



## PERSONALITY TYPE OF INVESTORS AND PERCEPTION OF FINANCIAL INFORMATION TO MAKE DECISIONS

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### ABSTRACT

*In this paper, it is going to understand behavior of investors of the capital market in Iran and their perceptions about financial information, which cause them to make decision to buy or sell stocks. The research was done according to 16 types of Myers-Briggs Type indicators and 4 Keirsey temperaments on direct junior investors at Tehran stock exchange forums. Financial information of four active companies includes two bad and two good companies was presented to them for making decision about selling or buying stocks after knowing each one personality. Briefly, it was clarified that investors clustered in the "Guardian" temperament, that significant differences were seen in their perception of financial information according to their characters and types. The Dividend per Share, Earning per Share and Return on Investment played main role in configuring investors' decision. Guardian investors have a mental pattern about importance of financial information. Guardian's characters have different attitude to financial information, which was significant in the inventory turnover and company's budget.*

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**Keywords:** Personality; financial information; perception; decision.

### INTRODUCTION

#### Behavioral Finance

Traditional finance theories such as the efficient Market Theory and the Modern Portfolio Theory hold that the people in the stock market are basically behaved logical and rational, and all activities are reflections of economic information (Jing and Robin, 2012) (Dimitrios *et al.*, 2011), which are based on the real perception of financial information and making the optimum decisions. But it



is obvious that all of investors' decisions aren't rational. These irrational behaviors of buyers and sellers can lead to phenomena, which are known as speculative bubbles. (Mehmood and Ali, 2011)

Nowadays that the capital markets are faced more complex systems, it is initial to decrease irrational reflects to decrease risks of markets and investors. Especially in the stock exchange as a main market by knowing investor's behavior, their financial information importance and their decision priorities the level of trading can optimize. Also investing in the financial market makes trading booms, which can lead by attracting more investments to the financial markets and changing their behavioral patterns. Many researchers, such as Dimitrios mentioned that the study of psychology and other social science theories would improve the efficiency of financial markets and explain many stock market anomalies, market bubbles and crashes. All these are introduced a new subject of behavioral finance. (Dimitrios *et al.*, 2011) The behavioral finance wants to analyze and investigate the comprehensive market phenomena based on the psychological mechanisms of investment behaviors. (Xiao *et al.*, 2006)

### Psychological Theory

In this research, the Myers-Briggs Type Indicator (MBTI) and the Keirsey Temperament Sorter (KTS) methodologies were used as psychological mechanisms for knowing an investor's personality. Four continuous variables with two attitudes -each pairs make spectrum- show different kinds of people's preferences that form the person's type and temperament. The preferences are shown bellow;

**Table-1.** Four preference scales description (Keirsey, 2011) ;(Jung, 1971)

Row	Abbreviation	Scale	Brief description
1	E-I	Extraversion-Introversion	Show how a person prefers attitude toward the world, gain energy and stimulation.
2	S-N	Sensation-Intuition	Show how a person prefers gathering information or data and what is his interest or focus.
3	T-F	Thinking-Feeling	Show how a person prefers making decision and evaluating the information which is from S-N step.
4	J-P	Judgment-perception	Show how a person prefers organizing outside world and his lifestyle.

From combining these four scales, sixteen character types were made, that each of them have some similar behavior, and also each four of them have some more similarity too, which generated our four main types. All these characters and types that created KTS viewpoint were shown in table 2.

