

Role of Information Technology in Indian Capital Market: In context to Online Trading System on BSE & NSE

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Abstract: The major objectives of this study are to know to identify the role of IT in management of BSE & NSE, to know the sources of Investments Information and to know Online trading Platform and its satisfaction with respect to various demographic factors of the investors. In the research paper researchers have try to analyse these objectives on the basis of 100 structure questionnaire and frequency analysis, percentage, WAM, Mann Whitely U test, and Kruskal Wallis test . Through this study, researchers have found that the majority investors are satisfied with the current trading system of Indian capital market i.e. about 64%. 12% investors are strongly satisfied with the current trading system of Indian capital market. 20% investors are neither satisfied nor dissatisfied with the current trading system of Indian capital market. Further, Only 4% investors are dissatisfied with the current trading system of Indian capital market. It is believe that information technology affects the Indian capital market i.e. 70%. 18% investors believe that information technology affects strongly the Indian capital market. It is also shows there is no significant difference between means of Satisfactions with current trading system of Indian capital market with respect to male and female, and on the basis of kruskal Wallis test there is no significant difference between means of Satisfactions with current trading system of Indian capital market with respect to Education Qualification, Age Groups, and Monthly Income.

Keywords: Kruskal Wallis test, Mann Whitely U, Online trading system, WAM, Capital Market, Demographic factors.

INTRODUCTION

Information technology (IT) is playing a crucial role in contemporary society. It has transformed the whole world into a global village with a global economy, which is increasingly dependent on the creative management and distribution of information. Globalization of world economies has greatly enhanced the values of information to business organizations and has offered new business opportunities.

IT plays a dominant role in the management of Stock Exchange World over. IT has transformed the working of Stock Exchange in the global scenario. The rapid advances in information technology have determined important changes and innovation in the operation of Stock Exchange.¹

The capital market is a place where the suppliers and users of capital meet to share one another's views, and where a balance is sought to be achieved among diverse market participants. The securities decouple individual acts of saving and investment over time, space and entities and thus allow savings to occur without concomitant investment.²

REVIEW OF LITERATURE

B.K. Muhammed Juman and M.K. Irshad (2015), An Overview of India Capital Markets try to cover In India, the history of capital markets dates back to the 18th century when East India Company securities traded the country. Our finding is that during the first and second five year plans, the Government emphasized on the development of agriculture and public undertakings. The Public sector undertaking was healthier than Private undertakings, but shares were not listed in the stock exchange. More over controller of Capital Issue (CCI) closely supervised everything. A number of investors were interested to invest their savings in debentures instead of company deposits. We conclude that Capital markets were not well organized and developed during the British rule. But in the present scenario, we find that Capital markets are well developed after the introduction of SEBI. Through provision of long term loans, the capital market brings about effective functioning of various sectors of the economy. A sound and efficient capital market is one of the most instrumental factors in the economic development of a nation.³

R Nagaraj (1996), India's Capital Market Growth Trends, Explanations and Evidence. The researcher has found there is no association between growth rates of the capital market mobilisation and aggregate saving rate, corporate physical investment and

¹ www.bseindia.com

² G.N.Bajpai (2006) "Development of Capital Market in India" London School of Economics, 2 October, pp-8-10

³ B.K. Muhammed Juman and M.K. Irshad, An Overview of India Capital Markets Bonfring International Journal of Industrial Engineering and Management Science, Vol. 5, No. 2, June 2015, ISSN 2277-5056

value added. Long-term decline in the contribution of internal finance to corporate fixed investment and in profitability in 1980s are noted, despite a fall in ratio of corporate tax to gross profit. The study concludes by raising some questions.⁴

Hossein Rezaie Dolat Abadi, Fatemeh Faghani, Seyed Mehdi Tabatabaee (2013), the Effect of Information Technology on Stock Market Trade Volume and Volatility: Case for Dhaka Stock Exchange in Bangladesh. In this study, the effect of the Internet on the stock market trade volume and volatility has been enquired in the case of Dhaka Stock Exchange in Bangladesh. The results show that the “Net” has a significant impact on these two parameters of volume and volatility of Dhaka stock market.⁵

