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OUR ANNUAL SEMINAR AT GLANCE

Sr. No.	Date	Theme	Venue
First Annual Seminar	12th Feb 2004	Managing Structural Changes in Financial Sector	Hotel Grand Maratha
Second Annual Seminar	12th Nov. 2005	Sustaining Growth in An Organisation	Hotel Ramada Plaza Palmgrove
Third Annual Seminar	4th Nov. 2006	Developing& Implementing Growth Strategies	Hotel Taj Land End
Fourth Annual Seminar	19th Dec. 2007	Leading Change in & Innovation	Hotel Grand Hyatt
Fifth Annual Seminar	8th Nov. 2008	India Inc- Challenges Next	Hotel Taj Lands End
Sixth Annual Seminar	11th Dec. 2009	Creating Winning Organisations (Pragati)	World class Atharva Auditorium, 3rd Phase AET Campus, Malad (W)
Annual Conference	16th Jan. 2010	Competing in the Times of Uncertainity (Aswamedh)	World class Atharva Auditorium, 3rd Phase AET Campus, Malad (W)
Annual Conference	4th & 5th Feb. 2011	Emerging issues in global economy and management-Challenges & Strategies	World class Atharva Auditorium, 3rd Phase AET Campus, Malad (W)
SeventhAnnual Seminar	11th Feb. 2011	Transforming Organizations: Emerging Trends(Parivartan)	Presentation Hall,3rd Phase, AET campus, Malad (W).
Annual Conference	12th Nov.2011	"Global Turmoil - Opportunities For India"	World Class Auditorium,3rd Phase, AET campus, Malad(W).
Panel Discussion	4th Feb. 2012.	"Gender Inclusivity In India-Building An Empowered Organization"	Seminar Hall, 3rd Phase, AET campus, Malad-(W).
Annual conference	12th Jan.2013	Panel discussion on "Reassuring Confidence In India"- Road Map To recovery "	Seminar hall, 3rd phase, AET campus, Malad-(W)
Atharva International Research Conference	19th July 2014	"Emerging Patterns of Innovation in Business: Challenges & Strategies"	Seminar hall, 3rd phase, AET campus, Malad-(W)

MESSAGE, FROM THE EXECUTIVE PRESIDENT.

Shri Sunil Rane
Executive President, Atharva Group of Institutes
Founder Secretary, Atharva Educational Trust

" Warm Greetings to all the readers , on behalf of "Atharva Group Of Institutes". This year 2014, we have taken several steps and initiatives for improving the quality of business education and development of students.

Since its inception in 2003 "ATHARVA" has witnessed a variety of development initiatives. From engineering to management , hotel management and catering technology, Fashion and Information technology. This year there are two more new feathers in our cap, Atharva School Of Drama And Performing Arts and Atharva Institute Of Film And Television.

With a world-class infrastructure and amenities, we at "ATHARVA" always uphold the values of dedication, discipline and humility in creating excellence.

Business Today has ranked us at 98 of the top 240 management institutes in Pan India. For the third year in succession they have ranked us as one of the top management institution all over India.

We have innovative teaching pedagogy and methodology which make education relevant to real life. There is a great deal of emphasis on role-play, simulations, case-studies in addition to our seminars, conferences, panel discussions and other co-curricular and extra-curricular activities. This helps the students to translate management concepts into practical realities. Management is not just confined to education. But it is an attitude which involves creative thinking, fostering leadership and ability to connect with people from different walks of life.

This issue of our "ATHARVA"- A Journal Of Management Research contains interesting contributions from professional experts in different sectors.

Atharva Educational Trust

Atharva

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EDITORIAL

Today, in the challenging global environment, managers have to meet the challenges and adapt to the changing needs of the organization and the environment. The main focus is on creating "Excellence" using competitive advantage. Whatever the level of automation, the involvement of people in an organization cannot be dispensed with. An inter-disciplinary examination of the human capital in the work-place is done with an understanding of psychology, organization behavior, industrial relations, Industrial engineering, Sociology, Legal and paralegal studies and critical theories of post modernism and post structuralism.

Managers and leaders also need to have an inter-disciplinary approach in order to comprehend the dynamics of different functional areas of business and make judicious decisions within the limitations of all the resources. In business, problem-solving is not restricted to a single functional area. A problem may be perceived in one department, but may actually exist in another. A solution to a particular problem could impact not just that area but others too, for example an action policy in the Human resources could impact areas of finance, marketing , operations etc. and vice versa.

This issue of "ATHARVA" Journal provides selected articles with much subjective variety and objective research content. Hope you enjoy reading the same!

Best Wishes & Regards

Dr. Rekha Shenoy.

Atharva

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Earnings Quality and U.S. Stock Exchange Listing: Empirical evidence from Indian IT Companies

Hrishikesh Desai, ACA

Abstract

Indian companies have always faced difficulty in listing on U.S. stock exchanges such as NYSE or NASDAQ mainly on account of the stringent regulatory norms and high costs associated with ensuring compliance with these norms. Indian IT companies typically prefer an overseas listing since they have a global client base and a U.S. stock exchange listing gives support to their overall market position. Since only a handful of Indian ADRs are listed on these bourses, I analyse two specific IT companies for any changes in their earnings quality post listing. I also examine other aspects of the impact of a NYSE or NASDAQ listing on the earnings quality of these companies. Overall, my findings suggest that earnings quality did not get significantly affected positively or negatively due to the listing and both companies had already reached a high level of earnings quality prior to their listing.

Introduction

The United States has the most highly developed capital markets in the world. The New York Stock Exchange (NYSE)is the largest stock exchange in the world by both market capitalization and trade value. It is the premier listing venue for the world's leading companies. It is operated by NYSE Euronext, the holding company which is created by the combination of NYSE Group, Inc. and Euronext N.V. NASDAQ (National Association of Securities Dealers Automated Quotations), which is owned by the NASDAQ OMX Group, is the second largest stock exchange in the world by market capitalization and trade value. Foreign company stocks list on the NYSE and NASDAQ as American Depository Receipts or ADRs. An ADR is a negotiable security representing ownership of shares in a Non-U.S. corporation. Being on U.S. stock exchanges such as NYSE and NASDAQ helps Indian companies to find new investors more easily and inspire confidence in their overall market position. In the past decade, only a handful of Indian companies have listed as ADRs on the NYSE and NASDAQ despite the large size of the Indian economy. As of 2011, only around 13Indian ADRs had listed on these U.S. stock exchanges. Listing on these U.S. stock exchanges has always been a challenge for Indian companies mainly due to the stringent regulatory norms and high costs. Corporate governance in the U.S. became a critical issue after the introduction of the Sarbanes

Oxley Act of 2002.Indian companies now opt for overseas listing only after they have adopted a certain level of corporate governance practices.

Of the Indian ADR stocks that list on the NYSE and NASDAQ, majority are of those companies which have market cap exceeding □ 400 Billion. These companies areas follows: Dr. Reddy's Laboratories which is a pharmaceutical company, Tata Motors which is an automobile company, Infosys and Wipro which belong to the IT Services industry and finally HDFC Bank and ICICI Bank which belong to the banking &financial services industry. A brief summary of these six companies along with their NYSE listing dates is presented below:

Company	Symbol	Market Cap (Rs. Billion)*	ADR Price (31/12/2013)	NYSE Listing Date
ICICI Bank	IBN	? 1,255.13	$ 37.17	28 March 2000
Wipro	WIT	? 1,423.38	$ 12.59	19 October 2000
Dr. Reddy's Laboratories	RDY	? 454.80	$ 41.03	11 April 2001
HDFC Bank	HDB	? 1,622.82	$ 34.44	20 July 2001
Tata Motors	TTM	? 1,054.46	$ 30.80	27 September 2004
Infosys	INFY	? 2,163.21	$ 56.60	12 December 2012
* Approximation				

Earnings quality is of great importance to global investors & analysts who are interested in determining the predictability of future earnings of these companies. They assign a lower weighting to corporate earnings that are not sustainable. Focus on “accruals” is an effective way of measuring earnings quality as per previous research studies. As per the cash basis of accounting, revenues are recognized when cash is collected and expenses are recognized when cash is paid. With the accrual basis of accounting, revenues are recognized when earned, and expenses are recognized when incurred. By the term “accruals”, a reference is made to the differences between the cash basis and the accrual basis of accounting. Prior research studies have shown that income statements prepared using accrual basis of accounting enhance the predictive ability of cash flows.

Incomes can be disintegrated into 2 components – cash & accrual. Studies have also shown that the accrual component is less sustainable than the cash component, due to which investors and analysts give it a lower weighting when they evaluate a company's performance. Lower sustainability of the accrual component may be due to errors in estimates or due to deliberate manipulation. If current earnings based on the accrual basis of accounting are overstated, then future cash flows would be lower and vice versa.

In this research study, I aim to determine if an NYSE or NASDAQ listing has any impact on the financial reporting quality of Indian IT services companies. Wipro and Infosys are considered to be the backbone of the Information Technology sector in India. Both these

companies have a highly integrated and widely acclaimed global delivery model. Both these companies also support mainly global clients. Infosys and Wipro posted revenues of $7.4 billion and $6.9 billion for the financial year ended March 31, 2013 respectively.

Methodology, Results and Findings

For the purpose of this research study, publicly available information on the afore-mentioned two companies that have their ADRs listed on the NYSE has been used. It is important to note here that Wipro listed on the NYSE in 2000, whereas Infosys shifted its American Depository Shares from NASDAQ to NYSE Euronext to give its European investors better access to its stock. Infosys was the first Indian company to list on the NASDAQ on March 11, 1999.Quarterly financials which are reported in Indian GAAP have been considered for both the companies. A comparative study of 'Pre-Listing' earnings quality and 'Post-Listing' earnings quality has been conducted.

To measure earnings quality for these companies, the balance sheet approach has been used to decompose reported earnings into cash flow and accruals (Collins et al., 2000). All off-balance sheet items have been ignored for the purpose of this study."Aggregate Accruals" have been calculated first since they show the net change in non-cash accounts & then this accrual measure has been scaled for differences in size using the "Accruals Ratio".
The Balance Sheet (BS) Approach measures accruals as below –

$$\text{Aggregate Accruals}_{BS}(\square) = NOA_{END}\,(-)\,NOA_{BEG}$$

$$\text{Accruals Ratio}_{BS}\,(\%) = (NOA_{END}\,(-)\,NOA_{BEG}) \,/\, \{(NOA_{END}\,(+)\,NOA_{BEG})\,/2\}$$

Where:
NOA is Net Operating Assets. NOA is the difference between Operating Assets and Operating Liabilities. Operating assets are equal to Total Assets (-) Cash & Cash Equivalents. Operating liabilities are equal to Total Liabilities (-) Total Debt (Secured & Unsecured).

Cash and Debt have much less discretion embedded in them and hence they have been removed to keep the equation focussed on determining the impact of accruals on the balance sheet.

In this approach the lower the accruals ratio, the higher the earnings quality - because there is less of an accrual impact and more of a cash impact on earnings when the ratio is lower.

In order to determine the pre-listing period accrual ratio, a simple average of the accruals ratios for each of the two companies in the 3 immediate quarters of the pre-listing period has been calculated. For the post-listing period accrual ratio, a simple average of the accruals ratios for each of the two companies in the 12 immediate quarters of the post-listing period has been calculated. The post-listing period calculations have been increased by 9 quarters to accommodate the increase in investor participation and analyst coverage that must have taken place in that period.

If the change in the balance sheet accruals ratio from the pre- to the post-listing period exceeded+/- 50%, then it has been deemed that the earnings quality of the company significantly changed due to the listing provided the change in accruals ratio based on the cash flow approach has also yielded a similar conclusion. In case of any conflict in the results obtained from both these approaches, the results obtained from the cash flow statement approach have prevailed since this approach is more accurate as per Collins et al., (2000).

The calculations for Wipro in the3 immediate quarters of the **Pre-NYSE Listing period** have been tabulated below:

Pre-NYSE Listing Period

Financial Year: 01/04 to 31/03

(Rs. in Million)

	NOA_{END}	NOA_{BEG}	$(NOA_{END} - NOA_{BEG})$	$(NOA_{END} + NOA_{BEG})/2$	*Accruals Ratio*
Company: Wipro					
Q2 - FY03 (01/07/03 to 30/09/03)	□36,962	□34,508	□ 2,454	□ 35,735	0.07
Q1 - FY03 (01/04/03 to 30/06/03)	□34,508	□30,567	□ 3,941	□ 32,538	0.12
Q4 - FY02 (01/01/03 to 31/03/03)	□30,567	□27,544	□ 3,023	□ 29,056	0.10
Q3 - FY02 (01/10/02 to 31/12/02)	□27,544	□25,491	□ 2,053	□ 26,518	0.08
Q2 - FY02 (01/07/02 to 30/09/02)	□25,491	□23,000	□ 2,491	□ 24,246	0.10
Q1 - FY02 (01/04/02 to 30/06/02)	□23,000	□22,923	□ 77	□ 22,962	0.00
Q4 - FY01 (01/01/02 to 31/03/02)	□22,923	□23,190	□ -267	□ 23,057	-0.01
Q3 - FY01 (01/10/01 to 31/12/01)	□23,190	□18,264	□ 4,926	□ 20,727	0.24
Q2 - FY01 (01/07/01 to 30/09/01	□8,264	□18,159	□105	□ 18,212	0.01
)Q1 - FY01 (01/04/01 to30/06/01)	□18,159	□15,189	□ 2,970	□ 16,674	0.18
Q4 - FY00 (01/01/01 to 31/03/01)	□15,189	□15,402	□ -213	□ 15,296	-0.01
Q3 - FY00 (01/10/00 to 31/12/00)	□15,402	□9,320	□ 6,082	□ 12,361	0.49

Based on the above calculations, the '**Average Accruals Ratio$_{BS}$**' in the post-listing period for Wipro is also 0.11 (This is the same as the pre-listing period Average Accruals Ratio$_{BS}$). This ratio is an indicator of the financial reporting quality in the Post-NYSE Listing period for the company.

This shows that overall Wipro's earnings quality did not change at all with an NYSE listing. The company continued to maintain its financial reporting quality before and after it opened itself to investors and analysts globally. This also indicates that the company achieved a certain level of earnings quality and corporate governance practices before it got listed with NYSE. Hence, a NYSE listing itself did not result in any significant improvement in earnings quality despite the company being subjected to stringent regulatory norms and corporate governance standards that were not visibly present in India at that time.

Analysis on similar lines has also been performed with respect to the earnings quality of Infosys. The calculations for Infosys in the 3 immediate quarters of the **Pre-ASDAQListing period** have been tabulated below:

Pre-NASDAQ Listing Period

Financial Year: 01/04 to 31/03

(Rs. in Million)

	NOA_{END}	NOA_{BEG}	$(NOA_{END} - NOA_{BEG})$	$(NOA_{END} + NOA_{BEG})/2$	*Accruals Ratio*
Company: Infosys					
Q4 - FY98 (01/01/99 to 31/03/99)	□1,693	□1,643	□ 50	□1,668	0.03
Q3 - FY98 (01/10/98 to 31/12/98)	□1,643	□1,570	□ 73	□1,607	0.05
Q2 - FY98 (01/07/98 to 30/09/98)	□1,570	□1,477	□ 93	□1,524	0.06

Based on the above calculations, the '**Average Accruals Ratio**$_{BS}$' in the pre-listing period for Infosys is 0.05. This ratio is an indicator of the financial reporting quality in the Pre-NASDAQ Listing period for the company.

The calculations for Infosys in the 12 immediate quarters of the **Post-NASDAQ Listing period** have been tabulated below:

Post-NASDAQ Listing Period

Financial Year: 01/04 to 31/03

(Rs. in Million)

	NOA_{END}	NOA_{BEG}	$(NOA_{END} - NOA_{BEG})$	$(NOA_{END} + NOA_{BEG})/2$	*Accruals Ratio*
Company: Infosys					
Q4 - FY01 (01/01/02 to 31/03/02)	□13,081	□13,403	□ -322	□ 13,242	-0.02
Q3 - FY01 (01/10/01 to 31/12/01)	□13,403	□13,148	□ 255	□ 13,276	0.02
Q2 - FY01 (01/07/01 to 30/09/01)	□13,148	□11,493	□ 1,655	□ 12,321	0.13
Q1 - FY01 (01/04/01 to 30/06/01)	□11,493	□10,045	□ 1,448	□ 10,769	0.13
Q4 - FY00 (01/01/01 to 31/03/01)	□10,045	□ 8,960	□ 1,085	□9,503	0.11
Q3 - FY00 (01/10/00 to 31/12/00)	□8,960	□ 6,697	□ 2,263	□7,829	0.29
Q2 - FY00 (01/07/00 to 30/09/00)	□6,697	□ 5,342	□ 1,355	□6,020	0.23
Q1 - FY00 (01/04/00 to 30/06/00)	□5,342	□ 4,015	□ 1,327	□4,679	0.28
Q4 - FY99 (01/01/00 to 31/03/00)	□4,015	□ 3,661	□ 354	□3,838	0.09
Q3 - FY99 (01/10/99 to 31/12/99)	□3,661	□ 3,100	□ 561	□ 3,381	0.17
Q2 - FY99 (01/07/99 to 30/09/99)	□3,100	□ 2,430	□ 670	□2,765	0.24
Q1 - FY99 (01/04/99 to 30/06/99)	□2,430	□ 1,693	□ 737	□2,062	0.36

Based on the above calculations, the '**Average Accruals Ratio$_{BS}$**' in the post-listing period for Infosys is 0.17.

This ratio is an indicator of the financial reporting quality in the Post-NASDAQ Listing period for the company. A comparison of this ratio with the Average Accruals Ratio$_{BS}$ of the Pre-NASDAQ Listing period **signals** a possible deterioration of earnings quality in the post-listing period (a 240% increase in the balance sheet accruals ratio) and further analysis on the basis of actual cash flows is warranted in such a case before coming to any specific conclusion.

