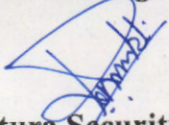**Date: 29th March 2018**

CERTIFICATE OF INTERNSHIP

This is to certify that **Ms. Revathi B Mane** has successfully completed her internship with **Ventura Securities Ltd.** on the project of **"Correlation b/w Indian Stock Indices of BSE & American Stock Indice NASDAQ"** from **15th January 2018 to 24th March 2018**.

During the internship **Ms. Revathi B Mane** was found to be punctual, positive and performance oriented.

We wish her success in her career.

Authorised Signatory

Ventura Securities Limited

MEMBER: BSE LIMITED & NATIONAL STOCK EXCHANGE OF INDIA LTD.

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CIN U67120MH1994PLC082048

ACHARYA INSTITUTE OF TECHNOLOGY

Date: 18/05/2018

CERTIFICATE

This is to certify that **Ms. Revathi B Mane** bearing USN **1AY16MBA62** is a bonafide student of Master of Business Administration course of the Institute 2016-18 batch, affiliated to Visvesvaraya Technological University, Belagavi. Project report on **"A Study on Correlation Between Indian Stock Indices of BSE and American Stock Indice NASDAQ at Ventura Securities Ltd."** is prepared by her under the guidance of **Prof. Mallika B K,** in partial fulfillment of the requirements for the award of the degree of Master of Business Administration, Visvesvaraya Technological University, Belagavi, Karnataka.

Signature of Internal Guide

Signature of HOD

Head of the Department
Department of MBA
Acharya Institute of Technology
Soldevanahlli, Bangalore-560 10,

Signature of Principal

PRINCIPAL
ACHARYA INSTITUTE OF TECHNOLOGY
Soldevanahalli Bangalore-560 107
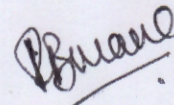
ACHARYA

ACKNOWLEDGEMENT

DECLARATION

I, REVATHI B MANE, hereby declare that the Project report entitled "STUDY ON CORRELATION BETWEEN INDIAN STOCK INDICES OF BSE AND AMERICAN STOCK INDICE NASDAQ" with reference to "VENTURA SECURITIES LTD." Prepared by me under the guidance of Mrs. Mallika B K, faculty of M.B.A Department, Acharya Institute of Technology, Bangalore and external assistance by Mr.Ashoka B R, Marketing manager at Ventura Securities Ltd.

I also declare that this Project work is towards the partial fulfilment of the university Regulations for the award of degree of Master of Business Administration by Visvesvaraya Technological University, Belgaum.

I have undergone a summer project for a period of Ten weeks. I further declare that this Project is based on the original study undertaken by me and has not been submitted for the award of any degree/diploma from any other University / Institution.

Place: Bangalore

Signature of the student

Date: 28/05/ 2018

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EXECUTIVE SUMMARY

This research project emphasizes on nature & characteristics of Indian Stock exchange BSE & its indices & American stockexchange NASDAQ & its indice NASDAQ100 & the relationship between them. The inter-relationship between the stockexchanges is one of the factors that should be timely evaluated to avoid negative impacts. Each country's economy will directly or indirectly impact upon other country's economy. At present, all the world markets are interdependent as trading takes place worldwide. Hence, it is necessary to study closely how markets are related to each other.

For analysis purpose daily closing prices of selective indices were recorded, Multip1e Correlations has been calculated for the stockmarket indices. Statistical implication 0f the correlation has been recorded by means of t-test. The output of this study implies the view that there exists a correlation between India & USA financial markets. All the indices of BSE have witnessed a weak correlation which has been estimated by very low Co-efficient of variation.

The observed findings would be useful f0r the investors, stock exchange administrators & policy makers as these provide proof of timely changes in nature 0f stock market & volatility in India. Investment decisions mainly depend upon the investor's attitude towards risk & return of each of the avenues of investment. Hence, this study is useful for the individuals who are looking to invest and diversify their portfolio.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This research study is conducted to facilitate & suggest investors who want to invest in local & global markets & for the same purpose. Indices of BSE & NASDAQ were considered for the research. Since it is assumed that there shall be deviations in India's market & can be recognized heavily to crossborder inflows & outflows through form 0f FDI 0r FII & to reaction 0f Indian market to global marketplace changes. In this topic, to comprehend the relationship & significance of Indian exchanges on USA market is very much extensively needed. This study compares US exchange NASDAQ & BSE; it is assumed that one stockexchanges will have impact 0n 0ther stock exchanges.

1.2 INDUSTRY PROFILE

Financial markets are the platform where individuals or anybody can purchase & offer financial Securities, Commodity, & other exchangeable substances of significant worth at fewer exchange costs & at prices that reflect free market activity. Securities involve Stocks & Bonds whereas Commodities incorporate prized metals & agricultural products.

Stock Exchange

Securities Contract Regulation Act 1956(SCRA) defines "Stock Exchange" as any body 0f individuals, irrespective of incorporation, setup to assist, regulate or be in command 0f the business 0f trade. Stockexchanges can be region-wise whose area 0f operation is specific at the instant of its identification 0r national exchanges, which are legalized to have trading all over country since its initiation. Stockexchanges are most possible kind of market for exchanging securities whether of govt 0r semi-govt bodies 0r other open b0dies as likewise for shares&debentures, issued by any joint stock firms. In the market, trading 0f shares is made in conditions of free competition. Govt financial instruments are bought & sold outside the trading ring in the form 0f over the counter purchases or sales.

Recognition of an exchange is not possible to tell apart with growth of companies. They offer an opportune market for securities provided by companies. With the progression of the companies, the market has full-grown to a large extent in several places of the world. The stockexchange developments are observed all finished world as they are viewed as the indicators of modern execution. It gives a stage to bargain in securities where request & supply factors decide the evaluating of the stock. It also helps in dispersal 0f equity sect thus to enable the companies to get the necessary amount of investment directly from the public.

Stockmarket is a platform where share, stock & bonds are traded; it means to buy & sales of securities. The main motto is to buy the stock, hold it for a time, & sell it than it is paid for. Members of market involves singular speculators, institutional financial specialists, for example, banks, shared assets, insurance agencies, flexible investments, & likewise traded on an open market corporations trading in their own shares.

Stockmarket Indicators

Stockmarkets are measured by the indices that are representative of the stocks. However, there are other indicators also which help us measure market liquidity, worth of a portfolio, risk in a particular scrip, etc.

Understanding Index

A lot of stocks that represent a market or its segment is picked to form an index. In the calculation of an index, a base index value & a base period is used. Indices can be used in financial instruments, commodities 0r any other markets to gather information about their movements in price. Speculation of stocks, bonds, Treasury Bills & other forms of investments are measured by constructing financial indices. By enlarge; behavior of the Stockmarket is measured by the movements in stock market indices.

1ndex is just benchmark of a segment or a stock market. A particular stock might not truly follow the movement of the index. It could be higher or lower. It may also move in the reverse direction to the index. However, on a specific day or over a particular period of time, indices are good indicators of price movements. Investments are best measured against a relevant index. If there is a constant lagging behind of the investment, it may be time to

rethink the strategy. However, if the investment outperforms the index, it might be good to hold.

Index & its Significance: Stockmarket index is to compute relative value of a specified group of stocks. The index value hinges on the value 0f the stocks in a group. In simple terms, if an index increases by 2%, it means the tota1 value of the group of stocks in that index has also risen by 2%. There is a direct association amid index & the value 0f its group of stocks.

Giving a simple example, assuming an index called Super Index is made-up of five companies. The end of the day's value is 2,134 points. The next day, 2 companies' stock prices moved up, one company's stock price remained the same & 2 companies' stock prices reduced.

However, the net change increased index by 1%. So the Super index is now higher by 1% or is at 2,155 points.

An index is numerica1 representation of value 0f the groups of stocks. Thus the values are correlated .A variation in the price 0f stocks changes price 0f the index. The importance 0f indices 1ies in its acting as a yardstick value to measure the performance 0f investments.

The major uses of indices are:

- The index can give a correlation of returns on investments in securities exchanges instead of different speculations like gold or obligation, & so forth.
- The index gives evaluation of performance with an equity fund; a stockmarket index can be the benchmark.
- The index can give a particular economy's performance or any sector of economy is indicated by the index.
- The index can give Real-time market sentiments are indicated by indices.
- The index Acts us an essential in Index-Funds, Index Futures, & Options in the fields of financia1 investments & risk management.

Importance of StockMarket

- StockMarket Provides new capita1 through IPO's.

- The company can rea1ize their investment by giving emp1oyees additiona1 incentives by granting ESOP's which in turn will create goodwill towards the firm.

- Public profile of company will increase when listed on the stock exchange.

- It provides assurance to the customers & suppliers

- It provides a readymade marketplace(for buyers & sellers).

- Stockmarket Index aids to identify the extensive trends in the market.

- It is important to the investor to know the index value, Index helps to earn profits.

- It helps in the comparison between companies indices

- Investors can evaluate their portfolio by using indices as a benchmark.

- The future movement of stocks can be forecasted by using historical performance in stockmarket.