Chinedu B. Ezirim, Uchenna Elike, Michael I. Muoghalu,(2009), Capital Market Growth and Information Technology: Empirical Evidence from Nigeria. Growth in the total volume and value of shares traded is significantly affected by communication technology (telephones). The number of securities listed on the Stock Exchange as well as the growth in federal and state government bonds does not appear to have any significant relationship with the adoption of information and communication technology. Private debt stock appears to have been significantly affected by information and communications technology especially in respect of increase in the number of stockbrokers and access to ICT. Generally, Information Technology has contributed to growth of the Nigerian Capital Market, with the effect mostly seen in the availability of information to investors and the improvements in the trading patterns of the Nigeria Stock Exchange.⁶

Narczyz Roztocky and Heinz Roland Weistroffer (2006), Stock Price Reaction to Investments in Information Technology: the Relevance of Cost Management Systems. Event study methodology, which examines the reaction in the stock price to announcements of different types of IT investments, is one approach to this kind of research. In the research presented in this paper, we use event study methodology to investigate the effect of cost management systems on payoffs from IT investments. The motivation for our research is based on the assumption that companies possessing reliable cost management systems, such as Activity-Based Costing (ABC), are less likely to make expensive mistakes when investing in IT. Furthermore, the companies that use ABC and thus know the costs of their operation, are better able to single out those IT projects which positively impact the bottom line and competitiveness. In our study, we use a sample of three companies that are adopters of ABC, to examine the impact of 81 IT investment announcements on stock prices.⁷

Susanto Basu and John Fernald (2006), Information and Communications Technology as a General-Purpose Technology: Evidence from U.S Industry Data. The researchers have found that U.S. industry results are consistent with GPT stories: the acceleration after the mid-1990s was broad based—located primarily in ICT-using industries rather than ICT producing industries. Furthermore, industry TFP accelerations in the 2000s are positively correlated with (appropriately weighted) industry ICT capital growth in the 1990s. Indeed, as GPT stories would suggest, after controlling for past ICT investment, industry TFP accelerations are negatively correlated with increases in ICT usage in the 2000.⁸

OBJECTIVES, HYPOTHESIS AND TOOLS AND TECHNIQUE

Numbers	Objectives and Hypothesis	Analysis Tools Used
Objective-1	To identify the role of IT in management of BSE & NSE	Frequency, Percentage, Weighted Average Mean
Objective-2	To know the sources of Investments Information	Frequency, Percentage, and WAM
Objective-3	To know Online trading Platform and its satisfaction.	
Hypothesis-1	H₀ : There is no significant difference between the means of the Satisfaction of current trading system of Indian capital market with respect to Demographic Factors at 95% confidence level.	Mann Whitney U test for Gender
	H₁ : There is a significant difference between the means of the Satisfaction of current trading system of Indian capital market with respect to Demographic Factors at 95% confidence level.	Kruskal Wallis-test For Age, EQ, MI

⁴ R Nagaraj, India's Capital Market Growth trends, Explanations and Evidence, Economic and Political Weekly, Vol. 31, No. 35/37, Special Number (Sep., 1996), pp. 2553-2563

⁵ Mohammad Ali Ashraf and Hasanur Raihan Joarder, The Effect of Information Technology on Stock Market Trade Volume and Volatility: Case for Dhaka Stock Exchange in Bangladesh, AU J.T. 12(4): 265-270 (Apr. 2009).

⁶ Chinedu B. Ezirim and etc., Capital Market Growth and Information Technology: Empirical Evidence from Nigeria. International Journal of Business and Economics Perspectives Volume 4, Number 1, 2009

⁷ Narczyz Roztocky and Heinz Roland Weistroffer, Stock Price Reaction to Investments in Information Technology: the Relevance of Cost Management Systems. The Electronic Journal Information Systems Evaluation Volume 9 Issue 1, pp 27-30, ISSN 1566-6379.

⁸ Susanto Basu and John Fernald, Information and Communications Technology as a General Purpose Technology: Evidence from U.S Industry Data. Federal Reserve Bank of San Francisco December 2006

METHODOLOGY

The study based on analytical research it means the researcher has to use fact or information aridly available. The researchers have to analyse them to make a critical evaluation of the data. They have collected data from the 100 investors were used trading system. The area has covered only Rajkot city. Samples are collected by the researchers on the basis of convenient sampling method. They have used **Frequency Distribution/Simple tabulation, Arithmetic Mean, Weighted Average, Mann Whitney, and Kruskal Wallis test** to prove their objectives.