The Cash flow (CF) Statement Approach measures accruals as below –

Aggregate Accruals$_{CF}$(□) = NP (-) CFO (-) CFI

Where:
NP is Net Profit, CFO is Cash Flow from Operating Activities & CFI is Cash Flow from Investing Activities

Accruals Ratio$_{CF}$(%) = (NP (-) CFO (-) CFI) / {(NOA_{END}(+) NOA_{BEG}) /2}

In order to determine the pre-listing period accrual ratio, a simple average of the accruals ratios for Infosys in the 4 immediate quarters of the pre-listing period has been calculated.

For the post-listing period accrual ratio, a simple average of the accruals ratios for Infosys in the 16 immediate quarters of the post-listing period has been calculated. The post-listing period calculations have been increased by 12 quarters to accommodate the increase in investor participation and analyst coverage that must have taken place in that period. If the change in the cash flow statement accruals ratio from the pre- to the post-listing period has exceeded+/- 50%, then it has been deemed that the earnings quality of the company significantly changed due to the listing.

The calculations for Infosys in the 4 immediate quarters of the **Pre-NASDAQListing period** have been tabulated below:

Pre-NASDAQ Listing Period

Financial Year: 01/04 to 31/03	*NP*	*CFO*	*CFI*	*NP-CFO-CFI*	*$(NOA_{END} + NOA_{BEG})/2$*	*Accruals Ratio*
Company: Infosys				(Rs. in Million)		
Q4 - FY98 (01/01/99 to 31/03/99)	□ 490	□ 583	□ -170	□ 77	□1,668	0.05
Q3 - FY98 (01/10/98 to 31/12/98)	□ 455	□ 509	□ -138	□ 84	□1,607	0.05
Q2 - FY98 (01/07/98 to 30/09/98)	□ 347	□ 317	□ -223	□ 253	□1,524	0.17
Q1 - FY98 (01/04/98 to 30/06/98)	□ 267	□ 180	□ -96	□ 183	□ 1,384	0.13

Based on the above calculations, the '**Average Accruals Ratio$_{CF}$**' in the Pre-NASDAQ Listing period for Infosys is 0.10.

Post-NASDAQ Listing Period

Financial Year: 01/04 to 31/03

(Rs. in Million)

	NP	*CFO*	*CFI*	*NP-CFO-CFI*	*$(NOA_{END} + NOA_{BEG})/2$*	*Accruals Ratio*
Company: Infosys						
Q4 - FY02 (01/01/03 to 31/03/03)	□3,189	□2,596	□-571	□ 1,164	□ 15,690	0.07
Q3 - FY02 (01/10/02 to 31/12/02)	□3,124	□2,412	□-319	□ 1,031	□ 15,496	0.07
Q2 - FY02 (01/07/02 to 30/09/02)	□2,695	□2,227	□-267	□ 735	□ 14,692	0.05
Q1 - FY02 (01/04/02 to 30/06/02)	□2,581	□1,925	□-377	□ 1,033	□ 13,804	0.07
Q4 - FY01 (01/01/02 to 31/03/02)	□2,493	□1,717	□-224	□ 1,000	□ 13,242	0.08
Q3 - FY01 (01/10/01 to 31/12/01)	□2,410	□2,445	□-406	□ 371	□ 13,276	0.03
Q2 - FY01 (01/07/01 to 30/09/01)	□2,346	□1,988	□-1,170	□ 1,528	□ 12,321	0.12

Q1 - FY01 (01/04/01 to 30/06/01)	□2,185	□2,060	□-1,002	□1,127	□ 10,769	0.10
Q4 - FY00 (01/01/01 to 31/03/01)	□2,034	□1,868	□-1,280	□ 1,446	□ 9,503	0.15
Q3 - FY00 (01/10/00 to 31/12/00)	□1,858	□1,158	□-1,180	□ 1,880	□7,829	0.24
Q2 - FY00 (01/07/00 to 30/09/00)	□1,718	□1,687	□-1,144	□ 1,175	□6,020	0.20
Q1 - FY00 (01/04/00 to 30/06/00)	□1,350	□699	□-918	□ 1,569	□4,679	0.34
Q4 - FY99 (01/01/00 to 31/03/00)	□979	□929	□-585	□ 635	□3,838	0.17
Q3 - FY99 (01/10/99 to 31/12/99)	□840	□625	□-401	□ 616	□ 3,381	0.18
Q2 - FY99 (01/07/99 to 30/09/99)	□752	□395	□ -320	□ 677	□2,765	0.24
Q1 - FY99 (01/04/99 to 30/06/99)	□686	□546	□ -156	□ 296	□2,062	0.14

Based on the above calculations, the '**Average Accruals Ratio$_{CF}$**' in the Post-NASDAQ Listing period for Infosys is 0.14. A comparison of this ratio with the Average Accruals Ratio$_{CF}$ of the Pre-NASDAQ Listing period **does not indicate** a significant deterioration of earnings quality in the post-listing period (a 40% increase in the accruals ratio which is within the 50% tolerance limit).

This shows that overall Infosys's earnings quality did not change significantly with a NASDAQ listing. The company continued to maintain its financial reporting quality before and after it opened itself to investors and analysts globally. This also indicates that the company achieved a higher level of earnings quality and corporate governance practices before it got listed with NYSE. Hence, even in this case, a NYSE listing itself did not result in any significant improvement in earnings quality despite the company being subjected to stringent regulatory norms and corporate governance standards that were not visibly present in India at that time.

An important observation that is common to both Infosys and Wipro is that there was a spike in the accrual component of their earnings in the specific quarter in which they got listed on their respective U.S. stock exchanges. While there is no economic basis for this spike in accruals in the particular quarter, the accruals ratio was seen reverting to normalcy in subsequent quarters.

Conclusion

Infosys and Wipro are amongst the top 5 IT companies listed on Indian bourses and can be considered a representative of the IT services sector in India.In the case of both companies, earnings quality did not get significantly affected with a U.S. stock exchange listing. Also, both companies had ensured that their pre-listing financial reporting quality had reached a high standard before the listing date on their respective U.S. stock exchanges. It is important for other Indian IT companies to follow in their footsteps with respect to maintaining the quality of their financial reporting if they aim for an overseas listing in the near future.

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Forecasting Stock Volatility in Entertainment Business

Prof. Krishnaswamy. H. Iyer
Visiting Faculty

Abstract:-

GeometricBrownian Motion (G.B.M.)is most widely used to model stock prices as it meets the Financial Market laws &Rules, as imposed by Market Efficiency Hypothesis. G.B.M.; stipulates that the returns on a certain stock in successive equal periods of time are independent, and normally distributed thus forming a Markov process. Theoretically the G.B.M, albeit being strong, practically there are shortcomings, especially more so, when we need to model stock price behavior over short time periods, its superiority in modeling stock prices over longer horizons,accurately cannot be disputed. This is primarily due to the fact that expected rate of return and volatility of a stock are assumed to be constant, which is not the case, making predictability of stock returns/asset pricing a challenging & difficult proposition. It is indeed preferable to model these parameters as a' stochastic 'functionof time and not as constants. This study is an attempt at addressing various stock volatility concerns for the only stock listed, (Media stock) in the S& P CNX NIFTY (Fifty) stocks, namely "Zee Entertainment Enterprises Ltd".

Introduction

Finance deals with the study of asset prices are often inherently stochastic, and we can only make probability statements about it. Volatility means dispersion (spread/scedasticity/deviation) in stock returns, how uncertain is the uncertainty attached to investing in a stock, a rather challenging assignment for all academicians and the investors alike. We have for this study used the log ratio to calculate the returns, as studies indicate that stock prices are better expressed as log-normally distributed and their returns are normally distributed. This study would engineer to delve into the volatility issue whose earliest study dates back to 1900, when Louis. Bachelier, in his PhD. Dissertation, had to defend his thesis on the stock prices exhibited randomness as explicit in the concept of GBM.

Volatility is considered as a constant characteristic of a stock as an annualized percentage, which gives an idea of the stock price stability. High volatilities relatively implies that the stock price varies continuously within relatively large intervals, as measured by the standard deviation (aka volatility) of the stock price returns, adopted as a fairly standard practice. One way is to empirically estimate the stock volatility by observing historical

data called time series data at fixed intervals of time for example daily closing prices of the stock which was downloaded from the NSE website for Zee Entertainment Enterprises Ltd.

Research Methodology

We downloaded the closing price of Zee stock from NSE website, for a period of five years beginning 1st April 2009 & ending 31st March 2014, we collected daily stock price data, calculated the descriptive statistics, namely:- Mean, Median, Standard Deviation, Skewness, Kurtosis, Quartiles, and related parameters and undertook the significance testing of theses parameters in details, for the span of study, along with the residual diagnostic analysis, to test a few hypothesis which were considered pertinent to this study. Next we embarked on the sojourn of computing ,Historical volatility on an annualized basis, by using the traditional/classical method, subsequently using various sophisticated measures of estimating price range volatility estimates like, Parkinson's, Roger Satchell's estimator, Garman-Klass estimator, , and highly efficient Yang Zhang volatility estimator. Next we embarked upon the task of testing the time series data of Zee Stock, to test for white noise effect (daily log returns are serially(auto) correlated, whether the stock returns are normally distributed, and checking the data for ARCH Effect (Auto Regressive Conditional Heteroscedasticity). We also ran the Correlogram analysis, to display the plots of Auto correlation & Partial Auto correlation plots for Zee stock returns.

Time series modeling calls for ascertaining the appropriate model to choose from a plethora of models for which we undertook the study of lag order (1,1), for which we considered the following models for our study:- ARMA (1,1), GARCH (1,1) Normal Distribution, Garch (1,1) T Distribution, Garch (1,1) (GED)The Generalized Error Distribution, as the Innovations/Shocks/Residuals/Disturbance/Noise , to unravel the enigma of Volatility clustering. We also used the GARCH-M (Formean) models with the same variants of innovations. as well as the famed EGARCH Models to optimally choose the best model for modeling Zee's Stock returns, with a view to arrive at the optimal model to be used for forecasting long run volatility in Zee stock, for the next 252 trading days beginning 1st April 2014 and ending on 31st March 2015.

Review of Literature

Louis Bachelier: - French Mathematician performed the first rigorous analysis of Stock Market Returns in his 1900 dissertation. This remarkable work documents Statistical Independence in Stock Returns, meaning that today's return signals nothing about the sign or magnitude of tomorrow's return, and this led him to model stock return as a Random Walk, in anticipation of E.M.(Efficient Markets).Unfortunately, Bachelier's

work was largely ignored outside mathematics until 1950's.

One of the first to recognize the potential information content of Stock prices was John Burr Williams (1938), in his work on Intrinsicvalue. which argues that stock prices are based on Economic fundamentals. The alternative view which dominated prior to Williams, is best exemplified by John Maynard Keynes (Father of Economics), beauty contest analogy, in which each stock analyst recommends not the stocks he thinks best, but rather the stock he thinks most other analysts think is the best. In Keynes view, therefore stock prices are based more on speculation than on economic fundamentals .In long run, prices driven by speculation may converge to those that would exist based on economic fundamentals, but as Keynes noted in another context, "In the Long run, we are all dead".

1953:- British Statistician: -Maurice Kendall, documented statistical independence in weekly returns from various British Stock Indices.
1959:- Harry Roberts found similar results for Dow Jones Industrial Index: and later Eugene Fama (1965),provided comprehensive evidence not only of statistical independence in stock returns, but also that various techniques of "Chartists" (Technical Analysts),had no predictive power. While this evidence was generally viewed as supporting the Random Walk Model of Stock Returns, there was no formal understanding of its economic meaning, and some mistakenly took this "Randomness " as an indication that stock returns were unrelated to fundamentals, and thus had no economic meaning or content.

1970:-Eugene Fama, published his now famous paper "Efficient Capital Markets"—A Review of Theory and Empirical Work". Famasynthesized the existing work and contributed to focus and direction of future research by defining three different forms of market efficiency: - Weak form, Semi-Strong form & Strong form. In Weak form efficient market—future returns cannot be predicted from past returns or any other market based indicator, such as trading volume or the ratio of puts (options to sell stocks) to calls (options to buy stocks).In a Semi-Strong efficient Market—Prices reflect all publicly available information about Economic fundamentals including public market data (in weak form), as well as content of financial reports, economic forecasts, company announcements and the like.

Resistance to the view that stock prices systematically overreact, as well as to the Behavioral interpretation of this evidence, came along two fronts:

1) 1988:- Fama & Kenneth French—found that stocks earn larger returns during more difficult economic conditions when capital is relatively scarce and default-risk premiums in interest rates are high. Higher interest rates initially drive prices down, but

eventually prices recover with improved business conditions, and hence the "Mean-Reverting pattern in aggregate returns.

2) Efficient Market Theory (E.M.T.) -- adherents argued that the cognitive failures of certain individuals would have little influence on stock markets as mispriced stocks should attract rational investors who buy underpriced and sell overpriced stocks.
Financial Volatility has played a central role in Derivatives Pricing, Asset Allocation Decisions, & Risk Management. According to Barndorff-Nielsen & Shephard(2003) or Andersen etal (2003), financial volatility is a latent factor and hence not directly observable, however financial volatility can only be estimated using its signature on certain known market price process, when the underlying process is more sophisticated or when observed market prices suffer from Market Microstructure noise effects, the results are less clear.

It's well known that many financial time series exhibit **Volatility Clustering** or **Autocorrelation**, especially during turbulent times with drops and recoveries of markets, the traditional close – to- close volatility indicates a low level while daily price range shows correctly that volatility is high. Price range defined as the difference between highest and lowest market prices over a fixed sampling interval, has been known for a very long time and recently experienced and renewed with interest as an estimator of this latent volatility. The information contained in the Opening, Highest, Lowest and Closing prices of an asset is widely used in" **Japanese Candle stick charting techniques", and other technical indicators (NISSON,1991).**

Early application of range based volatility estimators in the realm of Finance can be traced to Mandelbrot (1971), and academic work on range based volatility estimators began since early 1980's. Several authors: -Parkinson (1980), developed far more efficient volatility estimator as compared to classical return based traditional volatility estimators. Building on earlier results of Parkinson(1980),many studies [See Garman & Klass (1980), BECKERS (1983),Balland Torous (1984), Wiggins (1991),Rogers & Satchell (1991),Kunitomo (1992),Yang& Zhang(2000),Alizadeh, Brandt & Diebold (2002),Brandt & Diebold (2006),Brandt & Jones(2006),Chou (2005,2006),Cheung (2007),Martens And Van Dijk (2007),Chou And Wang (2007), Chou, Liu And Wu (2007),And Chou And Liu (2008, a ,b),showed that we can use price range information to improve volatility estimation. In addition to being significantly more efficient than the squared daily return, Alizadeh, Brandt, And Diebold (2002) also demonstrated that the conditional distribution of the log-arithmetic range is approximately Gaussian, thus greatly facilitating, Maximum Likelihood estimation of "Stochastic Volatility Models". Moreover as pointed out, by Alizadeh, Brandt and Diebold (2002), and Brandt and Diebold (2006), the range based volatility estimator appears robust to microstructure noise such as bid-ask bounce. By adding microstructure noise to Monte Carlo

Simulation, Shu & Zhang (2006) also supported that the finding of Alizadeh, Brandt & Diebold (2002), that range estimators are fairly robust towards microstructure effects.
The volatility built by non-parametric methods is called Realized Volatility, which is calculated by sum of non-overlapping squared returns within a fixed time interval. In the Research Methodology section, we have illustrated besides Classical/Traditional close-to-close volatility estimators, we have applied to our data, the following four efficient price range estimators:-Parkinson, Garman & Klass, Rogers & Satchell, Yang-Zhang volatility estimators.

PRICE-RANGE ESTIMATORS:-

A significant practical advantage of the price range is that for many assets, daily opening, highest, lowest and closing prices are readily available. Grossly stated, knowing these records enables us to get closer to real underlying process, even if we do not know the whole path of asset prices.

Parkinson (1980) estimator efficiency intuitively comes from the fact that the price range of intraday gives more information regarding future volatility than two arbitrary points in this series (closing prices).Assuming that the asset price follows a simple diffusion model without a Drift term, uses high and low prices of daily data. Instead of using two data pinpoints the high and low (extreme volatility estimator), four data points: opening, closing, highest, and lowest prices, might also give extra information. Garman &Klass (1980), Propose Their Estimator Based on O (OPEN), H (HIGH), L (LOW), C (CLOSE) Prices, and Which Akin to Parkinson estimator assumes the same diffusion process and proposed their estimator.

Since price paths cannot be monitored when markets are closed, however, WIGGINS (1991),finds that both Parkinson & Garman & Klass estimators are still biased downwards compared to traditional/classical estimators, as the observed high's and low's are smaller than the actual highs and lows.

Garman & Klass (1980) & GRAMMATIKOS & SAUNDERS (1986), nevertheless, estimated the potential bias using simulation analysis and show that the bias decreases with an increasing number of transaction. Therefore it is relatively easy to adjust the estimates of daily variances to eliminate the source of bias. Since Parkinson (1980) & Garman & Klass (1980) estimators implicitly assume that the logarithmic price follows a Geometric Brownian Motion (G.B.M.) with no drift term, further refinements are given by Rogers & Satchell (1991) & Kunitomo (1992). Rogers & Satchell (1991) added a drift term in the stochastic process that can be incorporated into a volatility estimator using only daily opening, highest, lowest and closing prices. Rogers &Satchell and Yoon (1994) reported that the Rogers & Satchell estimator yields theoretical efficiency gains as compared to Garman-Klass estimator. They also reported that Rogers-Satchell estimator

appears to perform well with changing drift and as few as 30 daily observations are only required.

Finally Yang-Zhang (2000), made further refinements by deriving a price range estimator that is unbiased, independent of any drift, and consistent in the presence of opening, price jumps. The Yang-Zhang estimator is simply the sum of the estimated overnight variance, the estimated opening market variance, and the Rogers& Satchell (1991) drift independent estimator. The resultant estimator hence explicitly incorporates a term for the closed market variance.

Shu & Zhang (2006), investigated the relative performance of these four range based volatility estimators including Parkinson, Garman & Klass, Rogers-Satchell ,& Yang &Zhang estimators. for S &P 500 INDEX data and found that the price range estimators all performed very well when an Asset Price follows a Continuous Geometric Brownian Motion. However significant differences among various range based estimators were detected, if asset return distribution involves an opening jump or a large drift.

