INCREASING FINANCIAL LITERACY AMONG THE TEENAGERS THROUGH TECHNICAL ANALYSIS

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Abstract: This research paper aims to explore the effectiveness of using technical analysis to increase financial literacy among teenagers. Financial literacy is an essential skill that empowers individuals to make informed financial decisions, manage their finances, and achieve financial goals. However, financial illiteracy is a pervasive problem among teenagers, leading to negative consequences such as debt, poor credit scores, and a lack of financial security.

The paper begins with an overview of financial literacy and its importance in today's economy. Financial literacy is the ability to understand and apply financial knowledge to make informed financial decisions. With the increasing complexity of financial products and services, individuals need to possess a basic understanding of financial concepts such as budgeting, saving, investing, and managing debt.

The paper then delves into technical analysis and its relevance to financial decision-making. Technical analysis is a method of evaluating securities by analysing statistical trends and market activity, such as price movements and trading volume. Technical analysis can provide valuable insights into the behaviour of financial markets and help investors make informed investment decisions.

The study presents the results of a survey conducted among a group of teenagers to measure their financial literacy levels and their knowledge of technical analysis. The survey revealed that a majority of teenagers lack basic financial literacy skills, such as budgeting, saving, and investing. Furthermore, most of the teenagers had little or no knowledge of technical analysis and its application in financial decision-making.

The paper then discusses the implications of the study's findings and recommends strategies for increasing financial literacy among teenagers through the use of technical analysis. The recommendations include incorporating technical analysis into financial education programs, providing access to online resources, and encouraging teenagers to engage in virtual trading activities to practice their investment skills.

In conclusion, this research paper highlights the importance of financial literacy among teenagers and the potential of technical analysis as a tool for increasing financial literacy. The findings underscore the need for comprehensive financial education programs that incorporate technical analysis to equip teenagers with the knowledge and skills necessary to make informed financial decisions and achieve financial security.

I. INTRODUCTION

Financial literacy has become a crucial life skill in today's economy. The ability to understand and manage personal finances is essential for individuals to achieve financial security, make informed financial decisions, and create wealth. However, studies have shown that a majority of teenagers lack basic financial literacy skills and are unprepared to face financial challenges. Financial illiteracy can lead to negative consequences such as debt, poor credit scores, and a lack of financial security. To combat this problem, there is a need for comprehensive financial education programs that equip teenagers with the knowledge and skills necessary to make informed financial decisions. One potential strategy for increasing financial literacy among teenagers is the use of technical analysis. Technical analysis is a method of evaluating securities by analyzing statistical trends and market activity, such as price movements and trading volume. Technical analysis can provide valuable insights into the behaviour of financial markets and help investors make informed investment decisions. The purpose of this research paper is to explore the effectiveness of using technical analysis to increase financial literacy among teenagers. The paper will begin by providing an overview of financial literacy and its importance in today's economy. It will then delve into technical analysis and its relevance to financial decision-making. The paper will present the results of a survey conducted among a group of teenagers to measure their financial literacy levels and their knowledge of technical analysis. The survey aims to identify the gaps in financial literacy among teenagers and assess the potential of technical analysis as a tool for increasing financial literacy. The paper will then discuss the implications of the study's findings and provide recommendations for increasing financial literacy among teenagers through the use of technical analysis. The recommendations will include strategies such as incorporating technical analysis into financial education programs, providing access to online resources, and encouraging teenagers to engage in virtual trading activities to practice their investment skills. In conclusion, this research paper aims to highlight the importance of financial literacy among teenagers and explore the potential of technical analysis as a tool for increasing financial literacy. The findings of this study will provide valuable insights into the effectiveness of using technical analysis to increase financial literacy among teenagers and inform the development of comprehensive financial education programs for the younger generation

