Executive Summary

Using algorithmic trading means investors’ faith their hard-earned wealth to the trading software they employ. Quantitative trading is also known as the algorithmic trading where security based strictly on the buy or sell decisions of computer algorithms. All computer algorithms are designed and programmed on the basis of historical data and the trends in the market. It is more than a technical analysis. It includes news, events and upcoming changes in government policy also. It is one of the most interesting and challenging problems in modern finance. As in almost every segment, technology plays a vital role in revolutionizing the way things are being done. Due to the technological revolution, quant trading concept comes into the picture. The main reason for the fear or dislike of quant investment technique is knowledge. Investors are not enough aware about the algorithmic trading in stock market. They only heard about algorithm trading.

Quant strategies are widely ignored by investors as being opaque and incomprehensible. Even those who do focus on the quant trend to spend most of their time understanding the core of the strategy, its alpha model. But it contends that there are many other parts of the quant trading process that deserve to be understood and evaluated. Transaction costs models help determine the correct turnover rate for the strategy, and risk models help keep the strategy from betting on the wrong exposure. Portfolio construction models balance the conflicting desires to generate returns, expend the right amount on transaction costs, manage risk, and deliver a target portfolio to execution models, which implement the portfolio model’s decisions. All this activity is fed by data and driven by research. All the study was based on the factors affect the price prediction and movement of market. There is a need to understand the investor’s perspective for the quantitative techniques in investment and awareness level regarding the algo in trading in Indian stock market. Various factors affect the decision to go with algorithmic trading. This study tries to find out the awareness, acceptance and influence of algorithm in trading by retail investors in Indian stock market.

This study would inform whether the quantitative model is effective for investment decision making for better return or not. The technique would be considered significant if it is able to take decision faster and more accurately, enhanced investment discipline and better risk management with greater diversification to achieve the management objective of maximization of profit.

The span of study is from 1994 to 2017. The main objective of the study is to investigate the alternative investment technique through quant models is efficient in the Indian stock market or not. The researcher has analysed the basic and advance awareness level for algorithmic trading by investors. The study uses questionnaire and personal interview as a tools for data collection and Mean, simple percentage method, chi-sqaue, t-test, factor analysis is the technique used for data analysis.
Researcher have choose 8 investors for special case study to get the answer for subjective matter questions related to investor’s perception, problems and suggestions for investors, dealers, regulatory body and government. The key observation from the study is awareness for algorithmic trading is good but on basic level only. They need more information for algorithms for efficiently trading in stock market. On the basis of these key observations, the study further provides suggestions/recommendations for retail investors, dealers, regulatory body and government. According to this study, investors want a fair stock dealer who can provide the right information at right time. From regulatory body, they want a strong regulation against fraud and to save the interest of investor’s protection. Investors suggest the dealers, regulatory body and government to conduct seminars, conferences and workshops for algorithmic trading and process for advance knowledge.

The research spans over five chapters:

**Chapter 1: Introduction to Snapshot of Financial market and the importance of quantitative analysis** of data and its use to trade in stock market for making profit by minimizing risk. It explores the concept of algorithmic trading, different models and factors involved in the creation of these models. It also explains the software used in India for the algorithmic trading.

**Chapter 2: Review of literature** provides the thorough review of existing literature relating to algorithm trading in stock market. The chapter begins with significance of review of literature in any study and then provides review of various studies on algorithm, HFT and price prediction model. The chapter concludes with a summary of key observations after review of literature, classification of literature review and research gap in existing studies.

**Chapter 3: Research Methodology** provides the Researcher’s Preparation for the study, statement of problem for research, objectives of study and research questions which the study should be able to answer at the end of the research. The chapter further states data collection, tools and techniques used for data analysis, hypothesis of the study and reliability and normality check of the data.

**Chapter 4: Data Analysis** provides detailed empirical analysis of awareness and acceptance of investors for algorithmic trading under study. To answer the research questions, suitable models and tests have been applied using software like MS Excel, SPSS to provide answers to research questions
of the study. Different tools – frequency and percentage analysis, cross tabulation, chi square test, t-test and factor analysis is used for data analysis in details to draw a conclusion.

Chapter 5: Conclusion and Recommendation provides answers to research questions of the study for each investor under study. It also provides the tabular presentation of each objective and its result followed by key conclusion. This chapter gives the information about the learning for researcher. The chapter also provides recommendations for retail investor, stock broker (dealer), regulatory body from this study for trading in algorithmic trading under study. The study concludes with scope for further study for new research in this area.

Besides these five chapters mentioned above, the research work also includes references at the end of each chapter and a comprehensive list at the end of the research study.