DATA ANALYSIS

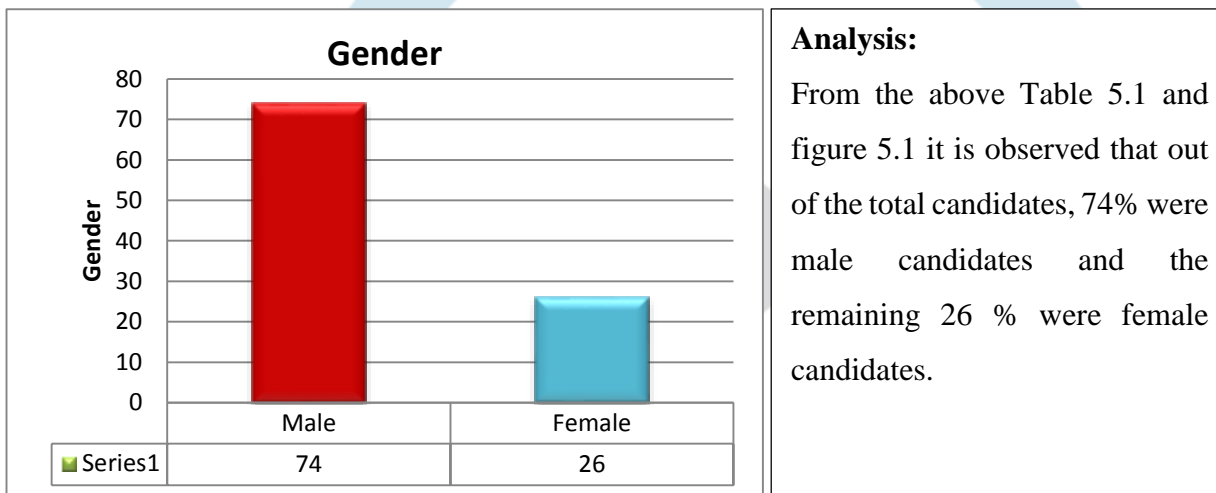
Gender wise analysis

Table 5.1 Gender Analysis

		Gender			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Male	74	74.0	74.0	74.0
	Female	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.1: Gender wise analysis



Analysis:

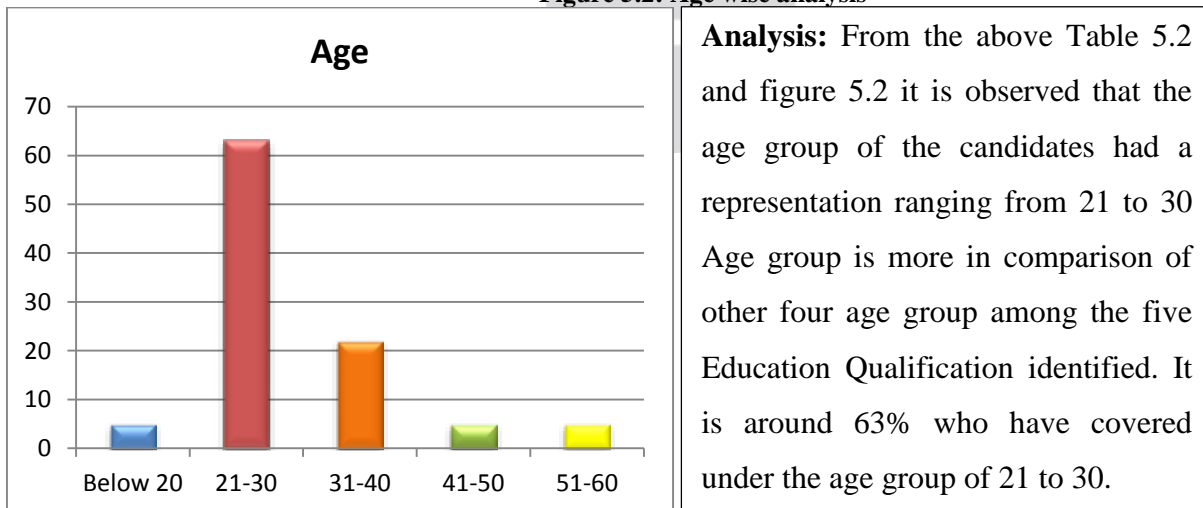
From the above Table 5.1 and figure 5.1 it is observed that out of the total candidates, 74% were male candidates and the remaining 26 % were female candidates.