II. LITERATURE REVIEW

Financial literacy is a crucial life skill that enables individuals to manage their finances, make informed financial decisions, and achieve financial security. However, studies have shown that financial literacy levels among teenagers are low, indicating the need for comprehensive financial education programs to equip them with the necessary skills and knowledge. One potential strategy for increasing financial literacy among teenagers is the use of technical analysis. Technical analysis is a method of evaluating securities by analyzing statistical trends and market activity, such as price movements and trading volume. Technical analysis can provide valuable insights into the behavior of financial markets and help investors make informed investment decisions. This literature review aims to provide an overview of previous studies related to financial literacy among teenagers and the effectiveness of technical analysis in increasing financial literacy. Financial Literacy Among Teenagers: Several studies have shown that financial literacy levels among teenagers are low. A study by the Organisation for Economic Co-operation and Development (OECD) found that one in five teenagers lack basic financial literacy skills, such as budgeting and saving. The study also revealed that teenagers have limited knowledge of financial products and services, such as credit cards and loans. Another study by the National Endowment for Financial Education (NEFE) found that only 17% of teenagers feel confident in managing their finances, and 62% have little or no knowledge of investing. Effectiveness of Technical Analysis: Several studies have explored the effectiveness of technical analysis in increasing financial literacy among different age groups. A study by Park and Bae (2017) found that technical analysis can improve financial literacy and investment decision-making among undergraduate students. The study used a simulated investment game to teach technical analysis, and the results showed that students who received technical analysis training performed better in the game and had higher financial literacy levels. Another study by Gatzert et al. (2016) examined the impact of technical analysis training on the investment behaviour of retail investors. The study found that investors who received technical analysis training were more likely to engage in active investment strategies and had a higher level of financial literacy. Furthermore, a study by Klemkosky and Tuttle (2009) found that technical analysis can improve the financial literacy of high school students. The study used a web-based technical analysis program and found that students who

received technical analysis training had a better understanding of investment concepts and strategies. Conclusion: In conclusion, financial literacy is a crucial life skill that is essential for individuals to achieve financial security and make informed financial decisions. However, financial literacy levels among teenagers are low, indicating the need for comprehensive financial education programs. One potential strategy for increasing financial literacy among teenagers is the use of technical analysis. Previous studies have shown that technical analysis can improve financial literacy and investment decision-making among different age groups, including high school students. The findings of these studies support the potential of technical analysis as a tool for increasing financial literacy among teenagers

III. RESEARCH METHODOLOGY

1.) **Type of Research tool**: The type of research tool used is a questionnaire. A questionnaire is a research tool used to gather data through a set of standardized questions that are typically administered to a sample of individuals. Questionnaires can be used in a variety of research settings, including academic, market research, and social research. Here are some key features and considerations of using a questionnaire research tool:

Standardization: Questionnaires are designed to be administered in a consistent and standardized way to all participants. This helps ensure that all participants are answering the same questions in the same way, making it easier to compare and analyse the data.

Sampling: Questionnaires can be used to gather data from a sample of individuals rather than the entire population. The sample should be representative of the population to ensure that the results are generalizable.

Types of questions: Questionnaires can include different types of questions, such as closed-ended (e.g., yes/no, multiple choice) or open-ended (e.g., essay, short answer) questions. Closed-ended questions are often easier to analyse, while open-ended questions can provide more detailed and nuanced responses.

Length: The length of the questionnaire should be appropriate for the research question and the sample size. It is important to keep in mind that longer questionnaires may result in lower response rates and higher rates of missing data.

2.) **Sample Size** - A sample size of 100 members was taken as it is a moderate-sized sample for a questionnaire research study, and is generally considered to be sufficient to provide reliable and valid data, particularly if the sample is representative of the population being studied. The size may provide more precise estimates and increase the statistical power of the analysis, but it may be time-consuming to collect and analyse the data. A sample size of 100 may be appropriate for us as we have limited resources.

3) **Research Techniques** – The Research Technique used was Survey Research. The purpose of conducting **survey research** is to gather answers from a certain number of people who are part of a specific population by asking them questions on a certain topic. The researchers get to decide how many people, what population, and what topic to study. Survey research is a quantitative method of research that involves the use of questionnaires/surveys to evaluate a population's opinions or perceptions.

IV. Results

Our research topic is increasing financial literacy amount teenagers using technical analysis. Our research paper talks about how the literacy about financial market can be increased among teenagers so that they can became self-independent or develop a passive source of income.

