efficacy of respondents.
Alternative hypothesis (H1): There is significant correlation between risk taking ability and Financial Self-Efficacy of respondents.

**Hypothesis 3**
Null hypothesis (H0): There is no significant association between Highest educational level and Gender of respondents.
Alternative hypothesis (H1): There is significant association between Highest educational level and Gender of respondents.

**Keywords:** Technical Analysis, Financial Efficacy, Share Market, Financial behaviour

**Introduction:** Technical analysis has long been a cornerstone of financial decision-making, offering traders and investors a method to predict future price movements based on historical market data and statistics. In the bustling financial hub of Mumbai, where markets are dynamic and ever evolving, the efficacy of technical analysis stands as a critical question for market participants. This research endeavors to evaluate the effectiveness of technical analysis in enhancing financial efficacy for traders and investors in Mumbai.

Mumbai, often dubbed as the financial capital of India, is home to a vibrant and diverse financial landscape. From the Bombay Stock Exchange (BSE) to the National Stock Exchange (NSE), Mumbai's markets attract a plethora of traders and

investors seeking opportunities in equities, commodities, currencies, and more. Amidst this bustling environment, the role of technical analysis emerges as a focal point for market participants, promising insights into market behavior and potential trading strategies. The primary objective of this research is to delve into the practical application of technical analysis within the context of Mumbai's financial markets.

Furthermore, the research seeks to explore the challenges and limitations associated with technical analysis in the Mumbai market environment. Factors such as market volatility, regulatory dynamics, and cultural influences may pose significant hurdles to the successful implementation of technical analysis strategies. Understanding these challenges is crucial for providing a comprehensive evaluation of technical analysis effectiveness and identifying areas for improvement.

Moreover, the research aims to provide practical insights and recommendations for traders and investors in Mumbai seeking to incorporate technical analysis into their trading strategies.
In summary, this research endeavors to contribute to the ongoing discourse surrounding technical analysis effectiveness in Mumbai's financial markets. By conducting a thorough evaluation of its practical application and addressing pertinent challenges, this research aims to provide valuable insights for traders, investors, and market observers alike.

**Objectives of the study:**

1. To study the relationship between the financial efficacy and trading and investment performance of traders and investors in Mumbai
2. To find out whether Traders and investors of Mumbai use Technical analysis as the key tool for making investment decisions.
3. To evaluate financial behaviour of respondents.

**Scope of the study:**

1. Understanding the impact of financial efficacy on trading and investment performance is crucial for traders and investors. By assessing the relationship between financial efficacy and performance, the research can provide valuable insights into how traders and investors can improve their decision-making processes and potentially enhance their investment outcomes.
2. Mumbai is recognized as a significant financial hub in India, housing major stock exchanges, financial institutions, and a large community of traders and investors. Conducting research specifically in this context allows for insights into the unique characteristics, challenges, and opportunities faced by traders and investors in Mumbai.
3. Financial efficacy, which refers to the ability to effectively analyze and interpret financial information, is a crucial aspect of successful trading and investment. Understanding the relationship between financial efficacy and performance can help traders and investors identify the key competencies and skills needed to make informed investment decisions.
4. Technical analysis is a widely used approach in trading and investment decision-making. Investigating whether traders and investors in Mumbai rely on technical analysis as a primary tool for making investment decisions will provide insights into their preferred strategies and methods. This understanding can further contribute to the development of educational programs and training resources tailored to the specific needs of traders and investors in Mumbai.

**Review of Literature:**

1) De Bondt and Thaler (1995) (USA) stated that when money is at stake behavioural factors matter a lot, referring to one’s investment decision making.

2) The investment goals of Indian retail stock investors have been described by Shaik, A.M.P. et al. in 2012. Their study's primary goal is to determine Indian retail equities investors' investment behaviour based on socioeconomic indicators and numerous elements including liquidity, rapid profit, capital growth, safety, dividends, and demographics of investors. Based on a questionnaire survey, they have gathered 500 respondents' main data from the Krishna district in the state of

Andhra Pradesh. They used the Kruskal Wallis H-Test, average rank analysis, and average score analysis to validate their findings. The test's findings show that different investor classes have significantly varied average scores when it comes to their investment goals, and those goals change depending on the socioeconomic situation and investment profile of the investor.

