International Journal of Applied Engineering Research
ISSN 0973-4562 Volume 10, Number 3 (2015) pp. 8019-8028

http://www.ripublication.com

Rational Factors Affecting Equity Investment Decisions Based on Investors' Age – An Empirical Study

***D. Velumoni and **Dr. S S Rau**
**Research Scholar, Assistant Professor, Sathyabama University, Chennai*
***Registrar, Sathyabama University, Chennai.*
**Email: veludharuma@gmail.com*
***Email: sssrau@gmail.com*

Abstract

Decision-making is one of the critical processes which involve analysing choices that result in the most optimal level of benefit or utility for the individual. Most conventional economic theories are created and used under the assumption that all individuals taking part in an investment activity are behaving rationally - Investopedia. Hence the authors are interested in studying the various rational factors affecting equity investment decision based on their age level. There are seven rational factors considered for the study viz. Accounting, Company, External, Industry, Technical, Advocate and Individual factors comprising of 41 attributes, based on this the questionnaire has been framed and by using convenience sampling the data has been collected from 303 respondents of Chennai city who attends awareness programs. To analyse the data and find out the results, SPSS 18 has been used and the statistical tools used are Mean, Standard Deviation, ANOVA and Duncan test. From the analysis, it can be inferred that there is significant difference between Company factors, Technical factors, Advocate factors and Individual factors based on the respondents' age. The first five most important factors based on the sample data are Promoter's track record, past performance of firm's stock, Previous Dividend paid, Growth rate of Industry and Reputation of the company with mean value of 3.98, 3.90, 3.89, 3.87 and 3.86 respectively. The five least important factors are Opinion's of majority of shareholders, Spouse/Relatives/Family members' opinion, Friends or coworker's recommendation, Get rich quick and Brokerage firm's advice with mean value of 2.66, 2.72, 2.88, 3.06, and 3.14 respectively. From the ANOVA study, Technical factors (sig. value 0.003), Advocate factors (sig. value 0.000), and individual factors (sig. value 0.000), differ significantly at 1% level and company factors (sig. value 0.028) differ significantly at 5% level between different age group of the respondents. There is no significant mean difference between different age group of the respondents on

Accounting factors (sig. value 0.622), External factors (sig. value 0.340) and Industry factors (sig. value 0.140).

Key words: Equity Investment Decision, Age, Rational Factors

Introduction and Review of Literature

Decision-making process is nothing but making choices that result in the most optimal level of benefit or utility for the individual. Most conventional economic theories are created and used under the assumption that all individuals taking part in an investment activity are behaving rationally - Investopedia. Developers of Behavioural Finance theory (Irrational behaviour) argue that investors think rationally and behave irrationally. Hence many researchers are interested in identifying, studying and analysing the various rational and irrational factors affecting equity investment decisions. In this paper the authors want to identify the various rational factors affecting equity investment decisions, the most and least influencing factors and to find out whether rational factors differ significantly among age of the respondent. To identify various factors affecting equity investment decisions the authors have reviewed some the literatures and few of them are discussed below:

Jariwala Harsha and Pandya Kerav (2012) studied 'Investors behaviour on equity investment' and found that the most influencing as 'Market capitalization of company' and 'Past performance of the company' with mean score value of 3.46 and 3.27 respectively and least influencing variables as 'Conversation of views with professional colleagues' and 'Fluctuations in the indices of the major markets' having mean score of 2.16 and 2.18 respectively. They have done factor analysis and identified eight factors named Firm image, Personal financial position, Advocate recommendation, Track record, Relevance to the community, Neutral information, Economic factors and Individual dynamics. They studied the relationship between respondents' education level and influence of 36 variables and revealed that 22 variables related and 14 variables not related with the educational level of the respondent. Motwani R K (2013) studied the fundamental determinants of Equity Investments among infrequent small scale investors in Rajasthan state. 30 variables were studied under 4 factors Financial Performance and Policy, Quality of Management, Information Dissemination and Governance and Ethical Practices. The author used one sample t-test and found that majority of infrequent small scale investors appraise fundamental factors of a company.

