

A STUDY OF FACTORS CAUSING STOCK PRICE FLUCTUATION: *PERCEPTION OF INDIAN INVESTORS*

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Abstract : The perception of an investor pertaining to capital market can be defined as an investors opinion and attitude towards certain factors which cause fluctuation in the stocks. The primary purpose of this study is to investigate which factors creates an impact on the opinion and attitude of an investor by dividing such factors as internal or external factors to the company & understanding how these factors which formulate the investors perception on stock price fluctuations. In this paper the analysis is conducted by collecting primary data from 152 individual investors of the National Stock Exchange-India. The study also aims to find the relationship between the perception of investors on the most significant internal and external factors with their demographic characteristics. Using descriptive statistics, the paper finds that Earnings of a Company & Performance of the industry are the most significant factors that cause fluctuations in the stock price as per the individual investors. The study also uses cross-sectional analysis & multicollinear regression to ascertain a relationship between the demographic of the investors and the various factors. Analysts emphasize that investor behavior and perception play a vital role in determining the market price of a stock, thus the research is step towards understanding financial behavior of investors in the Indian stock market.

IndexTerms - Stock Fluctuations, Investors perception, Internal & External Factors, Stock Market Behavior

I. INTRODUCTION

Investment in stock markets has become an imperative choice of various investors in the country. Investment is done with an objective to optimize returns with minimum risks. Thus, it is the uncertainty of stock markets which has devised into a vital part of the investment decisions made by investors. The stock market of India has undergone sea changes over last decade. The nifty 50 index itself has increased by 6,000 points over the last decade. The basic principal on which the stock market runs is demand & supply, but over the years there has been a significant increase in the day-to-day traders who solely rely on short term intraday trading. Today, these traders take investment decisions based on expectations or analysis on the sudden change or expected movement of stocks in the future. The sudden change in the stock price of a company is called fluctuation. Fluctuation is the sole attraction for investors to invest in stock markets. The key to success in the current market is not relying on hit & trial, but to understand reasons for fluctuations of a stock and analyze such reasons. Fluctuations can be termed as the bread and butter of traders, as a fluctuation may spike the price or might lower down the price to a significant level. In a continuously growing economy with numerous developments the country is attracting investment in stocks through signifying the role of fluctuations & the reason behind such changes.

In this paper we measure the significance of various factors that cause fluctuations in stock price. The following paper also signifies the different perceptions of various analysts based on various demographic factors. The paper is arranged as follows section 2 provides an overview of literature concerning stock market fluctuations and role of demographics in behavioral finance, textual representations & other techniques to understand stock price fluctuations. Sections 3 describes the research design and provides an overview of the data collection& interpretation tools. Sections 4 involves interpreting the collected data. Section 6 expresses the findings and discusses the implications of such findings. The last section provides a brief conclusion on investors perception about stock market fluctuations & provides a future direction for this stream of research.

II. REVIEW OF LITERATURE

Many studies have been carried out to examine the perception of investors on stock market fluctuations. C.Kavitha (2015) reveals that that there is a significant relationship between the investors attitudes & perception and stock market investment, thus perception of an investor on stock price fluctuation creates a significant impact on their investment decision. Previous study E.Bennet (2011) concludes that market specific factors have a significant impact on the investors sentiment to invest in stock market, which calls for study on these factors. Margaret SasiOkumu (2017) also reveals that investors perception has a significant influence on the share price fluctuations in the Nairobi Stock Exchange. Further study Ferry Jie (2017) reveals that perception of risk and psychology affect the confidence and that confidence has a positive impact on performance of investors. Previous study on the similar topic reveals a significance of investors