3) Financial self-efficacy, according to Reyniers, Irenbusch, and De Meza (2008), is a collection of psychological characteristics that includes regrets, risk aversion, mental budgeting, and accounting information overload.
In their study on entrepreneurial self-efficacy, Greene, and Chen (1998) found that people with higher levels of this trait exhibit greater financial self-control.

4) It appears that another study on women's financial self-efficacy was conducted by (Farrell et al., 2016), and it was found that those women who are more assured in their ability to handle financial affairs well possessed a broad portfolio of financial products.

5) According to planned behaviour theory, perceived self-efficacy and behaviour control can directly predict behaviour when a person is overconfident that they can control their behaviour and have the capacity to display a particular behaviour (Ajzen & Fishbein, 2005).

## RESEARCH METHODOLOGY:

Research Design: The study carried out here is descriptive research as its main aim is to find the relevant information from the samples collected to conclude.
Research Type: Data used is Combination data.
Period of Data Collection: Period of data collection is for 1 month.
Data Collection Tools: Structured Questionnaire.
Sampling Technique: Convenience Sampling
Statistical Tools Used: Chi-Square Test, T-test, Pearson’s test
Software used to test the hypothesis: Jamovi

## RELEVANCE OF THE STUDY:

The study can contribute to enhancing the financial literacy and competence of traders and investors in Mumbai. By investigating the effectiveness of financial efficacy and technical analysis, the research can shed light on the skills, Knowledge and competencies required for successful trading and investment. This knowledge can help traders and investors to develop deeper understanding of the factors influencing investment decisions and improve their overall financial decision-making abilities.

## Hypothesis:

Hypothesis 1
Null hypothesis (H0): Respondents are not having high Financial Self-Efficacy.
Alternative hypothesis (H1): Respondents are having high Financial Self-Efficacy
Hypothesis 2
Null hypothesis (H0): There is no significant correlation between risk taking ability and Financial Self-Efficacy of respondents.
Alternative hypothesis (H1): There is significant correlation between risk taking ability and Financial Self-Efficacy of respondents.

Hypothesis 3
Null hypothesis (H0): There is no significant association between Highest educational level and Gender of respondents.
Alternative hypothesis (H1): There is significant association between Highest educational level and Gender of respondents.

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**Data Analysis and Interpretation**

Respondent profile:

Frequencies of AGE

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| 19-24 | 46 | 90.2 % | 90.2 % |
| 25-30 | 2 | 3.9 % | 94.1 % |
| 31-36 | 3 | 5.9 % | 100.0 % |

Frequencies of GENDER

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Female | 19 | 37.3 % | 37.3 % |
| Male | 32 | 62.7 % | 100.0 % |

Frequencies of EDU_LEVEL

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Graduate | 33 | 64.7 % | 64.7 % |
| Less than Graduate | 1 | 2.0 % | 66.7 % |
| Postgraduate | 17 | 33.3 % | 100.0 % |

Frequencies of MARTIAL_STATUS

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Married | 2 | 3.9 % | 3.9 % |
| Unmarried/ | 49 | 96.1 % | 100.0 % |

Frequencies of COMMUNITY

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Rural | 14 | 27.5 % | 27.5 % |
| Sub-urban | 12 | 23.5 % | 51.0 % |
| Urban | 25 | 49.0 % | 100.0 % |

Frequencies of OCCUPATION

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Professional | 7 | 13.7 % | 13.7 % |

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Frequencies of AGE

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| Student | 44 | 86.3 % | 100.0 % |

Frequencies of EXPERIENCE

| Levels | Counts | % of Total | Cumulative % |
|---|---|---|---|
| 2 to 4 years | 5 | 9.8 % | 9.8 % |
| Less than 2 | 15 | 29.4 % | 39.2 % |
| None | 29 | 56.9 % | 96.1 % |
| Over 6 years | 2 | 3.9 % | 100.0 % |

| Descriptives | Financial Self-Efficacy |
|---|---|
| N | 51 |
| Missing | 0 |
| Shapiro-Wilk W | 0.896 |
| Shapiro-Wilk p | < 0.001 |

Here p value for normality test is <0.001. indicates that null hypothesis is rejected at 1% level of significance. Hence Financial Self-Efficacy data is not normally distributed.