Leda Nath et.al. (2013) interested in Corporate Social Responsibility (CSR) activities and related corporate reporting and extend by examining specific investor classes in use of CSR information. They relied on feminist intersectionality and suggest that gender intersects with other identities to yield different values, experiences, and opportunities that can lead to gender-based preferences for CSR information. Based upon a survey of 750 US based retail investors found that female retail investors have greater interest in the use of CSR information than male retail investors. Age may be relevant factor in the demand of CSR information that is younger investors has a higher demand. Hossein Khanifar et.al. (2012) studied

fundamental analysis factor under three sectors naming Economy/market, Industry and Firm affecting share analysis decisions in Tehran Stock Exchange. From the analysis, it was determined that firm related factors such as Earnings Per Share (EPS), Estimated EPS, Profit margin, P/E ratio and Sale rate having highest importance followed by Economy/market and Industry related factors.

Imran Ali and Kashif Ur Rehman (2013) studied Stock Selection Behaviour and identified that the attributes dividend, price trends and volatility, firm's status in the market, source of recommendation, corporate reputation, corporate social performance, firm's visibility in the media were having significant on stock selection behaviour of individual equity investors in Pakistan. Azwadi Ali (2011) study found that perceived risk, perceived returns and trust were directly affect individual investors' trading decisions while attitude towards brand partially mediates the relationships. The author suggested that in courting individual investors, companies still need to perform financially while building a good image can result in their stocks being accepted quicker than the stocks of good performing companies with hidden images. Shun-Yao Tseng (2012) showed that heuristics had a strong positive effect on mutual fund investment preferences. An increase of advice-seeking information search significantly increases individual interest in stocks/options investment for high-income investors. Accordingly, implications for financial consultants and ethics issues were discussed as well. Sanjay Kanti Das (2012) based on his 100 sample survey in Assam, it was found that majority of the respondent consider 38 factors before selecting the stocks to invest. The highly influencing factors of the study were Financial statements of companies, Referral, Public information, Profitability and least influencing factors were Government policies, Calculation of risk, Economic variables and Discounted cash flow tools.

Objective of The Study

Having reviewed the various literatures, the authors have framed the objective and hypothesis as stated below.

- To find out whether principal rational factors differ significantly among Age of the respondent

The following hypothesis has been framed to find out solution to the above objective:

$H_0$1: Accounting Factors do not significantly differ among Age of the respondent
$H_0$2: Company Factors do not significantly differ among Age of the respondent
$H_0$3: External Factors do not significantly differ among Age of the respondent
$H_0$4: Industry Factors do not significantly differ among Age of the respondent
$H_0$5: Technical Factors do not significantly differ among Age of the respondent
$H_0$6: Advocate Factors do not significantly differ among Age of the respondent
$H_0$7: Individual Factors do not significantly differ among Age of the respondent

Research Design

Descriptive research design is used for the study based on survey method. The study has been conducted in Chennai city (one of four metropolitan cities in India) with a single sample consists of 303 respondents and primary data has been collected from the investors who come and attend awareness programs conducted by Madras Stock Exchange Tamil Nadu Investors' Association and Southern India Regional Council of the Institute of Chartered Accountants of India based on convenience sampling method. To collect primary data the instrument used for the survey is Questionnaire method. By reviewing the literature, Questionnaire has been designed and prepared containing set of demographic variables like Gender, Age, Income, Marital status, etc. and rational factors comprising of seven major factors such as Accounting factors, Company factors, External factors, Industry factors, Technical factors, Advocate factors and Individual factors containing 41 attributes in total and accordingly the hypotheses has been framed. To test the hypothesis, various statistical tools have been used such as Percentage analysis to identify the percentage of respondent based on age group. Descriptive statistics such as Mean and Standard Deviation has been used for finding the most influencing and least influencing factors. Analysis of Variance has been used to check whether principal rational factors significantly differ between different age group of the respondent and Duncan test is used to group the respondent based on their age for the different rational factors, by using SPSS 18 and the results are interpreted.