Bombay Stock Exchange (BSE)

Bombay Stock Exchange ltd is oldest stockexchange in Asia. It is prevalently known as BSE, established as 'The Native Share & Stockbrokers' Association' in 1875. It is the 1st stockexchange in India to attain enduring recognition, which was granted in 1956 from the Govt of India under SCRA. It was structured as a membership-based firm, an association of persons. It is now a demutualized & corporatized entity. The demutualization of BSE was completed in 2007. The BSE shares were sold at ₹ 5,200 per share. The 800 & odd brokers in BSE sold nearly partially their shareholding, comprising 41% of equity stockholding in exchange. It means these members might have communally collected ₹1,600 Cr through the stake sale. The list 0f investors includes 6 overseas entities, including Germany's Deutsche Boerse & Singapore Stockexchange Ltd., (SGX), which bought 5% each recently, paying ₹ 189 crores each. The other overseas investors in the deal are US private equity fund Atticus Mauritius Ltd & Caldwell Asset Management; both bought 4% in exchange.

Types of Indices in BSE

The most prominent indices are the BSE Sensex, comprising 30 stocks. It is popular, but there are also broad-based indices which include stocks going to hundreds in number. There are also the sector indices like tech index, bank index, consumer goods index, etc. They represent a particular sector of the economy. Indices spanning across countries & exchanges are global indices.

General indices in BSE

S&P BSE Sensex; S&P BSE 100; S&P BSE 200 & S&P BSE 500

NASDAQ

The NASDAQ Stock is an American stock exchange. It is 2nd biggest Stockexchange in the globe by market worth. The trading platform is possessed by NASDAQ, Inc., which in addition claims the nasdaq Nordic & nasdaq Baltic.

Trading Schedule of NASDAQ Stockmarket (Eastern Time) is:

- Premarket session - 4:00 am to 9:30 am.
- ordinary exchanging session - 9:30 am to 4:00 pm
- 4:00 pm to 8:00 pm -post market session

1.3 COMPANY PROFILE

Ventura securities ltd is founded in the year 1994 by Sajid Malik & Hemant Majethia, chartered accountants. They are the Ist generation entrepreneurs & are the principal promoters of Ventura. A dedicated & efficient team of senior managers assists Mr. Majethia, CEO of the company.

Ventura securities are a fulltime service domestic broker's house, which provides value based advises to clients. Clients may be institutions (foreign & domestic), large net worth or retail investors with its crucial zone of activities being stock-broking firm.

Ventura has arrived at presumed status for innovative & unbiased research along with excellent technical analysis & execution capabilities. Ventura securities have also built up the counsel driven business of high total assets & corporate clients. Ventura has impressive information quality, considerable strength & domain knowledge in the booming derivative market.

1.3.1 PROMOTERS

Hemant Majethia: Co-promoter, CEO and Director:

With more than 2 many years of practice in capital market intermediation & equity research. Hemant Majethia is very much associated and regarded in the market circ1e for the technocratic way to deal with stock broking. He is a chartered accountant by qua1ification & was instrumenta1 in the deve1opment of the on1ine p1atform called "pointer".

Sajid Malik: Co-promoter & Director:

Sajid Malik is the promoter & Managing Director of genesys international, a company with focus on GIS mapping & engineering scheming services, listed on NSE & BSE. He is a Chartered Accountant by qua1ification.

Juzer Gabajiwala: Director

He is a Chartered Accountant & company secretary by profession has over 20 year's 0f familiarity in finance, taxation, & investments. He heads the Human Resources dept. & operations at Ventura. He made the move to 1aunch of the a1ternate products p1atforms for mutua1 fund distribution, insurance & wea1th management business. He a1so led the wea1th management & NR1 cel1. He has a1so former1y been associated with the IIT group & the TATA group.

Core Management Team

- Vinay Punjabi   Head – Marketing

- Bharat Gala   Head – Dealing

- N.S. Ramasamy   Head – commodities

- Shalini Sabani   AVP

1.3.2. VISION, MISSION, & QUALITY POLICY

Vision:

"To be the best retail brokering brand in the retail business of stock marketing".

Mission:

To build a true relationship & strive towards customers delight, through constant innovation on a strong foundation of dedicated & trained resources.

Quality Policy:

- Building & valuing true partnerships

When it comes to business partners, it is seen success reflected in their progress. It has facilitated them all the way with technology & marketing strategies & in turn, has been rewarded with their performance & loyalty.

- 'Think & it's there' approach

  In advance Ventura foresees all their clients' diverse needs, ranging from financial planning to wealth management & provides them with resources, tools, & solutions to fulfill them.

- Constant innovation

  At Ventura, Change for the betterment has become a way of life. Innovations have always been customer centric which has been adequately reflected in the up gradation of the system to facilitate their ne2rk partners.

- Team Ventura

  Dedicated & well-trained staffs speak to the mainstay of quality and accomplishment at Ventura. All individuals have disguised our central goal and are continually endeavoring to expand on it.

1.3.3. PRODUCTS / SERVICES PROFILE

Products

- Equity

- Derivatives

- Commodities

- Mutual fund

- Fixed income

- Currency futures

Services

- NRI/QFI

- IPO

- DEMAT account

- Depository services

- Trading account

- Bank account for fund transfer

- Dial & trade for query related to trading

Products offered by Ventura:

Equity:

In general, one can think equity as possession in any asset after all obligations associated with that asset are paid off. Stocks are equity since they speak to possession in a nation in an organization. The value of an ownership in a property, incorporating investors' value in a business.

Derivatives:

A derivative is a financial instrument (or, more simply, an agreement between 2 parties) that has a value, in light of the normal future value development of the advantages for which it is connected, called the underlying assets for example: share/ currency/ commodity.

Derivatives can be defined as something which derives its value from an underlying products being a stock, currency, commodity / anything that carries a marketplace. The market price of the product is subject to fluctuation due to various factors affecting its demands & supply thereby associating itself with various factors of risk. So, a derivative is a

bi-product of the core product which can be used to specu1ate, hedge & a1so undertake arbitrage activities.

Indian market has 2 kinds of derivative instruments

1. Futures

2. Option

   a. Call option

   b. Pull option

Mutual fund:

It is a kind 0f professionally managed collective investment scheme that pools cash from many investors to buy securities. While there is no legitimate meaning of the term "mutual fund", it is most usually connected just to those aggregate investment vehicles that are regulated & sold to the general public. They are in some cases referred as "investment companies" or "registered investment companies." Most mutual funds are "open-ended", meaning investors can buy/sell shares of the funds whenever they want.

Insurance:

It is equitable transfer 0f the risk 0f the 1oss, from one entity to another in exchange for payment. It is a type of risk management primarily used to hedge against the risk 0f an unexpected, questionable misfortune.

Financial risks which imply that the risk must have a financial measurement.

1. Pure risks imply that the risk must be genuine and not identified with gambling.

2. A specific risk which implies that these risks are not across the board in their impact, for ex, for example, such as earthquake risk for the region prone to it.

Currency Market:

SEBI has issued a circular on Aug 6th, 2008 on Exchange Traded Currency Derivatives, Currency futures are contracts to exchange a certain amount of a particular currency at a specific exchange rate on a specified date, & it is exactly like a futures contract on Nifty. Here the underlying commodity is a currency exchange rate, such as an Indian Rupee to USD exchange rate, there will be daily mark to market settlement between buyer & seller. There is no counterparty risk of non-obligation due to intermediately like clearing corporation which is a guarantor to both the parties. It is open to large & small investors due to optimum market lot size. Presently currency futures are traded on NSE, BSE, & MCX

Commodity Market:

Commodity F&O Trading is being carried out by "Ventura Commodity Pvt Ltd" with 2 exchanges viz,

NCDEX, abbreviation of National Commodity & Derivatives Exchange Ltd. (started its operation on April 2003)

MCX, abbreviation of Multi Commodity Exchange. (Started its operation on November 2003)

The number of commodities as of the date availed with MCX& NCDEX is higher than 50, which comprises of valuable metal, energy (crude oil, Brent), oilseeds, pulses, grains, spices, base metals & other agro commodities.

There are particular exchanging parcels/exchanging units & particular conveyance parcels & conveyance units for every commodity with both the trade. Every commodity additionally has distinctive contracts accessible for 3 months to 4 months & so forth. The citation or the cost accessible in the exchanging screen for every commodity shifts.

Equity & Derivative trading

1. Ventura's web exchanging stage offers a one of a kind exchanging & 1nvesting background.

2. A customer can exchange at the same time in BSE & NSE advertises by opening a solitary exchanging a/c.

3. Access other helpful highlights of our exchanging programming like specialized graphs, investigator meet updates, open premium dashboards, ex-profit data & so on.

4. Likewise Ventura offers help administrations like opening of store accounts, brought together back office bolster.

5. Strong research & specialized investigation will settle on educated venture choices. Ventura's internet trading platform offers a unique trading & 1nvesting experience.

Value Added Services

1. Online Platforms:

Pointer – Ventura has online equity trading engine, featuring trade at super speed, enjoy an exclusive investing experience.

A mutual fund – Investors in immense investments plans & also gets a detailed online analysis.

Commodities – Browser & exe-based online trading software are for the client as well as ne2rk partners to facilitate seamless execution on MCX & NCDEX.

2. Www.Ventura1.com: comprehensive website providing product or market information & tools to access data in a user friendly manner.

3. Customer web access: Through a common login, clients have access to the host of services such as portfolio details, digital contract, transaction statement, tax report etc…

4. Newsletters: every day, every week & every month newsletters covering equities, mutual funds, commodities (available on the web).

5. SMS updates: frequent updates on market happenings & trading; investment calls, trade confirmations.

6. Research report: 1n Detail fundamentals scrutiny on any company 0r industry at periodical breaks.

7. Baatein bazaar ke Ventura se: it is An interactive chat room availed to all network partners during trading hours; access to news on a real-time basis.

8. 1n-house training 0r seminars: Products training 0r investor conference casing diverse topics like technical analysis 0r industry overview 0f financial markets.