Hypothesis 1

Null hypothesis (H0): Respondents are not having high Financial Self-Efficacy.

Alternative hypothesis (H1): Respondents are having high Financial Self-Efficacy

Hypothesis 1

One Sample T-Test

One Sample T-Test

| | | statistic | df | p | Mean difference |
|---|---|---|---|---|---|
| Financial Self-Efficacy | Student's t | 11.0 | 50.0 | < .001 | 23.0 |

Note. $H_a$ population mean > 3

Test of Normality (Shapiro-Wilk)

| | W | p |
|---|---|---|
| Financial Self-Efficacy | 0.956 | 0.054 |

Note. A low p-value suggests a violation of the assumption of normality

Descriptive

| | N | Mean | Median | SD | SE |
|---|---|---|---|---|---|

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One Sample T-Test

| | | | statistic | df | p | Mean difference |
|---|---|---|---|---|---|---|
| Financial Self-Efficacy | 51 | 26.0 | 26.0 | 14.9 | 2.08 | |

Here p value for Shapiro- Wilk normality test is < 0.001 indicates data is not normally distributed. Hence, we use non-parametric Wilcoxon Rank Test. Also for Wilcoxon Rank Test, p value is < 0.001 hence we reject null hypothesis that population mean is significantly less than or equal to test value .Eventually, we may infer that 'Respondents are having significantly high Financial Self-Efficacy.

Hypothesis 2
Null hypothesis (H0): There is no significant correlation between risk taking ability and Financial Self-Efficacy of respondents.
Alternative hypothesis (H1): There is significant correlation between risk taking ability and Financial Self-Efficacy of respondents.
PEARSON'S TEST

Correlation Matrix

| | | Financial Self-Efficacy | Risk-taking ability |
|---|---|---|---|
| Financial Self-Efficacy | Pearson's r | — | |
| | p-value | — | |
| Risk-taking ability | Pearson's r | -0.151 | — |
| | p-value | 0.289 | — |

Note. * p < .05, ** p < .01, *** p < .001

Here P value is greater than 0.05 hence we reject the null hypothesis. Eventually, we may infer that there is significant correlation between risk taking ability and Financial Self-Efficacy of respondents.

Hypothesis 3
Null hypothesis (H0): There is no significant association between Highest educational level and Gender of respondents.
Alternative hypothesis (H1): There is significant association between Highest educational level and Gender of respondents.

Contingency Tables

| | Gender: | | |
|---|---|---|---|
| Highest educational level: | Female | Male | Total |
| Graduate | 13 | 20 | 33 |
| Less than Graduate | 0 | 1 | 1 |
| Post Graduate | 6 | 11 | 17 |
| Total | 19 | 32 | 51 |

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Contingency Tables

| Highest educational level: | Gender: Female | Male | Total |
|---|---|---|---|

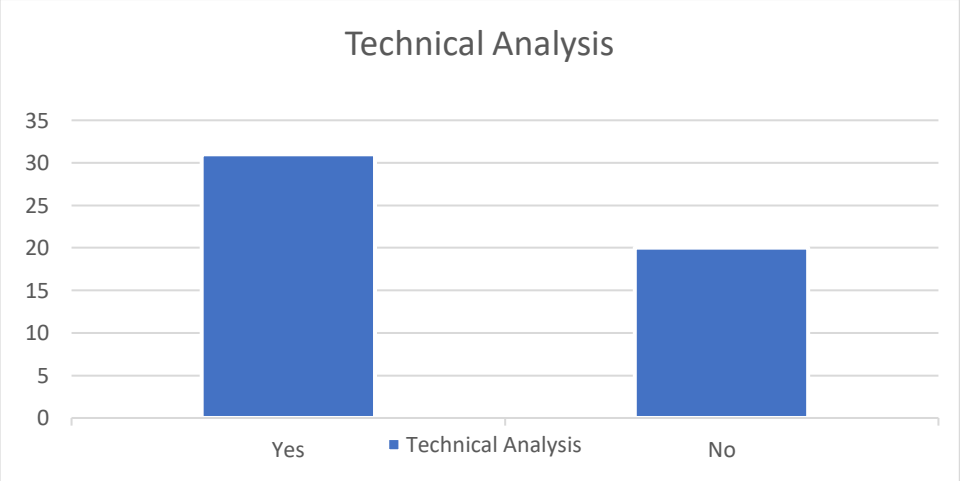
$\chi^2$ Tests

| | Value | df | p |
|---|---|---|---|
| $\chi^2$ | 0.686 | 2 | 0.710 |
| N | 51 | | |

