CHAPTER-8

CONCLUSION AND SUGGESTIONS

8.1 CONCLUSION

There are lots of financial scams that are happening day by day and unaware public get trapped by the fraudsters and destroy their hard earned money and wealth. Thus poor investors and nation’s wealth is destroyed. Fraudster always come up with new ideas to trap unaware or new investors. Stock Market is a million dollar business, so here maximum fraudsters can be found to trap the poor investors by their various newer fraudulent activities every day like publishing fake balance sheets by company, by giving false news like bonus, dividend, takeovers, merger, new orders, expansions etc to arouse people to buy their company shares at unfair price.

Prevention and Detection of stock market frauds are complement and supplement of each other, however prevention is always better than detection, but both are difficult tasks because fraudsters always come up with newer ideas of frauds whenever old ideas get detected by fraud detectors, thus it is also difficult job for detectors to detect new type of fraud pattern.
Our proposed research work is concerned with Stock Market Fraud Detection, so that poor investors may become more aware by knowing the different activities of possible frauds done by fraudsters, that can happen in the Stock Market, thus it will be also helpful for protecting nation’s wealth.

Our research work is based on studying and analyzing historical data of BSE (Bombay Stock Exchange), NSE (National Stock Exchange) of various companies and investors complains registered with SEBI (Security Board on India) against the Companies, Brokers, Promoters, Institutional/Non-Institutional Investors, individuals etc. from their respective official websites, to study and analyze the various possibilities of frauds in Indian Stock Market. In this context we have watched daily movements of various shares and studied their historical data and tried to find out the various possibilities of fraud.

From various suspected stocks, we have chosen Nutek India Ltd. share for experiment, because its share price was very highly beaten from IPO price of Rs. 192 to below Rupee 1. In this context using Time Series financial data we have studied and analyzed the data of Bulk Deals and GDR data of Nutek India Limited (Experiment-1) and we have observed that how the share price fallen from its IPO listing price Rs 192 to Rs 0.50 due to price manipulation by operators, how GDR were dumped at higher levels and bought back at dirt cheap prices. We have studied how management made false statements regarding bonus issue and never bothered about deep fall in
share price since IPO. SEBI investigation is going on, yet the outcome of investigation has not come.

Further we did **Outlier Analysis (Experiment-2)** to detect fraudulent activities in Stock Market. In this context the combined data of Bulk Deals through Indian Stock Markets (BSE and NSE), of Nutek India Limited was collected from the official websites and studied the trading patterns of 89 different Trading Entities, who had made Bulk Deals in NuTek India Ltd Share and found that 13 Trading Entities had suspicious trading patterns which we have considered as outliers. From this study we have observed there are 4 categories of trading entities who had made bulk deals in Nutek India Ltd., which are as follows-

- Category 1 (Only Buying Trading Entities)
- Category 2 (Only Selling Trading Entities)
- Category 3 [Buying and Selling Trading Entities (Total Sell Qty\(\leq\)Total Buy Qty)]
- Category 4 [Buying and Selling Trading Entities (Total Sell Qty>Total Buy Qty)]

Generally Category 1, 2 and 3 are usual categories but category 4, where Total Sell Qty is more than Total Buy Qty, These Trading Entities may be Institutional Investors or Non Institutional Investors, but these trading
entities also did Intra-Day Trading, which is illegal course of action, so we have considered these trading entities as outliers.

After Outlier Analysis, we have found outliers in historical data of stock market using **Multiple Regression Analysis, Peer Group Analysis and ANOVA (Experiment-3)**. We have analyzed and studied 15 stocks by collecting historical data of a certain period from BSE website. We have detected outliers stock wise and then compared these outliers with its Peer Group to find out whether the results are almost similar or different, and further compared the Peer Group with Non Peer Groups of Category A and Category B stocks and found that category A stocks has lesser outliers in comparison of category B stocks. As all the stocks from Peer Group are from category B stocks, so we have further compared Peer Group with Non Peer Group of category B stocks, and found still Peer Group stocks have more outliers.

### 8.2 SUGGESTIONS

There is lack of research work done using Data Mining Techniques of Outlier Detection for Financial Fraud Detection, may be it is very difficult to detect outliers as according to **Agyemang et al.(2006) [83]**, Outlier Detection is a very complex task akin to finding a needle in a haystack. Stock Market plays vital role for any country’s wealth creation or destruction because it is a million dollar business as the amount of money involved in Stock Market is
very high, so it is very essential to do research in the direction of finding fraudulent activities and fraudsters in the Stock Market to protect the nation’s and investors wealth. So we have chosen our research problem as Outlier Detection in Stock Market. Several fraud detection methods are available for the fields like credit card, telecommunications, network intrusion detections etc. But Stock Market Fraud Detection area is still behind. Since stock market enhances the economic development of a country greatly, this field has a vital need for efficient security system. Also the amount of money involved in stock market is huge. So, appropriate fraud detection system is essential. Investment in stock market is high in almost all the countries. If we don't protect stock market from manipulators and fraudsters, then implicitly, we're open to attack, or we're allowing open to attack a country's wealth.

So, we would suggest that there is wide scope to do research in this area, so that our society can be benefited by being aware from various types of newer fraudulent activities happening day by day in the stock market and can save their hard earned money. By reviewing the literature related to Fraud Detection (Chapter-2), we have found that there is very less research work done in the direction of Mortgage Fraud, Money Laundering, Securities Fraud and Commodities Fraud. So except Stock Market Fraud we would also suggest some other areas where lesser work has been done are Mortgage Fraud, Money Laundering, and Commodities Fraud.