In terms of efficiency, all previous estimators exhibited very substantial improvements over the traditional metric. Defining the efficiency measure of a volatility estimator $\sigma i (cap)^2$,as the estimator variance compared with the traditional close-to-close estimator $\sigma (cap)^2$,that is:

EFFICIENCY ($\sigma i\ cap^2$) = variance ($\sigma\ cap^2$)/ variance ($\sigma i\ cap^2$).
Parkinson (1980) reported a theoretical relative efficiency gain ranging from 2.5 to 5, which means that the estimation variance is 2.5 to 5 times lower. Garman & Klass (1980) Reported that their estimator has an efficiency of 7.4, while Yang-Zhang (2000) & Kunitomo (1992) Variance estimators resulted in a theoretical efficiency gain of respectively 7.3 and 10.

Review of Literature on Forecasting volatility in stock market returns:-

Franses and VanDijk (1996), Braisford & Faff (1996) & Figlewski (1997): Examined out-of-sample forecast performance of ARCH (q) models.

Nelson (1992):- Studied ARCH model and documented that the ARCH model using high frequency data performs well for volatility forecasting, even when the model is severely misspecified. However, the out-of-sample forecasting ability of medium & long term volatility is poor.

Existing literature regarding study on GARCH type models can be classified into two categories, and they are investigations on the basic symmetric GARCH models and GARCH models with various volatility specifications. Wilhelmsson (2006) investigated

the forecast performance of basic GARCH (1,1) model by estimating S&P 500 Index future returns with 9 different error distributions, and discovered that allowing for " Leptokurtic" error distribution leads to significant improvements in variance forecasts compared to using the Normal Distribution. Additional study also found that allowing for Skewness and time variation in higher moments of distribution does not further improve forecasts.

Chuang, Lu & Lee (2007) studied the volatility forecasting performance of the standard GARCH models based on a group of distributional assumptions in the context of stock market indices and exchange rate returns. They found that the GARCH model combined with logistic distribution, the scaled student's t- distribution and Risk metrics model are preferable for both stock markets as well as foreign exchange markets. However complex distribution does not always outperform a simpler model.

Franses & VanDijk (1996) examined the predictability of standard symmetric GARCH model as well as asymmetric Quadratic GARCH & GJR models in weekly stock market volatility forecasting and study outcomes indicated that QGARCH model has the best forecasting ability on stock returns within the sample period.

Brailsford & Faff (1996) investigated the predictive power of various models in volatility of Australian stock market. They tested the Random Walk model, the historic mean model, the MA model, the exponential Smoothing model, the exponential weighted moving average, the simple regression model, the symmetric GARCH models & two asymmetric GJR models: - The empirical evidence suggested that the GJR model is the best for forecasting the volatility of Australian Stock market returns.

Chong, Ahmad & Abdullah (1999) compared the stationary GARCH,unconstrained GARCH, non-negative GARCH, GARCH-M,Exponential GARCH (EGARCH) and integrated GARCH models, and they found that EGARCH performs best in describing the often observed Skewnessstock market indices in out-of-sample (one-step-ahead) forecasting.

Awartani & Corradi (2005) studied the predictability of different GARCH models, particularly focused on the predictive content of Asymmetric component.The study results showed that GARCH models allowing for asymmetries in volatility produce more accurate volatility predictions.

Evans & McMillan (2007) studied the forecasting performance of 9 competing models for daily volatility of stock market returns for 33 economies. The empirical results showed that GARCH models allowing for asymmetries and long memory dynamics provide the best forecast performance.

EWMA model is also a widely used technique for modeling and forecasting volatility of equity returns in financial markets, and a well-knownRisk Metrics approach is virtually the variation of EWMA. A great deal of existing studies employing the EWMA model in various markets showed that this Model has different performance.

Akgiray (1989) first examined the forecast performance of EWMA technique on volatility forecasting for stocks on NYSE. The study also examined predictability of ARCH & GARCH models. Their findings showed that EWMA model is useful for forecasting time series, but, GARCH model performs best in forecasting volatility.
Tse (1991) studied volatility of stock returns of Japanese market for the period 1986 to 1989 using ARCH, GARCH& EWMA models. The study results showed that EWMA model outperformed ARCH & GARCH models for forecasting volatility of stock returns in Tokyo stock exchange during the sample period under review.

Tse & Tung (1992) studied monthly volatility movements in Singapore stock market using three different volatility forecasting models which are naïve methods based on historical sample variance, EWMA, & GARCH models. The study results suggested that EWMA model is the best for predicting volatility of monthly returns for Singapore market.

Wash & Tsou (1998) investigated the volatility of Australian Index from 1/1/1993 to 31/12/1995, using a variety of forecasting techniques like Historical Volatility, An improved Extreme value method, ARCH,GARCH class of models, EWMA MODEL. They considered different frequency data such as the hourly, daily and weekly data.

RESEARCH OBJECTIVES

1) Are log arithmetic returns of financial data normally distributed?
2) Are these same log returns Independent and identicallydistributed (i.i.d)?
3) Does Volatility decrease wealth of an investor?
4) What are the empirical properties of Indian stock market returns?
5) What characterizes Indian stock market returns?
6) How volatile are stock returns in this market?
7) Are returns predictable?
8) How does volatility change over time?
9) What types of stocks have highest returns?
10) What properties should stock prices have in Efficient Markets?

TIME-SERIES MODELS FOR FORECASTING VOLATILITY:

RANDOM WALK MODEL

* Most simplest model used for modeling volatility of a Financial Time series. Under the Efficient Market Hypothesis (E.M.H.), stock price indices being virtually random (stochastic), we use a standard model for estimating the volatility of stock returns sing the Ordinary Least Squares (O.L.S.) Technique, is the Random Walk Model which is primarily based on historical stock price data sets.

$r_t = \mu + \varepsilon_t$ (2)

where rt denotes the stock index return at time t, μ is the average return under the EMH, which is expected to be zero, and εt is the stochastic disturbance (random/ noise/shock/residual/idiosyncratic) term at instant t, and its auto covariance should be equal to zero over time.

The ARCH (q) Model

Engle(1982) ,introduced the ARCH (q) model and documented that the serial (auto) correlated squared returns (Conditional Heteroscedasticity) can be modeled using an ARCH (q) model. The framework of ARCH (q) model is:

$$y_t = E_{t-1}(y_t) + \varepsilon_t \quad (3)$$

$$\varepsilon_t = z_t \sigma_t \quad (4)$$

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + ... + \alpha_q \varepsilon_{t-q}^2 \quad (5)$$

Where Et-1(yt) denotes the conditional mean given the information set available at time t-1, zt denotes a sequence of i.i.d (Identically & Independent) Random Variable, with mean equal to zero and variance unity (1). The constraints of the parameters $\alpha_0 > 0$ & $> \alpha_i >= 0$ (i= 1, 2, --- q) ensures that the conditional variance σ_t^2 is non-negative.

The above equation (5) for σ_t^2 can be expressed as an AR (q) process for squared residuals:

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + ... + \alpha_q \varepsilon_{t-q}^2 + \mu_t \quad (6)$$

Where $\mu_t = \varepsilon_t^2 - \sigma_t^2$, is a Martingale Difference Sequence (MDS), since $E_{t-1}(\mu_t) = 0$ and is assumed that $E(\varepsilon_t^2) < \infty$ (Zivot 2008:4). The condition for εt to be covariance stationary is that the sum of all parameters of past residuals α_i ($i = 1, 2, ... q$) should be smaller than unity (1).

The measurements of persistence of εt^2 and σt^2 are $\sum_{i=1}^{q} \alpha i \; \frac{\alpha 0}{(1 - \sum_{i=1}^{q} \alpha i)}$ and respectively.

The GARCH (p, q) model.

The Generalized ARCH (GARCH) model, proposed by Bollerslev (1986) is the extension of ARCH model. It is based on the assumption that the conditional variance to depend upon previous own lags, and it replaces the AR (q) process in equation (5) with an ARMA (p, q) process.

$$\sigma t^2 = \alpha 0 + \sum_{i=1}^{q} \alpha i \varepsilon t - 1^2 + \sum_{j=1}^{p} \beta j \, \sigma t - j^2$$

Where the parameter constraints $\alpha i > 0$ ($i = 0, 1, - - - - q$) and $\beta j > 0$ ($j = 1,2, - - - - p$)

assures that $\sigma t^2 > 0$. The equation (7) together with equations (3) and (4) is known as the basic GARCH (p, q) model or process.

Now if p = 0, the GARCH (p, q) model transforms into an ARCH (q) model. For estimating the coefficients of the GARCH term, at least one of the parameters αi (i=1,2,…q) must be significantly different from zero. For the basic GARCH (p, q) process, the squared residuals εt^2 behaves like an ARMA Sequential process. It is necessary that $\sum_{i=1}^{q} \alpha i + \sum_{j=1}^{p} \beta j < 1,$ for the covariance stationary issue. The unconditional

variance of εt is computed as:-

$$(\overline{\sigma})^2 \; Var\,(\varepsilon t) = \alpha 0 / (1 - \sum_{i=1}^{q} \alpha i + \sum_{j=1}^{p} \beta j < 1, \qquad \textbf{(8)}$$

In practice, the GARCH (1, 1) model comprises of three parameters in the conditional variance equation which is quite sufficient to capture the volatility clustering in the data. The conditional variance equation of GARCH (1, 1) model is:-

$$\sigma t^2 = \alpha 0 + \alpha 1 \varepsilon t - 1^2 + \beta 1 \sigma t - 1^2 \qquad \textbf{(9)}$$

Since E t-1 (εt^2) = σt^2, equation (9) becomes:-

$$\varepsilon t^2 = \alpha 0 + (\alpha 1 + \beta 1) \varepsilon t - 1^2 + \mu t - \beta 1 \mu t - 1. \qquad (10)$$

Equation (10) is an ARMA (1, 1) PROCESS FOR εt^2 and it follows several properties of the GARCH (1, 1) model. The persistence of the conditional volatility which is captured by $(1+\beta 1)$ and constraints $\alpha 1 + \beta 1 < 1$, assures that the covariance stationary property is

met. The covariance stationary GARCH (1, 1) model has an ARCH (∞) representation with $\alpha i = \alpha 1\, \beta 1^{i-1}$ and the unconditional variance of εt is:-

$\bar{\sigma} = \alpha 0(1 - \alpha 1 - \beta 1)$ (Zivot, 2008:6).

THE STYLIZED FACTS OF VOLATILITY:

The stylized facts about the volatility of Economic & Financial Time series have been studied extensively. The most important stylized facts are known as "VOLATILITY CLUSTERING", "LEPTOKURTOSIS", VOLATILITY MEAN REVERSION", & LEVERAGE EFFECT".

The volatility clustering can be interpreted by GARCH (1, 1) model using equation (9) as above, For many daily or weekly financial time series data, a distinctive feature is that the estimates of coefficients of GARCH term approximates 0.90.This implies that the large (small) values of the conditional variance will be followed by large (small) values. The same can be derived using the ARMA process of GARCH models as in equation (10), which means that large changes in εt^2 will be followed by large changes and similarly small changes in εt^2 will be followed by small changes. (Zivot, 2008).

As compared to the Gaussian (Normal (Distribution, the distribution involving high frequency data (such as daily returns data) usually possess fatter tails (Excess Kurtosis) (Leptokurtic) & excess peakedness at the mean, which implies extreme values. Kurtosis is a statistical measure which studies the peak of a data distribution set of a Financial Time series compared to a Gaussian Distribution Random Variable having constant mean and variance, and is computed by a function of residuals ε and their variance σ^2.

Kurtosis = $E(\varepsilon^4 / (\sigma^2)^2$ (11)

Kurtosis of a normally distributed random variable is 3, and the excess kurtosis (which is used in this study), equals to the kurtosis minus 3 will be zero for a Gauss distribution. (Mesokurtic). A distribution with excess kurtosis of more than 3, is referred to as "Leptokurtic", and a distribution having an excess kurtosis value which is less than 3 implies "Platykurtic"(Platypus animal).

Sometimes, financial markets experience excessive volatility, but, it seems, that the volatility can ultimately go back to its mean levels. The unconditional variance of the residuals of the standard GARCH (1, 1) model is computed by: $\bar{\sigma}^2 = \alpha 0(1 - \alpha 1 - \beta 1)$. In order to clarify that this volatility can be finally driven back to long run levels, we need to consider the interpretation by rewriting the ARMA process in equation (10) above as stipulated.

$$(\varepsilon t^2 - \bar{\sigma} = \alpha 1+\beta 1)(\varepsilon t-1^2 - + \mu t - \beta 1 \mu t-1 \qquad (12)$$

By successively iterating k times (we have employed the Calibration wizard using NumXL which uses solver for optimization of the relevant parameters),

$$(\varepsilon_{t+k^2} - \bar{\sigma}^2) = (\alpha 1+ \beta 1)^k (\varepsilon t^2 - \bar{\sigma}^2) + \Upsilon_{t+k} \qquad (13)$$

Where Υ_t is a Moving Average process. Due to $\alpha 1+\beta 1 <1$, is necessarily required for covariance stationary GARCH (1, 1) model, $(\alpha 1+\beta 1)$ approaches zero as k increases infinitely.

Albeit, ε_t^2 may deviate from the long-run level at instant t, $\varepsilon^{t+k^2} - \bar{\sigma}^2$ will approach zero as k becomes larger and larger, which implies that volatility will eventually go back to its long-run levels of $\bar{\sigma}^2$. The half-life of a volatility shock suggests that the average time for $| \varepsilon t^2 - \bar{\sigma}^2 |$, to decrease by one-half, is measured by ln 0.5/ (ln $\alpha 1+\beta 1$). Hence, the speed of mean reversion is dominated by $(\alpha 1+\beta 1)$ which means to say that if, the value of $\alpha 1+\beta 1 \cong 1$, the half-life of a volatility shock will be very long; and if, $\alpha 1+\beta 1>1$, the GARCH model is non-stationary and volatility will ultimately explode to infinity as k increases infinitely. (Zivot, 2008: 8).

The standard GARCH (p,q) model enforces a symmetric response of volatility to positive and negative shocks (innovations) due to the conditional variance equation of thestandard GARCH (p,q) model, which is a function of lagged residuals but not their signs, which means the sign will be lost if lagged residuals are squared (Brooks, 2008). Hence, the standard GARCH (p, q) model cannot capture the asymmetrical effect which is also known as "Leverage Effect", in the context of returns distribution of stock prices. An alternative proposed is to model the conditional variance equation augmented with asymmetry. Yet another approach is to allow the residuals to possess asymmetric distribution (Zivot, 2008). In order to combat this limitation, of the standard GARCH (p, q) model, a number of extensions have been built such as GJR & Exponential GARCH (EGARCH). We have attempted EGARCH in this study, but not covered GJR model.

THE EGARCH (p, q) MODEL:

Enunciated by Nelson (1991), which incorporates this leverage effect and specifies the conditional variance in logarithmic form. The conditional variance equation of EGARCH model is expressed as:-

$$\textbf{Log } (\sigma_t^2) = \alpha_0 + \sum_{i=1}^{p} \alpha i \, (\, | \, \varepsilon_t \, \textbf{-1} \, | \; + \; \Upsilon_i \, \varepsilon_{t-1}) \, / \, \sigma_{t-1} + \sum_{j=1} \beta j \, \sigma_{t-j} \qquad \textbf{(14)}$$

If $\varepsilon_{t-i} > 0$ or there is arrival of good news, then the total effect of ε_{t-i} is $(1+ \Upsilon_i \, | \, \varepsilon_{t-i} \, |$
and if $\varepsilon_{t-i} < 0$ or there is arrival of good news, then the total effect of ε_{t-i} is $(1- \Upsilon_i) \, | \, \varepsilon_{t-i} \, |$

.

EGARCH model has a few advantages over the basic GARCH model as follows:-

1) Since the conditional variance is modeled in logarithmic form, the variance will always be positive even if parameters are negative. With appropriate conditioning of the parameters, this specification captures the fact that a negative shock leads to a higher conditional variance in the next period than a positive shock (innovation).

2) Asymmetries are permitted in this EGARCH model, and if the relation between volatility & returns is negative then the parameters of the asymmetric term, Υ_i will be negative.

3) EGARCH model is stationary, and has finite kurtosis if $\beta_j < 1$. Hence there seems to be no restriction on the leverage effect that the model can represent which is imposed by positivity, stationarity, or the finite fourth order moment restrictions.

RISKMETRICS APPROACH

Introduced by J.P.Morgan (1992), it is a variation of the EWMA model which can be expressed as:-

$$\textbf{σ²) = (1- λ)} \sum_{j=0}^{\infty} \lambda^j \, (\mathbf{r}_{t-j} \textbf{-} \bar{\mathbf{r}})^2 \qquad (15)$$

Where, $\bar{r}$ denotes, the average return estimated by observations and it is assumed to be zero by RiskMetrics Approach as well as many empirical studies. λ is the decay factor determining the weights assigned to recent and older observations. The determination of λ value is important, albeit, λ can be estimated, it is often conventionally restricted to be 0.94 for daily data and 0.97 for monthly data, and such weights are recommended by Risk Metrics approach. To be explicit, the specification of Risk Metrics modelis:-

$$\textbf{σ²) = (1- λ)} \, \mathbf{r}_{t-1}^2 + \lambda \sigma_{t-1}^2 \qquad (16)$$

We have reference to the value obtained using NumXL as0.90 Tanta mounting to 0.94 as taken by J.P .Morgan approach. Also NSE uses 0.94 for computing volatility for an instant day t.

EVALUATING THE FORECAST OF VOLATILITY (OUT-OF-SAMPLE FORECAST)

The predictability of the estimated models is often evaluated by out-of-sample forecast performance. Two common approaches used for this purpose are known as Recursive forecast and Rolling forecast. The recursive forecast has a fixed initial estimation date, and the sample is increased by one and the model is re-estimated each time. For an L step ahead forecast, this process is continued until no more L step ahead forecasts can be calculated. The rolling forecast has a fixed length of the in-sample period used for estimating the model, which means both the start and end estimation dates should increase by one and the model is re-estimated at each time. For the L step ahead forecast, this process is continued until no more L step ahead forecasts can be computed. (Brooks, 2008).