Here P value is greater than 0.05 hence we reject the null hypothesis. Eventually, we may infer that there is significant association between Highest educational level and Gender of respondents.

From the data

| Particular | Yes | No |
|---|---|---|
| Technical Analysis | 31 | 20 |
| % | 60.78 | 39.22 |




| Particular | Technical Analysis |
|---|---|
| Always | 11 |
| Sometimes | 11 |
| Rarely | 9 |

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 2 (2024)
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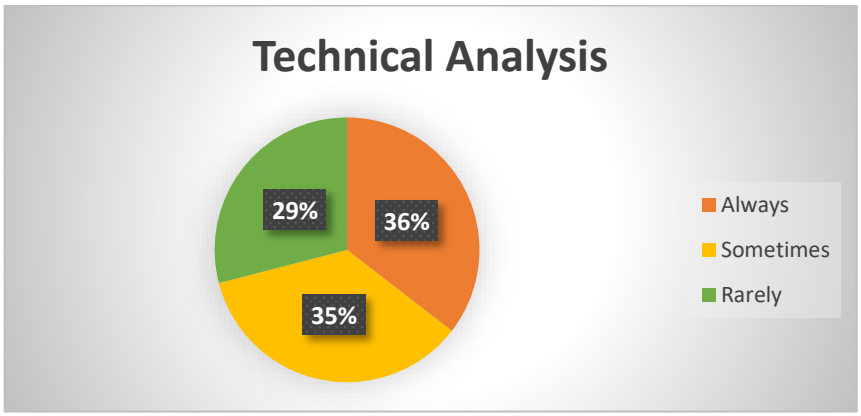


**Findings:**

Financial Self-Efficacy: The research findings suggest that respondents exhibit significantly high financial self-efficacy, with a mean score of 26.0 out of a possible 40. This indicates a strong belief in their ability to effectively analyze and interpret financial information. The one-sample t-test revealed a statistically significant difference between the sample mean and the hypothesized population mean, providing evidence to support the alternative hypothesis that respondents have high financial self-efficacy.

Correlation between Risk-Taking Ability and Financial Self-Efficacy: The Pearson's correlation coefficient between risk-taking ability and financial self-efficacy was found to be -0.151, with a p-value of 0.289. Although there is a negative correlation, it is not statistically significant at the 0.05 level. Hence, the null hypothesis, stating no significant correlation between risk-taking ability and financial self-efficacy, cannot be rejected.

Association between Highest Educational Level and Gender: The chi-square test for association between highest educational level and gender yielded a chi-square value of 0.686 with 2 degrees of freedom and a p-value of 0.710. Since the p-value is greater than 0.05, the null hypothesis of no significant association between highest educational level and gender cannot be rejected.

**Conclusion:**

Based on the findings of this research, it can be concluded that traders and investors in Mumbai demonstrate a strong belief in their financial self-efficacy, indicating confidence in their ability to make effective financial decisions. However, there is no significant correlation between risk-taking ability and financial self-efficacy among respondents. Additionally, there is no significant association between the highest educational level and gender of respondents.

These findings have implications for traders, investors, and financial educators in Mumbai. Traders and investors can leverage their high financial self-efficacy to enhance their decision-making processes and potentially improve their investment outcomes. However, it is important for them to recognize that risk-taking ability may not necessarily be correlated with financial self-efficacy. Furthermore, financial educators should consider the diverse educational backgrounds and gender representation among traders and investors in Mumbai when designing training programs and educational resources.

Overall, this research contributes to the understanding of traders' and investors' behavior in Mumbai's financial markets and provides insights that can inform strategies for improving financial literacy and competence among market participants.

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