Age in Years

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Below 20	5	5.0	5.0	5.0
	21-30	63	63.0	63.0	68.0
	31-40	22	22.0	22.0	90.0
	41-50	5	5.0	5.0	95.0
	51-60	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.2: Age wise analysis



Analysis: From the above Table 5.2 and figure 5.2 it is observed that the age group of the candidates had a representation ranging from 21 to 30 Age group is more in comparison of other four age group among the five Education Qualification identified. It is around 63% who have covered under the age group of 21 to 30.

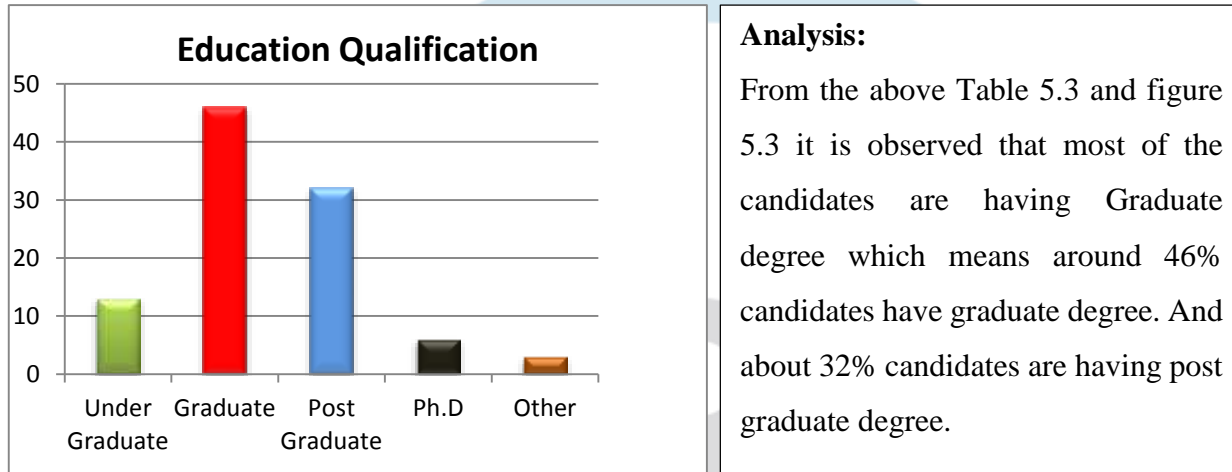
5.2.3 Education Qualification Analysis

Table 5.3: Education Qualification Analysis

		Education Qualification			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Under Graduate	13	13.0	13.0	13.0
	Graduate	46	46.0	46.0	59.0
	Post Graduate	32	32.0	32.0	91.0
	Ph.D	6	6.0	6.0	97.0
	Other	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.3: Education Qualification wise Analysis



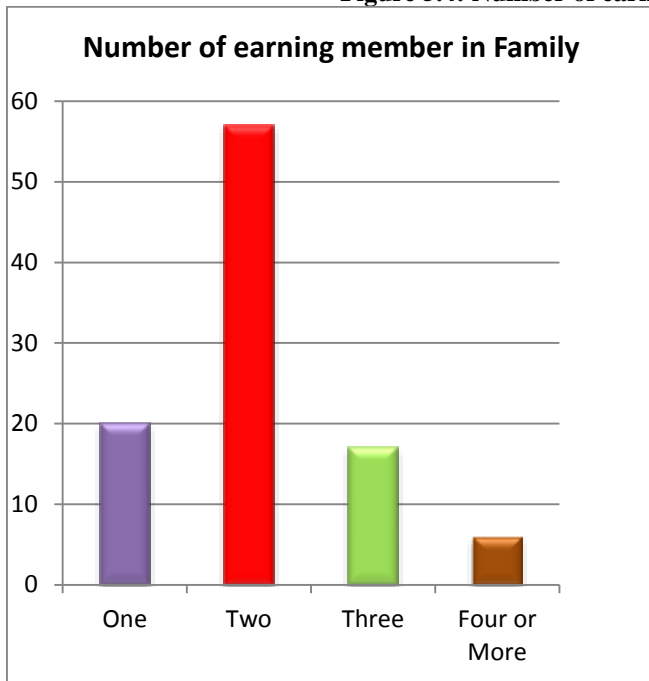
5.2.4 Number of earning member in Family Analysis