The result which we got from our research and the responses are as follows:

Table 1 and Graph 1- Classification of Gender

| Gender	Frequency	Percentage
Male	81	81%
Female	19	19%
Others	0	-
Total	100	100%

Gender
100 responses
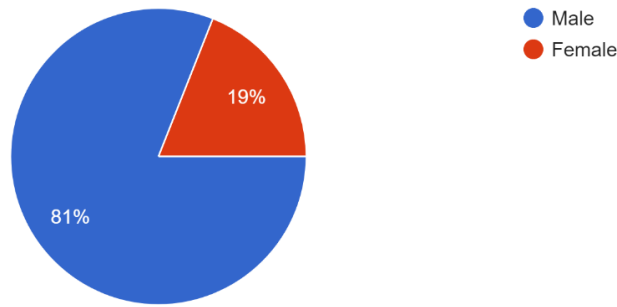
The above table and graph show that most of the respondents of the survey is male population that is 81% and the remaining 19% is female.

Table 2 and Graph 2 – Classification of Age

| Age	Frequency	Percentage
18-22	63	63%
23-25	19	19%
25-35	10	10%
35 and above	8	8%
Total	100	100%

Age
100 responses
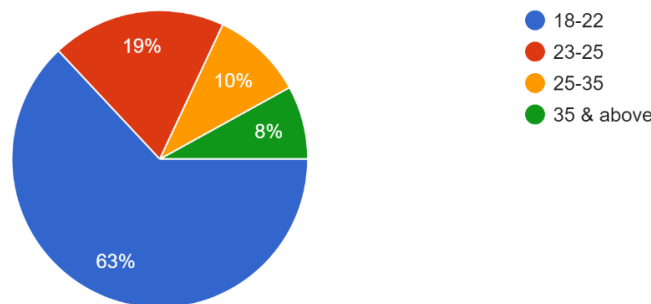
The above table and graph show that the most individual whose response was recorded was of age group 18-22 that is 63% what is the age group in which we are focusing in our research paper. The other age group that is 23-25 is 19%, 25-35 is 10% and 35 & above is 8%.

Table 3 and Graph 3 – Classification of Occupation

| Occupation	Frequency	Percentage
Student	66	66%
Salaried	22	22%
Business and Profession	9	9%
Others	83	3%
Total	100	100%

Occupation
100 responses
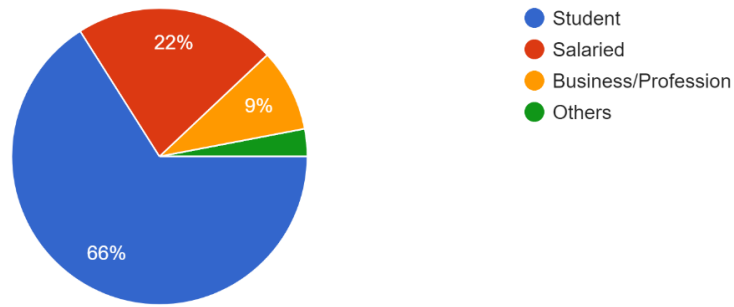
The above table and graph show that major portion of response is from Students and Salaried individuals because they are the one who is wanted to invest their savings in stock market or any other financial market.

Table 4 and Graph 4 – Classification of respondents based on the market they have invested