**Table-2.** Sixteen characters and four types (Ritter, 2003; Keirse, 2011)

Guardian (SJ) Want to be useful and servitor. They value law, tradition and customs. They want to be responsible and have standard work.	Protector (ISFJ) Lavish / helper / dependent / committed / quite/perceptive	Inspector (ISTJ) Focused / quiet / non-emotional/ care about details / responsible / completer	Architect (INTP) Reasonable / analyzer / innovator / independent / complex / risky / arrogant / scientifically	Mastermind (INTJ) Organizer / strategist / focused / maverick / independent / peremptory	Rational (NT) They value mind and Competence. They want to analyze and understand the systems.
	Supervisor (ESTJ) Objective / single-minded / presenter / leader / traditional / conservative / quick/ inflexible/ spontaneous/ practical / realistic	Provider (ESFJ) Helper / sensitive / conscious/ lavish / interested to effect others life / popular	Inventor (ENTP) Self confident / flexible / quick / Entrepreneur / friendly	Field Marshal (ENTJ) Bossy / frank / leader / decisive / learner / eager to work / arrogant	
Artisan (SP) They need to be free and pragmatic. They like entertainment and have a joyful life.	Composer (ISFP) Quiet / Unobtrusive / patient / adaptable / relax / kind / sensitive	Crafter (ISTP) Cool/ excited / pragmatic / unfriendly / reserved/ observing	Healer (INFP) Sensitive / curious / idealist / care about believes and learning / do the things that they want	Counselor (INFJ) Honest / innovator / listener / concerned / calm / complex / focused / conscious	Idealist (NF) They want to know others and themselves. They want to courage and support other, too.
	Performer (ESFP) Actor / like entertainment / cool / helper / easygoing	Promoter (ESTP) Joyful / have lots of friend / searcher / flexible / sport lover / adaptable	Champion (ENFP) Curious / negligent / spontaneous / sociable / quickly find solution / imaginative	Teacher (ENFJ) Helpful / responsible / active / presenter / coordinator	

Theoretically, it seemed that a kind of job attracts special group of personalities and characters. As an example, securities brokers were usually the Introversion Sensation Thinking Judgment (ISTJ) type from guardians. (Paul and Barbara, 2001) In this research, uniquely, junior investors of stock exchange were analyzed to know which types and temperament are interested to work as a direct junior investor in the stock exchange of Iran.

## Research View

A stock market or exchange is a systematic and formal market that consist the foundation of the capital market; it is one of the subgroups of financial markets in which stocks, government shares, or shares of other certified private companies are sold or bought by investors based on certain laws. (Amir *et al.*, 2012)

It was going to understand who were attracted to work in the stock exchange as the junior investors, which kinds of financial information were important for them to make decision and how they make decisions. Financial information of four real companies, which were active in the

financial market, were generated and gathered. The financial information made the research's variables. The variables were selected based on results of previous researches. These four companies were divided into two good and bad companies according to views of specialists and the first panel of the stock exchange. Investors, from financial information, should make decision of selling or buying stocks. Financial information importance was determined by a questionnaire that simulated the purchase and sell environment. Financial information was included twenty one variables as: fourteen financial ratios - includes: current ratio, quick ratio, inventory turnover, total assets turnover, average collection period, long-term debt to equity, total debt to total assets, times interest earned, Earn Per Share(EPS), Dividend Per Share (DPS), payout ratio, profit margin, Return On Investment(ROI), Return on equity (ROE) - an amount of capital increasing, a company's owner sort, a company's budget, a technical evaluation result of stock, stockbroker's recommendations and process of output-time diagrams. Two behavioral and financial questioners were analyzed to recognize the investor's decision structure.

## LITERATURE REVIEW

Behavioral finance is an junction area of finance and cognitive psychology, which is lead to knowing investors and their decision modeling or arbitrage that have a major and continuous consequence on financial markets (Gokul *et al.*, 2008). It is understandable that some way of decision making is not rational and are related to factors such as personalities, characteristics, types, subjective beliefs, the past experiences and the subjective perceptions of past. (Ritter, 2003) , It shows sociological and psychology's variables play main rules in the people's perception to making decision.

The temperament theory refers to the time of the Greek physician Hippocrates (460-370 BC), who jointed Behavioral Psychology into a medical theory. He believed that people had four temperaments which were named "Sanguine", "Melancholic", "Choleric" and "Phlegmatic". Afterward, the best known personality test was back to the American woman Katharine Cook Briggs and her daughter Isabel Briggs Myers, who put their working life on Carl Jung's theories about typological that published in 1921. They published their questioner publically in 1940. In 1978 this theory was developed by David Keirsey in the "Please understand me" book. (Baron, 1998) While Myers-Briggs type indicators is known as the world's most broadly used personality assessment tool, a different model and measure of personality, the Holland model of "Personal Career Theory", has conquered career psychotherapy and occupational choice. (Clement *et al.*, 2012) By using the logic of the Personal Career Theory, it could be said that: choosing job has coherence with person's type and temperament. However, individuals are a combination of different types, but one type is preferred which is lead her/him to make decisions and also to choose a specific job as her/his career. Choosing a job relevant to people skills, abilities, expressing

their attitudes and values were called “orientation of individual”. People were categorized to six different types according to Holland’s theory, which includes Realistic, Investigative, Artistic, Social, Enterprising and Conventional. (Holland, 1985; Emily *et al.*, 2009) According to these theories, it was hoped that stock exchange investors could be categorized by KTS and MBTI to a significant personality and its types.