Table 5.4: Number of earning member in Family Analysis

		Number of earning member in Family			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	One	20	20.0	20.0	20.0
	Two	57	57.0	57.0	77.0
	Three	17	17.0	17.0	94.0
	Four or More	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.4: Number of earning member in Family wise Analysis



Analysis:

From the above Table 5.4 and figure 5.4 it is observed that out of total 100 candidates 57 candidates are belong from the family in which there 2 earning members are there in a family i.e. 57%.

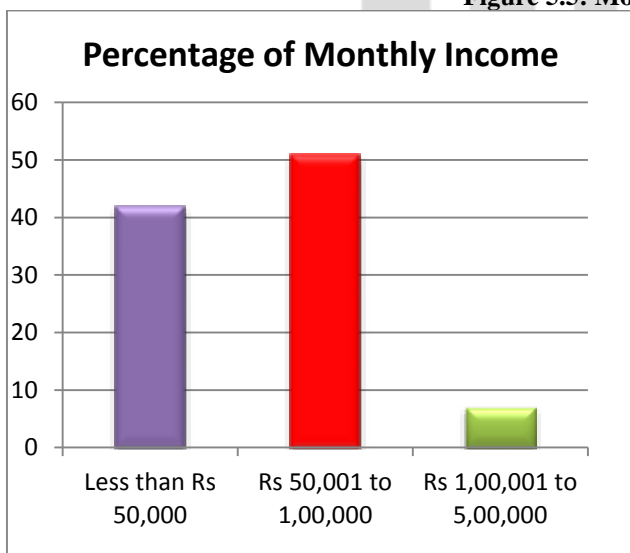
5.2.5 Monthly Income Analysis

Table 5.5: Monthly Income Analysis

		Monthly Income			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Less than Rs 50,000	42	42.0	42.0	42.0
	Rs 50,001 to 1,00,000	51	51.0	51.0	93.0
	Rs 1,00,001 to 5,00,000	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.5: Monthly Income wise Analysis



Analysis:

From the above Table 5.5 and figure 5.5 it is observed that in case monthly income most of the candidates are falling in the category of Rs. 50,001 to Rs. 1,00,000 with 51% followed by the category of Less than Rs. 50,000 with 42%.

