

# FORECASTING OF STOCK MARKET USING HISTORICAL DATA

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**ABSTRACT:** This paper presents a computational approach for trend analysis using statistical graph for share market. In this paper, “Share Market Forecasting” is a task to analyze the particular market situation from historical data, the analysis makes of what to be purchase and what not to be purchase. Now a day’s share market analysis plays important role in making good decision related to share prices. So our application will try a convenient way in such condition.

**Keywords:** stock market, Forecasting, Decision making, technical analysis.

## I. INTRODUCTION

As we know, today the world is moving fast, people have become very time precious. They want easiness and simplicity within the bit of time in each routine activity. With a fast growing number of mobile phones and end-users, high-tech men at work have come across Share Marketing. . In order to obtain attention of customers on the move or strengthen the customer relationship, an android based application is considered to be best techniques to promote a product.

As share plays an important role in our day to day life it is important for us to understand the need of it. So in our project we have tried to reduce some stress of people by introducing this project. Our project makes it easier to understand the Share Market for the common people. Due to the availability of the Share-Graph it makes an easy way to understand the condition of our Share, the latest updates and share information. This

application will give a way to user to take decisions based on the analysis done by this product. After the registration of the android based application customer will start receiving notification according to its need. This facility can be used from anywhere and anytime. This gives the basic reference to improve his decision making about an share to get make an sub holder of the particular company to stick to his market information and provides the buy, sell or hold decision for each trading day. The ideas of forecasting using averaging is to find an approximation of mapping between the input and output data through training. Later to analyze the future stock value Statistical Graph can be used [1].

The rest of the paper is organized as follows. Section 2 reviews the literature in analysis of the stock market price through visiting different web sites. Section 3 discusses about the stock market, Stock Exchange (NSE, BSE, ISE, and MCX), Section 4 explains the methodology of Window

Presentation foundation (WPF) and Model View Controller to develop this design the stock analysis. Section 6 draws the conclusion of the paper.

## II. LITERATURE REVIEW

Day Trading is a risky task if you don't follow the correct methods. In order to be a successful in trading, you need to have the right tools, choose the right markets, and trade the right trading systems. So analyzing the stock market give out good support to come up in the market to fulfill the need of the investor. In the existing system, user needs to visit the website to check the availability of share. If the share is available he can buy it, otherwise he has to wait for share price to increase or decrease.

In this fuzzy strategy, they have investigated the predictive capability of the fuzzy inference system (FIS) on stocks listed on the Nigerian Stock Exchange, within a two-month window [1]. For each selected stock, the technical indicator-based fuzzy expert system developed in Mat lab 7.0 provides the buy, sell or hold decision for each trading day. In Forecasting the Taiwan stock market with a stock trend recognition model based on the characteristic matrix of a bull market they do not represent the ideal way to depict stock patterns [2].

The uniqueness of the research comes from the fact that the research employs a neural network based forecasting approach on National Stock Exchange index (CNX S&P Nifty 50) Furthermore, as not much work has been done on the forecasting of Indian stock market indices using neural network [4]. To incorporate these, Hidden Markov Models (HMM's) have recently been applied to forecast and predict the stock market. We present the Maximum a Posteriori HMM approach for forecasting stock values for the next day given historical data [3]. In our approach, we consider the fractional change in Stock value and the intra-day

high and low values of the stock to train the continuous HMM.

The main objective of this paper is to create share market forecasting application for better analysis of share market and to well understand the day trading technique along with statistical graph analysis. Studies of share market go with understanding Business Intelligence and Forecasting of stock market.

## III. STOCKEXCHANGE (NSE,BSE)

### A. Stock Market

A stock market index is a method of measuring a stock market as a whole. The most important type of market index is the broad-market index, consisting of the large, liquid stocks of the country. In most countries, a single major index dominates benchmarking, index funds, index derivatives and research applications. In addition, more specialized indices often find interesting applications. In India, we have seen situations where a dedicated industry fund uses an industry index as a benchmark. In India, where clear categories of ownership groups exist, it becomes interesting to examine the performance of classes of companies sorted by ownership group.