Ventura Brokerage Charges:

- To 0pen trading Account ;Charges: Rupees 0

- For Maintenance Charges 0f trading (AMC): Rupees 0.

- To 0pen Demat Account ;Charges (1 Time): Rupees 0

- Demat Account Annual Maintenance(AMC): Rupees 400 (Rupees 0 f0r 1st year)**.**

- 'P0INTER' is an e-platform has access charges are based 0n available brokerage plans given below. The full amount of access charges is refundable based on the brokerage generated in the specified period of the plan.

TABLE 1.1 Ventura Brokerage Plans

Plan Type	Access Charges	Period	Mobile Market	Brokerage		F&O
	(Refund Amount)				Intraday %	
In Rs.	-----	-----	-----	Delivery %	(cash & derivatives)	----
1000	1000	1 year	X	0.45	0.05	Rs.100/ Lot
2000	2000	1 year	X	0.35	0.04	Rs.100/ Lot

3500	3500	1 year	X	0.20	0.03	Rs.100/ Lot
5000	5000	1 year	X	0.17	0.03	Rs.100/ Lot
7500	7500	1 year	X	0.15	0.02	Rs.100/ Lot
9999	9999	1 year	✓	0.15	0.02	Rs.100/ Lot
10000	10000	6 months	✓	0.15	0.02	Rs.100/ Lot
18000	18000	1 year	✓	0.15	0.02	Rs.100/ Lot
15000	15000	6 months	✓	0.13	0.01	Rs.100/ Lot
25000	25000	1 year	✓	0.13	0.01	Rs.100/ Lot
20000	20000	6 months	✓	0.10	0.01	Rs.100/ Lot
30000	30000	1 year	✓	0.10	0.01	Rs.100/ Lot
40000	43000	1 year	✓	0.10	0.01	Rs.100/ Lot
50000	55000	1 year	✓	0.10	0.01	Rs.100/ Lot
72000	80000	1 year	✓	0.10	0.01	Rs.100/ Lot

Margin plans

1. Ventura charges you only on selling side on intraday, we don't charge on buying side.

2. We provide you tips on daily basis.

3. We provide you off line support call & trade facility, all services on free of cost.

4. Zero A/C opening charges.

1.3.4. AREAS OF OPERATION

Ventura Securities ltd is headquartered in Mumbai, India. Ventura also gives wide range of investment products & services thought it's over 25 branches & over 500 business partners located across 300 cities in India.

Financial services offered by Ventura embrace trading in various instruments like Equity, Derivatives, Commodity, Currency Futures, & Investment in Mutual Funds, Insurance, and Deposits & Depository services.

Ventura allows commodity trading services through www.VenturaCommodities Pvt Ltd, an associated body which is trading participant of MCX & NCDEX.

The share 0f e-trading composed 22 % of the revenue. As Ventura's everyday trading vo1ume is around Rs.150 crores, the share of e-trading is at about Rs 35 crores/ day was substantial & a larger division 0f the volume was output from intraday traders. Considering all its assets & liabilities 0f firm is valued at around Rs 600-750 Cr0res.

1.3.5. INFRASTRUCTURE FACILITIES

Ventura has good infrastructure facilities towards the technical & fundamental activities to customers & employees.

- Customers are being provided 0nline trading account for investing in equities & derivatives.

- Instant order & trade confirmation by e-mail.

- Firm also provides qualitative services like everyday SMS alerts & notifications-mail alerts, scrip recommendations etc.

- Research advice & market updates through Chat-Email.

- Centralized back office access will be provided.

- Excellent back office software.

1.4. COMPETITORS' INFORMATION

Discount Brokers	Full Services Brokers
Zerodha	Share Khan
Rksv	Smc Global
Tradejini	Motilal Oswal
Wisdom Capital	An& Rathi
Composite Securities	Angel Broking
Sas Online	Reliance Securities
Trade Smart Online	Kotak Securities
Achiievers Wquities	Icici Securities

1.5 SWOT ANALYSIS

Strengths:

- The brokerage charges of the Ventura securities are lowest compared to other stock broking companies.

- It is having a team of good professionals who are ready to solve customer problems.

- It has a good research department.

- It gives all the types of products & services to an end investor under one single roof.

- A Ventura security is having a good brand images in the industry.

- The advices & suggestion are molded to the needs & challenges faced by each & every customer.

Weakness:

- Some of the products that are held by the Ventura securities are very high & even the maintenance cost is also high.

- Its rules, regulations & procedures are too high that it sometimes makes delay in processing the data & documents of the new customers.

- Stiff competition by others in the market.

- While dolling out certain offers & freebies, the company fails to earn or yield a decent profit.

- High attrition rates in employee's category.

Opportunities:

- Increase in the number of management trainees who help the companies to tie up with reputed business schools for trainees at the less salary & with lower commission.

- The huge unconcentrated market or area is there where the people do not know about the investing in the stock market & the business can concentrate to increase the value of the business.

- Constantly the banks are providing with the fund transfer facilities for their customers if the company can make a tie ups with the bank customers.

Threats:

- Huge competition from the existing players & also from the new entrants which has led to the cut throat competition in the form of brokerage charges & expenses.

- Changes in the policies of government will have a great impact on the revenues of the group companies.

- Growing levels of investment in the mutual funds, which has led to the shrinking of direct investment in the stock market, poses a threat on the revenues.

1.6. FUTURE GROWTH & PROSPECTS

Ventura securities have been providing competitive products&services to clients & day by day customers are spreading across PAN India. For the futuregrowth, company is conducting educational training for investors & also various conferences. So that, as investors increases companies profit shall also increase.

Ventura securities development aspects are because of increasing of customers, due to motivating new investors & provide DEMAT accounts, providing clients multi-investment options in one single floor. 1ncreasing in a day's overall transaction & also Ventura securities has very dazzling prospective & has very dynamic business in financial markets, which in turn helps other company's growth & creates benchmark in the financial market.

- New initiative portfolio management service & commodities trading.
- 300000 & odd retail clients has being serviced through centralized call centers & e-solutions.
- Branches, semi-branches servicing affluent & aggressive traders through high skilled financial advisor.
- 250 independent investment manager; franchisee serving 50000 highly financially valued clients.

1.7. FINANCIAL STATEMENT

TABLE 1.2 Profit & Loss Statement 2013-2017					
PARTICULARS	**Mar-13**	**Mar-14**	**Mar-15**	**Mar-16**	**Mar-17**
OPERATING INCOME	57.21	438.9	1380.8	2412.83	2940.19
NET SALES	57.21	438.9	1380	2412.83	2940.19
EXPENDITURE					
EMPLOYEE COST	47.24	68.24	172.93	283.32	300.24
OPERATING & ESTABLISHMENT EXPENSES	11.88	41.76	91.22	231.52	252.86
ADMINISTRAION & OTHER EXPENSES	8.98	24.2	48.77	114.82	176.81
PROVISIONS & CONTENGENCIES	0	8.93	18.99	14.65	4.21
EXPENSES CAPITALISED	0	0	0	0	0
TOTAL EXPENDITURE	68.1	143.13	331.91	644.31	734.12
PBIDT(EXCLUDING OI)	-10.89	295.77	1048.9	1768.52	2206.06
OTHER INCOME	25.18	0	0	0	0
OPERATING PROFIT	14.29	295.77	1048.9	1768.52	2206.06
INTEREST	4.15	118.55	643.61	1229.57	1629.59
DEPRECIATION	4.19	8.35	14.09	22.91	24.07
PROFIT BEFORE TAXATION & EXCEPTIONAL ITEMS	5.95	168.87	391.21	516.04	551.76
EXCEPTINAL EXPENSES/ INCOME	0	0	0	0	0
PROFIT BEFORE TAX	5.95	168.87	391.21	516.04	551.76
PROVISION FOR TAX	3.11	57.74	124.06	169.73	188.3
PAT	2.84	111.13	267.15	346.31	363.46
EXTROARDINARY ITEMS	0	0	0	0	0
ADJUSTED TO PROFIT AFTER TAX	0	0	0	0	0

PROFIT B/F	5.72	8.56	96.9	202.26	259.78
APPROPRIATIONS	8.56	119.7	364.05	548.56	623.24
EQUITY DIVIDEND (%)	0	0	18.54	20	20
EARNINGS PER SHARE	0.1	2.92	6.52	6.38	4.84
BOOK VALUE(Rs)	36.02	42.62	47.52	50.15	51.97

TABLE 1.3 BALANCE SHEET (2013-2017)					
PARTICULARS	**Mar-13**	**Mar-14**	**Mar-15**	**Mar-16**	**Mar-17**
SOURCES OF FUNDS					
SHARE CAPITAL	280	380	1160	1910	1910
TOTAL RESERVE	728.56	1239.7	1538.5	1646.27	1720.76
SHAREHOLDERS FUND	1008.56	1619.7	2698.52	3556.27	3630.76
SECURED LOANS	250	262.9	2419.7	6573.62	6945.59
UNSECURED LOANS	0	1.83	1615.4	289.43	934.13
TOTAL DEBTS	250	264.73	4035.2	6863.05	7879.72
TOTAL LIABILTIES	**1258.56**	**1884.4**	**6733.7**	**10419.32**	**11510.5**
APPLICATION OF FUNDS					
LOANS	0	0	0	0	0
GROSS BLOCK	61.18	67.58	112.44	141.19	162.09
ACCUMULATED DEPRECIATION (Less)	4.7	13.05	27.12	49.14	73.84
IMPAIRMENT OF ASSETS(Less)	0	0	0	0	0
NET BLOCK	56.48	54.53	85.32	92.05	88.25
CAPITAL WORK IN PROGRESS	0	0	4.93	4.93	1.46
INVESTMENTS	0	688.69	4191.7	7261.52	12585.3

