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I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

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RESULTS & DISCUSSION
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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

STUDY OF INDICATORS AND OSCILLATORS FOR STOCK LISTED ON NSE

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ABSTRACT
The task of mobilization and allocation of savings could be attempted in the old days by a much less specialized institution than the stock exchanges. But as business and industry expanded and the economy assumed more complex nature, the need for 'permanent finance' arose. Entrepreneurs needed money for long term whereas investors demanded liquidity – the facility to convert their investment into cash at any given time. The answer was a ready market for investments and this was how the stock exchange came into being. Stock exchanges are intricacy inter-woven in the fabric of a nation's economic life. Without a stock exchange, the saving of the community- the sinews of economic progress and productive efficiency- would remain underutilized.

KEYWORDS
indicators, oscillators, stock market, technical analysis.

INTRODUCTION
Technical analysis is analysis of securities to forecast the direction of pricing by studying past data of the securities such as the price and volume. Technical analysis is based solely on the data generated by the market and by the actions of people in the market.

Now what one needs to know is that the Technical Analysis Indicators are the basis for technical analysis, they are used to determine the future trends of stocks. Technical Analysis Indicators help the investor to know when to enter or exit a trade, in order to make profit. Technical Analysis Indicators look at price information and translates it into simple, easy-to-read signals. These signals help the investor determine the correct time to buy or sell.

Technical analysis indicator provides clues to the investor, helping them to interpret the market patterns and the future behavior of the price. Thus combinations of price, volume and time sensitive Technical Analysis Indicators are used to maximize profits.

The two main ways that indicators are used to form buy and sell signals are through Crossovers and Divergence.

Crossovers occur when the indicator moves through an important level or a moving average of the indicator. It signals that the trend in the indicator is shifting and that this trend shift will lead to a certain movement in the price of the underlying security.

For example, if the relative strength index crosses below the 70-level it signals that security is moving away from an overbought situation, which only will occur when the security declines.

The second way indicators are used is through Divergence, which occurs when the direction of the price trend and the direction of the indicator trend are moving in the opposite direction. This signals that the direction of the price trend may be weakening as the underlying momentum is changing.

REVIEW OF LITERATURE
1. **Wall Street Courier** (The E-Book of Technical Market Indicators) Over the years, investors have developed literally, hundred thousand of different technical market indicators in their efforts to predict stock market. Nowadays every investor finds loads of different kinds of technical market indicators available for free on every financial site on the internet. Unfortunately, for the unwary, there are many misleading, untested, overstated or just plain wrong indicators. Additionally, different kind of indicators may contradict to each other. Therefore, such a situation will only lead to a more difficult process for investors to apply a successful and traceable trading approach. Finally, the investors own emotional basis does interfere too often with the desired goal of maximizing trading returns although disciplined trading decisions are as important as accurate knowledge in actually making money. Since there is no indicator which is right all the time, a combination of different kinds of technical market indicators is the best method to understand the "big picture" plus the best way to beat the market in the long run. A clear and understandable investment process will deliver more predictable results and allows traders to improve their approach over time.
2. **Jan Ivar Larsen** (Predicting Stock Prices Using Technical Analysis and Machine Learning) Historical stock prices are used to predict the direction of future stock prices. The developed stock price prediction model uses a novel two-layer reasoning approach that employs domain knowledge from technical analysis in the first layer of reasoning to guide a second layer of reasoning based on machine learning. The model is supplemented by a money management strategy that use the historical success of predictions made by the model to determine the amount of capital to invest on future predictions. Based on a number of portfolio simulations with trade signals generated by the model, we conclude that the prediction model successfully outperforms the Oslo Benchmark Index (OSEBX)
3. **Wing-Keung Wong** (How rewarding is technical analysis? Evidence from Singapore stock market) This paper focuses on the role of technical analysis in signalling the timing of stock market entry and exit. Test statistics are introduced to test the performance of the most established of the trend followers, the Moving Average, and the most frequently used counter-trend indicator, the Relative Strength Index. Using Singapore data, the results indicate that the indicators can be used to generate significantly positive return. It is found that member firms of Singapore Stock Exchange (SES) tend to enjoy substantial profits by applying technical indicators. This could be the reason why most member firms do have their own trading teams that rely heavily on technical analysis
4. **Monica Lam** (Neural network techniques for financial performance prediction) This research project investigates the ability of neural networks, specifically, the backpropagation algorithm, to integrate fundamental and technical analysis for financial performance prediction. The predictor attributes include 16 financial statement variables and 11 macroeconomic variables. The rate of return on common shareholders' equity is used as the to-be-predicted variable. Financial data of 364 S&P companies are extracted from the CompuStat database, and macroeconomic variables are extracted from the Citibase database for the study period of 1985–1995. Used as predictors in Experiments 1, 2, and 3 are the 1 year's, the 2 years', and the 3 years' financial data, respectively. Experiment 4 has 3 years' financial data and macroeconomic data as predictors. Moreover, in order to compensate for data noise and parameter misspecification as well as to reveal prediction logic and procedure, we apply a rule extraction technique to convert the connection weights from trained neural networks to symbolic classification rules. The performance of neural networks is compared with the average return from the top one-third returns in the