### B. National Stock Exchange (NSE)

NSE was incorporated in November 1992, and received recognition as a stock exchange under the Securities Contracts (Regulation) Act, 1956 in April 1993 [10]. Since its inception in 1992, NSE of India has been at the vanguard of change in the Indian securities market. This period has seen remarkable changes in markets, from how capital is raised and traded, to how transactions are cleared and settled [11]. The market has grown in scope and scale in a way that could not have been imagined at

that time. Average daily trading volumes have jumped from Rs. 17crore in 1994-95 when NSE started its Cash Market segment to Rs.16, 959crore in 2009-10. Similarly, market capitalization of listed companies went up from Rs.363, 350crore at the end of March 1995 to Rs.36, 834,930crore at end March 2011[11]. Indian equity markets are today among the most deep and vibrant markets in the world. NSE offers a wide range of products for multiple markets, including equity shares, Exchange Traded Funds (ETF), Mutual Funds, Debt instruments, Index futures and options, Stock futures and options, Currency futures and Interest rate futures. Our Exchange has more than 1,400 companies listed in the Capital Market and more than 92% of these companies are actively traded [11]. The debt market has 4,140 securities available for trading. Index futures and options trade on four different indices and on 223 stocks in stock futures and options as on 31st March, 2010. Currency futures contracts are traded in four currency pairs. Interest Rate Futures (IRF) contracts based on 10 year 7% Notional GOI Bond is also available for trading. The role of trading members at NSE is to the extent of providing only trading services to the investors; the Exchange involves trading members in the process of consultation and participation in vital inputs towards decision making [11].

### ***C. Bombay Stock Exchange (BSE)***

The Bombay Stock Exchange is the oldest exchange in Asia. The location of these meetings changed many times, as the number of brokers constantly increased. The group eventually moved to Dalal Street in 1874 and in 1875 became an official organization known as 'The Native Share & Stock Brokers Association [10]. In 1956, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act. The Bombay Stock

Exchange developed the BSE SENSEX in 1986, giving the BSE a means to measure overall performance of the exchange. In 2000 the BSE used this index to open its derivatives market, trading SENSEX futures contracts. The development of SENSEX options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform. Historically an open outcry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system in 1995. It took the exchange only fifty days to make this transition. This automated, screen-based trading platform called BSE On-line trading (BOLT) currently has a capacity of 8 million orders per day. The BSE has also introduced the world's first centralized exchange-based internet trading system, BSEWEBx.co.in to enable investors anywhere in the world to trade on the BSE platform.

### ***D. Inter-connected Stock Exchange (ISE)***

It was the dwindling fortunes of RSEs that brought them together to establish the Inter-connected Stock Exchange of India Ltd. (ISE). At a meeting of the Federation of Indian Stock Exchanges held in October 1996, a Steering Committee was formed to evolve an Inter-Connected Market System. As a result, ISE, which was promoted by 14 regional stock exchanges of the country (excluding Calcutta, Delhi, Ahmadabad, Ludhiana and Pune Stock Exchange, apart from NSE, BSE and OTCEI) was incorporated on ISE by SEBI under the Securities Contracts (Regulations) Act, 1956 on November 18, 1998; ISE commenced trading on February 26, 1999. ISE was launched with an objective of converting small, fragmented and illiquid markets into large, liquid national-level markets. This was a unique experiment, with a highly automated trading, clearing and settlement systems backed by state-of-the-art computers. ISE is also a

professionally managed stock exchange with the Chairman of the Exchange being also a Public Representative Director from its inception. Unfortunately for the RSEs, particularly small brokers, the ISE experiment did not succeed. The daily turnover, which used to be Rs. 1 to 2crore in the first six months, gradually declined to virtually zero level. Failure of ISE was, due to the bigger brokers of the participating RSEs failing to support any interest in trading on ISE due to commercial considerations. As a result, it becomes virtually impossible for ISE to create any worthwhile liquidity in its markets in competition with the breadth and depth of NSE and BSE. Markets continued to be fragmented as the participating RSEs did not close down their regional segments. All the while the small fragmented and illiquid market failed to emerge. ISE has also not succeeded in getting companies listed on it despite the stipulation by SEBI that the State of Maharashtra constituted the regional area for ISE due to lack of regulatory support for making it applicable to over 3,000 already listed companies in the State of Maharashtra.

**IV.RESEARCH METHODOLOGY**

**A Data and Methodology**

We are choosing a lot of data of different companies which are in different format. This data comes in same of the different format. This data includes a lot of information such as high price/low price of a share, previous close price and open price of share of a particular company. We can download minute data also from time to time according to the need of User.

Our task is to build up decision for a share of a particular company. The stock values go up and down and according to that chart is being drawn.

**B Data Preprocessing**

In Data Preprocessing, the data we get from the stock exchange is in the .csv format and it is in large amount and in the different pattern. But we need only some amount of data which will directly stored into .XML, so in order to retrieve it we are using MVVM (Model View and View Model) MVVM is targeted at modern UI development platforms which support Event-Driven Programming, such as HTML5, Windows Presentation Foundation (WPF).This MVVM facilitates to develop graphical user interface from the development of back end logic known as model also known as data model. The view model of MVVM is a value converter meaning that the view model is responsible for exposing the data objects from the model in such a way that those objects are easily managed and consumed [10]. MVVM was designed to make use of data binding functions in WPF to better facilitate the separation of view layer development from the rest of the pattern by removing virtually all GUI code (“code behind”) from the view layer and the required data that can be manipulated and stored in the .xml file for the required proceeding.