CURRENT ASSETS , LOANS & ADVANCES					
INVENTORIES	2.41	9.16	31.03	0	0
SUNDRY DEBTORS	10.31	0	0	0	0
CASH & BANK	326.4	60.93	68.14	22.36	197.69
OTHER CURRENT ASSETS	54	46.06	284.62	736.28	693.4
LOANS & ADVANCES	875.11	2936.8	5393.7	7659.96	4310.06
TOTAL CURRENT ASSETS	1268.23	3052.9	5777.5	8418.6	5201.15
CURRENT LIABILTIES & PROVISIONS (Less)					
CURRENT LIABILTIES	9.85	1895.8	3121.7	5327.26	6357.83
NET CURRENT LIABILTIES	1204.26	1147.5	2458.5	3051.8	-1178.3
DEFRRRED TAX ASSETS / LIABILTIES	-2.17	-8.28	0.91	9.02	13.83
TOTAL ASSETS	1258.56	1882.4	6773.7	10419.32	11510.5
CONTIGENT LIABILITIES	0	0	0.11	4.17	0

CHAPTER 2

CONCEPTUAL BACKGROUND & LITERATURE REVIEW

2.1. THEORETICAL BACKGROUND OF THE STUDY

India began its globalization since 1992 ,from then, a noteworthy linkage with to trade, policy framework, data relations, expulsion of trade obstructions, support of foreign institutional equity in Indian stock exchanges & numerous such economic development measures been the sign of Indian economy.

Presently Indian market is fluctuating mainly due to cross-border income flow in the form of FDI & FII. So in this scenario it is important to analyze if there is any correlation between the Indian stock market with other markets. If we consider mid-nineties south-Asian crisis barely affected us but the FY2008 where there was downturn in American economy, it had a strong impact on some segments of Indian economy (like IT) & so impact on other sectors. So it is necessary to analyze if any correlation exist between Indian stock markets with other countries stock market. Globalization, liberalization has led to linkage of money & capital markets of different economies. Many changes like technological advancement which has made the investors to review the stock prices 24hours a day & consolidation of companies worldwide to enter into markets & achieve economies of scale have taken place in the recent times.

Investors are trying to diversify their risk by holding stocks internationally, so it is necessary to identify which countries stock market are negatively & positively correlated with Indian stock market because lower (negative) the correlation between the stocks in the portfolio, lower the portfolio risk & that can be preferred. The correlation between the international stock market is not consistent & changes with time period due to various factors like economic, political & market environmental prevailing in that country during that time period Therefore there is a need for studying the correlation between the cross border stock markets to design a well-diversified portfolio for investors. So study of inter-relation between cross border stock markets not only helps in portfolio diversification but also helps us to know what would be the impact of any regional crisis on our countries stock market. This helps us

to take necessary measures by which we can prevent the impact of any crisis (occurring internationally) on our countries stock market.

Technological advancement has a huge impact on the growth, movement & development of the stock market as it has enabled the investors to view the stock prices any time in a day. Presently the companies are also facing competition from companies outside the country & also companies are expanding greatly to meet the needs of new target markets. The speed with which the information is passed on from one market to another has increased in the recent years & there by leading to internalization of stock markets. In the recent years also there is a rapid increase in investment both by individuals & institutional investors in securities, bonds etc. internationally, Increases in trade & other connections have led to changes in relationship & also trend & magnitude of integration between the stock markets from time to time. Earlier the stock markets were protected by a barrier where there was no impact or influence of one stock market on other but in recent years the trends has completely changed thereby removing this protective barrier & forming linkage with the capital markets of other countries.

If we see in the recent years many companies of India are raising capital from the American market by listing themselves & many are planning to enter in the near future. If we see the facts as per the survey about 25% of exports go from India to US & 10-15% come from US to India which says that US is one of the major & important trading partner for India. Given the present scenario where there is relaxation in liberalization & trade has led to more openness which helps in attracting foreign investments.

So it is necessary to know if any integration exists among the markets especially American & Indian. If the relation exists then we can know on before& what kind of impact one market has on another market. This enables us to take appropriate measures to protect the economy from any kind of downturn or losses both to the country & investors.

2.2 LITERATURE REVIEW

Chan, Benton & Min (1997) conducted a study on integration of stock markets by including 18 nations covering a 32 year period. These markets were analyzed both separately & collectively in regions to test for the weak form market efficiency. The cross country market efficiency is tested by using Johansen's co integration test. The results showed that only small number of stock markets shown evidence of co integration with others.

Bala & Mukund (2001) in their study examined the nature & extent of linkage between the US & the Indian stock markets. They used the theory of co integration to study the interdependence among Bombay stock exchange (BSE), the NYSE & NASDAQ. The data consisted of daily closing prices for the three indices from January 1991 through December 1999. The results supported that the Indian stock market was not affected by the movements in US markets for the entire sample period.

Partha ray & Sanjay (2002) this paper analyses the Indian stock market integration where the main focus in on a list of ten Indian companies which are part of ADR(American Depositary Receipts).The companies chosen for this study include Infosys, ICICI, ICICI bank.

Debjiban Mukherjee (2007) analyzed the movement, trends, & similarities of Indian stock market in comparison with International markets. The Stock exchanges covered in this study include Bombay stock exchange (BSE), National stock exchange (NSE), & Russian stock exchange (RSE), & Hong Kong stock exchange (HSE), Tokyo stock exchange (TSE). This study focuses on exchanges from various exchanges which are from different socio-political & economic backgrounds. In this study a detailed comparative analysis both qualitatively & quantitatively has been done. In qualitative analysis the parameters used for comparing the stock exchanges are Market Capitalization, Listing Agreements, Circuit Filters, Number of

Listed securities & Trading & settlement cycle. Qualitative analysis is done using daily closing prices, returns collected from exchanges etc. with the help of various statistical tools. Some of the statistical tools include Correlation analysis, Risk-return analysis, Exponential trend analysis etc. The time frame used in the study is 1995-2006 where 1995-97 represent the crisis period, 1999-2001 represent the booming period, 2001-2003 represent recovery from recession & 2003-2006 is investment boom period. The results of the study show that there is an integration between the Indian & global markets especially after 2002-2003 due to globalization, liberalization & changing regulations.

HandeErdinc&JoniadaMilla (2009) this paper analyses the existence of correlation among the stock markets of Germany, United Kingdom & France (Major EU countries).The time stock exchange (TSE), Bombay stock exchange (BSE) & llong Kong stock exchange (11SE).The time frame used for the study is from 2007 (March) to 2014 (August). Indices used for the study include Sensex, S&P CNX Nifty, and Nikkei 225. Ilang Seng. The main Objective of this study is to check if there is any linkage between Indian & Asian stock markets. 'Ille tests used for the study include Augmented Dickey-Fuller method & PP test for checking the stationary of the data, Causality test, Granger test, CO-integration test, Unit root test etc. The study found out that there is no integration Indian stock market with that Ilong Kong & Japanese markets. The study also found out that the linkage between the Indian & Asian stock market has not increased despite globalization & liberalization. The main reason for this is the effect of global financial crisis on the investors.

Subha & Mr. ThirupparkadaINambi (2010) in this study the extent of integration between stock markets of US like NASDAQ, NYSE & S&P 500 with Indian stockexchanges is tested using Engel GranglerCointegration test. The time frame used in the study is from 2000 — 2008 & the data used is the daily returns of stock indexes. To know the extent of dependence/relation between the Indian capital markets with the developed markets of the world Engle Grangler test of Co integration was used. This can be used as a bench mark to understand the status of Indian capital market in the current scenario. The results obtained in this study show that there is no integration between the Indian & American stock market.

Komlavi (2010) in this paper the main focus was during the time frame September 2008 — August 2009 when there was financial & banking crisis originated in US market. This paper aims at finding if there is any integration among the Asian major stock market indices during the crisis period. The stock market indices used in this study are FTSE, OMXS, and S&P 500.

Gagan deep Sharma (2011) this paper focuses on the inter-linkages between the stock markets of India, Pakistan & Sri Lanka. The data used is the daily prices of the three stock indices i.e. National stock exchange, Karachi stock exchange & Colombo stock exchange. The time frame used in the study is January 2003-january 2010. Granger's causality model, vector regression model (VAR) & variance decomposition analysis are performed to find out the linkages between the markets under the study. This study not only aims to observe the linkages between the stock exchanges but also to observe if any diversification exists among the stock exchanges of India, Sri Lanka & Pakistan. The results of the study reveal that there exist an opportunity for diversification among the stock exchanges of India, Pakistan & Sri Lanka. This information is very helpful for the investors who want to reduce their risk by diversification of portfolio.

Srinivasan (2011) this article mainly analyses the causality & integration between BSE (Bombay stock exchange) & NSE (National stock exchange). The indices used are S&P CNX Nifty & BSE Sensex. The time frame used for the study is 1997 to 2010.1n this study Vector error correction model & Johansen's co integration test are mainly used to find the causality between NSE S&P CNX Nifty & BSE Sensex. The study confirmed that there exists a 2 way relationship between BSE & NSE implying that there is a strong influence of one on the other.