HYPOTHESIS

Set A: - Descriptive Statistics.

1) Mean daily returns are zero. H0:- $\mu = 0$ v/s H1:- $\mu \neq 0$.
2) Density (Mass) distribution is Symmetric. H0:- Skew = 0 v/ s H1:- SKEW ≠ 0.
3) Density distribution has no fat tails. H0:-Excess-Kurtosis= 0, v/s H1:-Excess Kurtosis ≠ 0. 4) H0: Half of the data observations fall between the quartiles Q1 & Q3.
5) H0: Median of the distribution = Mean

Set B: - Random Walk Process In Daily Returns Time Series Trend.

6) H0: There is presence of unit toot existence (Random walk) in all formulations. (ADF)
7) H0: The log returns time series exhibit strong interdependency (ACF & PACF)

Set C: - White Noise (No Serial Correlation) In Time Series

8) H0: Log returns time series exhibit white noise (no serial/auto) correlation. (LJUNG-BOX).
9) H0:-Log returns time series exhibits an ARCH EFFECT.

Set C: - Goodness Of Fit

10) H0:- Random walk model is best suited for modeling log return time series. (LLC/AIC).

Set D: - Residuals (Standardized) Diagnostic Test Analysis.

11) Population Mean (H0:- $\mu = 0$)
12) Population Standard Deviation (H0:- $\sigma = 1$)
13) Population Skew (H0:- S =0)
14) Population Excess Kurtosis (H0:- K =0)
15) White noise or serial (auto) correlation test (H0:- $\rho_1 = \rho_2 = \ldots\ldots\ldots\ldots \rho_k = 0$)
16) Normality test: - H0:- $\varepsilon_t \sim \varnothing\ (0, 1)$

17) White Noise & Arch Effect: - Residuals are Identical & Independently distributed.H0:- $\varepsilon_t \sim \varnothing$ *i.i.d.*
18) H0:- The negative returns deviate more from normality than positive returns.

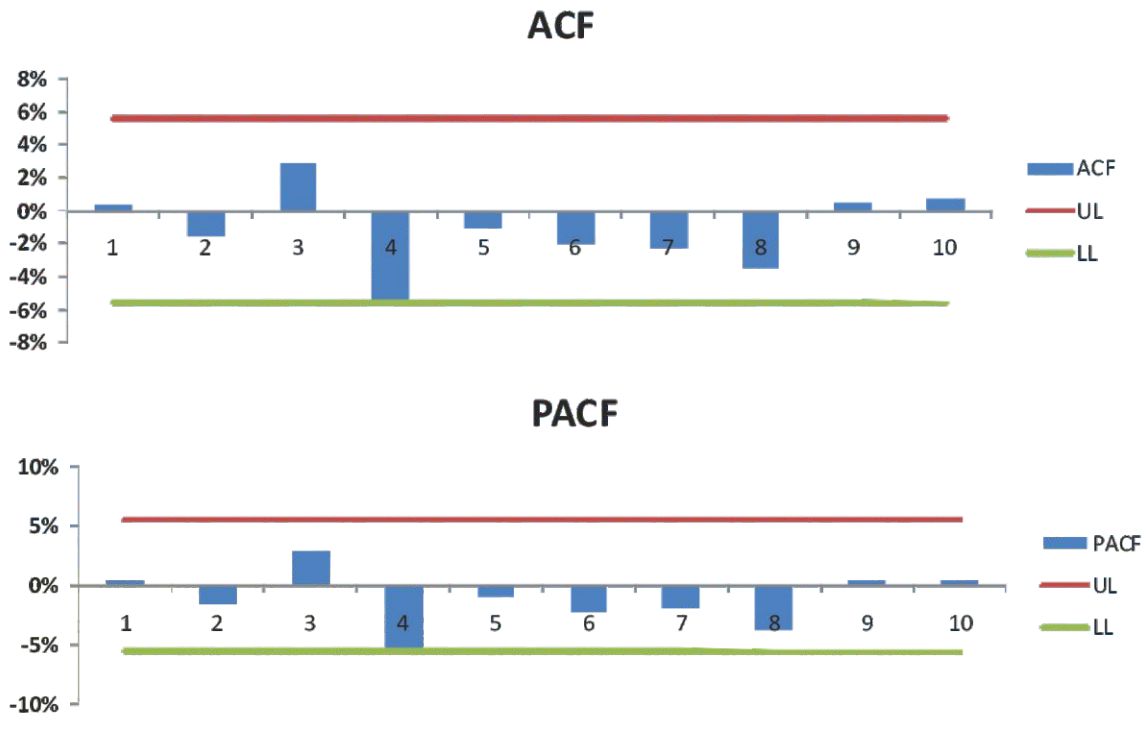
Set E: - Price Range Volatility Estimators

19) H0:-Extreme value intraday volatility estimators are more efficient than traditional/classical close to close volatility estimators.
20) HO: - High frequency data impacts significantly the forecasting ability of the model.

OBSERVATIONS & FINDINGS OF STUDY

Descriptive Statistics		Significance Test			5.00%
		Target	P-Value	SIG?	HO
AVERAGE:	0.08%	0.000	19.05%	FALSE	Accept
STD DEV:	3.03%				
SKEW:	-9.46	0.000	0.00%	TRUE	Reject
EXCESS-KURTOSIS:	219.09	0.000	0.00%	TRUE	Reject
MEDIAN:	0.00%				
MIN:	-69.28%				
MAX:	10.81%				
Q 1:	-1.22%				
Q 3:	1.30%				

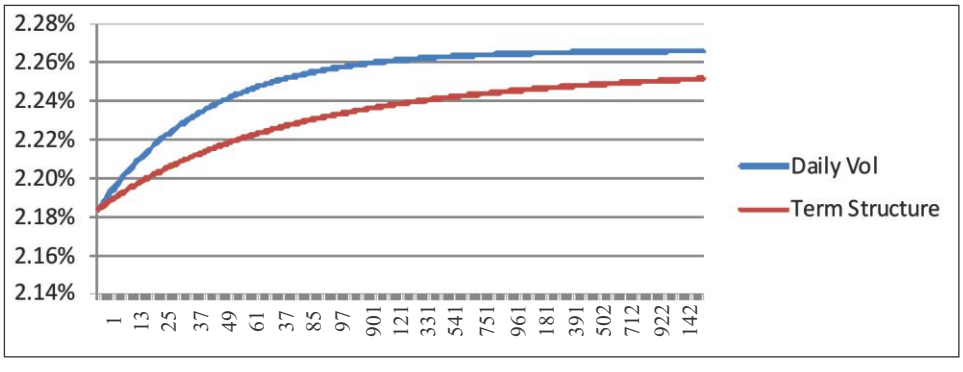
Test	p-value	SIG?
White-noise	43.16%	TRUE
Normal Distributed?	0.00%	FALSE
ARCH Effect?	100.00%	FALSE

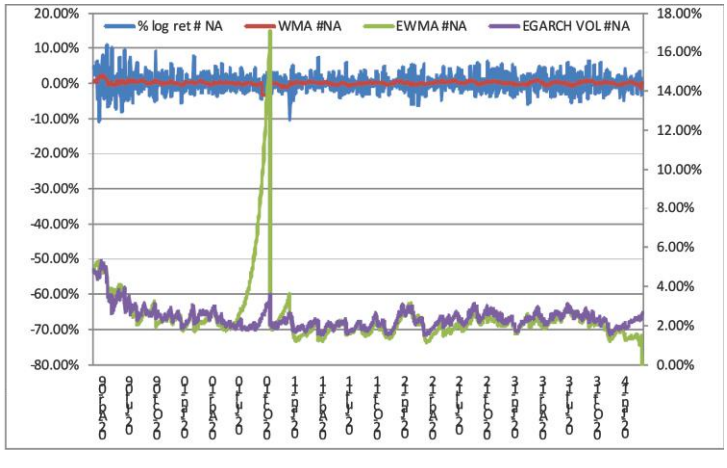


SUMMARY TRADING DAYS	1247	Efficiency	
	ANNUALISED SD (HV VOL)		
TRADITIONAL	48.14%		
SUM OF SQUARES	48.14%		
PARKINSON	43.35%	123.35%	123.33%
GARMAN KLASS	45.33%	112.81%	112.79%
ROGERS-SATCHELL	46.63%	106.59%	106.57%
YANG-ZHANG	43.11%	124.69%	124.67%

SUMMARY TABLE			
VOLATILITY ESTIMATORS	LLF	AIC	DECISION
1) ARMA (1,1)	2588.67	-5169.33	
2) GARCH (1,1) NORMAL	2588.20	-5170.41	
3) GARCH (1,1),t DISTBTN	2906.14	-5804.29	
4) GARCH (1,1),GED	2588.20	-5168.41	
5) GARCH-M (1,1),NORMAL	2588.20	-5168.41	
6)GARCH-M (1,1),t DISTBTN	2906.14	-5802.29	
7) GARCH-M (1,1),GED	2588.20	-5166.41	
8) EGARCH (1,1),NORMAL	2603.74	-5197.47	
9) EGARCH (1,1),t DISTBTN	2997.43	-5982.86	OPTIMAL
10) EGARCH (1,1),GED	2937.24	-5862.48	

VL	ANNUAL
2.67%	42.44%





CONCLUSION

Mean daily log returns on Zee stock is insignificant, the density mass distribution is negatively skewed, and also the density distribution exhibits fat tails (excess kurtosis)(leptokurtic).Although the median is smaller than the mean, distribution is negatively skewed, leading us to believe that the distribution has right fat tails. White noise test (Ljung- box test) shows none of the 8 lags being out of bounds, hence no significant serial correlation observed in the daily log returns on the stock. Normality test fails, indicating that even daily log returns on the stock are not normally distributed. As regards ARCH effect, there seems to be evidence of squared inputs of this time series data. The Correlogram (ACF& PACF) plots exhibit no significant white noise effect.

As regards Volatility, Yang-Zhang estimator as expected gives the most efficient estimate of the stock returns volatility to be 43.11%, on an annualized basis, and the best optimal model happens to be E-GARCH (1, 1) t distribution as it maximizes the value of the log likelihood function, and minimizes the Akaike Information Criteria, obtained by model calibration, amongst the ten different models considered for this study. The long run volatility and term structure indicates that the long run forecast volatility for the following one year ending 31st March 2015 (trading days 252) will exhibit a volatility in the stock returns to be 42.44%, only time will tell how accurate this forecast is, as is evident from this study.

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Perceptions on Performance Progression Vis-a-vis Reward Management System

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Learning and relearning became the motive force for business organizations today. The reason is the changing business scenario in present times. For example, 'Customer focus' has become the success factor for banks. New financial product or lucrative rates of interests are not enough. Relationship and network building, effective organization of work, quick decision making processes have become the points of emphasis today. There should be a continuous endeavour to reduce costs and move products and services faster at markets. Institutions should be innovative and think differently in their initiatives.

Non-tangible results in terms of profit enhancement rather than monetary returns on investments or sales per employee is tending to be the cry for the corporate today. What matters today, as Monika Singh (2005) puts it "is the execution of corporate strategy, management credibility, research and development, branding, image, customer satisfaction and employees turnover". (1) New standards of performance, in the changing business scenario, have to be set in. As per the changed roles of people or the change in core competencies, a new pay strategy has to be established. "Pay should no longer be the domain of what the specific job is worth for. "Pay must become contingent in nature and must depend upon the demand of the organization in terms of what it wants to achieve through people". (2)

Job evaluation, as it is done today, needs to be changed. Traditional methods like job knowledge and job handling do not suffice. Though accountability and problem-solving must still hold the sway, both functional and behavioral competencies must be supplemented and reinforced. Performance progression must not only include conceiving and handling the job but must also include the ability of the person to deliver results.

Organizations in the past have operated through layers of bureaucratic control adding very little value of each level. Today's organization structures have wider span of control, decentralized decision-making with flexible roles and lesser rules guiding the employees within. Organizations are moving away from organic structure to more of matrix structure where work is divided either on projects or more recently on customers.

Today's environment requires flexibility to respond to the short time cycle. Team-based structures need constant grouping and regrouping as different skills and knowledge is required constantly. A closer look at market savvy banks today shows how traditionally functionally divided jobs are regrouping into teams to provide better customer satisfaction. Walk into a private sector bank a single officer would explain all products and SKUs and the same person is able to process your application for any product of the bank. Yesterday's nationalized bank's customer will probably have a different story to tell. Team work, people management, ability to network and sharing knowledge are competencies ensuring performance.

Narrowly defined jobs have failed to make use of the talent in an organization. Jobs today are being designed to allow the job holder to grow to the level of the ability of a job-holder. However, this kind of work structure is restricted to business that is project driven or there is an acceptance of rapid rate of change. There is a need for multi-skilling and up-gradation of skills constantly as technology is changing fast. Major software companies opening off-share development shops in India today, are recruiting talents to handle entire projects from encoding, project management to client interface. The role gets even more demanding for professionals working on a single project in different time zones. A leading software company in the country has moved away from the yearly review. It has now adopted a process where the role review every year decides the new compensation for the employee rather than yearly review based on just market surveys. The reward system of the organization takes care of the performance of the individual.

Leadership today is not limited to handful of top decision-makers. The new work environment that emphasizes faster decision making and flexibility requires leadership right from the boardroom to the assembly line. The way work is organized between teams requires empowered employees to be accountable for their area of work. Organizations have started paying shop floor employees for the gains they are able to make out of reducing waste, cost reduction, etc.

Before deciding what pay strategy would work for an organization, it is important to understand where the organization would want to stand in future. The organization strategy, structure and processes are also important factors that contribute to the success of pay plan and its objective in an organization. Organizational strategy can determine pay fixation and it is important to determine what characteristics of the organization can help it achieve its objectives.

An organization would need to pay its people for developing newer customers and markets. A leading financial service provider has introduced bonus for its bank employees for being able to sell other products like its insurance policy or credit cards. Market leaders need a culture that supports creative thinking, faster decision making,

taking action beside uncertainty, team work, etc. Frequent incentives that motivate people to achieve bigger targets, annual incentives that link employees to overall performance of the organization and paying for acquiring newer skills and competencies will work to support these behaviors. Market leaders also need pay strategy to retain key people, long term incentives based on ability of the individual; and the team to create wealth for the organization would work as golden handcuffs for the employees.

Organizations that dare to challenge market leadership have to out-innovate their rivals by attacking on their strengths. Focus can be on better allowance in trade, pricing geographical attacks in the areas where the leaders are comparatively weaker, technological leap, improved services etc. A major FMCG company gave additional incentive bonus to its employees when they suggested increasing the diameter of the tip of the toothpaste tube such that every use lets more quantity of paste out of the tube! (Increased sales as the consumption per use') A team can encourage ideas from across the organization by posting their needs on the intranet or billboards etc.

It is important to see the compatibility of approach to pay with the systems within the organization. Lack of this fails to make the pay strategy deliver results. For example, an organization wanting to pay its people for their contribution and achievement will have to clearly articulate an individual's roles. Plus performance management system should be objective.

Innovative Pay Strategies

Competency based pay: Pay could be delivered as incentives for achieving results. But first, it is important to identify behaviors that super performers exhibit to achieve the results. For example, for a sales person in an FMCG industry, customer service would mean how effectively this salesman can show his dealers the returns that he gets out of investing in the company's stocks. This would mean ability to liquidate stocks fast, addressing complaints of the goods, going beyond what is required. An average employee would just limit his responsibility to the company norms and procedure. Low performers would shift the responsibility on others. Competencies also change at different levels in the organization. Competencies required at different levels are identified for pay grades in an organization — more popularly known as bands.

A leading HR consulting firm has only three bands across the organizations — entry level, proficiency level and mastery level. Each band has distinct set of functional and behavior competencies defined. An entry level would require good quantitative skills, knowledge of excel sheet, ability to analyze and ability to learn fast. The next level requires skills in project management, resource management, problem solving, mastery in subject knowledge etc. The leadership position requires visionary skills and ability to give

direction to the organization. In order to progress to the next level in such flat organization, an individual is required to add value that would clearly separate his acceptability and key performance indicator.

In an organization which has a wide pay system, pay range varies commensurate with the performance that an individual is able to bring to the table. The employee however does not advance to the next band until he or she is able to add competencies that are required at the next level. Advancement in career no longer means climbing yet another grade or moving to quasi supervisory roles; instead advancement means adding newer competencies that would mean ability to contribute to the organization in distinct form from the earlier level.

For example, a sales structure in competency based structure would mean only three levels: the demand generators, those directly interacting with the primary customers, they service and manage customers. The next level which help the demand generators in achieving targets and increasing volumes, help them improve their performance and comply with the standards and the norms set by the organization. Their accountabilities include increasing profits for the organization by exploring newer markets and improving efficiencies in trade. The last level sets the larger picture to the organization by helping develop more value to the existing product or services, target newer market segment and improve products.

Competencies at the different levels would be different; the demand generators would need competencies like merchandising, helping the distributors increase profits from the business, target orientation — drive to exceed targets, ability to work in inclement climates. The next level requires people management skills, ability to give constructive feedback and improve. It requires some financial acumen for increasing economic value added to the business. The last level would need ability to understand market requirements, analyze the opportunities from the market and the threat from competition and environment. This level will require competency for scanning the market with macro-economic perspective. Competencies based pay is usually tied to the base pay; it is also incorporated into variable pay.

Skill based pay: As technology progresses, newer skills are required. It is important for employees to upgrade their competencies. Skill based pay can help organizations pay its people for skills that are currently in need and what employees are able to use in an organization. It forms a part of base pay; but in the era of ever changing technology, skill based pay is also used as contingent pay. One software company paid its people bonus for acquiring skills that were new and in high demand. The same bonus was withdrawn after its demand decreased. This helped the organization in keeping the employees focused and upgrading their skills continuously. Such pay schemes work best in project based

organizations and virtual organizations where people group and re-group based on time driven projects.