Different researches were done on analyzing investment behavior in stock exchange such as, their buying and selling trend in Finland by Mark Gribblatt and Matti Keloharju, that showed foreign investors required to ensure with attention to the past experience of stocks and domestic investors were more contrarians. (Mark and Matti, 2000) Xiao L Wang and cooperates on Chinese stock market concluded that lacking of knowledge, skills and companies information, also revealed a depreciation of risk by individual investors. (Xiao *et al.*, 2006) Gyu-yeol Shim, Seung-hwan Lee and Yong-man Kim perused on the variables that linked with satisfaction, firm trust and reinvestment of investors in South Korea illustrated that orderly, location, liquidity; profitability and well-being were the most important variables. (Gyu *et al.*, 2008) Making decision and its support system (DSS) were proposed and discussable field in the stock market. These encompass from relationships of variables involved with decision support systems, to design a software program.

These pictures could be found in Jan Muntermann studies (Muntermann, 2009) as an IT artifact or Gokul Bhandari’s research. (Gokul Bhandari, Khaled Hassanein, Richard Deaves, 2008) Palma-dos-Reis and Fatemeh Zahedi observed found some patterns of the possible relationship between making decision models use and personal characteristics. (Antonio Palma-dos-Reis. and Fatemeh “Mariam” Zahedi., 1999) From what was said, it was expected that the superior personality is interested to work as the investor and made significant relations between financial information which lead to their perception for making decisions.

## ASSUMPTIONS

The main assumptions were included bellow items,

A certain personality type works in the stock market as the junior investors.

Significant differences between the financial information importances could be observed according to investors’ personality.

From the perspective of investors between the financial information importances, significant correlations were existed.

Significant correlations between the investors decision existed.

Between the financial information importance and investors’ decision, the significant correlation could be seen.



## RESEARCH METHODOLOGY

This research is an applied research (Zohreh *et al.*, 2005) by aim of developing practical knowledge in understanding causes of investors' decisions in the stock market.

Investors were classified in two direct and indirect trader's groups. The direct group usually trades by going to forum and the indirect group does E-trade or tel-trade, so the sample was included micro investors who were trade directly. The research was done among Tehran investors. To cover more people and reduce the overlap of certain categories of people who were usually present on the stock market at certain days of the week, data had been collected during two months and on different workdays. For the study, two sets of questionnaires in financial and behavioral field used. Cognitive behavioral questionnaire derived from MBTI and KTS methodologies. Validity of the feature was based on content validity. Split half reliability was used for determining internal consistency of a test by Spearman-Brown reliability coefficient formula. (Spearman, 1910; Zohreh *et al.*, 2005)

Financial information were included the data of four real companies as two good and bad companies. Two factors were used for determining good and bad. Good companies were in the "list of recommended companies for the first panel of stock exchange" and bad companies were out of this list. Around 30 financial analysts' and experts' comment had been considered too. At first the type and temperament of each person was identified and then whole society divided to different personality and their financial information attitudes and decisions were analyzed. In order to identify behavioral differences between the main detected characters, in assessing the financial information importance and making decision, homogeneity testing of Kai - two had been used for possible significant to find between the different characters. Statistically, to find the correlation between the financial information importance's variables, at first, a couple full matrix of twenty one financial information importance variables and seven making decision variables - include the variables of buying stock one , two and selling stock three, four and total buying, selling with total making decision factor- was provided, then correlation between them was investigated. Thus the strongest correlation model between the financial information importances had been drawn.