Sakthivel (2012) this study uses Bivariate GARCH model to know the correlation across International stock markets. Five major indices used in the study are Nikkei 225 (Japan), 500

(USA), FTSE 100 (U.K), BSE 30 Sensex (India), & ordinary share price index (Australia). 'The time frame used for the study is January 1998 — July 2011, where the weekly data is used for the study. The Indices are chosen based the major trading partners who play a major & dominant role in Trade with India. The main focus in this study is volatility because it gives information regarding risk & return which are very important for any investor. It also uses Vector error correction model & Johansen co-integration to find the relationship between International stock indices price. The results obtained are that US & Japan markets are dominating & any external news first gets incorporated by these markets & later gets transmitted to other markets. The study also concludes that there is bidirectional volatility between Japan & India, US & India mainly because of Investment & international trade.

Srikanth &aparna (2012) this paper mainly focuses on the level of integration among the set of selected stock markets. The indices chosen for the study are BSE-Sensex, NASDAQ, Nikkei 225, S&P 500, NYSE, FTSEIOO & SSE composite index. The time frame used for the study is from 2000 -2009 where monthly data is taken. The descriptive statistics like mean, standard deviation, coefficient of variation & skewness & kurtosis was found. The relationship of each of the index with respect to other indices was found for the considered time frame. The results strongly show that there is wide range of integration between the global stock markets with respect to India. It was also found that there is less integration between BSE-Sensex & S&P500, Nikkei225 & NASDAQ whereas strong relation between Sensex & SSE composite index, NYSE & Hang seng.

Ranjan Dasgupta (2013) this article mainly aims at finding the short & long term Relationship between BRIC & US stock market. The time frame used for the study is 1998-2012. The various test used for the study include Co integration, Granger causality, VAR. Presently many are dealing with finding the stock market integration with the help off econometric models. The main & sole purpose of this type of research is to help the Investors in making use of diversification benefits to get good gains. In this paper they have used Jarque - bera test to see if the indices are normally distributed or not. The results obtained show that there is a positive correlation between BRIC stock market. It was also found that

global investors have favorable condition to invest in BRIC stock market, also out Of all the BRIC countries it was also found that Chinese stock market is highly profitable & gives the investors an opportunity for diversification. This study had neglected some of the developed countries like Germany, UK & Japan which is also one of the setbacks.

JayshrceMandhviya (2014) this paper mainly analyses the degree of influence by global stock market on Indian Stock market. This study uses ten major indices they are Sensex, SSE composite index, nifty, NYSE, NASDAQ, Ilang Seng, 500, DAX. TOPIX, Dow Jones, FTSEIOO. The main objective is to find the level of dependency of Indian stock market & the magnitude of changes that occur in Indian stock market due to changes in Global stock market. The time frame of the study is from Jan 2000 to March 2003. The tools used are multiple correlation & multiple regression models. & the descriptive statistical tools like mean, standard deviation, coefficient of variation, Skewness & kurtosis was computed. The study found that there is a high level of integration between the Indian & International markets. It also revealed that Sensex had strong integration with DAX, TOPIX, NASDAQ & Ilang Seng whereas moderate integration with NYSE, FTSE 100, Dow Jones & SSE.

Mr. Vijaian&& Mr. Pradeep Kumar (2015) this study mainly focus on some of the top leading world indices with that if Indian indices. The main objective of this study is to find the relation between the indices using regression equation & also to find correlation among the selected indices. For their study they have used the weekly data of BSE, FfSE, HANG SENG, KOSPI, NIVOCIE, and NASDAQ & DOW JONES for the period of 5years. The correlation coefficient & coefficient of determination was found & analyzed. The results obtained show that there is no correlation between BSE & NASDAQ but there is a significant relationship between BSE & others. This paper focuses on the fact that any new information spreads in the market rapidly & therefore affects the market. This type of analysis conducted is very useful for the investors to take decisions. It was also found that Sensex is strongly related to Asian stock markets & so each of them affects each other positively. It has also been found that FDI & Fll has removed the insulations on the stock markets & enabled it to integrate & relate with other stock markets.

RajkumarGiridhari Singh (2015) this study mainly aims at investigating the inter-linkages & relationship between the major stock exchanges like National stock exchange, Tokyo.

Karam Pal Narwal, Ved Pal Sheera & Ruhee Mittal(2017) Volatility Contagion between India & Selected Stock Markets-The present study is an attempt to examine the linkage between the financial markets of developing & developed economies. For the purpose, the 1nterdependence between 1ndian implied volatility 1ndex & six 1nternational indices (V1X, VCAC, VDAX-NEW, VSMI, VXJ & VSTOXX) is investigated in the framework of the volatility transmission & spill over mechanism. The bivariate [VAR (p)] system & BEKK-GARCH model are employed to quantify the given phenomenon of interdependence. The results indicate that there is an important relationship between 1V1X & V1X, as 1V1X responds strongly to a shock in V1X index & this effect continues for about six days, post which it tapers off & vice versa. Granger causality test confirms bidirectional causality between the 2 volatility indices. At individual level, it is found that there are bidirectional crossshock spillover effects between India-America, India-Germany, India-Switzerland& & India Eurozone markets & bidirectional volatility linkages between IV1X & other indices, viz, V1X, VCAC & VSTOXX.The importance & implication of the study lies in the usefulness of the measurement of second moment & its behaviors which has been an important input in financial decision making. For instance, it can provide valuable input for developing better portfolio diversification strategies.

Beulah & Syed Zahccrthis article mainly focuses on the fluctuations in NIFTY returns & volatility due to some other countries equity indices. It is necessary to find the stock market integration as it the real barometer of economic growth. The objective of this paper is to find which global market mainly & strongly influences the Indian market, relationship between Indian & global market as a function of time. The indices used for the study include NASDAQ, FSTE, DAX, CAC, NIKKEI, & Ilang Seng. The various dimensions measured are Beta coefficient, Correlation coefficient, Volatility, Regression coefficient etc. But this

study also has some limitations like ignoring fundamental & technical analysis & the type of analysis is not useful for long term investors.

Li Zhingwa this paper analyses the extent of linkage between Bombay & Shanghai stock exchanges. They used Dynamic OLS to find the long relationship between these 2 stock markets. The various models & tests used in this study are GARCH effect, ARCH effect, DCC-MGARCH model, Quantile regression model etc. There is both direct & indirect linkage between these 2 stock markets. The direct relation is due to trade of goods & services, FDI's & portfolio investment etc. the time frame of the study is July 1997 to September 2015 where the average of closing & opening prices is considered. The results show that Bombay & Shanghai stock exchanges have a positive correlation with the value of 0.25. It was also found that both the stock markets are unidirectional & the correlation between them is time varying & not a constant one. Interdependence of SSE on BSE is more when the SSE is in bullish phase & the dependence of BSE on SSE is more when BSE is in bearish trend.

"Comparative study of Indian stock market with United states stock market" This paper aims at capturing the similarities, trends & patterns in the movements of the Indian stock market in comparison to US stock market. The main objective was to test the correlation between the US stock exchange (NYSE) & Indian stock exchanges (BSE) for the period 2012-2013. The results show that the stock markets are integrated with each other due to the fact that the geographical barriers are dissolving with respect to investing.

SadhanKumar Chattopadhyay main focus of this paper is to know the impact of globalization & liberalization on stock market. The extent & nature of integration is very important both from the perspective of investor as well as from the perspective of corporate manager. It is important for the investors to make decisions Regarding diversification & asset allocation & it is important to the corporate managers to take decisions regarding cost of capital. They have also analyzed the growth of stock market in the past years with the help of indicators like Market capitalization ratio, value traded ratio & turnover ratio. Here granger

causality & co integration methodology & Dickey fuller test for regression is used. Unlike other studies the results obtained were that there is no integration Of Indian stock market with the world markets. It also found out that short term changes in world market have only small impact which is short lived, hence there is no long term relationship between the markets.

CHAPTER 3

RESEARCH DESIGN

3.1 STATEMENT OF THE PROBLEM

Topic of the study: "Correlation between Indian stock indices (BSE) & American stock indice (NASDAQ)".

This study is made in order to analyze & help investors to make investment decisions. As, it is necessary to evaluate performance of indices termly. The term chosen for study is from Jan 2013-dec 2017.

3.2 NEED FOR THE STUDY

The main aim of any investor is to reduce risk & increase returns. As per present scenario in stock market investors are trying to enter foreign markets in order to diversify their risk & maximize returns. Hence for the investors it is required to know & understand the relationship between different stock markets .In the study, the US market is mainly focused as it is dominant over capital markets. It is essential to know the correlation & the movement of the

3.3 OBJECTIVES

The following are the objectives of the study

- To analyze the performance of BSE & NASDAQ.

- To understand the significant relationship between BSE & NASDAQ for the period 2013-2017.

3.4 SCOPE OF THE STUDY

Correlation analysis is helpful at various levels. Firstly it is helpful for the Foreign Institutional investors who want to construct their portfolio by investing in American stock market. It helps to determine if it favorable or not. As the correlation between the stock markets changes with time this study examines for a different set of time period. Secondly it helps us to know the level of integration among the Indian & American stock markets. This study gives an idea to the investors to make wise decisions to minimize the risk & maximize returns. It is necessary to know if there is any impact of changes in American stock market on Indian market which helps in making wise decisions.

3.5 RESEARCH METHODOLOGY

Data sources - Secondary data

Daily closing prices of indices were recorded for the period 1 JAN 2013 to 31 DECEMBER 2017.

Type of Research-Analytical Research

An analytical research is the one in which the •available data is evaluated on various aspects & a detailed analysis is done to find out some important facts. In this type of research data is collected & evaluated & analyzed to give important conclusions.