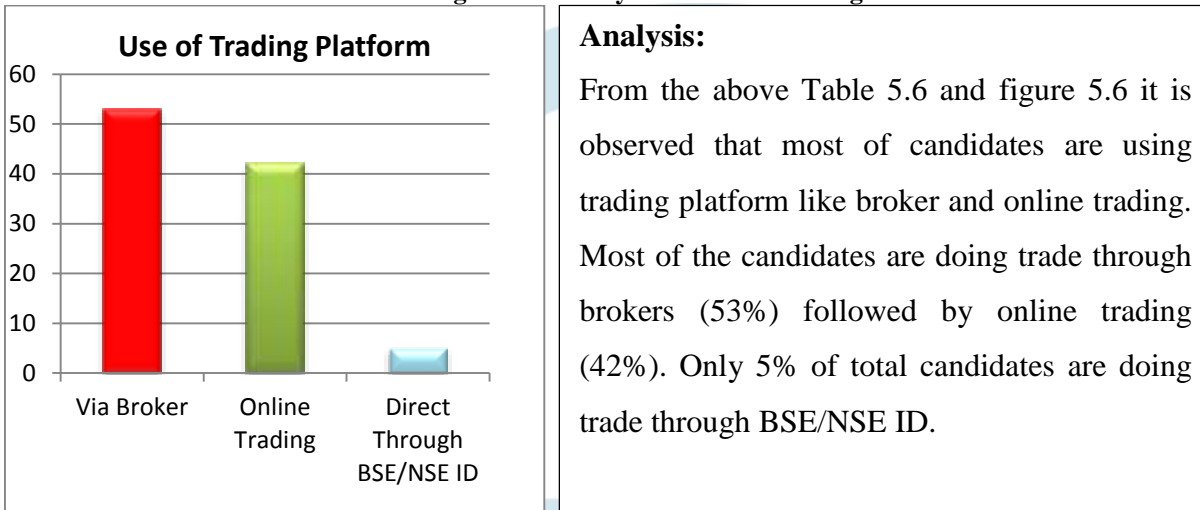
5.3 Analysis of Use of Trading Platform

Table 5.6: Analysis of Use of Trading Platform

		Trading Platform Use			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Via Broker	53	53.0	53.0	53.0
	Online Trading	42	42.0	42.0	95.0
	Direct Through BSE/NSE ID	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.6: Analysis of Use of Trading Platform



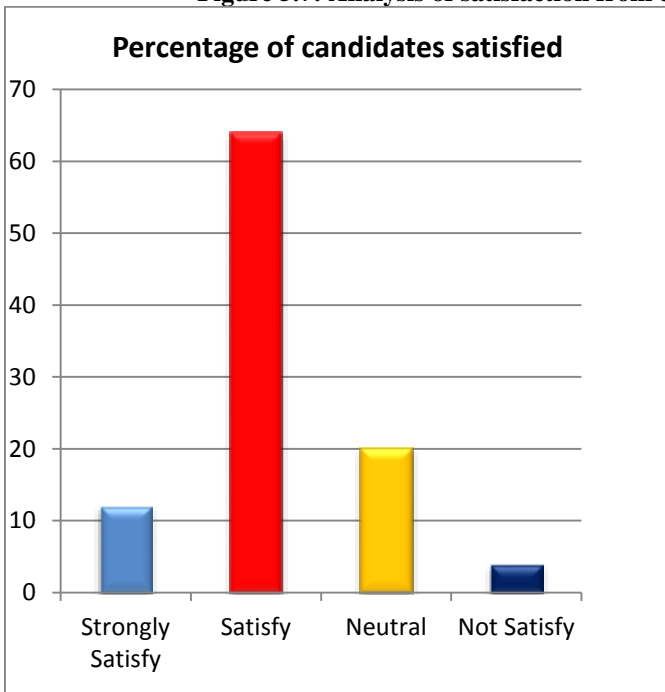
5.4 Satisfaction from current trading system of Indian capital market

Table 5.7: Analysis of satisfaction from current trading system of Indian capital market

		Are you satisfied with current trading system of Indian capital market			
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Satisfy	12	12.0	12.0	12.0
	Satisfy	64	64.0	64.0	76.0
	Neutral	20	20.0	20.0	96.0
	Not Satisfy	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.7: Analysis of satisfaction from current trading system of Indian capital market



Analysis:

From the above Table 5.7 and figure 5.7 it is observed that most of candidates are satisfied with the current trading system of Indian capital market i.e. about 64%. 12% candidates are strongly satisfied with the current trading system of Indian capital market. 20% candidates are neither satisfied nor dissatisfied with the current trading system of Indian capital market. Only 4% candidates are dissatisfied with the current trading system of Indian capital market.

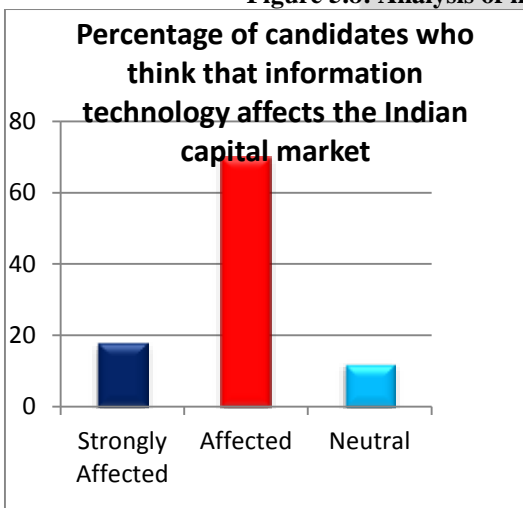
5.5 Information technology affects the Indian capital market

Table 5.8: Analysis of information technology affects the Indian capital market

Do you think that information technology affect the Indian capital market					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Affected	18	18.0	18.0	18.0
	Affected	70	70.0	70.0	88.0
	Neutral	12	12.0	12.0	100.0
	Total	100	100.0	100.0	

(Sources: Self constructed from the questionnaire)

Figure 5.8: Analysis of information technology affects the Indian capital market



Analysis:

From the above Table 5.8 and figure 5.8 it is observed that most of candidates are believe that information technology affects the Indian capital market i.e. 70%. 18% candidates believe that information technology affects strongly the Indian capital market. While only 12% candidates remain neutral regarding information technology affects the Indian capital market.