perception to understand their decision-making strategies and understand factors that affect the stock price. Many studies have also been carried out to determine the factors that influence investors perception towards stock market decisions. Dr. M. Malathy (2017) reveals that the most important factors in the market that act as an influence study are return on investment & short term profitability. Dr. Romi Sainy (2016) finds that there are seven factors influencing investment decisions namely, the economic environment, GDP & Government Policies, Foreign Trade & Investments, Disclosures, seasonal effects, asymmetry in Information & Liberalization where that economic environment is a pre-dominant factor influencing investment decisions. Hussein A. H. Al-Tamimi (2005) reveals that factors that influence the investors the most are expected corporate earnings, returns, short term profits, past performance of stock, government holdings & creation on organized financial markets. B. Kishori (2016) concludes that investment choices are usually based on factors like liquidity, return on capital investment, safety & management active involvement. A lot of research has also been done on the impact of demographics on investors perception. Ganga Bhavani (2017) used logistic regression to prove demographics effect on choice of investment avenue similarly Zobaida Khanam (2017) concludes that all the demographics have a significant relationship with the decision of investors to buy, sell or hold the stock. Similar studies on the topic C. Rajalakshmi (2017) & Delnaz M. Jokhi 2016 concluded that there is a significant relation between gender, age and tolerance, while there was no significance to the type of investor and the importance given to corporate announcements in India. There have been various studies on the investors perception of factors that influence the stock price and also to understand the relationship between demographics and the investors perception, but there is a lack of research on specific factors which are internal and external to a company, which determine the stock price fluctuations in the market and the significance of such factors on the Investors investment decision. Thus, the paper aims to understand the factors and their significance from the eye of the investors and the relation of the significance of these factors with the investors demographics.

III. RESEARCH METHODOLOGY

3.1 Research Design

The research design adopted in the present study is a Descriptive Design to understand the perception of investors on stock price fluctuations.

3.2 Objective

- To identify the significance of internal & external factors which cause stock price fluctuations.
- To find a relationship between the perception of investors on the most significant internal & external factors with their demographic characteristics.

3.3 Hypothesis

	Ho: The demographic characteristics do not have a significant impact on investors perception of internal factors.
Hypothesis 1	H1: The demographic characteristics have a significant impact on investors perception of internal factors.
	Ho: The demographic characteristics do not have a significant impact on investors perception of external factors.
Hypothesis 2	H1: Ho: The demographic characteristics have a significant impact on investors perception of external factors.

Table 1

3.4 Sources of Data

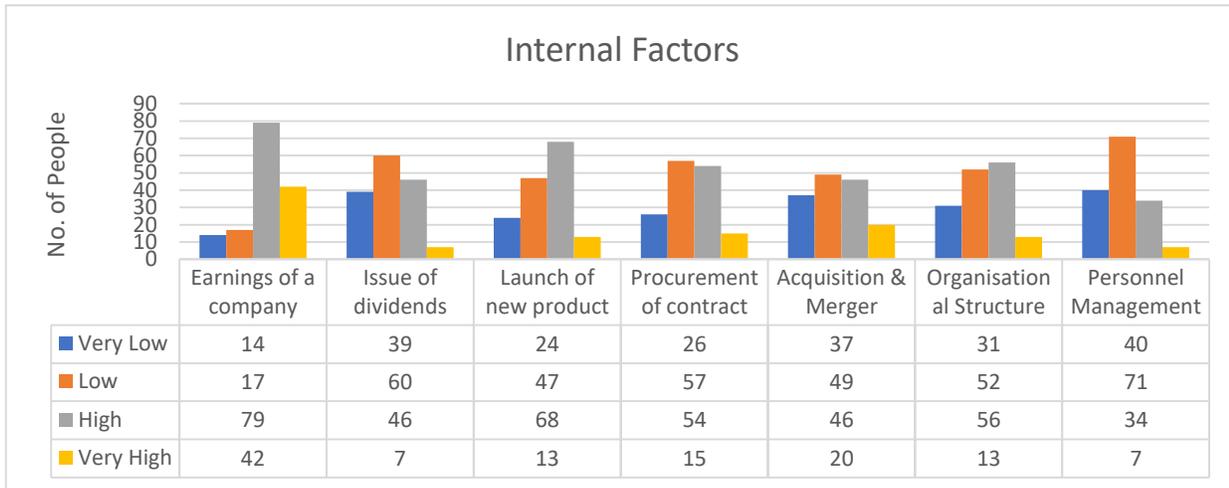
Convenient sampling technique was used to collect the following data, where the required data was collected using a structured questionnaire distributed to 152 investors across India using Google forms.