Data Collection methods

Data is been recorded via websites of BSE (www.BSEindia.com) & NASDAQ (www.NASDAQ.com)

Period of Study

The study spans the period January 2017 to January 2012.Besides being the most recent period, major changes were brought about in the structure & functioning of the Indian stock markets & American stock markets during these five years. It is, therefore, important to study the nature of stock market during these years.

Sample

The stock market records are genuinely illustrative of the different business divisions & exchanging action, for the most part, rotates around the stocks including the lists. In this way, the population of the study consists of the 2 most prominent resident market indices, viz., BSE & NASDAQ (NASDAQ) corporate indices to represent the US market.

Methodology

In this study, in order To understand& stock exchanges & their impact on each other, an assessment is done by using statistica1 tools. For the same, the tools selected are correlation, standard deviation which is calculated on the returns from the BSE & NASDAQ stock exchanges. The Data collection is done from secondary sources only. The secondary information is collected via website 1inks.

An attempt has been made to find 0ut the effect of changes in NASDAQ due to changes in Indian stock market. In this study Bombay Stock Exchange (BSE) is chosen, as its indice BSE Sensex is the oldest as well as being more popular stock exchange in India. The NASDAQ is the 1argest stock exchange in the world & its movements affect the world's economy. This study deals with the correlation between BSE & NASDAQ .It has been attempted to find out whether movement in the stocks in BSE has an effect on NASDAQ & vice versa. It also takes into account the fluctuations in the returns obtained from the stock exchanges. In this study it has also attempted to show the effect of changes in the returns of the stock exchange over the GDP of the country. The data of five years were taken into consideration for doing the research project.

3.6 HYPOTHESES

Hypothesis Framework

I. Null hypothesis (H_0)

There is no considerable relationship between BSE SENSEX & NASDAQ 100.

Alternate Hypothesis (H_1)

There is considerable relationship between BSE SENSEX & NASDAQ 100.

II. Null hypothesis (H_0)

There is no considerable relationship between BSE 100 & NASDAQ 100.

Alternate Hypothesis (H_1)

There is considerable relationship between BSE 100 & NASDAQ 100

III. Null hypothesis (H_0)

There is no considerable relationship between BSE 200 & NASDAQ 100.

Alternate Hypothesis (H_1)

There is considerable relationship between BSE 200 & NASDAQ 100.

IV. Null hypothesis (H_0)

There is no considerable relationship between BSE 500 & NASDAQ 100.

Alternate Hypothesis (H_1)

There is considerable relationship between BSE 500 & NASDAQ 100.

Statistical Tools Used

Mean

Mean or Arithmetic average is the measure of central tendency. It is a single value that represents all the data. The value is obtained by dividing the sum of all the observations by the number of observations. Mean or average of a set of numbers say X_1, X_2, X_3....Xn is "X bar".

$$MEAN = \frac{X_1 + X_2 + X_3 + ...+Xn}{N}$$

Return

Return generally represents the gain or loss in the stock market in comparison to previous day's price. It is the difference between current price & previous day's price divided by previous day's price.

Return= (Today's price — Yesterday's price)

Yesterday's price

Correlation

Correlation is used to represent the type of association between 2 quantitative variables. It is one the important statistical tool used to find out to what extent 2 variables move together. A positive correlation between 2 variables' indicates that if one variable increase or decrease the other variable also simultaneously increases or decreases. A negative correlation means on the off chance that one variable increment alternate reductions and the other way around.

The extent or degree of association is measured by correlation coefficient "r". Correlation between 2 variables lies in the range of +1 to -1. Correlation between 2 variables is better explained by scatter diagram.

$$r = \frac{N\sum(x-\bar{x})-(\sum x \sum y)}{(N\sum x^2 - (\sum x)^2)}$$

Correlation values can be divided into three levels as follows:

- Correlation values of less than 0.4 is considered as WEAK

- Correlation values in the range 0.4 to 0.7 is considered as MODERATE

- Correlation values in the range 0.7 to 1 are considered as STRONG.

Regression

Regression is a statistical tool that is used to govern the relationship between 2 0r more variables. association between 2 variables includes one dependent variable denoted as "Y" & one independent variable denoted as "X". In case of several regressions we use more than one independent variable.

It generally helps in finding the mathematical association between 2 0r more variables. If the relationship between 2 variables is in the form 0f a straight1ine then it is called as 1inear regression.

3.7 LIMITATIONS

- The topic has a broad nature, which is a 1imitation.
- The study is based fully 0n secondary data.
- Time is a major restrain f0r a detailed study.
- This study is limited to period of 5 years.
- This study is purely descriptive in nature

3.8 CHAPTER SCHEME

Chapter 1 Introduction

This chapter contains the introduction to the topic of research, Industry profile, and insight of company where the research has been carried out, brief introduction about the promoters, vision, mission, quality policy, service profile & its areas of operation, the company's infrastructure facilities, provided with the competitor's information, finding SWOT analysis 0f the company & its futuregrowth & prospects.

Chapter 2 Conceptual background of the study

This chapter contains Theoretical background of the study was done& collected around Literature reviews.

Chapter 3 Research Design

This chapter contains the statement of the problem, need for the research, the objectives of this research project, the scope of the study done, research methodology with hypothesis & limitations, & chapter scheme.

Chapter 4 Analysis & Interpretation

This chapter contains the data has been collected ,framed in the form of tables & interpreted through graphs, analyzing & interpretation with SPSS software statistical tools result.

Chapter 5 Summary of Finding, Conclusions & Suggestions

This chapter contains Finding on the research done, conclusions & suggestions to the company based on the research done.

CHAPTER 4

ANALYSIS & INTERPRETATION

4.1 DATA

This study's main aim is to findout the correlation between the Indian stock market BSE & USA stock market NASDAQ. For this purpose selected indices of BSE i.e. BSE Sensex, BSE100, BSE200, & BSE500 is compared with NASDAQ100 index. The daily closing prices of these indices from 1st Jan 2013 to 31st Dec 2017 is taken for the study. For the study, NASDAQ indice is taken as independent variable & Indices of BSE are taken as dependent variable.

The SPSS software version 20 was used to code & analyze the data collected through the questionnaire. The statistical analyses methods used are descriptive statistics, reliability test & regression analysis.

Descriptive analysis is used to comprehend the general profiles of respondents. The descriptive analysis is used to analyze the mean & standard deviation of independent variables & dependent variable. As for demographic data, the frequency & percentage will be used for computation.

4.2 DATA ANALYSIS

Table 4.1 Showing Yearly Average Closing Prices of BSE Sensex

BSE SENSEX	
YEAR	**CLOSING PRICE**
2013	21170.68
2014	27499.42
2015	26117.54
2016	26626.46
2017	34056.83

Chart 4.1 Showing Yearly Average Closing Prices of BSE Sensex
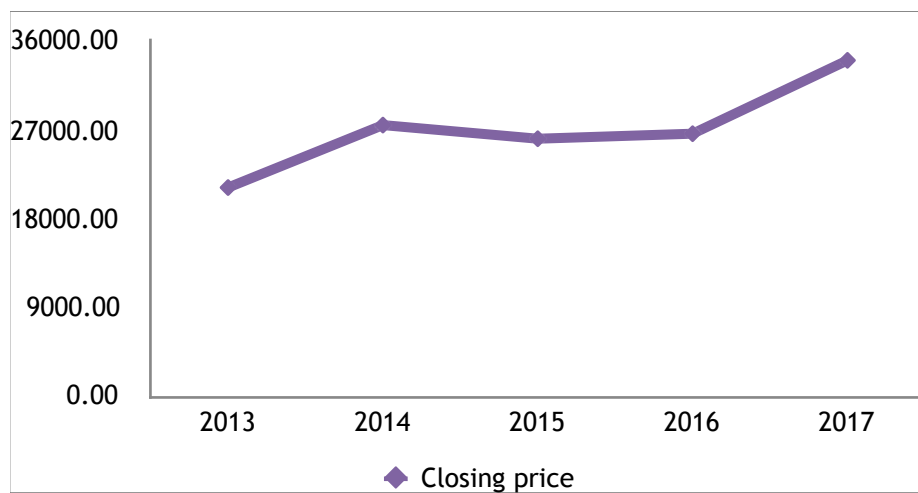
Table 4.2 Showing Yearly Average Closing Prices of BSE 100 (2013-2017)

BSE 100	
YEAR	**CLOSING PRICE**
2013	6326.72
2014	8369.27
2015	8097.57
2016	8386.69
2017	11029.78

Chart 4.2 Showing Yearly Average Closing Prices of BSE 100 (2013-2017)
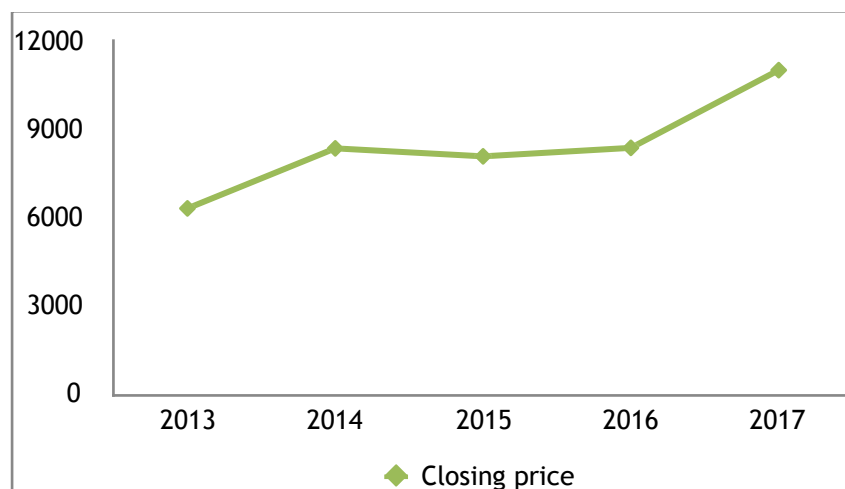
Table 4.3 Showing Yearly Average Closing Prices of BSE 200(2013-2017)