| Markets	Frequency	Percentage
Stocks	73	50%
Bonds	18	12.32%
Mutual Funds	33	22.60%
Other Financial Markets	11	7.53%
None	11	7.53%
Total	100	100%
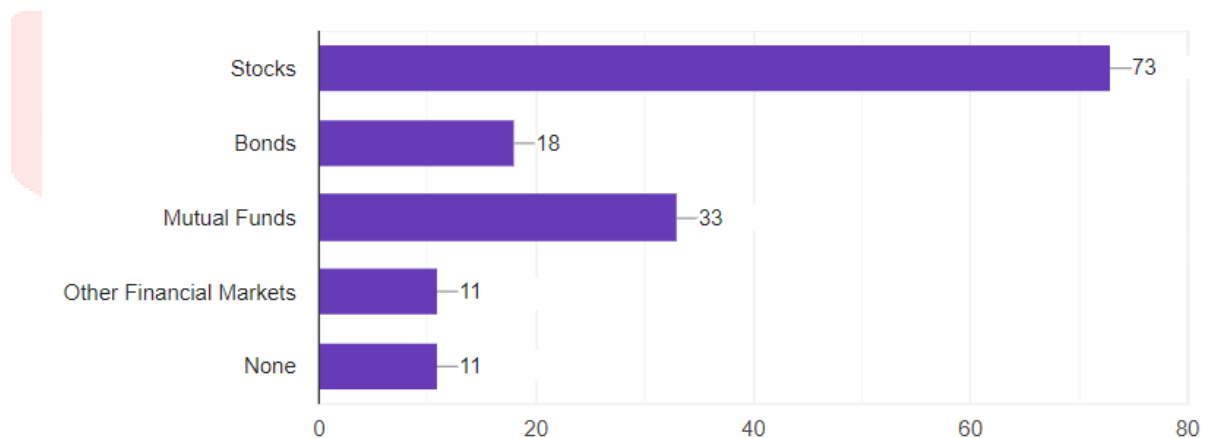
The above table and graph show that most respondents prefer to invest in stock market that is 73 because with high risk it gives high returns. The Mutual Funds is also liked by 33 as it is one of the safest methods to invest in many stocks and little bit less risky. The number of individuals invested in Bonds is 18, Other Financial Markets is 11.

Table 5 and Graph 5 – Classification of respondent's whether they have used technical analysis for investment

Response	Frequency	Percentage
Yes	66	66%
No	34	34%
Total	100	100%

Do you use technical analysis for investment?
100 responses
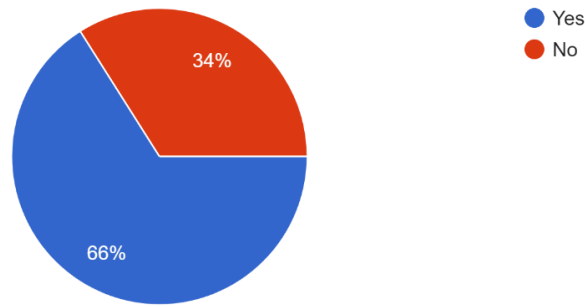
The above table and graph show that 66% of respondents have used technical analysis for their investment in any of the Financial Markets. Other 34% have not used the technical analysis because they should not be knowing about it.

Table 6 and Graph 6 - Classification of respondent's whether they know about Security analysis

| Response	Frequency	Percentage
Yes	57	57%
No	43	43%
Total	100	100%

Do you know about Security analysis?
100 responses
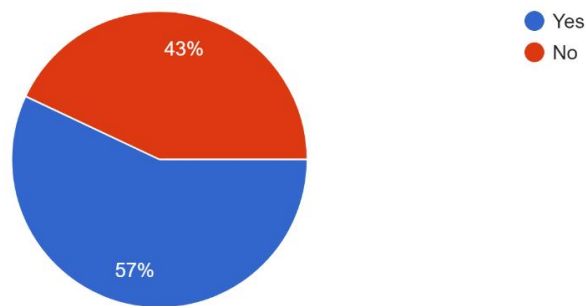
The above table and graph show that 57% of respondents know Security analysis which help in overall performance of portfolio. Other 43% does not know Security analysis.

Table 7 and Graph 7 - Classification of respondent's what they see before investing

