

AWARENESS OF PORTFOLIO MANAGEMENT CONCEPTS AND INVESTING PATTERNS IN THE INDIAN STOCK MARKET

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Abstract

Investment is the act of giving up something now with the hope of getting something more in the future. Depending on whether it is a long-term or short-term investment and whether it is a hazardous or risk-free venture, investment tries to multiply money at higher or lower rates. The market offers a variety of investment options, including stocks, bonds, bank deposits, mutual funds, national savings certificates, life insurance, and more. Depending on their needs, preferred level of risk, and anticipated return, individuals must select the appropriate investing strategy. People's decisions about their investments are influenced by a variety of circumstances. The various investors pursue a variety of investing possibilities.

There are many different option trading methods available on the stock market that can give traders the proper signals (entry and exit prices) at the right moments. Economic, social, political, and psychological issues all influence how option prices change. Thus, among the variables affecting finance are human aspirations, objectives, motivations, mistakes, and overconfidence. The basic analysis, technical analysis, and time series forecasting techniques can all be used to predict or estimate option values.

When two investors are presented with the same price information, they will respond differently and place a different value on it. A unique perspective on the intensity and direction of the price action of the strike price is offered by technical indicators. Three primary purposes of indicators are alerting, confirming, and predicting. Today, thousands of indicators are in use. Regression analysis is useful since it enables you to essentially crunch the data to aid in present and future corporate decision-making. The purpose of this study is to know about the investment decisions and risk tolerance of the investors. This study will help in creation of an automatic system for better decision making in identifying the stock buy and sell positions.

Keywords- Investment decisions, Technical Indicator, Machine Learning, LSTM Model

I. Introduction

In modern economies, finance plays an important role. The current state of financial markets has made investment activity both an art and a science. Investors always look for the best return with the lowest risk. To make a profit from stock market shares, investors use technical and/or fundamental analysis to predict their potential future value. Changes in the returns of securities can be caused by a variety of technical indicators, both within and outside the business units. All stakeholders in the capital market were therefore interested in studying these technical indicators and how they affected security returns. Time must be taken into consideration when making investment decisions. Time in the market is more important than timing the market. Prices of shares fluctuate with time. For an investment activity to succeed, investors must be aware of the right investment type, amount, and timing of their investments. People at large are seduced by attractive technical calls due to the promise of earning extraordinary returns.

Stock price prediction is a heated topic in prediction study of financial area. The stock market is essentially a non-linear, nonparametric system that is extremely hard to model with any reasonable accuracy. Investors have been trying to find a way to predict stock prices and to find the right stocks and right timing to buy or sell. Most of the techniques used in technical analysis are highly subjective in nature and have been shown not to be statistically valid.

Recently, data mining techniques and artificial intelligence techniques like decision trees, rough set approach, and artificial neural networks have been applied to this area.

This research work presents the use of machine learning as a forecasting tool for predicting the stock market price. The future stock returns have some predictive relationships with the publicly available

information of present and historical stock market indices. LSTM is a statistical model which is known to be efficient for time series forecasting especially for short-term prediction. In this paper, we propose a model for forecasting the stock market trends based on the technical analysis using historical stock market data and LSTM model. This model will automate the process of direction of future stock price indices and helps with financial specialists to choose the better timing for purchasing and/or selling of stocks. The results are shown in terms of visualizations using python programming language. The obtained results reveal that the LSTM model has a strong potential for short-term prediction of stock market trends.

Literature Review :

1. Bapat, S. (2018). Digitalization in Marketing. Email has a significant benefit over social media in that it is more likely to be seen by prospects and customers. Just sharing a little something does not guarantee that your message will be seen by everyone you want to reach.13
2. Kandalgaonkar, S. R., & Harchekar, J. (2018). Impact of Technology on Retail Grocery Business of Pune. 14
3. Beharay, A., & Joshi, S. (2023). ANALYSING THE INFLUENCE OF SOCIAL AND FAMILY FACTORS ON WOMEN'S ENTREPRENEURIAL SUCCESS. In conclusion, despite the fact that we discuss, argue, and create regulations pertaining to gender equality, it is evident from the discussion above that women experience more issues in their social and family lives than do males.15
4. Shedge, M., & Joshi, S. (2023). Financial Wellbeing of Individuals in India. 16.
5. Ghatpande, K. A. Innovative Teaching Strategies in Mathematics and Statistics. The advantages of oral presentations in mathematics and statistics provide a variety of concepts because of the linguistic diversity inside our country. Many more ideas and a wider variety of pupils17

II. Objective

- To develop Machine Learning through auto regression model for investment decision in stocks.

III. Research Methodology

A research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

This research method was chosen because quantitative research allows the researcher to examine relationships and differences among the variables. In order to carry out research effectively data is collected from primary as well as from secondary sources.