market (maximum benchmark) that approximates the return from perfect information as well as with the overall market average return (minimum benchmark) that approximates the return from highly diversified portfolios. Paired t tests are carried out to calculate the statistical significance of mean differences. Experimental results indicate that neural networks using 1 year's or multiple years' financial data consistently and significantly outperform the minimum benchmark, but not the maximum benchmark. As for neural networks with both financial and macroeconomic predictors, they do not outperform the minimum or maximum benchmark in this study

5. **Tyler Yell** (Four Highly Effective Trading Indicators Every Trader Should Know) When your forex trading adventure begins, you'll likely be met with a swarm of different methods for trading. However, most trading opportunities can be easily identified with just one of four chart indicators. Once you know how to use the Moving Average, RSI, Stochastic, & MACD indicator, you'll be well on your way to executing your trading plan like a pro. You'll also be provided with a free reinforcement tool so that you'll know how to identify trades using these indicators every day. Traders tend to overcomplicate things when they're starting out in this exciting market. This fact is unfortunate but undeniably true. Traders often feel that a complex trading strategy with many moving parts must be better when they should focus on keeping things as simple as possible.

NEED/IMPORTANCE OF THE STUDY

Investment is one of the important part in life of person, if he fails to do proper investment he has to face consequences. So there is need for the study of indicators and oscillators for making investors aware about the terms and how decisions are taken for investment**.**

OBJECTIVES

1. To study different types of Indicators and Oscillators.
2. To find whether investors investing in derivatives market have knowledge about Indicator and Oscillators.
3. To find whether Indicators and Oscillators used by investors are used in a combination or not?
4. To study and analyze the top five Indicators and Oscillators used by investors using data from the stock market.

HYPOTHESIS (ES)

Ho : investors have knowledge about indicators and oscillators.
H1 : Investors use combination of indicators and oscillators for investing in stock market.