Options	Frequency	Percentage
Economy	39	26.35%
Industry	37	25%
Company	53	35.81%
None	19	12.83%
Total	100	100%
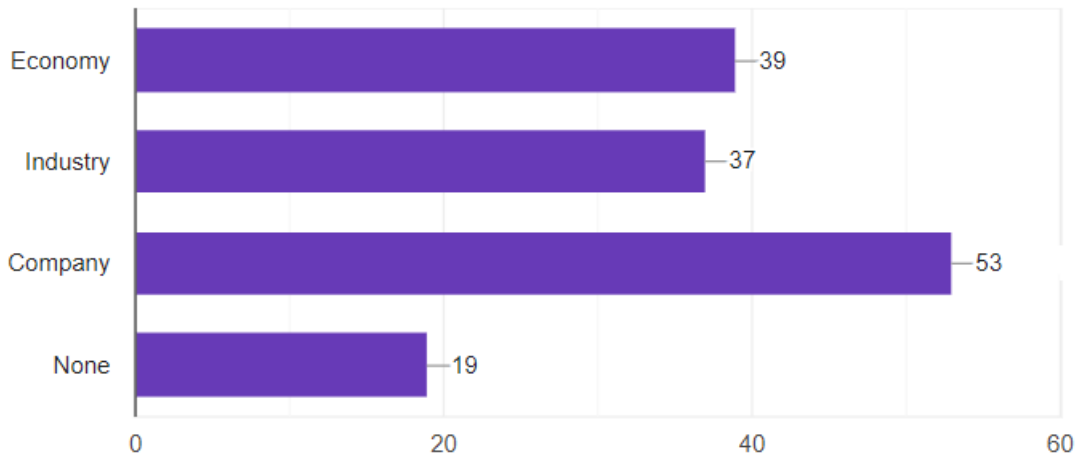
The above table and graph show that 39 individual sees economy of the country before investment, 37 individual sees industry or sector in before investing and 53 individuals sees the company in which they are investing. There are 19 individual who does not see anything before investing.

Table 8 and Graph 8 - Classification of respondent's whether they have heard about any Technical Indicators

| Technical Indicators	Frequency	Percentage
Simple Moving Average	47	31.51%
Relative Strength Index	28	18.79%
Exponential Moving Average	29	19.46 %
On Balance Volume	9	6.04%
None	36	24.16%
Total	100	100%
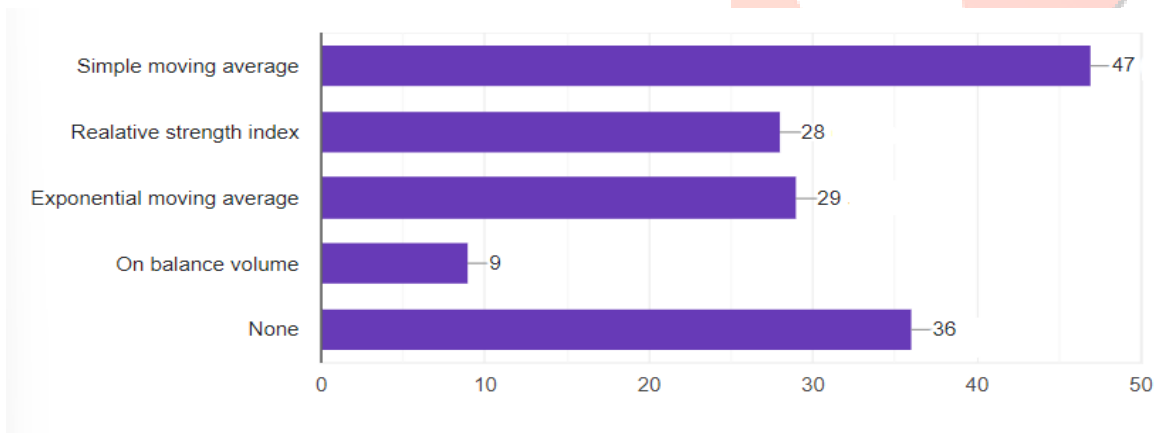
The above table and graph shoes that: -

- 31.51% respondents heard about Simple moving average
- 18.79% respondents heard about Relative Strength Index
- 19.46% respondents heard about Exponential Moving Average
- 6.04% respondents heard about on balance Volume
- 24.16% respondents have not heard about none of the above

Table 9 and Graph 9 - Classification of respondent's which is the most important tool for technical analysis

| Technical Analysis Tool	Frequency	Percentage
Indicators	28	28 %
Charts	34	34%
Trend Lines	16	16%
None	22	22%
Total	100	100%

If you invest, which is most important tool for technical analysis?
100 responses
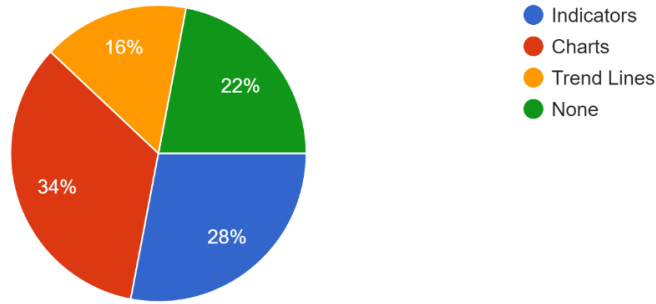
The above table show that most of the respondents think that Indicators and Charts is the important tool for technical analysis that is 28% and 34% respectively. The trend line is 16% as the usage for technical analysis.