5.6 Sources of Investments Information

In the following question researcher try to find out which one source of information is highly responsible for the sours of information regarding investment. Here 9 sources of information given from that which one is most influence in the information source for investment. Here in these questions 9 ranks is given to source of information and calculation of W.A.M is given below. The Calculation of W.A.M is as follows; here researcher have used nine sources of information and 1.....9 ranks 1 means most influence and 10 means not influence = [(23×9) + (15×8) + (8×7) + (4×6) + (6×5)+ (4×4)+ (5×3)+ (35×2)+ (0×1)] ÷ 45 = 11.95

$$\text{Formula of Weighted Average Mean (W.A.M)} = \frac{\sum wx}{\sum w}$$

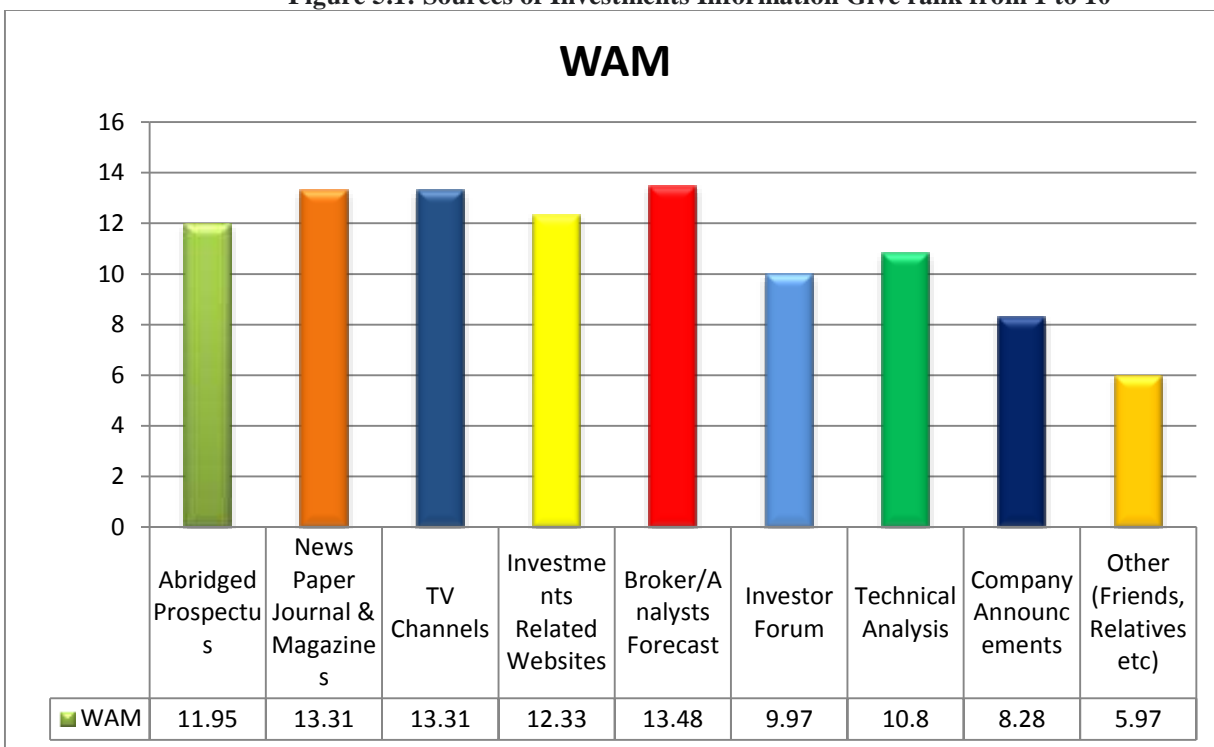
Σ = The Sum of (In other Words....add them up!).
 W = the weight (1, 2....5)
 X= the value (frequency)