RESEARCH METHODOLOGY

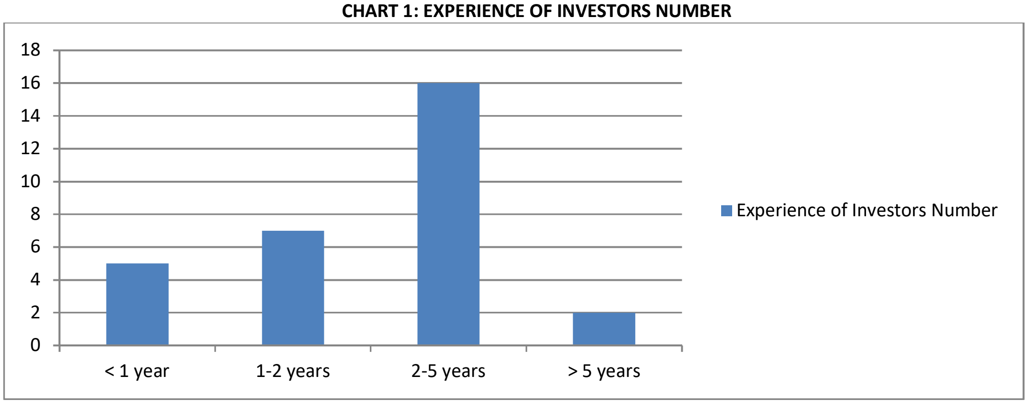
Two type of data used, primary data and secondary data. Primary data was taken through a questionnaire to know about the investor knowledge about Oscillators and Indicators and their usage. Secondary data was taken to explain the Oscillators and Indicators which the investors preferred most while making their investment decisions. Thus, stock trend of ICICI Bank was taken from NSE for three months for doing further analysis of the topic.

RESULTS & DISCUSSION

TO FIND TOTAL EXPERIENCE OF INVESTORS OF INVESTING INTO STOCK MARKET

- From the questionnaire, clients were asked to fill their overall experience of doing trading into stock markets.
- Data of 30 investors was taken.
- The data was later on entered into a table in MS Excel and with the graph optioned, inference were made. The graph obtained was as follows:

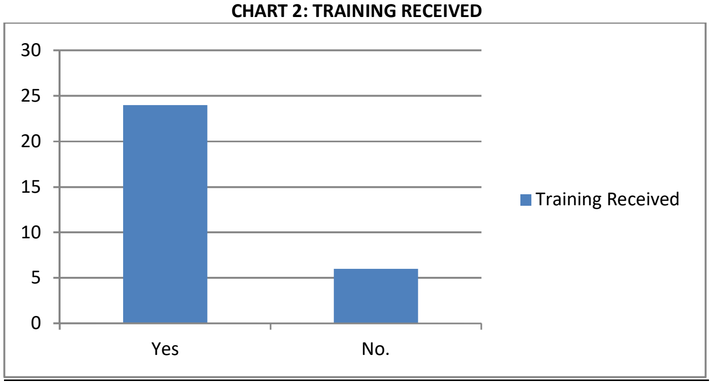
CHART 1: EXPERIENCE OF INVESTORS NUMBER



TO KNOW WHETHER THEY HAD RECEIVED ANY FORMAL TRAINING OR NOT

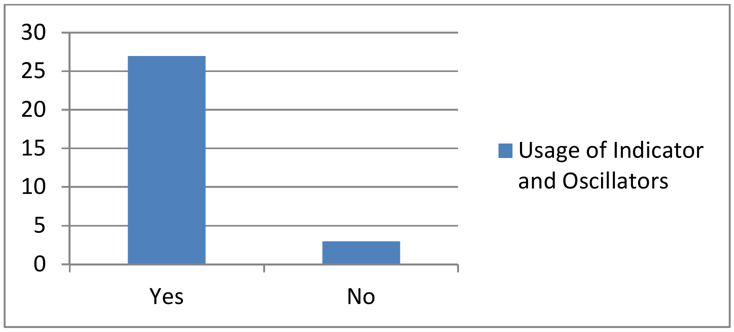
- This was basically a question to understand whether the investors dealing in derivative market had any prior training or not.
- The same procedure as above was followed. The graph obtained was:

CHART 2: TRAINING RECEIVED



TO KNOW WHETHER THE INVESTORS USED INDICATOR AND OSCILLATORS BEFORE MAKING ANY INVESTMENT DECISION

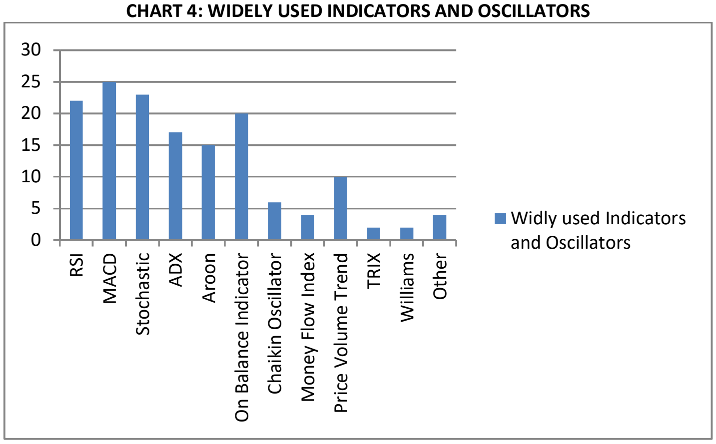
CHART 3: USAGE OF INDICATOR AND OSCILLATORS



TO KNOW WHICH ARE THE MOSTLY USED INDICATOR AND OSCILLATORS BY THE INVESTORS

- A list of many Indicators and Oscillators was included in the questionnaire.
- The investors were asked to tick the mostly used Indicators and Oscillators by them.

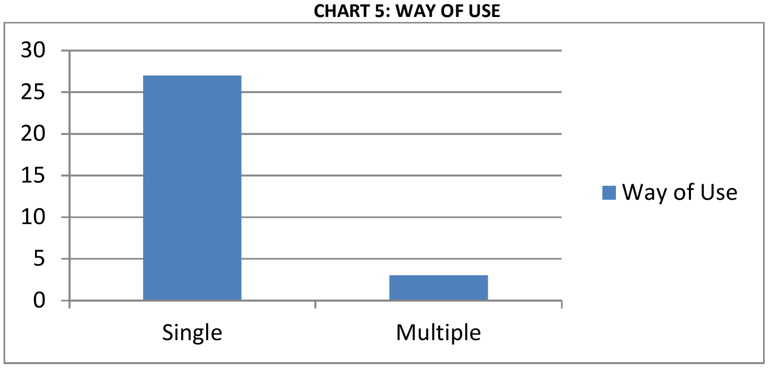
CHART 4: WIDELY USED INDICATORS AND OSCILLATORS



TO KNOW WHETHER THE INDICATOR AND OSCILLATORS USED WERE INDIVIDUALLY USED OR USED IN A COMBINATION

- This data was taken to basically understand whether a combination of indicator and oscillators were being used by investors or not.
- The same procedure as above was followed again. The graph obtained was:

CHART 5: WAY OF USE



SECONDARY ANALYSIS

For doing the secondary analysis, a stock of ICICI Bank was taken. The stock movement of previous three months was taken and then the analysis was carried out. The top 5 Indicators and Oscillators used by the investors from primary data was taken and then those were understood and analysed using the stock of ICICI Bank. The analysis done was as follows:

1. **AVERAGE DIRECTIONAL INDEX (ADX)**

- The Average Directional Index (ADX) can be used to determine if a security is trending or not. This determination helps traders choose between a trend following system or a non-trend following system.
- A weak trend is present when ADX is below 20 and a positive trend is present when ADX is above 40, but there is no trend present when between 20 to 40.
- The +DI line (Green) indicates a positive strength while the -DI line (Red) indicates a weak trend. These two measures together plot the ADX line (Blue).
  - Now as we can see in the above chart, On 1st January the ADX line was below 20 or almost 20, thus it shows that there was weak trend in the ICICI Bank stock.
  - On 19th January the stock picked up its strength and went above 40, that represents a strong strength in the stock of ICICI Bank.
  - So when there is weak trend or no trend in stock i.e. 1st January and thus there was no point in investing in this stock.
  - But an opportunity arises on 19th January when the trend picks up, thus we could see a profit potential there.
  - Again later on the stock trend dips and then is range bound 1st Feb onwards. This suggests that there is no point in investing in this stock as of now.