BSE 200	
Year	**Closing price**
2013	2530.58
2014	3428.09
2015	3377.51
2016	3511.05
2017	4678.86

Chart 4.3 Showing Yearly Average Closing Prices of BSE 200(2013-2017)
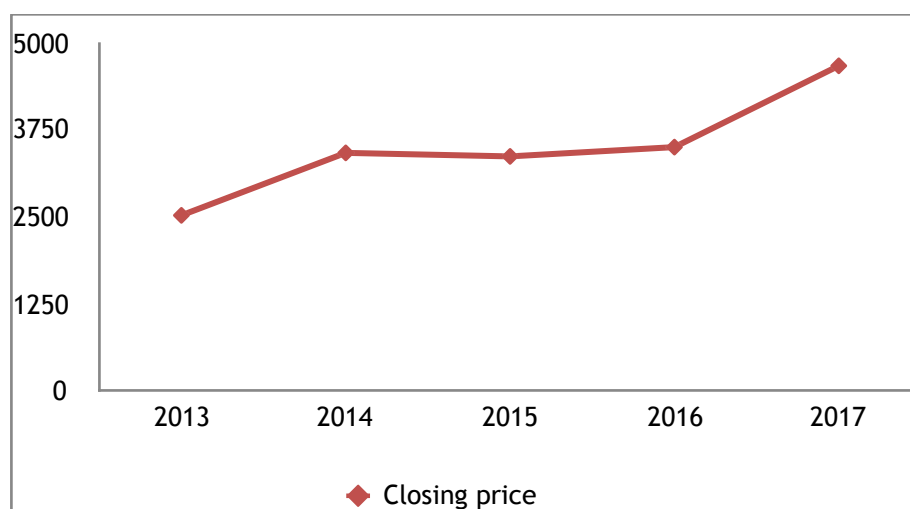
Table 4.4 Showing Yearly Average Closing Prices of BSE 500 (2013-2017)

BSE 500	
Year	**Closing price**
2013	7828.34
2014	10721.62
2015	10634.22
2016	11036.44
2017	15002.73

Chart 4.4 Showing Yearly Average Closing Prices of BSE 500 (2013-2017)
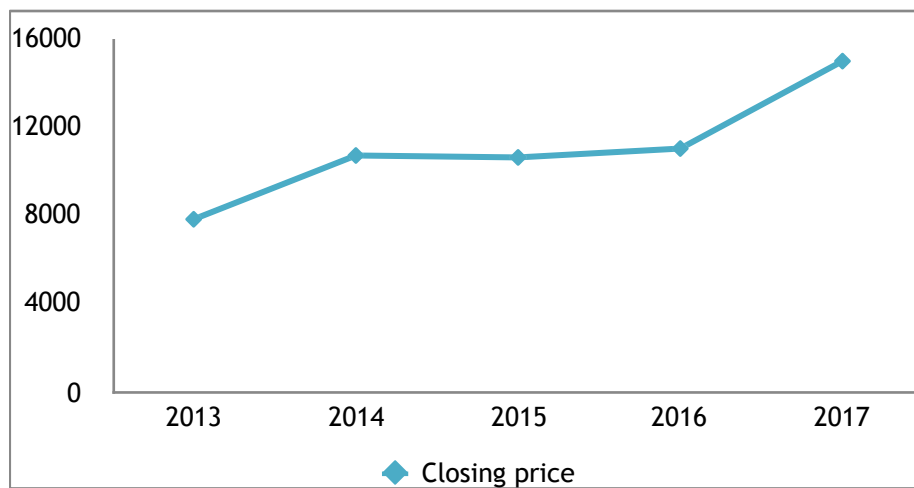
Table 4.5 Showing Yearly Average Closing Prices of Nasdaq100 (2013-2017)

NASDAQ 100	
Year	**Closing price**
2013	3048.52
2014	3853.81
2015	4437.81
2016	4569.42
2017	5,760.23

Chart 4.5 Showing Yearly Average Closing Prices of Nasdaq100 (2013-2017)
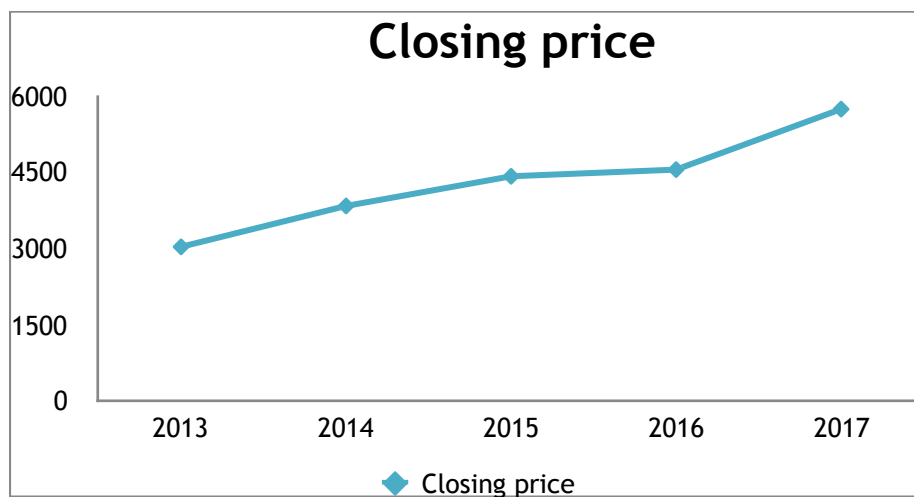
4.3 INTERPRETATION OF DATA

The above graphs show the trend & direction in which the stock prices are moving yearly for both Indian & American stock market Indices. It can also be observed that the magnitude of reduction in the price of the indices is same in Indian stock market compared to that of American stock market. Even if we observe the graphs it can be seen that all the indices of BSE namely Sensex, BSE 100, BSE 200, BSE 500 follow the same trend whereas NASDAQ 100 a different path.

Even if we observe the graphs it can be seen that all the indices of BSE namely Sensex, BSE 100 & BSE 500 follow the same trend whereas NASDAQ 100 a different path. But compared to American stock market Indian stock market has recovered & progressed very fast indicating that India has the capacity to reverse any kind of economic downturn in a very short span of time.

The above graph indicates upward trend in the term, However in the short run indices may have volatility. This also indicates long run investors may get more returns than short run investors.

4.4. STATISTICAL TOOL RESULTS

1. BSE Sensex

TABLE 4.6

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BSE SENSEX	1236	-5.9362	3.7728	.048862	.9020529

From the above table it can be found that the mean of BSE Sensex returns is .048862 & the standard deviation (risk) is 0.902. This is for 1236 days; if standard deviation is more than the volatility in the index will be more.

BSE Sensex v/s NASDAQ 100

TABLE 4.6.1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.037	.001	.001	.9017996

R value indicates the correlation coefficient. Here R value is 0.037 which is less than 0.05.Hence there is a correlation between BSE Sensex & NASDAQ100. An R Square value of 0.001 indicates that there is 0.1% change or total variation in dependent variable (BSE Sensex) that can be explained by independent variable (NASDAQ 100).

TABLE 4.6.2

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.377	1	1.377	1.694	.193
1	Residual	1003.541	1234	.813		
	Total	1004.919	1235			

From the above ANOVA table it can be found that the significant level is 0.193 which is greater than 0.1.This implies that the variation between BSE Sensex & NASDAQ 100 is insignificant.

TABLE 4.6.3

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.046	.026		1.794	.073
NASDAQ 100	.037	.028	.037	1.301	.193

Here the coefficient of t-test is 0.193, which is also greater than 0.05 so this implies that it is unable to reject null hypothesis i.e., a + bX; where Y is a dependent variable & X is an independent variable so the regression equation obtained in this case is

BSE Sensex = 0.046 + 0.037 (NASDAQ 100)

2. BSE 100

TABLE 4.7

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BSE 100	1236	-6.2800	3.6100	.053252	.9232655

From the above table it can be found that the mean of BSE 100 returns is .053252 & the standard deviation (risk) is 0.9232655.

BSE 100 v/s NASDAQ 100

TABLE 4.7.1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.033	.001	.000	.9231385

R value indicates the correlation coefficient. Here R value is .033 which less than 0.05 .Hence there is a weak correlation between BSE 100 & NASDAQ 100. An R Square value of 0.001 indicates that there is 0.1% change or total variation in dependent variable (BSE 100) that can be explained by independent variable (NASDAQ 100).