Skill based pay is not necessarily contingent and varies from industry to industry. Industries that need its employee to continuously upgrade their skills can make it contingent; as otherwise, it would continue to pay employees for skill that are no longer in use. Industries where technology changes are not rapid, but people need to upgrade skills in case of changing business, focus can be to make it a part of base pay. For example, a garment manufacturer who wants to enter retail, would need its sales team to sell through a different channel, hence requiring different skills. Skill based pay supports the need of employees and the organization to be multi-skilled. While implementing skill based pay in an organization, it is important that the employees are aware of what skills would allow them to earn bonus on new skills. It is important that both organization and the employees are aware of the changing technologies and the skills required that would help the organization in executing projects, improving procedures, products and services.

Gain sharing: This variable pay scheme has very specific goals, these goals are anything from decreasing waste, improving efficiencies to decreasing cost, etc. Funds used for paying out to people are accrued from the savings from waste etc. It is a short-term incentive program aimed at improving productivity. The concept of gain sharing is based on simple measurable improvements; for example, reduction of cost per unit. Unlike any other variable schemes, gain sharing is a group incentive scheme where a team or a group together is involved in increasing productivity, quality, or customer service.

Pay structures and strategy today cannot be emulated but each organization needs to develop its own strategy that supports the overall goal of the organization.

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The Changing Dynamics of LIBOR

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Abstract

The economic cooperation and interdependence among the countries is accomplished by trade and investment. Borrowing and lending are the integral part of integration of financial markets. London Interbank Offer Rate (LIBOR) is considered as an international benchmark for interest rate calculation. The recent decision of having a new administrator for LIBOR has raised many question s on the credibility of international benchmark for interest rate calculation. This paper is an attempt to understand the process involved in LIBOR rate determination, the need for a new administrator and the prevailing loopholes.

Data from secondary sources is collected to examine the relevance of LIBOR as an international benchmark. The issues are highlighted with the help of Barclays case study.

Text:

LIBOR is the average interest rate estimated by leading banks in London that they would be charged if borrowing from other banks.

The advent of LIBOR can be traced back to 1984 when the BBA (British Business association)sought to add proper trading terms to actively traded markets such as forward currency, forward rate agreement and interest rate swaps.

LIBOR rates were first used in financial markets in 1986.Today rate is published daily by the BBA at about 11.45 am GMT.

Need for LIBOR:

1. It is the primary benchmark for short term interest rate calculation globally.

2. Used as the basis for settlement of interest rate contracts on many future and option exchanges.

3. Used in many loan agreements throughout the global markets.

4. Used in mortgaged agreements.
5. Used as barometer to measure the health of financial money markets.

Significance of LIBOR:

In the professional financial markets LIBOR is used as the base rate for a large number of financial products-future, option and swaps. The fact that LIBOR is often treated as the base rate for other products is the reason why LIBOR interest rates are monitored with great interest by a large number of professional and private individuals.

Process of calculation:

On every London Business day, Thomas Reuters calculates and distributes the set of benchmark rates known as LIBOR.Each day between 11-11.10 hrs. –London times banks contributing to the LIBOR setting process send their interbank borrowing rates directly and confidentially to Thomas Reuters.

Thomas Reuters Corporation is a multinational media and information firm based in New York. It was created by Thompsons corporation purchase of British based Reuter groups in 2008. Today its majority is owned by the Woodbridge Co. –a holding company for the Thomson family. It operates in more than 100 countries. Thomas Reuters undertakes, check and discards the highest and lowest contributions, the top and bottom quartiles. It uses the two middle quartiles to calculate an average –this process is called trimmed mean.

Rates are declared for ten currencies and fifteen borrowing periods. These figures are then distributed by Thomson Reuters by mid-day London time. Thomas Reuters make public all contributions-including the top bottom quartiles-these can be seen on range of financial vendor screens around the world.

LIBOR Panel Banks:

Various banks participate in LIBOR rate determination. Selection is made every year by BBA with assistance from Foreign exchange and Money market commission. A panel is made up of at least eight and a maximum of sixteen banks which are deemed to be representative for London money market. Because the criteria are strict ,the rates can generally be considered to be the lowest interbank lending rate on the London money market.

The British Business Association advised by the LiBOR panel banks and users group

maintains a reference panel of between six to eighteen contributor banks for each currency calculated. The aim is to produce a reference panel of banks which reflects the balance of the market. Individual banks are selected within the guiding principles based on three criteria:

i. Scale of the market activity
ii. Reputation
iii. Perceived expertise in the currency concerned.
iv. Any bank can apply to be on any currency panel they choose and BBA welcomes any potential contributor that trades in London market.

Currencies Involved:

Originally in 1986-LIBOR was published for three currencies-dollar, Yen and Pound, over the years the number increased to sixteen. Presently there are ten currencies –dollar, Euro, Pound, Australian dollar, Canadian dollar, Newzealand dollar, Danish Krone, Swiss Franc, Yen and Swedish Kroner.

Types of Maturities:

Overnight, one week, two weeks one month till twelve months One week maturity was introduced in 1998 and in 2001 overnight and two weeks rates were introduced.

Types of LIBOR rates:

1. 1 month LIBOR-
   The interest rate on the amount remains unchanged for the entire month. However the interest paid by a borrower is calculated by adding the original interest rate and a margin amount which is based on LIBOR index. The value of LIBOR index is set every month which results in monthly fluctuations in the interest payment.
2. 3-months LIBOR:
   The interest remains same. Value of loan is reset on extension of loan.
3. 6-months LIBOR:
   Interest remains same for the entire tenure. IT is re-set on extension .
4. 1-year LIBOR:
   The rate set on day one is applicable on the loan issued on that day. It remains unchanged till the end of loan term.
   Out of these rates 6-months LIBOR is most commonly used.

Important Banks participating in LIBOR determination:

Bank of America P Morgan Chase, Citibank NA, Bank of Tokyo, Barclays, BNP Paribas, Deutsche Bank, HSBCetc.

LIBOR Scandal:

In 2005 there were evidence that Barclays tried to manipulate Libor rates. Between 2005-2009, Barclays derivative traders made 257 requests to fix LiBOR rates. In 2007, Barclays manipulated LIBOR submission to give a healthier picture of the bank's credit quality and its ability to raise fund. At the same time ,senior treasury managers instructed submitters to reduce LIBOR to avoid negative publicity.

In November 2008, a senior submitter at Barclays wrote in an internal mail that LIBORS are not reflecting the true cost of money. Following this, a Barclays compliance officer contacted the UK banking regulator FSA.

FSA used to be the regulator of all providers of financial services in UK. It was a quasi judicial body responsible for the regulation of financial services in UK.

Due to perceived regulatory failure of banks during 2007-2008, UK government decided to restructure the financial regulation and abolish the FSA. In 2012, under Financial Services Act 2012 ,FSA was abolished with effect from 1.4.2013.Its responsibilities were split between two new agencies-Prudential regulation authority & Financial conduct authority and Bank of England.

Further investigation by US CFTC (commodity future trading commission) revealed that Barclays employees were responsible for LiBOR rates manipulation. Barclays was fined 290 million pound.

In another instance, UBS traders colluded with brokers to influence Yen Libor submission and paid the brokers corrupt brokerage. UBS is a Swiss Global financial services Company with headquarter in Zurich.

How could it affect us?

The rates bank pay to borrow money affect how much they charge customers for loan and mortgages .When the costs for the banks go up ,the price customers pay also goes up. Therefore any manipulation of inter banking lending rates will affect customers. Moreover, there are roughly 2,50,000 borrowers with mortgages directly linked to LIBOR.

Post LIBOR scam, the Indian financial market decided to change the way they set key benchmark rates which are basis for deals worth thousands of crores everyday. RBI and commercial banks decided to move away from polled rates to traded rates in calculating daily benchmarks in currency and money markets.

Recent update:

In September 2012, BBA decided that LIBOR needs a new independent administrator. Following a rigorous selection , ICE Benchmark administration was selected .ICE is International Exchange Inc. formerly Intercontinental Exchange Group Inc. is a network of regulated exchanges and clearing houses for financial and commodity markets. The company transfers transparent and accessible data .

ICE benchmark administration Ltd. was established in 2013 in response to the increased oversight of benchmarks. In April 2014, following an extensive selection process managed by the international swaps and derivatives association was appointed as new administrator of LIBOR with effect from 1.8.2014.

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Exploratory Tendencies Of Consumers Towards Clothes - A study of Demographic Differences

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Abstract

Transitional and emerging consumer markets (ECMs) constitute more than two- third of the world's population. It is the need of the hour that theories and models of consumer behavior and consumer research developed in the context of western culture be validated and examined in the non western, emerging economies as well. This paper discusses the factors influencing Exploratory Tendencies of consumers towards Clothes and study the impact of demographics on identified factors influencing exploratory tendencies of Clothes. Data were collected from the urban population of New Delhi between the age group of 21-60 years, who were highly involved in making purchase decisions for apparels. The results show that marketers should advertise their products to attract younger individuals as they are the one who have higher exploratory tendencies while shopping. Brand switching behavior is mostly seen in the younger age group and also with students since they have enough time and also a liking towards styles and a show off attitude in peers. This makes it important for the marketers to inculcate a feeling of brand loyalty among this group to have a decent market share.

Keywords: Exploratory Tendencies, Optimum Stimulation Level, Clothes, Demographic Differences, Exploratory Factor Analysis,

Introduction:

Exploratory behavior as a concept related to the behavior aimed at modifying environmental stimulation has been in existence as early as 1980's with its origin in psychology related to the studies on need for stimulation of individuals. Individuals tend to balance the internal optimum stimulation levels by adjusting it against the external stimulation by either increasing or decreasing the same. As per Steenkamp and

Baumgartner [1992], psychological pleasantness is highest at a particular level and that is known as optimum stimulation level. The behavior that is aimed at adjusting this stimulation level according to the external environment is termed as 'exploratory behavior'.

Existing research has shown OSL as a strong factor in explaining various consumer buying behavior. Important exploratory components have been identified as risk taking, innovativeness, variety seeking, browsing, and evaluation of arousing stimuli such as fear –appeal ads (Baumgartner and Steenkamp, 1996; celsi, Rose, & Leigh, 1993; Holbrook & Hirschman, 1982; Joachimsthaler & Lastovicka, 1984; McAlister & Pessemier, 1982; Mittelstaedt, Grossbart, Curtis, & Devere, 1976; Raju, 1980, 1984; Steenkamp & Baumgartner, 1992; Steenkamp, Baumgartner, & Van der Wulp, 1996; Venkatraman & Price, 1990; Zuckerman, 1979, 1994). Steenkamp and Baumgartner (1992) state that to attain an optimal level of stimulation, a person may engage in exploration of the environment. According to Raju [1980], exploratory consumer behavior tendencies have been categorized as curiosity- motivated behaviors, variety seeking and risk taking.

An individual engages in exploration of the environment to attain the optimum stimulation level (Steenkamp & Baumgartner, 1992). Raju [1980, p. 272] stated: "The magnitude of OSL, therefore, leads to attempts to adjust stimulation from the environment. Such behavior, aimed at modifying stimulation from the environment, can be termed 'exploratory behavior'. The categorization done by Raju in terms of exploratory behavior is most prevalent in the consumer behavioral studies. Various studies have shown that people with high OSL are higher on risk taking, variety seeking, curiosity motivated behavior. As per the studies conducted by Steenkamp and Baumgartner [1996], it has been found that people differ in the amount of stimulation deemed to be optimal. Individuals with higher exploratory buying behavior tendencies (EBBT) show a higher OSL levels that their lower EBBT counterparts. This also shows people exhibiting higher EBBT have higher curiosity and pursue diversity in the consumption of the products. This holds true even in the case if the same individual is buying for others. This brings us to another concept related to hedonic and utilitarian search motives such that hedonic search motives are related to experimental view of the consumer behavior and also that people seek recreation and fun while shopping according to Holbrook and Hirschman [1982].

Literature Review

Optimum Stimulation Level (OSL) and Exploratory tendency concepts are not much researched in the field of marketing. However, there have been researches that have been done in the past on these concepts in the field of psychology done by [1955]. They proposed that individuals exhibit a certain intermediate level of stimulation that is termed

as “optimum stimulation”. If the external stimuli are below this average, the individuals tend to increase it and when this is higher, they try to reduce it. This behavior of adjusting individual stimuli to the external environment to reach the optimum stimulation level is termed as 'exploratory tendencies'.

Almost simultaneously, it was observed that both these theories have equal importance in the field of marketing. According to Zuckerman [1979], OSL has an intra-individual stability but varies from individual to individual. It is generally seen that people with higher OSL tend to explore more, hence high on exploratory tendencies as compared to their low OSL counterparts.

This fact has become a major determinant of consumer buying behavior. Broadly, Raju [1980] characterized these exploratory tendencies in three forms, curiosity motivated behavior, variety seeking and risk taking. Berlyne [1960] differentiated between specific and diversive curiosity motivated behavior. Mc Alister and Pessemier [1982] included OSL in their existing model of variety seeking and posited that utility derived from switching brands is positively related to OSL. Zuckerman [1979] found OSL to be positively related to risk taking. There have been studies conducted to find the influence of consumer's demographics on OSL and exploratory tendencies. The influences of various consumer demographics on OSL and Exploratory Tendencies have been studied by very few researchers. Raju (1980) found age, employment status and education correlated with OSL but income showed no correlation with OSL. Surajit et al (2009) in his study trying to explore the relationship of age, gender, income and education with various exploratory tendencies like Brand Switching, Risk Taking/ Innovativeness and Curiosity Motivated Behavior found that males are higher on Risk Taking/ Innovativeness as compared to females. Younger people have greater tendency to involve themselves in Interpersonal Communication. The study also found that income and education have no significant effect on Brand Switching, Risk Taking/ Innovativeness and Curiosity Motivated Behavior. Kish & Busse (1968) found an inverted U-shaped relationship between age and OSL, indicating that middle-aged individuals have the highest OSLs. Zukerman (1988) developed a biochemical explanation for the same regarding age and gender. He reviewed some research which explains that OSL is significantly negatively correlated with the level of the enzyme monoamine oxidase (MAO) and females have higher levels of MAO than males at all spans of life . Also, MAO levels increase with age. Single and divorced people show high OSL (Zuckerman & Neeb, 1980). Steenkamp et al (2001) found that income have a positive effect on Exploratory Consumer Behavior and OSL. OSL decreases with age.

Research Objectives:

1. To determine the factors influencing Exploratory Tendencies of consumers towards

Clothes.

2. To study the impact of demographics on identified factors influencing exploratory tendencies of Clothes.

Hypothesis

$H0_1$: There is no significant difference between the mean scores of various Exploratory Tendencies for different age groups towards Clothes.

$H0_2$: There is no significant difference between the mean scores of various Exploratory Tendencies for different genders towards Clothes.

$H0_3$: There is no significant difference between the mean scores of various Exploratory Tendencies for different marital status towards Clothes.

$H0_4$: There is no significant difference between the mean scores of various Exploratory Tendencies for different educational qualification towards Clothes.

$H0_5$: There is no significant difference between the mean scores of various Exploratory Tendencies for different primary engagement towards Clothes.

$H0_6$: There is no significant difference between the mean scores of various Exploratory Tendencies for different income groups towards Clothes.

Sample and Data Collection:

Data was collected from the urban population of New Delhi between the age group of 21-60 years, who were highly involved in making purchase decisions for apparels. The same was made sure by verbal communication with the respondent before giving the questionnaire. Population means the entire mass of observation which is the parent group from which a sample is to be taken. In the present study, the population is the respondents between the age group of 21 to 60 years who are generally highly involved in decision making in the family. The same was ensured by verbally confirming from the subjects that they actively participate in decision making. The Population for the present study comprised of people living in Delhi.

Delhi is divided amongst 9 districts as per the municipal corporation of Delhi (North West, North, North East, East, New Delhi, Central, West, South west, South) and a sample size of 100 respondent was selected from each district based on judgement. A personal

survey was conducted to collect the data from the respondents.

Before starting the data collection for the study the questionnaire was pre-tested to assess the content validity, construct validity and reliability. Also, any possibility of any weakness can also be ruled out at this stage. The statements of the questionnaire were discussed with the experts of marketing research and the suggestions given by them were incorporated i.e. some statements were discarded. After the final approval from experts, pilot study was undertaken on 65 respondents to ensure the appropriateness of the statements. The questionnaire was revised and the final questionnaire was administered to 950 respondents to get a targeted 905 valid responses (95.23% response). For reliability Cronbach's Alpha value was checked which came out to be 0.867.

Table1:Reliability Statistics

Cronbach's Alpha	N of Items.
.867	34

Instrument:

In the first part of the questionnaire contained forced choice questions on demographics of the respondents. For collecting the data on demographics (age, educational qualification, Income, primary engagement) multiple choice questions were used and dichotomous questions were used for measuring gender and marital status. The respondents were requested to choose only one option out of the alternatives available$_{52}$. the second part of the questionnaire measured exploratory tendencies of consumers. The scale developed by Raju was adapted to measure exploratory tendencies of consumers. The original scale was modified in content and the number of statements used to serve the emerging consumer markets. Also, the original scale talks about exploratory tendencies of consumers in general but this paper assesses the relationship of demographic's of consumers and their exploratory tendencies with respect to apparels. So there was a need to modify the questionnaire. Changes in the questionnaire were made under the guidance of experts. the arrangement of the statements was subject to rigorous editing and scrutiny of experts. After giving due consideration to the comments and suggestions of the experts 5 statements were rejected. Finally 34 statements were included in the questionnaire for each product. Finally, the preliminary draft of thirty four statements was finalized and subjected to pre-tryout. The modified scale consisted of 34 statements, and seven sub-scales, measuring repetitive behavior proneness, innovativeness, risk taking, exploration through shopping, interpersonal communication, brand switching and information seeking. Five point Likert scale- most common scale to assess psychographic variables

by marketing researchers [51] (5= 'strongly agree' and 1= 'strongly disagree') was used for the study.

Analysis of the Data:

Data was checked for outliers. No outlier was found in the data as there was a specific scale with options, so there was no chance of an outlier. No missing frequencies were reported as the respondents were requested not to leave any response unmarked and the same was taken care of while collecting the questionnaires from respondents.