2. **ON BALANCE VOLUME (OBV)**

- On Balance Volume (OBV) measures buying and selling pressure.
- A rising OBV reflects positive volume pressure that can lead to higher prices, so if the OBV line is rising we can expect the prices to move upwards.
- A falling OBV reflects negative volume pressure that can lead lower prices, so if the OBV line is falling then we can expect the prices to move downwards.
  - As we can see here, from December 1 till January 26 the trend was range-bound, i.e. not much changes in volume pressure is seen.
  - But then post 26th January, the OBV line starts to fall which means the trading volume in ICICI bank is decreasing. We can also see that with the decrease in volume the stock price also felt drastically.
  - Then from 23rd February, the OBV line started moving upwards representing a pick in volume in the stock. With that, we can also see that the stock prices were also moving up.

3. MOVING AVERAGE CONVERGENCE (MACD)

- MACD measures whether a stock is having an upward momentum or a downward momentum.
- If the 12-day moving average line (green) is above the 26-day moving average line (Pink), it indicates a positive MACD. Positive value increases as the shorter 12 day line diverges further from the longer 26 day line.
- If the 12-day moving average line (Green) is below the 26-day moving average line (Pink), it indicates a negative MACD. Negative value increases as the shorter 12 day line diverges further below the longer 26 day line.
- This helps traders identify entry and exit points for investing in the particular stock.
    - As we can see in the graph, the stock of ICICI picked up momentum on 23rd December. A good entry point was available when 12 day moving average line crossed 26 day moving average line on 30th December.
    - Then the momentum started decreasing and on 7th January the 2 day moving average line went below 26 day line, this was a perfect time to go short in the market or remove our long position.
    - Since then the stock never picked up momentum and has remained below the 26 day average line, thus there has not been a good window to enter into this stock.
    - But on 29th February we can see that the divergence between 12 day average line is decreasing and it is showing a sign of revival. This can be an opportunity, but we can only be sure once it crosses the 26 day slow moving line.

4. STOCHASTIC OSCILLATOR

- The Stochastic Oscillator is used to determine whether a security is overbought or oversold.
- We set up range and down range as per our analysis, if the Stochastic line crosses the upper range it represents the stock is overbought and if the Stochastic line goes below the lower range then it is oversold.
- If a stock is oversold it signals an upturn, thus is a good sign to enter into the script and if the stock if overbought it means there is not much scope for it to go upwards, thus we should come out of it.
    - Here we can see that the stock was mostly oversold throughout.
    - The portion highlighted in yellow represents the stock was in a normal position, i.e. not overbought nor oversold.

- At the remaining places the stock is trending mostly oversold only.
- When it breaches the 20 mark and goes above, it has a upward momentum, so we can enter into this script.
- When the stock starts trending down, it means it is losing its upward momentum and is trending downward, it is a signal to get out of the script.

5. RELATIVE STRENGTH INDEX (RSI)

- RSI is a momentum oscillator that measures the speed and change of price movements for a particular stock.
- The oscillator fluctuates between 0 to 100 which represents prices of a stock are going up or down during a particular point.
- RSI also determines whether a stock is overbought or oversold. On the scale of 0 to 100, if the oscillator line goes below 20 it means the stock is oversold and if the line goes above 80 then it means the stock is overbought.
- RSI = 100 - (100/(1+RS)), where RS = Average gain / Average Loss
- We usually take a 14-period RSI, zero RSI value will mean prices have moved lower all 14 periods, thus there was no gain. RSI value 100 means prices gave moved higher all 14 periods, thus there were no losses.
  - Here as we can see in the chart, the red highlighted portion shows an overbought position, when the oscillator lines come below 80 then it may be the right time to enter.
  - When the line breaches below 20, which is highlighted in blue, it will indicate an oversold position and thus we should not enter during this period.