The System only takes the required data and calculates the current profit, net profit, minimum loss, and maximum profit.

SYMBOL	SERIES	DATE1	PREV_CLOSE	OPEN_PRICE	HIGH_PRICE	LOW_PRICE	LAST_PRICE	CLOSE_PRICE	AVG_PRICE	TTL_TRD_QNTY	TURNOVER	LACS	DELY	QTY	DELY_PER
ZONMICRONS	EQ	10-Oct-2012	117.65	118.5	123.5	118.35	120	128.3	122.37	166257	201.78	76323	45.91		
SINIFOTECH	BE	10-Oct-2012	8.05	8.05	8.15	7.85	7.85	7.9	7.94	618512	49.11	-	-		
SININDIA	EQ	10-Oct-2012	4019.55	4001	4060	4001	4020	4028.9	4047.78	277	11.21	241	87		
AJZIMES	EQ	10-Oct-2012	74.3	73.5	73.8	71.15	71.4	71.35	72.13	396949	286.24	163890	41.3		
AAJIANEVA	EQ	10-Oct-2012	659.15	655.45	657	631.4	649.8	650.2	649.29	49114	318.89	27524	56.04		
AAARTORUGS	EQ	10-Oct-2012	156.9	157.35	161	155.55	156.55	157.85	158.44	11022	17.46	6801	55.17		
AAARTIND	EQ	10-Oct-2012	87.4	87.5	88.55	83.7	83.9	84.05	85.12	68616	58.41	27602	40.23		
AAARVEEDEN	EQ	10-Oct-2012	42	41	41.25	39.55	41.25	41.25	40.43	199	0.08	156	78.39		
ABAN	EQ	10-Oct-2012	471.55	471.95	471.95	452.25	461	458.4	458.81	574936	2620.82	71790	12.51		
ABB	EQ	10-Oct-2012	770.7	774	778	770.95	776	778.6	774.16	47252	365.81	24810	52.51		
ABOTINDIA	EQ	10-Oct-2012	1551.45	1560	1569	1530	1530	1533.95	1546.75	4238	65.47	2472	58.4		
ABCIL	EQ	10-Oct-2012	86.1	89	89	85.7	86.1	86.3	86.3	3208	2.77	1790	55.8		
ABCSHP	EQ	10-Oct-2012	379.5	381.8	381.8	373	373.4	376.45	377.5	79532	300.31	35107	44.13		
ABRHSHEK	EQ	10-Oct-2012	7.05	7.7	7.7	7.05	7.05	7.05	7.09	229	0.02	228	99.56		

Figure No.1: Raw data

The figure No.1 shows the raw data which is directly obtained from stock server. After converting it, the MCV tool sort the data in such manner

SYMBOL	SERIES	DATE1	PREV_CLOSE	OPEN_PRICE	HIGH_PRICE	LOW_PRICE
20MICRONS	EQ	10-Oct-2012	117.65	118.5	123.5	118.35
3IINFOTECH	BE	10-Oct-2012	8.05	8.05	8.15	7.85
3MINDIA	EQ	10-Oct-2012	4019.55	4001	4060	4001
A2ZMES	EQ	10-Oct-2012	74.3	73.5	73.8	71.15
AANJANEYA	EQ	10-Oct-2012	659.15	655.45	657	631.4
AARTIDRUGS	EQ	10-Oct-2012	156.9	157.35	161	155.55
AARTIIND	EQ	10-Oct-2012	87.4	87.5	88.55	83.7
AARVEEDEN	EQ	10-Oct-2012	42	41	41.25	39.55
ABAN	EQ	10-Oct-2012	471.55	471.95	471.95	452.25
ABB	EQ	10-Oct-2012	770.7	774	778	770.95
ABBOTINDIA	EQ	10-Oct-2012	1551.45	1560	1569	1530
ABCIL	EQ	10-Oct-2012	86.1	89	89	85.7
ABGSHIP	EQ	10-Oct-2012	379.5	381.8	381.8	373
ABHISHEK	EQ	10-Oct-2012	7.05	7.7	7.7	7.05

Figure No. 2: Edited Data

The figure No. 2 shows the edited data which is required by system for further processing.

## V. CONCLUSIONS

In this paper, we examined and applied of Window Presentation foundation (WPF) and Model View Controller to develop this design on stock market analysis which will create a statistical graph view and will show a popup message to fulfill the requirement of customer which help them in making good decision related to the ongoing stock market. It increases the chances for the investors to analyze the prices more accurately by reduced error percentage and hence increased profit in share markets.

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