Table 10 and Graph 10 - Classification of respondent's amount of money they have invested in Financial Market

Amount	Frequency	Percentage
0-50000	62	62 %
50000-100000	22	22%
100000-500000	10	10%
Above 500000	6	6%
Total	100	100%

How much have you invested in Financial Market?
100 responses
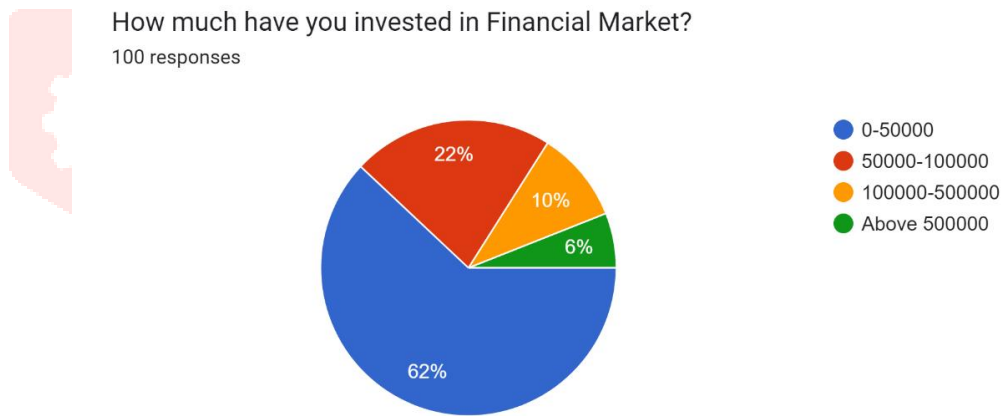
The above table and graph show that most of the teenagers that is age group of 18-23 have invested 0-Rs.50000 rupees in the financial markets that is 62% have invested. There is 22% who have invested in Rs.50000- Rs.100000, 10% who have invested in Rs.100000- Rs.500000 and 6% above Rs.500000.

Table 11 and Graph 11 - Classification of respondent's amount they have earned from Financial Market

Amount	Frequency	Percentage
Loss (Below 0)	22	22 %
0-25000	50	50%
25000-50000	12	12%
Above 50000	16	16%
Total	100	100%

How much have you earned in Financial Market?
100 responses
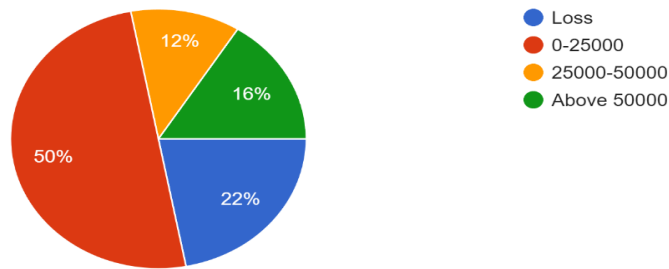
The above table and graph show that most of the respondent who does not know about technical analysis have faced the losses which is 22%. Most of the respondents have earned money ranging from 0- Rs.25000 which is 50%. The 12% of respondents have earned ranging between Rs.25000- Rs.50000 and 16% of respondents have earned above Rs.50000.

The overall result of the research is that those who have invested in any of the financial market whether it is a stock market or money market. Those of them who have used the proper fundamental and technical analysis for investment have got their results which means they have made profit in the market. Our date resembles that those who do not know the technical analysis or security analysis have mostly lost their money in the financial markets because the percentage of loss and very less profit is more.