3.5 Data Analysis Tools

Graphical representation tools have been used to identify the perception of the sample size on the significance of various factors based on a Likert scale (1-Very Low & 4-Very High). A cross sectional analysis of the significance of the factors and the demographics has also been done to evaluate the data as per demographics, at the same time a multinomial regression model has also been used to analyse the relationship between demographics with the perception of the sample size.

IV. DATA ANALYSIS & INTERPRETATION

Fig. 1 Represents cross-table analysis of respondent’s perception with the internal factors

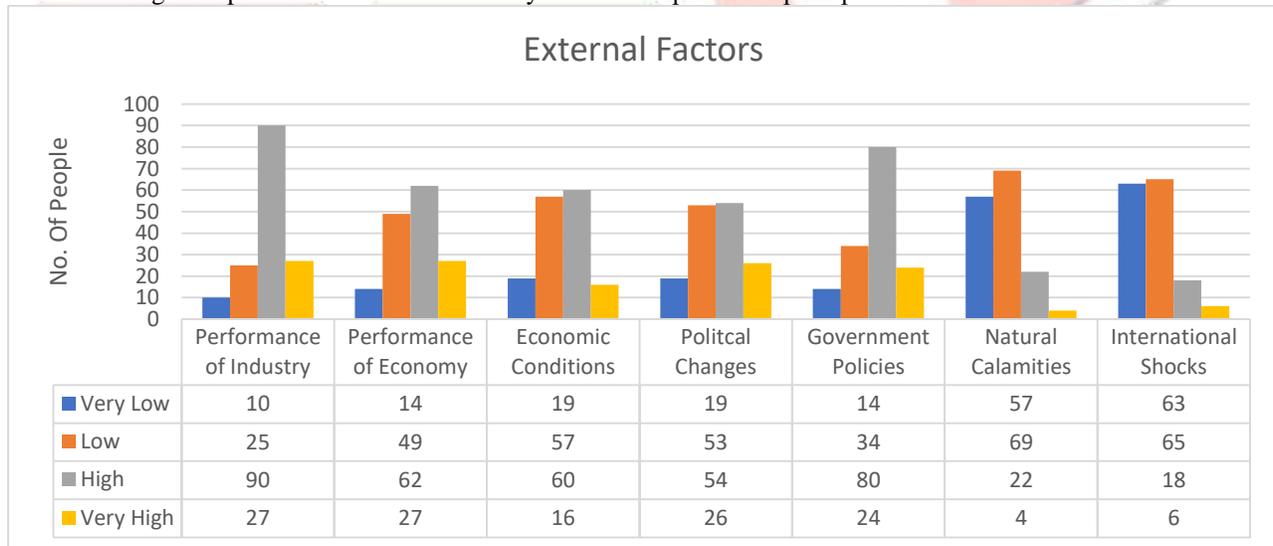


Source: Primary Data

Interpretation

- Figure 1 signifies the perception of the analysts on the level of significance with which internal factors affect the stock price of a company.
- As per figure 1 it can be interpreted that earnings of a company have the highest significance on the stock price of a company based on the perception of the sample size.

Fig. 2 Represents the cross-table analysis of the respondent’s perception with the external factors



Source: Primary Data

Interpretation

- Figure 2 signifies the perception of the analysts on the significance of external factors on the stock price of a company
- As per figure 2 it can be interpreted that performance of the industry to which a company belongs to has the highest significance on the stock price of a company based on the perception of the given sample.