The data was analyzed by software namely SPSS version 19.0. Various statistical tools like one – way Anova, Independent sample T-Test and Descriptive Analysis were used to analyze various hypotheses. Cronbach Alpha Test was used to test the reliability of the scale. The analyses was performed at 95% confidence level which is generally accepted level of confidence in social sciences research. The questionnaire comprised of 16 negative statements and reverse coding was done for negative statements.

Findings and Interpretations:

Profile of Respondents

Out of 905 questionnaires collected 55% were males (497) and 45% were females (408) with 35% of the respondents in the age bracket of 21-30 years (319), 22% in 31-40 Years, 25% in 41-50 years and 18% in 51-60 years. 58.5% of the respondents were married and 46.4% of the total respondents were graduates followed by 31.4% postgraduates and 16% were professionally qualified. 27% of the respondents were service class and 20% respondents were in Business and almost equal percentages of respondents were students (20.6%). Majority of the respondents belonged to the income group of less than 3 lakhs (33.3%) with the least number of respondents in the income bracket of above 14 lakhs (13.4%).

A. Factor Analysis

Factor analysis also called exploratory factor analysis (EFA) is a class of procedures used for reducing and summarizing data. Each variable is expressed as a linear combination of the underlying factors. Likewise, the factors themselves can be expressed as a linear combination of the observed variables (Malhotra Naresh,2013)

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.891
Bartlett's Test of Sphericity	Approx. Chi-Square	20825.740
Sphericity	df	561.
	Sig.	000

Table 3: Factor Loadings and Reliability

Name of the Dimension	Item No.	Statements	Factor Loadings	Reliability	KMO
Information Seeking	23	I usually skip all advertisements of clothes without reading them.	.875	0.949	0.891
	18	I generally watch all advertisements on clothes just to know what it is about.	.871		
	6	I get very bored listening to others about their styles of clothes.	.866		
	30	I often read advertisements of clothes just out of curiosity.	.857		
	27	I don't care to find out what type of clothes my friends use.	.856		
	33	When I hear/see a new style of clothes, I take advantage of the first opportunity to try it.	.849		
	12	I often read the information on the tag of the clothes just out of curiosity.	.846		
	32	I rarely read advertisements that just seem to contain a lot of information.	.824		
Innovative Behavior	20	A new style of clothes is not something I would be eager to find about.	.865	0.922	
	29	When I see a new style of clothes somewhat different from the usual. I try it.	.827		
	8	I am the kind of person who would try any new style of clothes once.	.821		
	14	I am very cautious in trying new/different styles of clothes.	.820		

	25	I would rather wait for others to try a new style of clothes than try it myself.	.802		
	31	Trying new style of clothes is generally a waste of time.	.802		
	2	When I see a new or different style of clothes on display. I often pick it up just to see what it is like.	.782		
Repetitive Behavior Proneness	19	I get tired of wearing the same style of clothes every time.	.873	0.919	
	13	I get bored with buying the same style of clothes even if it is good.	.873		
	7	If I like a style of clothes, I rarely switch from it just to try something different.	.859		
	1	Even though clothes are available in a number of different styles. I always tend to buy the same style.	.850		
	24	A lot of the time I feel the urge to buy something really different from the style of clothes I usually buy.	.843		
Risk Taking	3	I like to try the most unfamiliar style of clothes, even if I am not sure I would like them.	.863	0.894	
	21	I never buy a style of clothes which I don't know about at the risk of making a mistake.	.851		
	34	I enjoy taking chances in buying unfamiliar styles of clothes just to get some variety in my purchases.	.843		
	9	I feel comfortable to purchase the style of clothes I usually wear.	.834		
	26	If I buy clothes. I will buy only well-known brands.	.802		
Exploration Through Shopping	16	I shop around a lot for my clothes just to find out more about the latest styles.	.867	0.84	
	4	I like to shop around and look for the new styles of clothes at display.	.862	0.833	
	10	I hate window shopping.	.837	0.789	

Interpersonal Communication	5	I don't like to talk to my friends about styles of my clothes.	.871	0.833	
	17	My friends and neighbors often come to me for advice on different styles of clothes.	.850		
	11	I like introducing new styles of clothes to my friends.	.836		
Brand Switching	15	I would rather stick with the same style of clothes I usually buy than trying something I am not very sure of.	.840	0.789	
	22	I enjoy exploring several styles of clothes while shopping.	.825		
	28	I would probably like to try all the different styles of clothes, if I get the opportunity to purchase lot of them.	.778		

A. <u>Impact of demographics on identified factors influencing exploratory tendencies of Clothes.</u>

EFFECT OF AGE ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_1$: There is no significant difference between the mean scores of various Exploratory Tendencies for different age groups towards clothes.

TABLE 4 : ANOVA between Age and various variables of Exploratory Tendencies towards Clothes

	Levene					
Variables	**Statistic**	**Sig.**	**F**	**Sig.**	**Welch**	**Sig.**
Innovativeness	4.658	0.003	1.119	0.34	1.137	0.334
Repetitive_Behavior_Proneness	3.606	0.013	1.724	0.16	1.683	0.17
Risk_Taking	1.633	0.18	0.447	0.719	0.426	0.734
Exploration_Through_Shopping	3.056	0.028	2.743	0.042	3.004	**0.03**

Mean Score of 21-30 Years	3.041797					
Mean Score of 31-40 Years	3.215988					
Mean Score of 41-50 Years	2.947371					
Mean Score of 51-60 Years	2.981481					
Interpersonal_Communication	4.908	0.002	2.178	0.089	2.497	0.059
Brand_Switching	1.703	0.165	2.979	**0.031**	2.924	0.034
Mean Score of 21-30 Years	3.303027					
Mean Score of 31-40 Years	3.234689					
Mean Score of 41-50 Years	3.058474					
Mean Score of 51-60 Years	3.144028					
Information_Seeking	0.865	0.459	0.891	0.445	0.869	0.457

Analysis of the above table shows a marked difference between the mean scores for different age groups in Exploration through shopping and Brand Switching. So we can say that our NULL hypothesis stands rejected for exploration through shopping and brand switching.

For further analysis post hoc test was used. Games Howell was used for Exploration through Shopping while Tukey HSD was used for Brand Switching.

Post Hoc table reveals that the exploratory tendencies while shopping differ significantly in the age groups of 31-40 years and 41-50 years. This can be attributed to the fact that people in early stages of life tend to explore more than the later stages of life due to the age factor. Descriptive table shows age group 31-40 year do more exploration through shopping (M=3.215988) as compared to age group 41-50 years (M=2.947371). This is primarily due to a reason that people in the age group of 31-40 years are more influenced by displays and the endorsements than the people in the age group of 41-50 years where people are not influenced by displays but make a calculative decision based on their personality, age and job profiles. In the later stages of life, the tendency to explore while shopping decreases mainly due to the reasons of lower strengths and stability.

Post Hoc table shows a marked difference in the brand switching behavior of people in the age groups 21-30 and 41-50 years. Descriptive table shows a brand switching is higher at 21-30 years (M=3.303027) as compared to the age group 41-50 with M= 3.058474. The possible interpretation of the same is attributed to the fact that individuals in the age group of 21-30 years are more brands conscious than their older counterparts due to various

reasons such as peer pressure, trends, utility etc. This also has its bearing on the fact that individuals in this age group are mostly students or individuals who have recently taken up the jobs which make them keener towards the latest trends and fashion in the dressing and hence aggravate the brand switching tendency. People in the middle ages i.e. 41-50 years generally do not switch brands too often as they tend go with the ones they are more comfortable with and which actually fits in their budget and comfort zones.

EFFECT OF GENDER ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_2$: There is no significant difference between the mean scores of various Exploratory Tendencies for different genders towards clothes.

TABLE 5: T-Table of Gender and various variables of Exploratory Tendencies towards clothes

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Innovativeness	Equal variances assumed	2.465	0.117	-0.203	903	0.839	-0.01245	0.061351
	Equal variances not assumed			-0.204	881.699	0.839	-0.01245	0.061095
Repetitive_ Behavior_ Proneness	Equal variances assumed	2.241	0.135	1.303	903	0.193	0.087627	0.067228
	Equal variances not assumed			1.308	879.616	0.191	0.087627	0.066998
Risk_Taking	Equal variances assumed	0.455	0.5	-1.229	903	0.219	-0.08199	0.066728
	Equal variances not assumed			-1.231	874.755	0.219	-0.08199	0.066608
Exploration_ Through_ Shopping	Equal variances assumed	0.036	0.849	-0.936	903	0.35	-0.06397	0.068343
	Equal variances not assumed			-0.937	872.126	0.349	-0.06397	0.068278
Interpersonal_ Communication	Equal variances assumed	3.903	0.048	0.505	903	0.614	0.033137	0.065607
	Equal variances not assumed			0.509	888.446	0.611	0.033137	0.065158
Brand_ Switching	Equal variances assumed	2.732	0.099	-1.609	903	0.108	-0.1063	0.066047
	Equal variances not assumed			-1.617	883.562	0.106	-0.1063	0.065725
Information_ Seeking	Equal variances assumed	0.071	0.79	-0.993	903	0.321	-0.06546	0.065926
	Equal variances not assumed			-0.993	868.783	0.321	-0.06546	0.065929

Independent sample T-Test table reveals that there is no significant difference in all the exploratory tendencies of consumers with respect to gender. We can say that our NULL hypothesis stands accepted for repetitive behavior proneness, information seeking, interpersonal communication, risk taking, brand switching, exploratory tendencies while shopping and innovative behavior.

EFFECT OF MARITAL STATUS ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_3$: There is no significant difference between the mean scores of various Exploratory Tendencies for different marital status towards clothes.

TABLE 6: T-Table of Marital Status and various variables of Exploratory Tendencies towards clothes

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Innovativeness	Equal variances assumed	5.203	0.023	1.621	903	0.105	0.099925	0.061656
	Equal variances not assumed			1.608	802.287	0.108	0.099925	0.062148
Repetitive_ Behavior_ Proneness	Equal variances assumed	1.448	0.229	-0.417	903	0.677	-0.02822	0.067716
	Equal variances not assumed			-0.415	810.9	0.679	-0.02822	0.068076
Risk_Taking	Equal variances assumed	0.2	0.655	0.382	903	0.703	0.025649	0.067207
	Equal variances not assumed			0.381	821.556	0.703	0.025649	0.067337
Exploration_ Through_ Shopping	Equal variances assumed	0.394	0.53	0.502	903	0.616	0.034508	0.068805
	Equal variances not assumed			0.5	817.6	0.617	0.034508	0.069026
Interpersonal_ Communication	Equal variances assumed	0.486	0.486	0.989	903	0.323	0.065302	0.066001
	Equal variances not assumed			0.997	850.542	0.319	0.065302	0.065472
Brand_ Switching	Equal variances assumed	1.705	0.192	-0.003	903	0.998	-0.00019	0.066566
	Equal variances not assumed			-0.003	844.664	0.998	-0.00019	0.066174
Information_ Seeking	Equal variances assumed	1.035	0.309	1.29	903	0.197	0.085568	0.066324
	Equal variances not assumed			1.286	816.702	0.199	0.085568	0.066555

Independent sample T-Test table reveals that there is no significant difference in all the exploratory tendencies of consumers with respect to marital status. We can say that our NULL hypothesis stands accepted for repetitive behavior proneness, information seeking, interpersonal communication, risk taking, brand switching, exploratory tendencies while shopping and innovative behavior. There is no significant difference between various variables of exploratory tendencies for both married and unmarried respondents.

EFFECT OF EDUCATIONAL QUALIFICATION ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_4$: There is no significant difference between the mean scores of various Exploratory Tendencies for different Levels of Education towards clothes.

TABLE 7 : ANOVA between Educational Qualification and various variables of Exploratory Tendencies towards clothes

Variables	Levene Statistic	Sig.	F	Sig.	Welch	Sig.
Innovativeness	1.896	0.129	0.636	0.592	0.626	0.599
Repetitive_Behavior_Proneness	0.425	0.735	0.827	0.479	0.852	0.467
Risk_Taking	1	0.392	0.771.	0.511	0.757	0.519
Exploration_Through_Shopping	0.081	0.971	1671.	0.321	1.171	0.322
Interpersonal_Communication	0.565	0.638	0381.	0.375	1.056	0.369
Brand_Switching	1.272	0.283	5410.	0.202	1.443	0.231
Information_Seeking	0.83	0.477	783	0.504	0.771	0.511

Analysis of Variance in TABLE 1 showed that, the all the variables of exploratory tendencies do not differ significantly on the basis of educational qualification which means various exploratory tendencies are not affected by qualifications of the respondent. So, null hypothesis stands ACCEPTED for various exploratory tendencies towards clothing.

EFFECT OF INCOME ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_5$: There is no significant difference between the mean scores of various Exploratory Tendencies for different income groups towards clothes.

TABLE 8 : ANOVA between Income and various variables of Exploratory Tendencies towards clothes

Variables	Levene Statistic	Sig.	F	Sig.	Welch	Sig.
Innovativeness	0.654	0.624	2.11	0.078	2.087	0.082
Repetitive_Behavior_Proneness	1.108	0.14	1.187	0.113	1.98	0.072
Risk_Taking	3.312	0.01	1.142	0.335	1.158	0.329
Exploration_Through_Shopping	0.395	0.812	1.628	0.165	1.624	0.167
Interpersonal_Communication	1.584	0.176	1.142	0.335	1.277	0.279
Brand_Switching	0.974	0.421	1.651	0.159	1.631	0.166
Information_Seeking	1.916	0.106	0.815	0.515	0.757	0.554

ANOVA table shows no significant difference between the mean scores of income with respect to various exploratory tendencies. So the null hypothesis stands accepted for various variables of exploratory tendencies. There is no significant difference between the mean scores for different income status.

EFFECT OF OCCUPATION ON VARIOUS VARIABLES OF EXPLORATORY TENDENCIES TOWARDS CLOTHES

$H0_6$: There is no significant difference between the mean scores of various Exploratory Tendencies for different occupations towards clothes.

TABLE 9: ANOVA between Occupation and various variables of Exploratory Tendencies towards clothes

Variables	Levene Statistic	Sig.	F	Sig.	Welch	Sig.
Innovativeness	3.79	0.005	1.345	0.251	1.359	0.247
Repetitive_Behavior_Proneness	3.452	0.008	0.694	0.596	0.656	0.623
Risk_Taking	2.539	0.039	0.35	0.844	0.333	0.856
Exploration_Through_Shopping	1.526	0.193	1.912	0.106	1.866	0.115
Interpersonal_Communication	1.653	0.159	0.783	0.536	0.754	0.555

Brand_Switching	1.952	0.1	2.494	0.042	2.452	0.045
Mean Score of Business	3.134434					
Mean Score of Service	3.211745					
Mean Score of Professional	3.110385					
Mean Score of Housewife	3.104756					
Mean Score of Students	3.385299					
Information_Seeking	1.996	0.093	1.722	0.143	1.715	0.146

An analysis of the above table shows a significant difference between the mean scores of occupation with respect to brand switching. So the null hypothesis stands rejected with respect to brand switching. For all other variables of exploratory tendencies these is no significant difference between the mean scores for different income status.

For further analysis post hoc test- Tukey HSD was used for brand switching.

Post hoc table reveals that professionals differ significantly from the students. The descriptives table shows that students faired the highest when it comes to brand switching. The table iterates the brand switching behaviors of various respondents with respect to their occupations, professionals with M= 3.110385 and students at M=3.385299. As mentioned above also, students are more concerned about the styles they wear to impress their peers and to show an edge above others. Due to this thinking they explore new styles without giving much preference to brands. They are brand conscious but not brand loyal. Style of clothing makes a difference to them and not brands. So, they are higher on brand switching as what matters to them is style. Professionals are lower on brand switching because they are not inclined towards styles. They have a specific sense of dressing and they usually follow the same. They are generally brand conscious and brand loyal and prefer to wear some selected brands only.

Managerial Implications:

This study will help marketers to design the marketing strategies in the markets according to the exploratory behavior of the consumers by seeking the stimulation levels of the individuals and how do they try to balance the optimum stimulation level according to the external environment stimuli. While designing the STP (segmentation, targeting and positioning), the marketers shall focus on the individuals who have higher OSL levels and hence higher exploratory tendencies.

Age has definitely a bearing on the consumer exploratory buying behavior and it fashions various attributes of the consumer as derived from this study and so does on the various attributes of the exploratory tendencies as regards exploration through shopping and brand switching. Marketers should position their products as per the age groups as individual do have a tendency to explore and switch brands in the early ages of their lives.

Marketers should advertise their products to attract younger individuals as they are the one who have higher exploratory tendencies while shopping. This also makes it important for the marketers to position the products in such a way so that it is easily accessible. Brand also plays an important role in altering the exploratory tendencies of the individuals. Younger generation is keener on brands than their older counterparts. Marketers should plan the branding in a way to make it appealing to the younger generation so that they show loyalty towards the brand. Brand switching behavior is mostly seen in the younger age group and also with students since they have enough time and also a liking towards styles and a show off attitude in peers. This makes it important for the marketers to inculcate a feeling of brand loyalty among this group to have a decent market share.

Suggestions:

Based on the findings of the study and the managerial implications above, there are certain marked suggestions for marketers that are suitable to have an optimum mix of STP to get the maximum stimulation level and help individuals reach their optimum stimulation levels through various exploratory tendencies attributes.

Younger generation is very keen on exploration through shopping and while doing that they often visit the stores and keep a tab on advertisements related to clothes. The marketers should focus on positioning the of the clothes in such a way to have more styles on display to draw the attention of the youngsters as they see them as fashion objects and help them project their inclination towards the new trends in the market. At the same time, the marketers should also look towards the nature of cloths that are typically related to older individuals in terms of smart casuals, colors and other attributes to have an appropriate mix.

Brand switching is very common among the individuals in early ages, which pose a great challenge for the marketers. Marketers should come out with loyalty bonus points and other discount schemes to keep the individuals loyal to a particular brand. They should also have various brands that showcase various attributes according to age so that individuals can easily be distinguished. This will help in keeping brand loyalty with the marketers and have a promising business.