Data Analysis And Interpretation

Percentage Analysis

To examine the demographic variable Age, percentage analysis is used to find out the percentage of respondent in Below 30, 30-45, 46-60 and Above 60 age group and the result is given in Table 4.1.1. From the table it is clear that the highest 48.2% of the respondents are between age 30-45 category and 13.2% of the respondents are below age 30 which infers that most of respondents are middle aged and least of respondents are young aged.

Table 4.1.1: Distribution and Percentage of Age of the respondent

Age	Frequency	Percent	Cumulative Percent
Below 30	40	13.2	13.2
30-45	146	48.2	61.4
46-60	70	23.1	84.5
Above 60	47	15.5	100.0
Total	303	100.0	

Descriptive Statistics

To identify the most influencing variables and the least influencing variables from the 41 attributes, Descriptive statistics has been used. The results are depicted in Table 4.2.1 and it can be inferred that the first five most important factors are Promoters' track record with mean value of 3.98, Past performance of firm's stock with mean value of 3.90, Previous Dividend paid with mean value of 3.89, Growth rate of Industry with mean value of 3.87 and Reputation of the company with mean value of 3.86 respectively. The first five least important factors are Opinion's of majority of shareholders with mean value of 2.66, Spouse/Relatives/Family members' opinion with mean value of 2.72, Friends or coworker's recommendation with mean value of 2.88, Get rich quick with mean value of 3.06 and Brokerage firm's advice with mean value of 3.14 respectively.

Table 4.2.1: Descriptive Statistics of the various Factors Affecting Equity Investment

Sno.	FACTORS	Mean Value	Std. Deviation
1	Promoter's track record	3.98	1.075
2	Past performance of firm's stock	3.90	.984
3	Previous Dividend paid	3.89	1.098
4	Growth rate of Industry	3.87	1.219
5	Reputation of the company	3.86	1.084
6	Products/Services of best quality	3.84	1.207
7	Knowledge about the share market	3.84	1.098
8	Past experience (success/failure)	3.83	1.078
9	Financial Statements of the company	3.82	1.105
10	Political stability	3.81	1.197
11	Affordable share price	3.77	1.052
12	Business cycle (Boom, Recession, etc.)	3.76	1.231
13	Willingness to take risk for high returns	3.75	1.114
14	Life cycle of the industry (Pioneer, Growth, Maturity, etc.)	3.73	1.176
15	Stock market conditions (market crash/bubble/swing)	3.72	1.155
16	Charts/Graphs	3.71	1.257
17	Government Policies/Monetary Policies	3.70	1.212
18	Diversified nature of business	3.69	1.132
19	Rate of Inflation	3.66	1.171
20	Expected Corporate earnings	3.63	1.208
21	Return of the Industry	3.58	1.242
22	Stop Loss/Gain	3.55	1.363
23	Announcement about bonus share and stock split	3.54	1.222

24	Price patterns(trend)	3.51	1.294
25	Diversification needs	3.50	1.279
26	Rate of Interest	3.49	1.231
27	Company's operations at international level	3.46	1.129
28	Technological change	3.45	1.259
29	Price Index of Industry	3.45	1.243
30	Supply & Demand of stock	3.43	1.300
31	Transaction volume	3.39	1.199
32	Corporate social activities	3.38	1.233
33	Competitive situation	3.38	1.294
34	Relative Strength Index (RSI)	3.38	1.309
35	Simple Moving Average (SMA)	3.33	1.326
36	Attractiveness of non-stock investment	3.17	1.278
37	Brokerage firm's advice	3.14	1.286
38	Get rich quick	3.06	1.320
39	Friends or coworker's recommendation	2.88	1.259
40	Spouse/Relatives/Family members opinion	2.72	1.391
41	Opinion's of majority of shareholders	2.66	1.330

Descriptive statistics has been done to calculate Mean and Standard Deviation for the seven Principal Rational factors and the results are shown in Table 4.2.2. In the same table, Rational factors have been ranked based on the Mean score value. The Accounting factors are ranked first with mean value of 3.804 whereas Advocate factors have been ranked seventh with mean value of 2.849 From this table it can be inferred that respondents consider Accounting factors such as Previous dividend paid, Past performance off firm's stock, Financial statements of the company, Affordable share price and Expected corporate earnings as Important scaling and Advocate factors such as Brokerage firm's advice, Spouse/Relatives/Family members opinion, Friends or coworker's recommendation and Opinion's of majority of shareholders ranked seventh comes under the scaling of Somewhat Important.