Table 2: Represents the cross-sectional analysis of respondent's perception with earnings of a company and demographics (All values in %)

Demographics	Level of Significance	AGE GROUPS								
		20-29	30-39	40-49	50-59	60-69				
1. AGE	Very Low	28	5.5	6.25	0	0				
	Low	12	13.88	6.25	16.66	0				
	High	36	54.16	62.5	33.33	0				
	Very High	24	26.38	25	50	100				
2.OCCUPATION	Level of Significance	Business	Full Time Trader	Professional	Home Maker	Salaried	Self Employed	Student	Retired	
	Very Low	9.25	0	0	0	14.28	0	25	0	
	Low	7.4	16.66	30.43	0	5.35	28.57	0	100	
	High	61.11	33.33	26.08	100	55.35	57.14	50	0	
	Very High	22.22	50	43.47	0	25	14.28	25	0	
3.TYPE OF INVESTOR	Level of Significance	Both	Day Trader	Long-Term Trader						
	Very Low	8.51	25	2.63						
	Low	12.76	25	0						
	High	50	50	57.89						
	Very High	28.72	0	39.47						

Source: Primary Data

Interpretation:

- As per table 2 it can be interpreted that age plays a significant role to determine the level of perception of investor as it can be analysed from the above data that as age increases there is change in the level of perception of investors on the effect of Earnings of a company which causes stock price fluctuations. Even though earnings is considered to be significant by all age groups the level of significance is highest in te age groups 30-39 & 50-59.
- As per table 2 it can be interpreted that occupation creates a difference in perception of investor's level of significance on earnings of a company which create stock price fluctuations, where sample size belonging to business and full-time trader place the highest significance to earnings of a company.
- As per table 2 there is significant impact on the type of trader with their perception about the external factors. Majority of the day traders find earnings of a company to be of low significance on stock price fluctuation. While investors who invest on long term basis & investors who are both long-term and day traders find earnings of a company of high significance.

Table: 3 Represents the cross-sectional analysis of respondent's perception with Performance of Industry and demographics (All values in %)

Demographics	Level of Significance	AGE GROUPS								
		20-29	30-39	40-49	50-59	60-69				
1. AGE	Very Low	20.00	2.82	4.17	0.00	0.00				
	Low	4.00	21.13	14.58	16.67	100.00				
	High	52.00	57.75	66.67	66.67	0.00				
	Very High	24.00	18.31	14.58	16.67	0.00				
2.OCCUPATION	Level of Significance	Business	Full Time Trader	Professional	Home Maker	Salaried	Self Employed	Student	Retired	
	Very Low	7.02	0.00	0.00	0.00	10.71	0.00	0.00	0.00	
	Low	15.79	16.67	23.81	0.00	10.71	28.57	0.00	100.00	
	High	61.40	66.67	61.90	100.00	55.36	57.14	100.00	0.00	
	Very High	15.79	16.67	14.29	0.00	23.21	14.29	0.00	0.00	
3.TYPE OF INVESTOR	Level of Significance	Both	Day Trader	Long-Term Trader						
	Very Low	5.32	20.00	2.63						
	Low	18.09	20.00	10.53						
	High	59.57	60.00	57.89						
	Very High	17.02	0.00	28.95						

Source: Primary Data

Interpretation:

- As per table 3 it can be interpreted that age plays a significant role to determine the level of significance of the perception of investor as it can be analysed from the above data that as age increases there is change in the level of perception of investors

on the effect of Performance of Industry which causes stock price fluctuations. Even though industrial growth is considered to be significant by all age groups the level of significance is highest in the age groups 20-29, 30-39 & 40-49.

- As per table 3 it can be interpreted that occupation creates a difference in perception of investor’s level of significance on performance of industry which create stock price fluctuations, where sample size belonging to salaried background place the highest significance to Industrial Growth.
- As per table 3 there is significant impact on the type of trader with their perception about the external factors. Majority of the day traders find performance of industry to be of average significance on stock price fluctuation. While investors who invest on long term basis & investors who are both long-term and day traders find performance of the industry of high significance.