Occupation also plays a very important role as brand switching is fairly present among the students as compared to the professionals. This makes it imperative for the marketers to have designs that attract the students to mitigate the risks related to brand switching as students are keener on styles and fashion trends than brands. Marketers should promote the brands in a way to be a trend setter among the students by altering the design often to as per the latest trends in the market. They can also have a wide variety of styles under a brand name to gain loyalty among the students. The advertisements and BTL activities should be focused on students to make them understand the various attributes linked to that particular brand of clothes.

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Competitive Strategies of Global & Indian Pharmaceutical Companies in Generic Market

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All the global major pharmaceutical companies have been facing eight major business challenges in 2014 and beyond:

1. Increasing the business performance to enhance competiveness
2. Achieving customer loyalty
3. Managing supply chain risks and increasing commodity cost
4. Improving information for decision-making by focusing on data management and analytics
5. Managing regulatory change
6. Attracting, retaining and developing top talent
7. Realizing bottom-line value in mergers and acquisitions
8. Managing enterprise risk

The market trends that are witnessed today

1) **Economic Shift**: Emerging Markets are maturing. There are growing numbers of middle-class consumers in at least 16 countries with emerging economies. They are home to nearly 2 billion people who spend a total of $6.9 trillion every year. In the next 10 years, 80% of economic growth is expected to come from what is called "the emerging markets".(Source: McKinsey Quarterly, July 2010) Today, more than half of the people in Countries like China, South Korea, Brazil, India, Russia, Turkey, Mexico and Indonesia are middle class consumers. To remain competitive, European companies are offering differentiated, highest-quality products and services.

2) **Resource Demand** Approximately 1.2 billion people would come in the category of middle class. There is a greater demand for sophisticated products, components, raw materials, shipping, travel and other services. Suppliers are having difficulty keeping up. Prices for all kinds of commodities are increasing. Three resources are needed by everybody.

3) **Energy**: More electricity and more fuel for vehicles will require significant investments in technology and infrastructure. Alternative sources will increase, but most generations will rely on traditional energy sources. Energy efficiency, green tech, and clean tech will stimulate innovation and economic development.

i) **Food**: Across the world, 10 million km2of land is still available for agriculture. But as the population grows from 7 billion to 9 billion people, growing enough food will be challenging.

ii) **Water**: Less than 1% of the water on our planet is fit for human use. Today more than 2 billion people are affected by water shortages. Conserving and recycling water will be crucial.

iii) **Technology Development** IT and other technologies have profoundly and rapidly changed the way the people live and work. They have enabled great leaps in productivity, interactivity, connectivity, and transparency.

Ten trends in technology

1. Profiting from online communities
2. Networked organizations
3. Virtual collaboration
4. Smart objects
5. Big data crunching
6. Sustainability
7. Services instead of products
8. Multi-sided business models
9. Developing-world innovations
10. Quality & cheaper products for public

(Source: "Clouds, big data, and smart assets: Ten tech-enabled business trends to watch", McKinsey and Company 2010.)

4) **Growth Model** A new model for economic growth is going to emerge. Growth that was based on too much consumption and too much debt is not going to return. Success will come from clear product differentiation, using new management approaches and focusing on the customer.

5) **Government Policy**: The role of Government is critical. Government policy frameworks are needed to shape the new economy. In the European Union, the focus will be on financial and environmental regulation and probably more flexible labor policies.

6) **Consumer Behaviors** They are changing. Companies need to have operations in their home markets as well as in emerging markets. In the West, consumers will seek more products and services that are environmentally friendly and are

produced according to fair trade practices. Consumers in emerging economies look for affordability, utility and durability to stand up to harsh conditions. Some customers in all markets want real value for their money. They inform themselves, purchase and seek services through a variety of channels, including the Internet. Successful businesses will learn how to create loyal customers who recommend products and services to others.

Generics business in global pharmaceutical market

End-of-patent products can have a new life or, at least, their product life cycles can be extended through "genericization" – or "going generic". A branded generic requires a heavy marketing investment. A non-branded generic is just a molecule in the market. It needs to be produced efficiently and sold to pharmacists.

Pharmaceutical majors had to evolve a strategy of competing in generic market. They had to decide whether to adopt a Product-by-Product-Strategy and treat each product situation differently? Or create a dedicated team to genericize a particular product? Or go after a Cross-Product Genericisation Strategy with a specialised genericisation team that takes over all loss-of-exclusivity products. They had to decide as to which products should be genericised? They had to also ponder whether they need a different strategy for different regions? They had to ask themselves whether they had the right knowledge and people to play the generics game? They also had to answer the fundamental question on costs. Could they lower their costs to a generics level? Accordingly Generic specialists were hired in traditional Pharmaceutical companies.

Sales drive the generics business

The average sales rep of a traditional Pharmaceutical company had no experience with the selling- model of generics. Pharmacists & retailers were the key buyers of generics. Selling to pharmacists & retailers required a different set of capabilities than selling to doctors. Their sales teams had to adapt to the new approach and methods.

a. Partnering

The pharmaceutical companies discovered that Partnering is one way to expand in the generics market. The challenge was in making sure the acquisition or partnership worked to capture its potential value by aligning the systems and culture.

b. Emerging markets

Like many industries, the pharmaceutical industry is looking to fast-growth emerging markets to fuel their growth, especially for the generics business. The challenges are many but the rewards are worthwhile.

c. Efficiency

To protect margins from falling prices, generics can find value in optimizing their supply

chain and manufacturing processes.

The global generics market is estimated at about $225 billion in 2011. By 2016, it is expected that the value of the total global generics sector will have risen to $358 billion, representing more than 18% of all pharmaceuticals, a projected compound annual growth rate (CAGR) of 9.7% between 2011 and 2016.

The North American market is estimated to reach nearly $73 billion in 2011 and is expected to increase at a 7.9% compound annual growth rate to reach nearly $107 billion in 2016.

Emerging market represents the second largest market category for generic drugs with the expected sale of $57 billion in 2011. This should reach nearly $115 billion in 2016, for a CAGR of 15.1%.

Challenges before global pharmaceutical majors:

- Key Drivers Patent expiry of key blockbuster drugs worth $150 billion.
- Access to emerging markets and niche therapeutic segments
- New provisions introduced by governments Price control measures introduced by governments
- Changing population demographics and lifestyle patterns
- Intense price competition due to imports from low-cost markets
- Increasingly stringent regulations to safeguard quality Key Challenges (Source: Frost & Sullivan analysis)

Names such as Pfizer, Merck & Co., and Glaxo Smith Kline have long been synonymous with the discovery and sale of proprietary, high-priced small-molecule drugs. But the realities of health care markets today are leading many firms to broaden their definitions of what they do. As conventional markets wane and new geographies emerge, many of the biggest companies are outlining new strategies.

Between now and 2015, about $138 billion in drug sales across eight major developed markets will be at risk to generic competition, according to the market research firm IMS Health. As a result, multinational pharmaceutical companies are seeking opportunities elsewhere, particularly in generic products and emerging markets. For these firms, a lot is riding on how well they balance the new and old businesses.

A well-balanced portfolio that offers both patented and generic products is increasingly important as countries around the world look for ways to achieve cost savings and reform

their health care systems while increasing patient access to important medicines.

One of the world's top generics suppliers, Sandoz is part of the drug giant Novartis, which considers generics a key pillar of its business strategy.

Cost-containment pressures on health care systems worldwide continue to be one of the main drivers of growth for the generics industry but pricing pressures threaten profitability.

Novartis is unique for having both large generic and proprietary drug divisions. Other companies have tried mixing them before but found it hard to run two sometimes-conflicting businesses.

The U.S. and Europe together accounted for about 60% of the $856 billion in 2010 global pharmaceutical sales, but their markets are expanding by only a few percent per year. Growing at nearly three times that rate, emerging markets are expected to rise from 18% of total sales today to 28% by 2015, IMS reports. Meanwhile, generics are projected to grow from 27% of total sales to 39%, with 70% of sales occurring outside developed markets.

Volume is another story. In the U.S., where a generic drug is sold under its substance or International Nonproprietary Name (INN), about 75% of prescriptions are for generic drugs. But with prices only 10–20% of the original patented product, the margins are slim. In most other countries, generics are sold as branded products at up to 80% of the original price. It's this latter market that most big drug companies are pursuing.

One benefit for companies pursuing generics is that use varies widely from country to country..In Italy, Spain, and Japan, generics account for less than 15% of drug sales. “So there is an opportunity in certain countries for generics companies to actually grow volumes and that is going to happen because of the austerity measures taken up now in many countries.

Although many governments have tried to cut health care costs through greater generics use, a few, such as Spain, are taking bigger steps. Spanish health authorities have realized that their current measures in health care have not generated the savings that they require They have decreed that INN prescribing will be the norm and not branded generics.

Spain expects this move to save $3 billion per year, and other countries could follow suit. In this environment, small and mid sized firms that operate in local branded-generics markets will find it tough to compete against the global players. If they aren't acquired, they will struggle to stay in business. Some with a technology focus may be able to carve

out a market niche but those could be very few.

Growth seems more ensured in emerging markets, particularly the BRIC nations of Brazil, Russia, India, China & South Africa where health care spending is rising. For a long time, big pharmaceutical companies did not want to go into emerging markets because they were concerned about intellectual property protection and pricing issues. They didn't need to worry too much about the emerging countries because they could manage without them.

But faced with cost-benefit analyses and price restrictions in the West, leading drug makers have reconsidered the strategy.

The margins in many of the Western countries are dropping quite sharply, and the big pharmaceutical companies are having to compensate by going into markets where populations number in the billions, so that even if they have to slash the price, they are compensated by huge increases in volume.

Acquisitions are helping large companies enter emerging markets and expand market share in developed ones. Some are acquiring for geographical expansion, some for technology, and some for a different business opportunity.

Sandoz has been built over a decade through acquisitions. Recent ones include EBEWE Pharma, a maker of generic oncology injectables in Austria, and U.S.-based Oriel Therapeutics, which develops generic inhalation products.

France's Sanofi has also diversified its generics business, and it now ranks second in generics among big pharmaceutical firms. In 2009, it acquired Zentiva in the Czech Republic, Laboratorios Kendrick in Mexico, and Medley Indústria Farmacêutica in Brazil. This year, Sanofi unified its European generics businesses—including those in Western and Eastern Europe, Russia, and Turkey—under the Zentiva name.

The emerging markets have become their largest and most important market segment, more important than the U.S. and Western Europe operations. . About 30% of the firm's overall sales and 65% of its generics sales are in emerging markets. Sanofi takes an "opportunistic approach" in emerging markets and "a more defensive attitude" in the U.S., where it has launched generics that are authorized by the originator.

In 2010, Sanofi established a generics joint venture with Japan's Nichi-Iko Pharmaceutical Co. Although Japan is the world's second-largest pharmaceutical market, only about 10% of its products by value are generics, and the Japanese government is encouraging increased use.

Japanese drug companies, meanwhile, are looking beyond their country's borders for generics opportunities.Daiichi Sankyo paid $4.6 billion in 2008 for a majority stake in India's Ranbaxy Laboratories.

Among Western companies, Abbott Laboratories has taken big steps to embrace generics. In late 2010, it acquired Piramal Healthcare's generics operations, gaining a leading position in India. Abbott also signed a deal in May 2010 with India's Zydus Cadila to sell 24 Zydus products in 15 emerging markets and has the option to add another 40. And its 2009 purchase of Solvay Pharmaceuticals added generics in Eastern Europe and Asia.

Generics fall within Abbott's Established Products division, which was created in 2010 to sell branded products outside the U.S. The division's sales grew 36% to $2.6 billion in the first half of this year. Emerging-market sales accounted for about 58% of the total, with particularly strong performance in Russia, India, and China.

Established Products is the name Pfizer has used since 2008 for its generics business unit, which includes its 18-year-old Greenstone subsidiary. Although many of Greenstone's products originated within Pfizer, the subsidiary also sells commodity-type generics and works with originator companies to develop authorized generics. This year, Pfizer added a generics division in Spain called Pharmacia Genericos.

Pfizer sees Established Products as being important for three reasons:
1) the economic growth is occurring in the emerging markets
2) the cash flows come from that business
3) the potential growth in that segment as wealth increases.

Taking a regional approach, Pfizer is crafting local solutions through staged buy-ins and partnerships. In 2009 and 2010, it signed deals with the Indian firms Aurobindo Pharma, Claris Lifesciences, and Strides Arcolab. Also in 2010, Pfizer spent $240 million for a 40% stake in Brazil's Laboratório Teuto Brasileiro and $200 million for four generic insulin products from India's Biocon.

Like Pfizer, GSK's approach has been a mix of partnerships and purchases. In 2009, it took a 16% stake in South Africa's Aspen Pharmacare and joined with 'Dr. Reddys Laboratories in India to access emerging markets. Last year, GSK bought Laboratorios Phoenix in Argentina and spent $110 million for 10% of South Korea's Dong-A Pharmaceuticals.

Similarly, Merck's emerging-markets and generics strategy focuses on partnerships. In 2011, the company expanded a deal to sell new generic and combination drugs developed by South Korea's Hanmi Pharmaceutical and partnered with Hanwha Chemical on

biosimilars.

With India's Sun Pharmaceutical Industries, Merck is creating a joint venture for differentiated and branded generics in emerging markets.

As big pharma companies beef up business in generics and emerging markets, they face potential pitfalls. They have to understand the local market, because each one of the emerging markets has very different characteristics, drivers, and dynamics. Companies will need a strong local presence to compete in unfamiliar markets .

IMS Market Prognosis

Pricing pressures in generic industry

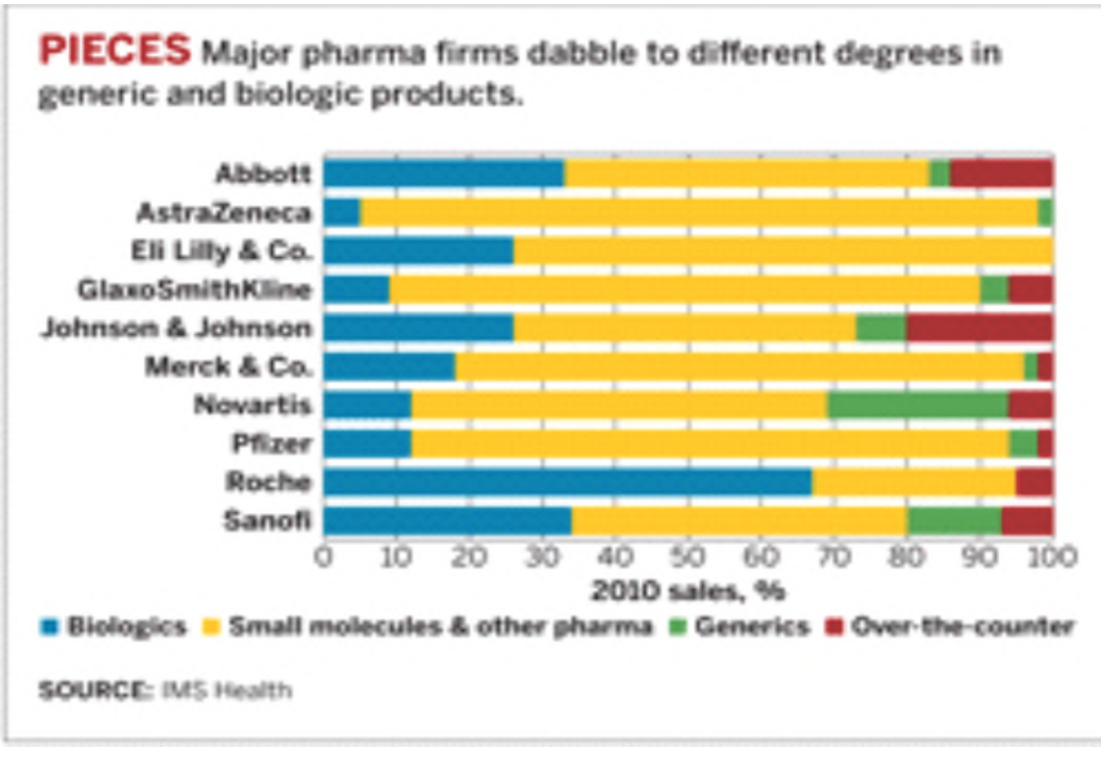
Pricing pressures are only likely to increase as countries undertake further reforms. In Asia, governments are finding that increasing access to medicines for millions of people is stretching their reserves. There have been significant price reductions in China, and now in India, and the 30–40% growth that they have seen in China might be cut back significantly by the drive to reduce costs.

Looking ahead, more countries will move away from branded generics. The people who pay the bills will be asking the simple question: 'Why should I pay four times the price for a branded generic when I could have an unbranded one?□. The generics business will survive, but the generic drug industry is going to end up with fewer but larger players because the small companies just won't be able to compete.

Pricing issues only get knottier when the same company sells both proprietary and generic products. However the strategy can be to offer the payer a package of products that cover the spectrum of needs for the patient, some of which are the latest advances and

some of which are the gold-standard generic products.

While originator companies embrace generics, most of the major generics firms have been adding R&D and proprietary products. In recent years, they've purchased biotech firms, entered into R&D collaborations, and expanded into new geographies. The companies of the future would probably going to be hybrid companies with their fingers in R&D, biotech, generics, and possibly diagnostics.



One particular problem consultants point to is manufacturing, where big pharmaceutical companies are unaccustomed to the volumes and flexibility that are required for generics. Because few big pharmaceutical firms can manufacture cheaply, they will be easily beaten by lower cost producers in India. Some of the more successful hybrid companies, such as Novartis, have purposely kept generic and proprietary drug businesses separate .

If the pharmaceutical market continues to evolve the way it has been, including significant growth in bio similars, IMS predicts that the generics sector will exceed $400 billion in annual sales by 2015.