Quota sampling has been followed for primary data collection as independent quota enables to draw inferences about specific subgroups that may be lost in a more generalized random sample. Primary data has been collected through structured questionnaires. In order to carry out data collection exercise more meticulously, a questionnaire was pre-tested with hundreds of respondents. As the collection of primary data has geographical limitation, to collect the response from the respondents whom researcher may not be able to meet personally due to time and cost constraints, questionnaires were sent by email and information was collected.

Secondary sources were used in the research design to accomplish the research's goal. Simple Moving Average (SMA), Exponential Moving Average (EMA). Because technical analysis is difficult, many investors and traders do not rely on it. The goal of this research is to make it easier for investors and traders to grasp these tools.

- Time period of the study: To cover only 5 years from 1st January 2014 to 30th December 2021 in technical analysis.
- Selection of the sample: Samples were selected from the questioner filled by the investor.

IV. Data Analysis & Interpretation

This segment shall discuss the five important parameters that were incorporated in the questionnaire while data collection and their possible relevance on awareness level and investment pattern. The research gets the list of stocks which are invested by the respondents and these stocks are passed in a

machine learning programme for find out the future flow of the particular stock whether it will go down or up.

• **Gender:**

Particulars		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	32	80	80	80
	Female	8	20	20	100
	Total	40	100	100	

Table No. 4.1 Gender

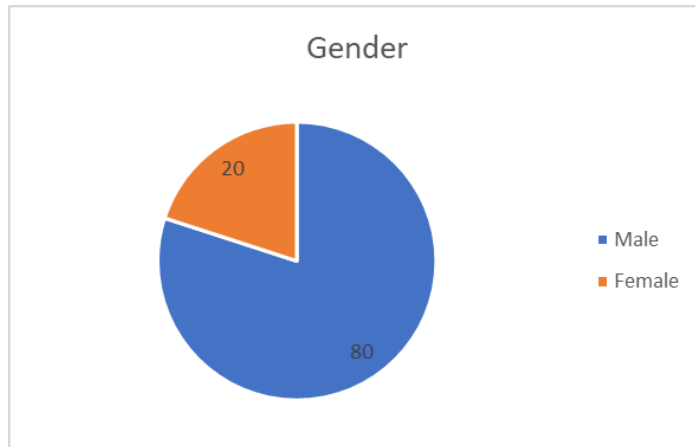


Chart No. 4.1 Gender

• **Age:**

Table No. 4.2 Age

Particulars		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 20	4	10	10	10
	21-30	20	50	50	60
	31-40	16	40	40	100
	Total	40	100	100	

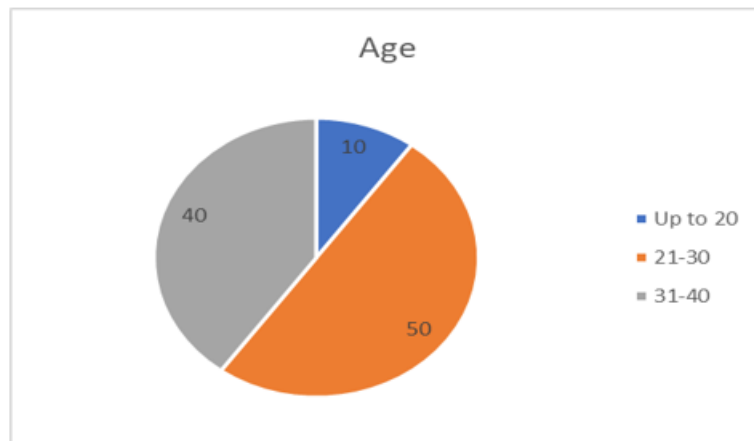


Chart No. 4.2 Age

• **How Long You Have Been Doing Trading**

Table No. 4.3 How Long Doing Trading

Particulars		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-1 Years	18	45	45	45
	2-3 Years	12	30	30	75
	3-4 Years	10	25	25	100