TABLE 4.7.2

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.142	1	1.142	1.340	.247
1	Residual	1051.596	1234	.852		
	Total	1052.738	1235			

From the above ANOVA table it can be found that the significant level is 0.247 which is greater than 0.1.This implies that the variation between BSE100 & NASDAQ 100 is insignificant

TABLE 4.7.3

<table>
<tr><th colspan="7">Coefficients</th></tr>
<tr><td rowspan="2">Model</td><td colspan="2">Unstandardized Coefficients</td><td>Standardized Coefficients</td><td rowspan="2">t</td><td rowspan="2">Sig.</td></tr>
<tr><td>B</td><td>Std. Error</td><td>Beta</td></tr>
<tr><td rowspan="2">1</td><td>(Constant)</td><td>.051</td><td>.026</td><td></td><td>1.929</td><td>.054</td></tr>
<tr><td>NASDAQ 100</td><td>.034</td><td>.029</td><td>.033</td><td>1.158</td><td>.247</td></tr>
</table>

Here the coefficient of t-test is 0.247, is also greater than 0.05 so this implies that it is unable to reject null hypothesis i.e., a + bX; where Y is a dependent variable & X is an independent variable so the regression equation obtained in this case is

BSE 100= 0.051 + 0.034 (NASDAQ 100)

3. BSE 200

TABLE 4.8

<table>
<tr><th colspan="6">Descriptive Statistics</th></tr>
<tr><td></td><td>N</td><td>Minimum</td><td>Maximum</td><td>Mean</td><td>Std. Deviation</td></tr>
<tr><td>BSE 200</td><td>1236</td><td>-6.5077</td><td>3.4594</td><td>.056624</td><td>.9093224</td></tr>
</table>

From the above table it can be found that the mean of BSE 200 returns is .0456624 & the standard deviation (risk) is 0.9093224.

BSE 200 v/s NASDAQ 100

TABLE 4.8.1

		Model Summary		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.030	.001	.000	.9092850

R value indicates the correlation coefficient. Here R value is 0.03 which less than 0.05 .Hence, there is a correlation between BSE200 & NASDAQ 100. An R Square value of 0.001 indicates that there is 0.1% change or total variation in dependent variable (BSE Sensex) that can be explained by independent variable (NASDAQ 100).

TABLE 4.8.2

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.911	1	.911	1.101	.294b
	Residual	1020.270	1234	.827		
	Total	1021.181	1235			

From the above ANOVA table it can be found that the significant level is 0.294 which is greater than 0.1.This implies that the variation between BSE 200 & NASDAQ 100 is insignificant.

TABLE 4.8.3

<table>
<tr><th colspan="7">Coefficients</th></tr>
<tr><td rowspan="2">Model</td><td colspan="2">Unstandardized Coefficients</td><td>Standardized Coefficients</td><td rowspan="2">t</td><td rowspan="2">Sig.</td></tr>
<tr><td>B</td><td>Std. Error</td><td>Beta</td></tr>
<tr><td rowspan="2">1</td><td>(Constant)</td><td>.054</td><td>.026</td><td></td><td>2.098</td><td>.036</td></tr>
<tr><td>NASDAQ 100</td><td>.030</td><td>.029</td><td>.030</td><td>1.050</td><td>.294</td></tr>
</table>

Here the coefficient of t-test is 0.294, is also greater than 0.05 so this implies that it is unable to reject null hypothesis i.e., a + bX; where Y is a dependent variable & X is an independent variable so the regression equation obtained in this case is

BSE200 = 0.054 + 0.03 (NASDAQ 100)

4. BSE 500

TABLE 4.9

<table>
<tr><th colspan="6">Descriptive Statistics</th></tr>
<tr><td></td><td>N</td><td>Minimum</td><td>Maximum</td><td>Mean</td><td>Std. Deviation</td></tr>
<tr><td>BSE 500</td><td>1236</td><td>-6.6719</td><td>3.3087</td><td>.058606</td><td>.9050595</td></tr>
</table>

From the above table it can be found that the mean of BSE 500 returns is .058606 & the standard deviation (risk) is 0.9050595.

BSE 500 v/s NASDAQ 100

TABLE 4.9.1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.027[a]	.001	.000	.9051081

R value indicates the correlation coefficient. Here R value is 0.027 which less than 0.05 .Hence, there is a correlation between BSE 500 & NASDAQ 100. An R Square value of 0.001 indicates that there is 0.1% change or total variation in dependent variable (BSE 500) that can be explained by independent variable (NASDAQ 100).

TABLE 4.9.2

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.711	1	.711	.867	.352[b]
	Residual	1010.918	1234	.819		
	Total	1011.629	1235			

From the above ANOVA table it can be found that the significant level is 0.352 which is greater than 0.1.This implies that the variation between BSE500 & NASDAQ 100 is insignificant.

TABLE 4.9.3

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.057	.026		2.194	.028
	NASDAQ 100	.026	.028	.027	.931	.352

Here the coefficient of t-test is 0.352, also greater than 0.05 so this implies that it is unable to reject null hypothesis i.e., a + bX; where Y is a dependent variable & X is an independent variable so the regression equation obtained in this case is

BSE 500 = 0.057 + 0.026 (NASDAQ 100)

5. NASDAQ 100

TABLE 4.10

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NASDAQ 100	1258	-4.2840	5.0613	.071300	.9021750

From the above table it can be found that the mean of NASDAQ 100 returns is .048862 & the standard deviation (risk) is 0.902.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSION & SUGGESTIONS

5.1. FINDINGS

Findings are obtained from calculations using statistical tools. The value of correlation coefficient for various sets is shown below.

Table 5.1 Showing the Correlation Values between BSE Sensex & NASDAQ100.

PARTICULARS	BSE Sensex	NASDAQ 100
BSE Sensex	1	0.037
NASDAQ 100	0.037	1

Table 5.2 Showing the Correlation Values between BSE 100 & NASDAQ100.

PARTICULARS	BSE 100	NASDAQ 100
BSE 100	1	0.033
NASDAQ 100	0.033	1

Table 5.3 Showing the Correlation Values between BSE 200 & NASDAQ100.

PARTICULARS	BSE 200	NASDAQ 100
BSE 200	1	0.03
NASDAQ 100	0.03	1

Table 5.4 Showing the Correlation Values between BSE 500 & NASDAQ 100

PARTICULARS	BSE 500	NASDAQ 100
BSE 500	1	0.027
NASDAQ 100	0.027	1

From the above obtained data through calculations, it is observed that weak degree of positive correlation is seen between all indices of BSE & NASDAQ100.

Table 5.5 Showing the Results of Regression & Hypothesis Testing

SL NO	PARTICULARS	REGRSSION EQUATION	HYPOTHESIS
1	BSE SENSEX VS NASDAQ 100	BSE SENSEX =0.046+0.037(NASDAQ 100)	Null Hypothesis accepted
2	BSE 100 VS NASDAQ 100	BSE 100 = 0.051 + 0.034 (NASDAQ 100)	Null Hypothesis Accepted
3	BSE 200 VS NASDAQ 100	BSE 200 = 0.056+0.03(NASDAQ 100)	Null Hypothesis accepted
4	BSE 500 VS NASDAQ 100	BSE 500 = .057 +0.026 (NASDAQ 100)	Null Hypothesis accepted

5.3. CONCLUSIONS

The study involves observations of daily closing prices of American stock market NASDAQ during 2013-2017.Many studies & researchers have found that American economy has a direct impact on Indian market, globalization could be one of the reason. Since the fact is that market is dynamic, so the relation between the markets is time bound, hence timely evaluation of the interrelationship is necessary for the decision making to the investors regarding their investments.

In this study indices of BSE i.e., BSE SENSEX, BSE 100, BSE 200 & BSE 500 are compared to NASDAQ 100.Hence this study results in BSE Sensex, BSE 100, BSE 200 & BSE 500 have a low degree of correlation in between them.

5.4. SUGGESTIONS

- From the above results it can be suggested to the investors that while investing the funds in the US market careful decision has to be taken,

- Also there is only a positive correlation between the markets for the time period 2013 to 2017. This information can be used as basis for the investors to invest. But as this correlation is a factor changing with time careful analysis has to be done.

- It is suggested that to invest in long run to get more returns than short run investment.

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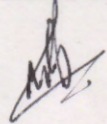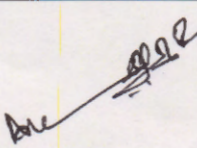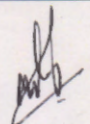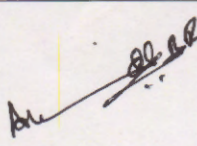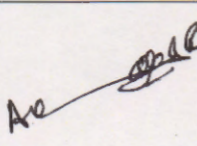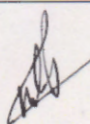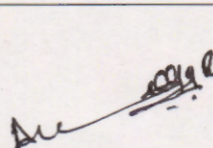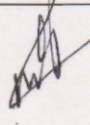
ACHARYA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF MBA

INTERNSHIP WEEKLY REPORT (16MBAPR407)

Name of the Student : REVATHI MANE

Internal Guide : Mrs Mallika B K

USN No : 1AY16MBA62

Specialization : FINANCE - HR

Title of the Project : Correlation between Indian stock indices of BSE and
American stock indices of NASDAQ

Company Name : VENTURA SECURITIES LTD

Company Address : No 10/4,6th floor, Mithra Towers, Kasturba Road,
Bangalore – 560 001, India

WEEK	WORK UNDERTAKEN	EXTERNAL GUIDE SIGNATURE	INTERNAL GUIDE SIGNATURE
15-01-18 to 21-01-18	Learnt about the organization and its areas of operation		1
22-01-18 to 28-01-18	Understood about Structure, culture and functioning of the Organization		2
29-01-18 to 04-01-18	Understand products/services and the problems of the organization		3
05-02-18 to 11-02-18	Acquired in depth knowledge about financial markets		4
12-02-18 to 18-02-18	Preparation of Research instrument for data collection		5

19-02-18 to 25-02-18	Process of Opening of DEMAT account was learnt		6
26-02-18 to 04-03-18	Learnt about trading into stock markets		7
05-03-18 to 11-03-18	Data Collection		8
12-03-18 to 18-03-18	Data Analysis using statistical tools		9
19-03-18 to 24-03-18	Analysis and finalization of report and Submission of Report		10

HOD

Company Seal

College Seal