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IPO Process in India – A review

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An Initial Public Offer (IPO) is often considered an important milestone in a company's lifecycle marking its transition from a small closely held company to a listed entity. An IPO can be done either through fresh issue of shares by the company or through an offer for sale of existing shares to investors. In the former case, fresh capital is introduced in the company and its equity base expands. In the latter case, there is no infusion of capital in the company because the proceeds of the issue go to shareholders who offer their shares for sale. In recent years, many companies have come up with their IPOs, giving investors a vast choice of investment options.

Issue Pricing Regimes in India: Flotation of new shares in India had so far seen three distinct regimes starting with a thoroughly regulated regime that existed prior to 1992 to the current regime of laissez-faire. In the following paragraphs we briefly explain the salient features of the different regimes.

The CCIs Formula Pricing Regime: The antediluvian Capital Issues (Control) Act, 1947, enforced through the Office of Controller of Capital Issue (CCI) required the companies to obtain approval from CCI for raising capital. During the period prior to 1992 new companies were allowed to issue shares only at par while existing companies with substantial reserves could issue share sat a premium that too to be calculated in accordance with CCI norms. These regulations are aimed at protecting the investors from erring issuers provide no lee way for companies realize their true market price.

The Fixed Price Regime: The CCI guidelines were abolished in May 1992 and Securities & Exchange Board of India (SEBI) was formed under the SEBI Act, 1992. The role of SEBI is something similar to SEC in the U.S. context. Under the new regime eligible companies have the freedom to issue shares at a price determined by themselves in consultation with the lead manger and giving justifications for the proposed premium by disclosing all the relevant information such that the investor can make an informed choice. During the period 1992 to 1999 the regulator played no role in the determination of the price and is solely left to the issuer but the investors have the choice to invest in it or leave it. In case of over subscriptions the allocation will be made on a pro-rata basis. The major disadvantage of this method is the price is determined solely by the issuers and the lead managers well in advance (atleast2-3 months prior to the offering) and is quite difficult forth lead manager to gauge the market clearing price. To compound the problem, if the issue is under-priced it will lead to over subscription resulting in huge

refunding costs. While in case of over-pricing, the issue may note fully subscribed leading to devolvement and the lead manager's future business prospects will also be hampered.

Issuing Shares Through Book Building Mechanism: The Malegam Committee in 1995 recommended the introduction of book building as a mechanism to gauge the issue price from the market, that is determined by demand and supply forces. However, it was in 1998 that SEBI brought forward the guidelines for issuing shares through the book building process. SEBI defines "book building as a process undertaken by which demand forth securities proposed to be issued by a body corporate is elicited and built up and the price for such securities is assessed for the determination of the quantum of securities to be issued by means of a notice, circular, advertisement, document or information memoranda or offer document". Under book building method a company can issue shares to the public in the following ways:

- 100% of the net offer to the public through book building process or
- 75% of the net offer' to the public through book building process and 25% of the net offer to the public at the price determined through book building process.

The process starts off with the issuing company appointing the lead manager for the issue who in turn will enter into an agreement with a set of underwriters called as syndicate members who will elicit bids from prospective investors. The bids from the investors have to be in a price band determined in the following way. The company in consultation with the lead managers specifies a minimum acceptable price known as the floor price. Once the floor price is fixed the upper price of the issue is automatically capped at 120% of the floor price as per regulation. Of course, the floor price could be revised by 20% upwards or downwards but subsequently the ceiling price will also gets revised and the books shall be open for a minimum period of three days consequent to the revision subject to the condition that the total bidding time will not exceed thirteen days. Therefore it appears a little restrictive but book building gives ample opportunities for price discovery. All the institutional investors have to place limit orders while retail investors can place their bids at the cutoff price tube determined later. Once the bidding process is complete the lead manager and issuer will determine the cut off price or the market clearing price and shares will be allocated on a uniform price basis to all successful bidders. Allocation to the retail investors is to be made on a proportionate basis while allocation to institutional investors is at the discretion of the lead manager. But in the revised guidelines that came in to force from November 2005this flexibility is also withdrawn for the lead managers and allotment to them is also to be made on proportionate basis. The first company to issue shares under the book building mechanism was Hughes Software Systems Limited in September 1999.However; even today the fixed price route of issuing shares is still available to the issuers.

There basic difference between Fixed Price Issues and Book Building Issues is as follows:

	Fixed Price Issues	Book Building Issues
Offer Price	Price at which the securities are offered and would be allotted is made known in advance to the investors	A 20 % price band is offered by the issuer within whom investors are allowed to bid and the final price is determined by the issuer only after closure of the bidding.
Demand	Demand for the securities offered is known only after the closure of the issue	Demand for the securities offered, and at various prices, is available on a real time basis on the BSE website during the bidding period.
Payment	100 % advance payment is required to be made by the investors at the time of application.	10 % advance payment is required to be made by the QIBs along with the application, while other categories of investors have to pay 100 % advance along with the application.
Reservations	50 % of the shares offered are reserved for applications below Rs. 1 lakh and the balance for higher amount applications.	50 % of shares offered are reserved for QIBS, 35 % for small investors and the balance for all other investors.

More About Book Building

Book Building is essentially a process used by companies raising capital through Public Offerings-both Initial Public Offers (IPOs) and Follow-on Public Offers (FPOs) to aid price and demand discovery. It is a mechanism where, during the period for which the book for the offer is open, the bids are collected from investors at various prices, which are within the price band specified by the issuer. The process is directed towards both the institutional as well as the retail investors. The issue price is determined after the bid closure based on the demand generated in the process.

The Process by BSE:

- The Issuer who is planning an offer nominates lead merchant banker(s) as 'book runners'.

- The Issuer specifies the number of securities to be issued and the price band for the bids.
- The Issuer also appoints syndicate members with whom orders are to be placed by the investors.
- The syndicate members input the orders into an 'electronic book'. This process is called 'bidding' and is similar to open auction.
- The book normally remains open for a period of 5 days.
- Bids have to be entered within the specified price band.
- Bids can be revised by the bidders before the book closes.
- On the close of the book building period, the book runners evaluate the bids on the basis of the demand at various price levels.
- The book runners and the Issuer decide the final price at which the securities shall be issued.
- Generally, the number of shares is fixed; the issue size gets frozen based on the final price per share.
- Allocation of securities is made to the successful bidders. The rest get refund orders.

The process at NSE:

NSE's vast network provides an important infrastructure backbone for conducting online IPOs through the Book Building process. Issuers can access the various markets situated in the most remote areas of the country, through the NSE's Book Building process called NEAT IPO. NSE's reverse Book building mechanism offer issuing company to buy-back company stock from the market. The NSE system offers a nationwide bidding facility in securities.

The NSE has set up nation-wide network for trading whereby members can trade remotely from their offices located all over the country. The NSE trading network spans various cities and towns across India.
NSE decided to offer this infrastructure for conducting online IPOs through the Book Building process. NSE operates a fully automated screen based bidding system called NEAT IPO that enables trading members to enter bids directly from their offices through a sophisticated telecommunication network.

Important reports prepared by the reporting accountant as follows:

(a) **Long form report**: A private due diligence report on significant aspects of the business – its exact scope will be determined by the company's circumstances

(b) **Financial Reporting Procedures report**: A business should be able to meet its reporting obligations as a public company and therefore consideration of FRP is critical in determining its listing suitability. The report assesses the suitability of the company's reporting procedures, and controls, as a basis for the directors to make judgments on the company's financial position and its prospects.

c) **Accountant's report**: The Company's historical financial record contained in the prospectus must be reported on. While this can be achieved by audit opinions provided for each set of financial statements included, market practice is for an Accountant's report to be issued on the entire financial track record. This forms part of the prospectus and is equivalent to an audit report, but provides greater flexibility as it does not need to be issued by the same firm that issued a previous audit opinion.

(d) **Working capital report**: This is a private report that considers the basis for the working capital statement in the prospectus. This includes the company's approach to financial forecasting, its projections underpinning the working capital statement, as well as analysis of the impact of changes in the key assumptions, and the available banking facilities.

(e) **Other reports**: If a company includes either a profit forecast or pro-forma financial information in the prospectus, an Accountant's report on the compilation of information must be included in the prospectus. While companies rarely choose to include a profit forecast, owing to the additional risk, cost and time involved, pro-forma financial information is commonly used to illustrate the effect of the IPO, recent transactions or a reorganization that are not reflected in the historical financial information. When a profit forecast is reported on, it is usual for the reporting accountant to prepare a detailed private report that comments on the preparation of the forecast and the risks to its achievement. The reporting accountant also provides a „comfort letter" to the directors and sponsor to assist with the verification of other financial information in the prospectus.

Conclusion

With the repeal of Capital Issues (Control) Act, 1947 in May 1992, the era of free pricing of issues has started in the primary market in India. This has made the role of merchant bankers much more dynamic and challenging with respect to pricing of issues. Over the time, pricing of capital issues has passed through many stages from 'CCI formula' to fixed price method and book-building method. Book building process aims at fair pricing of the issue and during the latter period of study under review, this method has become the preferred route for the pricing of public issues. Free pricing has induced only genuine companies to raise funds from the market with lesser restriction. This has made the merchant bankers more professional as SEBI guidelines state that issue price is to be

determined by Issuer Company in consultation with the lead merchant banker.

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Political Marketing:
Use Of Social Media In Creating Brand BJP

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Abstract:

Political parties undertake many exercises for wooing the voters. Democracy having taken such a firm roots, and politicians as the favorite punching bags coupled with all round incessant appeals for good individuals to join the political arena, a peep into the campaign process, and how the same is viewed by the all important voter, would be useful for those who are voters, or are going to become voters, the media and political personnel, who are always at the receiving end. Social media has caused major changes in the political communication and has become useful resource used by the politicians in order to strengthen their visibility. Bharatiya Janata Party leader Narendra Modi's election juggernaut in the 2014 Lok Sabha polls is an example of how to prepare and successfully implement a marketing and branding campaign. Irrespective of your faith, ideology and voting decision, there has been no escaping Modi & BJP. This paper will discuss about how political parties are using marketing tactics and social media to create brand, and how BJP has done rebranding themselves in 2014 Lok Sabha election.

Key words: Social media, branding, political Marketing

Introduction:

The revolution called Social media has actually taken the world by blizzard. Its growth has been exponential. Where radio took 38 years to reach 50 million audiences, TV took 14 years to reach out same target, internet got there in 4 years; iPod took 3 years for same whereas Facebook add 100 million users in less than 9 months. In the past few years, social media have made rapid growth in terms of user counts globally. *(Source Facebook statistics & Wikipedia)* Brand & image building have been recognized as fundamental tasks in the management of political parties (Kavanagh 1995, Egan 1999) and politicians understand that image (a.k.a brand) is a better predictor of voting behavior than facts like candidate or party ideology or policy (McGinness 1969). In fact, party image and the message perceived by the consumer compete with information on policy and image is found to be more relevant than policy (Beresford 1998). Egan (1999) asserts that "What appears to win elections and maintain party popularity is the careful management of

image over time."

David Aaker, American marketing guru and author of several books on branding, wrote in an April 2012 blog post that every person has a brand that affects how the person is perceived and whether he or she is liked and respected. This brand, he says, can be actively managed with discipline and consistency over time, or it can be allowed to drift. Modi and his marketing team showed oodles of both once he was anointed the BJP's prime ministerial candidate on September 13 last year. Pitching a specific leader as a driver of change and to mobilize voters' support is hardly a new political strategy. After all, the Bharatiya Janata Party (BJP) had projected L.K. Advani and Atal Bihari Vajpayee its prime ministerial candidates in the past (remember the Ab ki baari Atal Bihari slogan in 1996?). The Congress party's projection of Indira Gandhi as the country's tallest leader with its 'Indira lao desh bachao' tagline in the 1970s is another such example. Mr. Narendra Modi has rewritten the rules of the game and redefined Indian politics. Brand Modi has not only captured popular imagination but also trumped Brand BJP.

Use of Social Media

Social media has emerged as an essential tool of communication for political parties. Social Media has created new ways of political activating and encourages social media users in political activities ranging from joining their political groups by:

- Tweeting Short Messages on Twitter.
- Facebook Status Update.
- Expressing Supports through Blogs.
- Videos on YouTube.
- Group Hangouts on Google+
- 3D Technology and others

Narendra Modi does a Google hangout session, first of its kind in India, to engage with young Indians. Social Media Presence of Narendra Modi Among major political parties in India, BJP has the biggest charisma in social media. They started using the social media even before 2009 general election, which they eventually lost. Many senior BJP leaders like Sushma Swaraj, Rajnath Singh, Arun Jaitley, Narendra Modi etc., are on social networking sites. The Absolute Winner of Social Media for Politics in India Narendra Modi is one of the most famous politicians on social media. He joined Facebook and Twitter in 2009 and became the first politician to use Google Plus. Narendra Modi with approximately 1.3 million+ followers on Facebook page and 3.42 million+ followers on Twitter. He also has a YouTube channel which has reached the 15,000 mark of subscribers and has more than 1500 videos.

The social media effect was huge for the BJP. They really understood that social media is

an extended version of the campaign trail," said Michael Kugelman, a senior program associate for South and Southeast Asia at the Woodrow Wilson Center.

One of the most interesting uses of social media was when the BJP crowd-sourced its manifesto, with hundreds of thousands of people using Twitter and blogs to comment.

The BJP used a two-pronged approach to social media: increase its online presence while also helping in its offline activities. For many Indians, it started with the use of Twitter by Modi, who gained millions of followers during the election campaign, according to Kugelman.

"Mr. Modi himself reached out through his Twitter account to the youth of the country, appealing to what the youth are looking for: jobs, security and the use of technology," said Nilotpal Chakravarti, the associate vice president of the Internet and Mobile Association of India (IAMAI).

The social media campaigns by the BJP, and also by the anti-corruption Aam Admi Party (AAP), which made an impressive showing in the 2013 Delhi assembly elections, helped "define the media narrative."

Some of the social Media strategies used by political parties

Facebook Pages	Ek hi Viklap Modi -vote for change -I Support Narendra Modi -Narendra Modi for PM -Mission 272+	Congress party - Indian youth congress -Indian National congress -Congress India -Youth for Congress -NSUI	- AAM Aadmi Party -AAP for Hope -India against corruption -Arvind Kejriwal for Hope -IITian AAP
Twitter	#abkibaarmodisarkar #mission272+ #Imodi #BJP2014 #Bharatiyajantaparty	-#voteforRG #VoteforRahulGandhi #voteforcongress #indiancongressparty #congress2014 #congressagainstcorruption	#Vote for AAP #Arvindkejriwal4change #AAPpopularity #Thunderclap #Aapforhope #Indiaagainstcorruption
Blogging	bjporg.blogspot.com	www.aiccblogspot.com	www.aamaadmiparty.org/blog
Google 3D	Yes	No	No
Google Hangout	Yes	Yes	Yes
Door to Door	Yes	Yes	Yes
YouTube	www.youtube.com/user/BJP4India	www.youtube.com/user/congresspartyindia	www.youtube.com/AAP
Websites	www.bjp,org www.bjpdelhi,org	www.inc.in allindiacongress.com	www.aamaadmiparty.org arvindkejriwal.co.in
Others	Pamphlets , fliers, Billboards ,paper ads, TV ads, Chai pe Charcha, Road show,	Pamphlets, fliers, paper ads, TV ads, Billboards or Hoardings ad, Road show	Pamphlets, Fliers, Road Show, Give a missed call and join AAP,

Source: ***http://www.slideshare.net/saurav_mic/social-media-and-its-importance-in-political-campaign-ppt***

Political Branding for BJP

The astonishing victory of the Narendra Modi-led BJP at Indian General Elections, has given enough lessons that can be learnt by Management & Marketing professionals from the whole campaigning design & execution. Let us review it topic-wise, using Marketing terminology:

a) **Product:** In marketing we say people don't buy product or services they buy benefits. While some of the leading parties were busy in hard-selling their political parties & manifestoes (which no one reads or remembers), Modi concentrated on selling just one thing as product: **DEVELOPMENT & HOPE**. This caught the imagination of one & all, irrespective of their caste or age or political leanings. Modi became a symbol of Development.

b) **Right product at the right time:** Marketing abounds with success stories of products that "were at the right place at the right time with the right marketing mix". It is important to remember that successful products, services and people generally make their appearance when the market, and in this case the country, needs them. The time was appropriate for Narendra Modi and that is precisely the reason why he has been so phenomenally successful.

c) **Brand Positioning:** For the first time in Indian political history, the elections were fought almost on a presidential basis between personalities, projected as Brands. Aims of Narendra Modi Digital Media Campaign Recognition of Narendra Modi as a brand not only for state audience but also for national audience. Controlling and managing strongly how he is projected. Work on projecting him as face of development & growth and working towards developing a secular image. Narendra Modi has been seen as Gujarat's Brand Ambassador. People share their experiences and stories that promote Gujarat as a brand. He took the right steps to brand himself outside Gujarat even before he decided to move beyond the state but the journey of branding Modi was not easy. The digital team of Narendra Modi has complete idea of internet marketing and has completely utilized every aspect of it to become popular on the social media.

d) **Promotion:** An aggressive approach adopted in promoting Brand Modi, using all traditional as well as new forms of media resulted in Modi getting highest amount of voters' mindshare and recall value. Micromanagement of electronic & social media was done like never before. Modi himself used Twitter postings time & again to express his views.Core team of tech-savvy workers entrusted with the job of media management did a superb job. Use of simple, easy to repeat slogans & phrases like **"NaMo",** "**Abki Baar, Modi Sarkar", and "Achhe Din Aane Wale Hain"** was a superb strategy.

Conclusion:

In the 21st century, the government needs to more open and transparent about its working and these social networking which can help in evolving a more participatory, innovative and inclusive governing model where the government not only spread awareness of its policies and plans but also engages in a two-way communication where they can get instant feedback as well as incorporate suggestions made by common people for proper delivery of public services. Use of social media and marketing applications for political campaigning in 16th parliament general election were very significance. With a rapid Penetration of internet people are spending more time on social media and it's become easy also to connect them through the social media.

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2. Minimum number of words-3000.

3. Abstract one paragraph consisting of not more than 150 words.

4. References pertaining to journals ,books, internet etc. should be provided at the end of the paper in alphabetical order as per the norms to be followed for stating references.

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