Table 4: Represents Model fitting information & Likelihood ratio of running Multinomial Regression on Earnings of a Company

Model Fitting Information				Likelihood Ratio Tests			
Model	Likelihood Ratio Tests			Effect	Likelihood Ratio Tests		
	Chi-Square	df	Sig.		Chi-Square	df	Sig.
Intercept Only				Intercept	.000	0	.
Final	73.373	30	.000	AGE	7.882	3	.049
				Occupation/Profession	37.071	21	.017
				Category of Investor	25.282	6	.000

Source: Primary Data

Interpretation:

- As per table 4 model fitting information, if significance vale (p value) < 0.05 then there is a significant impact of the demographics on the internal factors. The likelihood ratio test represents the p-value of individual demographics p-value < 0.05 represents that the demographic characteristic has significant impact on the overall outcome.
- As per table 4 the demographic characteristics have a significant impact on Earnings of a company with Significance 0.000 (< 0.05). Thus, the null hypothesis is rejected in the case of earnings of a company, which are now fit to be evaluated under multinomial regression.
- Table 4 also represents the individual impact of demographics on investors perception of earnings according to which all demographics are significant to the change in perception of earnings.

Table 5: Represents the parameter estimates for Earnings of a company which were presumed to be fit

DEPENDENT VARIABLES	Significance Value			Exp(B)		
	Very Low	Low	High	Very Low	Low	High
1.AGE	.020	.672	.912	.869	.982	1.003
2.OCCUPATION						
Full Time Trader	.994	.875	.193	5.519E-08	.811	.273
Professional	.990	.573	.007	8.569E-08	1.586	.180
Home Maker	1.000	1.000	.997	3.222	1.256	7462563.249
Salaried	.533	.836	.872	1.610	.831	.925
Self Employed	.995	.309	.552	3.386E-07	3.682	.553
Earning of A company						
Student	1.000	1.000	.995	.117	.449	4230431.067
Retired			.997	6.030E-06	.164	1.592E-08
Business	.			.		
3.TYPE OF TRADER						
Day Trader	.988	.988	.988	12830476.238	11385056.264	7555488.181
Long Term Trader	.177	.985	.753	.205	2.249E-07	.867
Both	.			.		

Source: Primary Data
 Reference category: Very High

Interpretation:

- As per table 5 in the continuous series of age the Significance-value (p value) for earnings < .05 and the Exp(B) with its 95% CI is < 1.0 thus for every one-unit increase in age, the probability of investors selecting earning to be a very low significant factor decrease by 0.869 times versus them choosing very high for the earnings of the company. Thus, with increase in age investors place more emphasis on earnings of a company
- As per table 5 in the ordinal series of occupation-Professional the p-value is < .05 and Exp (B) with its 95% CI < 1.0, thus the probability of choosing high over very high for earnings of a company reduces by 0.000085. This does not represent a significant probability.

Table 4: Represents Model fitting information & Likelihood ratio of running Multinomial Regression on Significance of Performance of Industry

Model Fitting Information				Likelihood Ratio Tests			
Model	Likelihood Ratio Tests			Effect	Likelihood Ratio Tests		
	Chi-Square	df	Sig.		Chi-Square	df	Sig.
Intercept Only				Intercept	.000	0	.
Final	43.890	30	.049	AGE	9.477	3	.024
				Occupation/Profession	18.819	21	.597
				Category of Investor	15.095	6	.020

Source: Primary Data

Interpretation:

- As per table 4 model fitting information, if significance vale (p value) < 0.05 then there is a significant impact of the demographics on the external factor. The likelihood ratio test represents the p-value of individual demographics p-value < 0.05 represents that the demographic characteristic has significant impact on the External.
- As per table 4 the demographic characteristics have a significant impact on Performance of Industry with Significance 0.049 (< 0.05). Thus, the null hypothesis is rejected in the case of Performance of Industry, which is now fit to be evaluated under multinomial regression.
- Table 4 also represents the individual impact of demographics on investors perception of performance of industry according to which all demographics except Occupation are significant to the change in perception of earnings.

Table 5: Represents the parameter estimates for Performance of an Industry which were presumed to be fit.