## RESULTS

### Behavioral Results

According to data, the "Guardian" or "Traditionalist" type was the manifest type of investors that orderly include ISTJ, ISFJ, ESTJ and ESFJ with 37.8, 20, 18.9 and 13.3 percent. The sensing-judging personality type makes up 90 percent of the direct investors' population. They can be described as responsible, thorough, industrious, and cautious. The SJ is interested in maintaining



the status quo and likes resolving problems in a structured environment. The Traditionalist draws up lines of communication and establishes rules and schedules. Their weaknesses include resistance to change, impatience with delays, and a tendency to retain ineffective processes. (Woodruff, 2005) They are also organized and arranged persons. They valued regulations, policies,

Percent	Preference	Percent	Preference
5.6	Thinking-T	50	Judgment-J
2.2	Perception-P	22.2	Sensation-S
2.2	Extraversion-E	11.1	Introversion-I
0	Intuition-N	6.7	Feeling-F

contracts, traditions and time line. All guardians were dependable, helpful, and hard-working persons, who were loyal, trustable and responsible. They attributed to duty, authority, and security and focused on credentials. (Baron, 1998; Paul and Barbara, 2001; Keirse, 2011) (The preferences attitude is shown below).

**Table-3.** The preferences' attitude

According to analyzes, people can show below behavior in each type at stock market of Iran.

**Table-4.** Behavior of personality types among the respondents

<b>Rational(NT)</b> Attribute to the technical results. They sell and buy according to Financial statements and financial ratios; therefore, their strength in making quick decision reduces.	<b>Guardian(SJ)</b> They trust consistent and clear information that is available, such as: profitability ratios. They make a better decision in stocks that have obvious trends.	<b>Idealist(NF)</b> They do not interest to work as a direct investor in stock exchange and if they participate, they prefer to keep stocks.	<b>Artisan(SP)</b> Interested in executives opinions, gossip and shareholders. They are risky and prefer to earn profits from the volatility.
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Obviously, risk-taking, visionaries and analyzer people weren't interested to work as the direct investors in stock exchange of Iran.

### Perception of Financial Information

There are a number of models designed to aid investors in selecting securities. In many cases, the investor does not have the technical knowledge necessary to choose an appropriate investment model. (Antonio Palma-dos-Reis. and Fatemeh "Mariam" Zahedi, 1999) Finding the most important financial information from the viewpoint of investors can help us to reconstruct their image of the financial information and improve their perception to make better decision. As there was just one manifest type; therefore analyses were done on four characters of the traditionalists.

Differences were identified by using homogeneity testing of Kai – two differences in the financial information importance between characters were determined. If the amount was significantly less than 0.05, assuming H - zero could be rejected, means that the average of society was not equal to each other. In the following table, significant or lack of the significant financial information importance differences for our main characters was investigated.



**Table-5.** Test results of the financial information importance, making decisions and characters

FI	Results	FI	Results
current ratio	ESTJ is rated little more than the rest.	quick ratio	ISTJ more than other, has the lowest values.
inventory turnover	Significantly ISFJ were chosen the highest and ESFJ the lowest values.	total assets turnover	ISFJ is slightly higher.
average collection period	Complete homogeneity between guardian characters exists.	long-term debt to equity	ESFJ is slightly lower than the rest.
total debt to total assets	ISFJ is slightly higher than the rest.	times interest earned	ISFJ is slightly higher than the rest.
EPS	All above, ESFJ is slightly lower than the rest.	DPS	All above
payout ratio	ISTJ and ISFJ is slightly higher.	profit margin	All are the same.
return on investment	All are the same.	ROE	ESTJ is slightly higher than the rest.
an amount of capital increasing	ESFJ medium, all others are above.	a company's owner sort	All are the same.
a company's budget	High ISFJ and ISTJ in the second position are higher than the rest.	a technical evaluation result of stock	Complete assimilation
a stockbroker's recommendation(SR)	ESTJ is lower than the rest.	a process of output-time diagram	ISFJ Slightly higher than the rest and ESTJ is the second.
Stock 1	ISFJ, ISTJ have made slightly better decision in buying stock with uptrend than sort.	Stock 2	ISFJ Have made better decision in buying stock with the constant trend than sort
Stock 3	Half of them decided correctly and other half incorrectly.	Stock 4	In all characters around 2/3 decided correctly.
Stock 1,2: Buying	High similarity	Stock 3,4: Selling	Complete assimilation
Total decision	ESFJ are chosen little more wrongly than other		