FINDINGS

After conducting the survey and analyzing the data collected, the findings were as follows:

- Mostly all the investors had an experience of 1 year to 5 years investing in stock markets.
- Almost everyone had received a proper and formal training for the derivatives segment.
- Everyone who had received training had a knowledge about Indicators and Oscillators while the rest who did not had training did not know about Indicators and Oscillators.
- Mostly, a combination of two or three Indicators and Oscillators were used by investor for making any investment decision.
- It was found that there were five Indicators and Oscillators that were widely used: Relative Strength Indicator (RSI), Moving Average Convergence (MACD), Stochastic Oscillator, Average Directional Index (ADX), On Balance Volume.
  - RSI: It was found that whenever the RSI line crossed 80 mark, the stock price fell and when the RSI line fell below 20 the stock price rose after some time.
  - MACD: It was noted that whenever the 12 day moving average line was above the 26 day moving average line, the stock price went up every time when this happened.
  - Stochastic Oscillator: It was found that whenever the stock is oversold, the price of stock took a decline and when the stock started moving upward i.e. trade volume in it increased, the stock price also increased.
  - ADX: It was seen that whenever the +DI line (green) went above the -DI (red) line, the stock price went up and vice versa.
  - On Balance Volume: Whenever the OBV line went up, the stock price went up and whenever the OBV line went down the stock price went down.

RECOMMENDATIONS/SUGGESTIONS

- One should have a proper knowledge and experience of equity market before entering the derivatives market, as it helps us get a better understanding of the price movements and our accuracy of decision making increases, thus reducing our losses.
- As derivatives is a complex market, one should get adequate and proper training.
- Though, Indicators and Oscillators do not show you right time and opportunity to enter or exit a script, they guide you in taking such decisions by supporting you with up to date and accurate data.
- Always a combination of Indicators and oscillators should be used to get a better and accurate result.

While using widely used Indicators and Oscillators is not a bad decision, but creating one's own unique strategy and combination of tools for assisting you in decision making is always a wise choice

CONCLUSIONS

With this research it can be concluded that Ho hypothesis has been rejected as investors requires training and then only they got knowledge about indicators and oscillators, Whereas HI Hypothesis was accepted as from the study it revealed that investors use combination of indicators and oscillators for investing in stock market.

LIMITATIONS

Due to constraints of time & resources the present study is likely to suffer from certain limitations some of these are mentioned so that study can be understood in a proper perspective:

- The research was carried out in a short period,
- Some of the respondents were unwilling to give information.
- Sometimes wrong information was provided by respondents which needed to be cross checked & verified.
- Chances of biasness are there because of the use of convenient sampling.
- Some respondents were not available and thus needed data could not be found.
- Some respondents were reluctant to divulge personal information which can affect the validity of all responses.

SCOPE FOR FURTHER RESEARCH

There is further scope for Research by taking few more different indicators and oscillators and derive the results and compare with the current. Researcher can also take other investment avenues and go with similar parameter and see the results, compare and suggest investors for the best option.

REFERENCES

BOOKS

1. (2014) *Series VIII - Equity Derivatives,* National Institute of Securities Markets
2. Martin J. Pring, *Study Guide for Technical Analysis Explained*
3. *The E-Book of Technical Market Indicators*, Wall Street Courier

WEBSITES

4. ChartInk Website, *http://chartink.com/*
5. Investopedia website http://www.investopedia.com/
6. National Institute of Securities Management *http://www.nism.ac.in/*
7. Stock Charts Website *https://stockcharts.com/*

JOURNAL ARTICLES

8. Jan Ivar Larsen (2010), *Predicting Stock Prices Using Technical Analysis and Machine Learning*, Norwegian University of Science and Technology
9. Monica Lam, *Neural network techniques for financial performance prediction,* Management Information Science, College of Business Administration, California State University, Sacramento.
10. Tyler Yell, *Four Highly Effective Trading Indicators Every Trader Should Know*, DailyFX.
11. Wing-Keung Wong (October 2010), *How rewarding is technical analysis? Evidence from Singapore stock market*, International Journal of Business and Management Invention

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