DEPENDENT VARIABLES	Significance Value				Exp (B)		
	DEMOGRAPHICS	Very Low	Low	High	Very Low	Low	High
1.AGE		.239	.130	.061	.922	1.069	1.070
	2.OCCUPATION						
Full Time Trader		.989	.909	.753	1.625E-06	1.193	1.480
Professional		.975	.974	.441	2.116E-06	.974	.589
Home Maker		1.000	1.000	.994	2.331	.415	492166.724
Performance of Industry	Salaried	.752	.349	.493	1.322	.508	.690
	Self Employed	.987	.796	.808	4.780E-06	1.428	.742
	Student	.999	1.000	.989	.243	.587	764802.382
	Retired	.	.998	1.000	48.097	29481326.039	.198
	Business	.					
	3. TYPE OF TRADER						
	Day Trader	.976	.976	.976	1900748.845	1066816.794	999865.511
	Long Term Trader	.070	.070	.252	.269	.249	.565
	Both						

Source: Primary Data
Reference category: Very High

Interpretation:

- As per table 5 in the ordinal series & continuous series the p-value is $> .05$ for all the demographics for performance of industry, thus the probability of choosing very high level of impact over any other level of significance for performance of industry is not significant in case of any of the demographics.

V. FINDINGS & DISCUSSION

The study measures the perception of investors on various internal and external factors based on which it establishes the following information:

- Majority of the investors see earnings of a company as a significant reason to cause stock price fluctuation against other internal factors.
- Majority of the investors see Industrial Growth as a significant factor to cause stock price fluctuation against other external factors.

On comparing the demographic characteristics against the perception of the investors for earnings and industrial growth the following information is established:

- It indicates that age has a significant relation with the investors perception where as age increase the importance of earnings of a company as a reason to stock market fluctuation also increases. Similar is the case for the perception of Industrial Growth.
- It also indicates that occupation creates a difference in perception of employee's level of significance on earnings of a company which create stock price fluctuations, where sample size belonging to business and full-time trader place the highest significance to earnings of a company. Similar is the case for Industrial Growth, where salaried investors place highest significance to Industrial Growth.
- Finally, it indicates that there is a significant impact on the type of trader with their perception about the earnings and performance of industry. Majority of the day traders find earnings of a company & performance of industry to be of low significance on stock price fluctuation. While investors who invest on long term basis & investors who are both long-term and day traders find earnings of a company & performance of industry of high significance.

5.1 Discussion

The following results indicate that earnings of a company and performance of the industry within which the company belongs to are the most significant internal and external factors to cause fluctuation in the stock price of the company respectively. This is due to the level of importance and the efficiency of absorption of these factors by the investors in the stock market of India. The research also takes the following factors to measure any relation between demographic characteristics and the perception of the investors and finds that there is a relationship between the two where the null hypothesis is rejected. Both these factors see a change in the level of significance with change in age where investors of an elderly age find these factors of higher significance, while investors belonging to different occupation also have a change in the level of significance that they place on these factors, where full time stock market traders and businessmen place a greater emphasis on earnings than investors of other occupation similarly investors belonging to salaried background placed more emphasis on industrial performance. This shows that according to job security and experience there is a change in the level of significance of certain factors. On the other hand, type of investors also have different perception all together on the following factors, where day trader find these factors of lower importance and long-term traders & people who are both long & short term traders place a very high significance for the following factors. This indicates that day trader is not affected by such factors as they rely majorly on small variations in the market for a shorter period of time, while long-term traders analyse all the factors and make decisions based on their expectations.

VI. CONCLUSION

The study is relevant to understand the financial behavior of investors in the Indian Stock Exchange. The study identifies the level of significance investors in the stock market place on various external and internal factors (to the company) which forms a basis to understand the expectation and behavior of investors on the occurrence of such factors in the market. It can be concluded that in a developing country like India with diverse demographic population, a demographic characteristic plays an important role for investors decision making. The study recommends that there is a need to identify the significance of abundance of such internal and external factors in relation to investors belonging to different demographics, to provide an insight to the factors that determine stock price fluctuations and by what level. The study, thus will surely provide an insight on Investors perception towards factors causing stock price fluctuations and also help companies determine the investors in the Indian stock exchange based on their demographics.

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