Table 5.9: Sources of Investments Information Give rank from 1 to 10 (1 being lowest & 10 being highest)

Sr.N	Sources	Rank									WAM
		1	2	3	4	5	6	7	8	9	
1	Abridged Prospectus	23	15	8	4	6	4	5	35	0	11.95
2	News Paper Journal & Magazines	10	16	26	18	5	5	8	10	2	13.31
3	TV Channels	11	16	24	8	17	7	10	6	1	13.31
4	Investments Related Websites	3	18	10	30	12	11	7	0	9	12.33
5	Broker/Analysts Forecast	25	11	4	8	31	10	6	0	5	13.48
6	Investor Forum	2	4	7	17	13	27	22	1	7	9.97
7	Technical Analysis	13	6	12	6	8	13	32	3	7	10.8
8	Company Announcements	10	5	5	8	4	13	7	19	29	8.28
9	Other (Friends, Relatives etc)	3	9	4	1	4	10	3	1	65	5.97

(Sources: Self constructed from the questionnaire)

Figure 5.1: Sources of Investments Information Give rank from 1 to 10



Analysis:

From the above calculation of Weighted Average highly influencing sources for investment are Broker/ analysts forecast and newspaper, journal & magazines and TV channels. So, researcher can say most of investor get information regarding for their investment are above sources for their best investment sources because W.A.M is more in that are (13.48).

Table: 5.10 Result of Mann-Whitney Test and Krukul Wallis Test

Test Statistics ^{a,b}	
Are you satisfied with current trading system of Indian capital market	
Kruskal-Wallis H	3.392
Df	1
Asymp. Sig.	.065
a. Kruskal Wallis Test	
b. Grouping Variable: (Gender : 0.065), (Age:0.571), (EQ:0.193), and (MI:0.61)	

The results of the **Mann Whitney U-test** indicates the null hypothesis, there is no significant difference between the means of Satisfaction with current trading system of Indian capital market differ across with respect to gender (male and female) at 95% level of significant level. Hence it may be implied that there is no significance difference between Satisfactions with current trading system of Indian capital market differ across their gender. In all cases null (H₀) hypothesis are Accepted. Hence, company or

brokers etc. may not focus on gender because above study shows there is no significant difference between means of Satisfactions with current trading system of Indian capital market with respect to male and female, and on the basis of kruskal wallis test there is no significant difference between means of Satisfactions with current trading system of Indian capital market with respect to Education Qualification, Age Groups, and Monthly Income.

CONCLUSION

From the above data analysis it is observed that most of investors are using trading platform like broker and online trading. Most of the investors are doing trade through brokers (53%) followed by online trading (42%). Only 5% of total investors are doing trade through BSE/NSE ID. It is also observed that most of investors are satisfied with the current trading system of Indian capital market i.e. about 64%. 12% investors are strongly satisfied with the current trading system of Indian capital market. 20% investors are neither satisfied nor dissatisfied with the current trading system of Indian capital market. Only 4% investors are dissatisfied with the current trading system of Indian capital market. It is believe that information technology affects the Indian capital market i.e. 70%. 18% investors believe that information technology affects strongly the Indian capital market. While only 12% investors remain neutral regarding information technology affects the Indian capital market. From the Weighted Average highly influencing sources for investment are Broker/ analysts forecast and newspaper, journal & magazines and TV channels. So, researcher can say most of investor get information regarding for their investment are above sources for their best investment sources because W.A.M is more in that are (13.48).

References:

G.N.Bajpai (2006) "Development of Capital Market in India" London School of Economics, 2 October, pp-8-10

Machiraju H R (2000) "Indian Financial System", Vikas Publishing House Pvt. Limited, New Delhi, p-16.1

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The logo for IJRTI is a stylized lightbulb. The top part is a circle containing three vertical lines of varying heights, each ending in a circle, resembling a circuit board or a signal. Below this is a rectangular box containing the letters 'IJRTI' in a bold, sans-serif font. The bottom part of the lightbulb is a semi-circle. The entire logo is rendered in a light blue and grey color scheme.

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