Table 4.2.2: Descriptive Statistics and Ranking of Principal Factors

Descriptive Statistics				
RATIONAL FACTORS	**N**	**Mean**	**Std. Deviation**	**Rank**
Accounting factors	303	3.8040	0.6661	I
Company factors	303	3.6784	0.6996	III
External factors	303	3.6903	0.8425	II
Industry factors	303	3.5759	0.9332	IV
Technical factors	303	3.4729	0.9928	VI
Advocate factors	303	2.8490	0.9796	VII
Individual factors	303	3.5242	0.7430	V

Anova

Analysis of Variance has been used to test whether Principal Rational factors differ significantly among Age of the respondent and the results are shown in Table 4.3.1. From the table, it is understood that Technical factors (sig. value 0.003), Advocate factors (sig. value 0.000), and individual factors (sig. value 0.000), differ significantly at 1% level and company factors (sig. value 0.028) differ significantly at 5% level. There is no significant mean difference between different age group of the respondents on Accounting factors (sig. value 0.622), External factors (sig. value 0.340) and Industry factors (sig. value 0.140).

Table 4.3.1: Analysis of Variance

RATIONAL FACTORS	**F Value**	**Sig. value**	**Inference**
Accounting factors	0.590	0.622	Not significant
Company factors	3.085	0.028	Significant*
External factors	1.123	0.340	Not Significant
Industry factors	1.838	0.140	Not Significant
Technical factors	4.714	0.003	Significant**
Advocate factors	9.492	0.000	Significant**
Individual factors	6.807	0.000	Significant**

To find out the subset of age of the respondent Duncan test has been selected and the test results are given in Table 4.3.2 for Company factors, Table 4.3.3 for Industry factors, Table 4.3.4 for Technical factors, Table 4.3.5 for Advocate factors and Table 4.3.6 for Individual factors. From the Table 4.3.2 Duncan test for Company factors, above age 60 and 46-60 comes under subset 1 and 30-45 and Below 30 comes under subset 2. From the Table 4.3.3 Duncan test for Industry factors, above 60 and 30-45 age groups comes under subset 1 and age grouped 46-60 and below 30 comes under subset 2. From the Table 4.3.4 Duncan test for Technical factors, above age 60 and 46-60 comes under subset 1, 30-45 comes under subset 2 and below 30 comes under subset 3 separately. From the Table 4.3.5 Duncan test for Advocate factors, age above 60 and below 30 comes under subset 1 and 3 respectively and age between 46-60 and 30-45 comes under subset 2. From the Table 4.3.6 Duncan test for Individual factors, age above 60 and below 30 comes under subset 1 and 3 respectively and age between 46-60 and 30-45 comes under subset 2.

Table 4.3.2: Duncan test for Company factors

COMPANYFACTORS			
Age	N	Subset for alpha = 0.05	
		1	2
Above 60	47	3.4468	
46-60	70	3.6449	3.6449
30-45	146		3.7133
Below 30	40		3.8821
Sig.		0.120	0.078

Table 4.3.3: Duncan test for Industry factors

INDUSTRYFACTORS			
Age	N	Subset for alpha = 0.05	
		1	2
Above 60	47	3.3723	
30-45	146	3.5537	3.5537
46-60	70	3.6119	3.6119
Below 30	40		3.8333
Sig.		0.188	0.123

Table 4.3.4: Duncan test for Technical factors

TECHNICALFACTORS				
Age	N	Subset for alpha = 0.05		
		1	2	3
Above 60	47	3.0912		
46-60	70	3.3898	3.3898	
30-45	146		3.5333	3.5333
Below 30	40			3.8464
Sig.		0.096	0.423	0.081