IV. DISCUSSIONS

Among Indian investors, technical analysis is a common investment method. In order to forecast future price changes and make investment decisions accordingly, it entails studying historical market data, such as price and volume trends.

The Moving Average Convergence Divergence (MACD) indicator is one of the most used technical analysis tools by Indian investors. By contrasting two moving averages of the price of a security, it is used to spot patterns and changes in momentum.

The Relative Strength Index (RSI), which compares the average gains and losses over a given time period, is another frequently used metric that assesses the strength of a security's price action.

Other well-known technical indicators include Fibonacci retracements, which employ mathematical ratios to forecast probable support and resistance levels, and Bollinger Bands, which assess volatility by plotting two standard deviations away from a moving average.

Indian investors employ chart patterns like head and shoulders, triangles, and flags in addition to technical indicators to spot probable buy and sell signals.

In general, technical analysis is a well-liked investment method in India, and many investors use a combination of technical indicators and chart patterns to make wise investment choices.

With the data collected we can clearly say that the methods of investment are changing day by day and the involvement of more accurate and more analytical based methods are being used to get to the right project, stock or financial asset to investment and earn highest returns possible. There have been an evaluation in investments and it seems to show that the people are interested in learning these new methods so there should be more awareness spread and it should enter the education industry under financial literacy.

Managerial implication

Investing in the **stock market** requires caution and a fair bit of knowledge such that investors continue to incur profits rather than losses. Stock chart technical analysis, therefore, plays an important role as it helps investors and traders alike in making informed decisions.

Investors are encouraged to complete a full-scale technical analysis of stock charts as it allows future price movements of said stocks to be predicted keeping in mind their previous price movements.

This technical analysis helps aid buy, hold, and sell decisions. While it might not always give rise to accurate results, it allows investors and traders alike to expect certain actions in the future.

Conclusion

The data was collected using the questionnaire from 100 people. The data analysis and interpretation were 81% are man and the remaining 19% is female out of which age group of 18-22 that is 63% 23-25 is 19%, 25-35 is 10% and 35 & above is 8%. Coming to the occupation Student 66% Salaried 22% Business and Profession 9% Others 3% and half of the population has invested in stock and rest in Bonds, Mutual Funds, Other Financial Markets and 66% of people use technical analysis for investment and majority people favourite Technical Analysis Tool is Charts and Indicators. But 44 % of people does not know about Security analysis, most of the people see company performance before current situation of economy and industry. As you can see majority of the people in survey are between 18 to 25 because of that amount invested by them is not much it's just between 50000 to 100000.

Limitations

Technical analysis can be a useful tool for traders and investors, it is important to understand its limitations. Here are some of the main limitations of using technical analysis in the stock market:

- Limited Scope: Technical analysis focuses primarily on price and volume data, ignoring other significant variables like corporate profitability, current affairs, and economic indicators that can have an impact on stock prices.
- Subjective: Technical analysis relies heavily on interpretation and arbitrary judgments, and various analysts may give different interpretations to the same data.
- Historical data: Technical analysis relies on past price and volume data, thus it might not be able to predict how prices will change in the future.
- Limited Applicability: Technical analysis may not be effective in some market circumstances, such as times of excessive volatility or when the market has a lack of liquidity.

Overall, technical analysis can be an effective tool for studying the stock market, but it must be used in conjunction with other methods and with an understanding of its limitations.

Future Scope

The future scope of technical analysis in the stock market is largely dependent on advancements in technology and the increasing availability of data. Here are some potential future developments:

- Increasing use of AI and Machine learning: Technical analysts may employ artificial intelligence and machine learning algorithms more frequently as data becomes more readily available in order to recognise patterns and trends in the market.
- Integration with Fundamental Analysis: Fundamental analysis, which examines a company's financial statements and other information to estimate its value, can be combined with technical analysis.
- Expansion to other classes: Commodities, currencies, and cryptocurrency are some examples of other classes into which technical analysis may be expanded.
- More emphasis on quantitative analysis: Technical analysis can move towards quantification as analysts use statistical models to identify market patterns and trends.

Overall, as technology and data availability improve, it is expected that the future use of technical analysis in the stock market will continue to evolve and grow.

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