Total	40	100	100	
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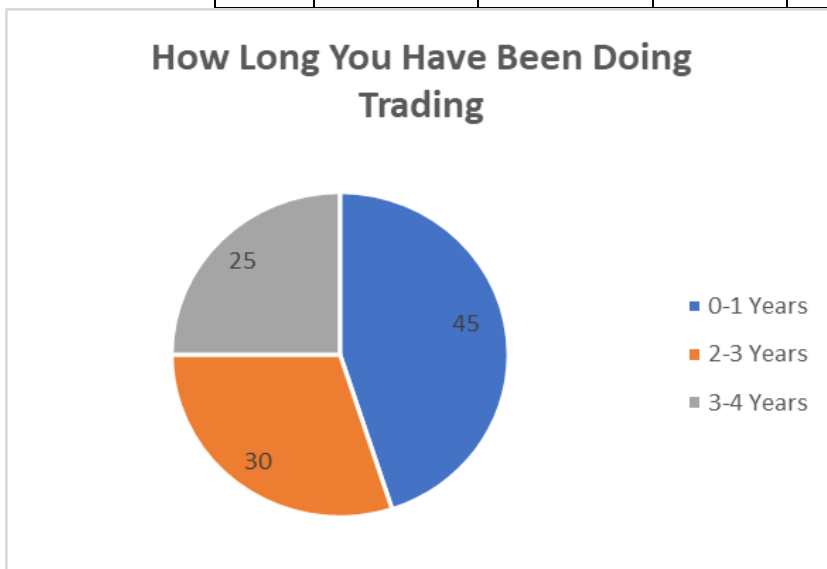


Chart No. 4.3 How Long Doing Trading

- **Did you get formal training of analyzing the stocks?**

Table No. 4.4 Formal Training for Analyze Stocks

Particulars		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	42.5	42.5	42.5
	No	23	57.5	57.5	100
	Total	40	100	100	

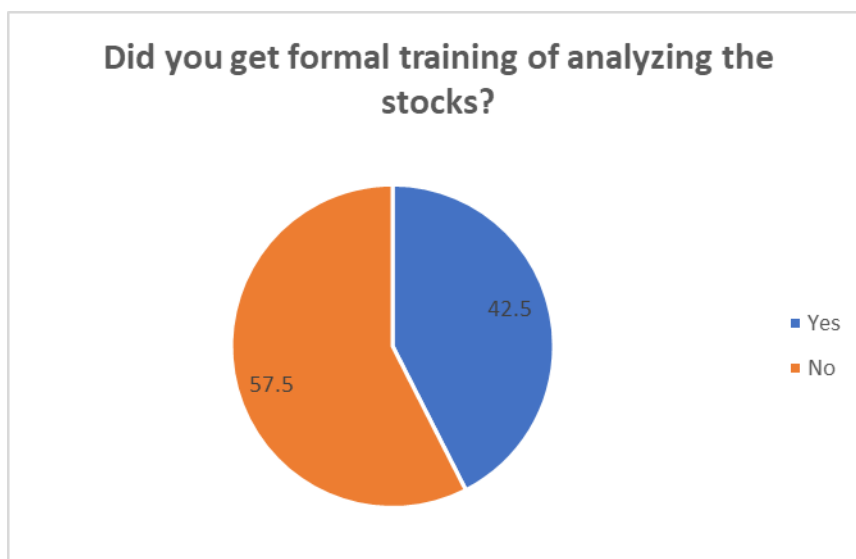


Chart No. 4.4 Formal Training for Analyze Stocks

- **What type of knowledge you apply for trading**

Table No. 4.4 Type of Knowledge

Particulars		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fundamental Indicators	9	22.5	22.5	22.5
	Technical Indicator	3	7.5	7.5	30
	Sentimental Analysis	9	22.5	22.5	52.5
	As per broker opinion	19	47.5	47.5	100
	Total	40	100	100	

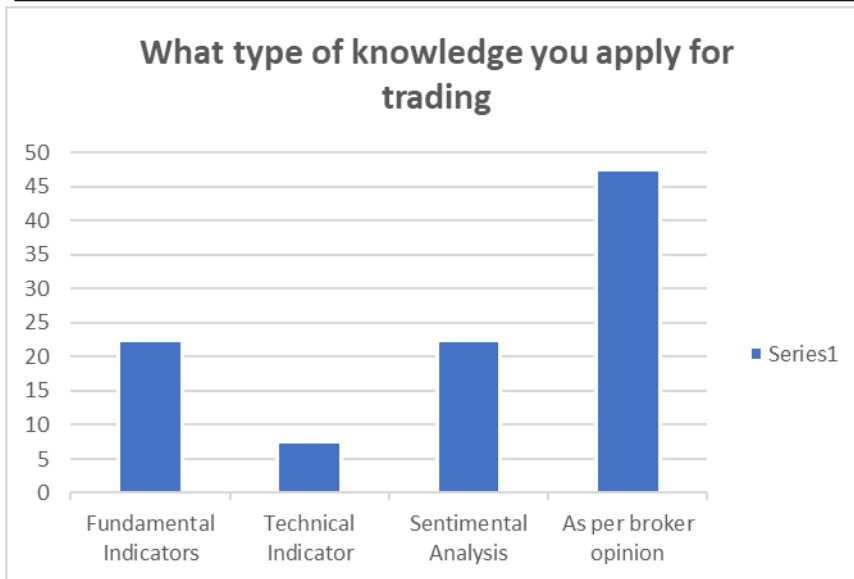


Chart No. 4.4 Type of Knowledge

V. Results

For this research paper researcher used a Linear Regression model as its primary benchmark. As one of my goals is to understand the relative performance and implementation differences of machine learning versus deep learning models. This Linear Regressor was based on the examples presented in Udacity's Machine Learning for Trading course and was used for error rate comparison MSE and RMSE utilizing the same dataset as the deep learning models. Following is the predicted results got from benchmark model which is show bellow.