Table 4.3.5: Duncan test for Advocate factors

ADVOCATEFACTORS				
Age	N	Subset for alpha = 0.05		
		1	2	3
Above 60	47	2.2500		
46-60	70		2.7964	
30-45	146		2.9572	2.9572
Below 30	40			3.2500
Sig.		1.000	0.353	0.091

Table 4.3.6 Duncan test for Individual factors

INDIVIDUALFACTORS				
Age	N	Subset for alpha = 0.05		
		1	2	3
Above 60	47	3.2589		
46-60	70	3.3642	3.3642	
30-45	146		3.5902	
Below 30	40			3.875
Sig.		.428	.090	1.000

Discussion and Conclusions

The money which is saved and invested is money generated too. Every individual has to make wise decision on investment otherwise the investment may give less return or negative return. Rob Bennett (2013) revealed that U.S. stocks annual real return was 17% during the year 1982 where there were investors who use fundamental and technical analysis and the return was negative 1% during the year 2000 where investors might be weak in fundamental and technical analysis. The investors are often involved with various behavioural mistakes and that may result with US stocks negative return. Hence the authors have taken up fundamental and technical factors for their study for equity investment decision and found that based on the survey the five most important factors are Promoter's track record, past performance of firm's stock, Previous Dividend paid, Growth rate of Industry and Reputation of the company with mean value of 3.98, 3.90, 3.89, 3.87 and 3.86 respectively. The five least important factors are Opinion's of majority of shareholders, Spouse/Relatives/Family members' opinion, Friends or coworker's recommendation, Get rich quick and Brokerage firm's advice with mean value of 2.66, 2.72, 2.88, 3.06, and 3.14 respectively. From the ANOVA study, Technical factors (sig. value 0.003), Advocate factors (sig. value 0.000), and individual factors (sig. value 0.000), differ

significantly at 1% level and company factors (sig. value 0.028) differ significantly at 5% level between different age group of the respondents. There is no significant mean difference between different age group of the respondents on Accounting factors (sig. value 0.622), External factors (sig. value 0.340) and Industry factors (sig. value 0.140).

References

[1] www.investopedia.com/terms/rational-behavior.asp
[2] Jariwala Harsha and Pandya Kerav (2012) Investors' Behaviour of Equity Investment: An Empirical study of Individual Investors, GFJMR, 5, 1-33
[3] Motwani R K (2013) Fundamental Determinants of Equity Investments among infrequent Small Scale Investors, Research Journal of Management Sciences, 2(4), 1-4
[4] Leda Nath, Lori Holder Webb and Jeffrey Cohen (2013) Will Women Lead the Way? Differences in Demand for Corporate Social Responsibility Information for Investment Decisions, J Bus Ethics 118:85-102
[5] Hossein Khanifar, Nasser Jamshidi and Mohammadbagher Mohammadinejad (2012), Studying affecting factors on Analysts Decisions regarding share analysis in Tehran Stock Exchange: A Funadmental Analysis Approach, European Journal of Economics, Finance and Administrative Sciences, 44, 77-86
[6] Imran Ali and Kashif Ur Rehman (2013) Stock Selection Behavior of Individual Equity Investors' in Pakistan, Middle-East Journal of Scientific Research, 15 (9), 1295-1300
[7] Azwadi Ali (2011) Predicting Individual Investors' Intention to Invest: An Experimental Analysis of Attitude as a Mediator, International Journal of Human and Social Sciences 6(1), 55-62
[8] Shun-Yao Tseng (2012) Information Searches Affect Individual Investment Preferences: Testing a Moderating Effect of Income, International Journal of Social Science and Humanity, 2(2), 133-138
[9] Sanjay Kanti Das (2012) Small Investor's Behaviour on Stock Selection Decision: A case of Guwahati Stock Exchange, International Journal of Advanced Research in Management and Social Sciences, 1(2), 59-78
[10] Rob Bennett (2013) Rational Investing vs. Passive Investing, www.passionsaving.com/rational-investing.html