VI. Conclusion

Despite the fact that this research paper is forecasts closing prices with a relatively low Mean Squared Error, there are still a lot of issues with it. The two most crucial aspects are: This research paper does not offer any user interaction or interface. The value for upcoming dates can be checked by the user through a user interface (UI). And Only State Bank of India [SBIN] stock was utilised for this study; however, we might add more S&P 500 firms to the list to make it more complete.

Thus, these LSTM model when efficiently used helps in making exact technical analysis which in turn helps in identifying the right time to enter and get exited from the market. Since these model uses its own past performance to predict the future movement, they become more reliable and effective in decision making of call and put option related to buying Indian stocks.

VII. Acknowledgements

The researchers are grateful to the authors, writers, and editors of the books and articles, which have been referred for preparing the presented research paper. It is the duty of researcher to remember their parents whose blessings are always with them.

VIII. References

- [1] Sudheer, V., Trading Through Technical Analysis: An Empirical Study from Indian Stock Market, International Journal of Development Research, Vol. 5, Issue, 08, pp. 5410-5416, August, 201, 5410-5416
- [2] Ms. Vinutha, STUDY ON TECHNICAL ANALYSIS OF SELECTED STOCKS OF NSE FIFTY, Pattern Effects Labs Private Limited" from January 15th, 2018, to March 24th, 2018, Page No – 1-67
- [3] Valarmathi A, Kowsalya P, A STUDY ON THE TECHNICAL ANALYSIS OF NSE TOWARDS IT STOCKS WITH REFERENCE TO INDIAN STOCK MARKET, International Journal of Advances in Management and Economics, ISSN: 2278-3369, July-August 2016, Vol.5, Issue 4, Page No. - 22-29
- [4] Sharmila Vaiz, M. Ramaswami, FORECASTING STOCK TREND USING TECHNICAL INDICATORS WITH R, International Journal of Computational Intelligence and Informatics, Vol. 6: No. 3, December 2016, Page No – 206-219
- [5] Vivek R Ayre, forecasting future trend from technical analysis- a study of Indian stock market investment decision making using technical analysis: a study on selects stocks in Indian stock market, Jairam share consultants pvt. ltd, Bardoli, 2018, Page No – 1- 60
- [6] MeharVijha, DeekshaChandolab, Vinay AnandTikkiwalb, Arun Kumar, International Conference on Computational Intelligence and Data Science (ICCIDS 2019), Stock Closing Price Prediction using Machine Learning Techniques, ScienceDirect, Procedia Computer Science 167 (2020) 599–606
- [7] KadidaRamadhaniShagillaMashaushi, An Analysis of Technical Trading Strategies, The University of Leeds Leeds University Business School, September 2006, 2-213.
- [8] Sachin Kamath San Jose State University, Stock Market Analysis, (2012). Master's Projects. 326,
- [9] Mehta Vani Joghee1, Poojasree T, Poovena S, Showmiya S, A Study On Technical Analysis Of Selected FMCG Scripts With Reference To Annamalai Capital Services (P) Ltd., Coimbatore City, Turkish Journal of Computer and Mathematics Education Vol.12 No. 11 (2021), 128- 137
- [10] 1Aman Bhatia, Technical Analysis And Its Use In The Stock Markets, International Journal of Creative Research Thoughts (IJCRT), 2021 IJCRT | Volume 9, Issue 2 February 2021, 4277-4294
- [11] Dr. Arvind S. Luhar, Dr. Shama A. Shah, Ms. Navsin Mistry, A STUDY ON TECHNICAL ANALYSIS OF S&P CNX NIFTY INDEX COMPANIES, Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(7). ISSN 1567-214x, 2622-2638.
- [12] Bapat, S. (2018). Digitalization in Marketing.
- [13] Kandalgaonkar, S. R., & Harchekar, J. (2018). Impact of Technology on Retail Grocery Business of Pune.
- [14] Beharay, A., & Joshi, S. (2023). ANALYSING THE INFLUENCE OF SOCIAL AND FAMILY FACTORS ON WOMEN'S ENTREPRENEURIAL SUCCESS.
- [15] Shedge, M., & Joshi, S. (2023). Financial Wellbeing of Individuals in India.
- [16] Ghatpande, K. A. Innovative Teaching Strategies in Mathematics and Statistics.