As it was visible in table 5, the inventory turnover and the company's budget have significant differences for the main characters. The inventory turnover was important for ISFJ and oppositely ESFJ had the lowest importance. The company's budget at first was important for ISFJ, and ISTJ was in the second position. From these kinds of result, it could be planed to attract people to the capital market by giving them needed information for decision and even companies can encourage investors according to characters. There were no significant differences in the decision of characters, but it could be said that ISFJ, in buying both good stocks with strong upward growth and fairly stable growth in price, made slightly better decisions. ISTJ, in a stock that had a strong

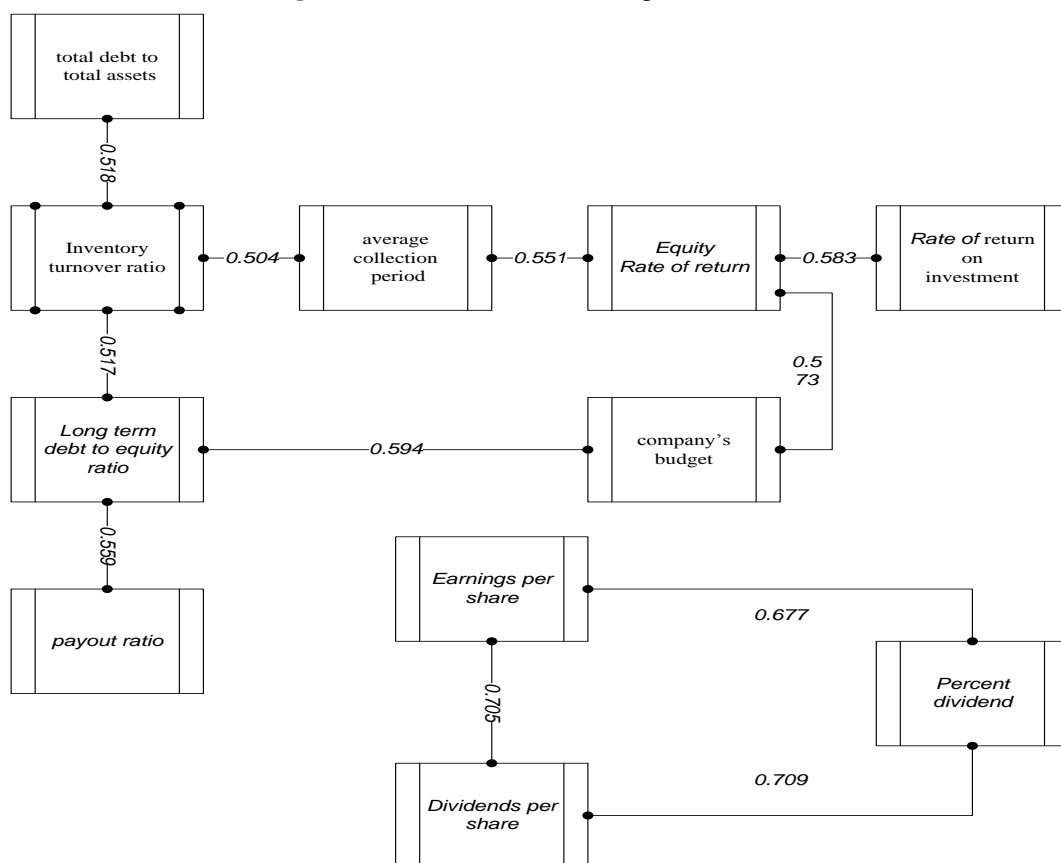


upward growth, showed similar behavior. All four main characters made similar decisions for selling both sharply deducted and slightly decrease in price stocks. Stock one, which had a sharp increasing price, did not show correlation with other decision, instead of total buying decision. All others decision had the significant correlation with each others. It meant that a guardian decisions related to each other except in the case of stocks which had a sharply raising in price.

### Mental Pattern of Financial Information's Perception

Investors mentally precept relations between financial information that are rational or irrational. For finding these conceptual relations, the correlation between the financial information importances was checked by paired matrix. After that, the strongest correlation with alpha confidence level of 1 percent was identified and the financial information conceptual relations were depicted in Figure 1.

**Fig-1.** Financial information conceptual relations



As it is visible, the most significant relations belong to EPS, DPS and Percent dividend. This shows that investors precept rational relation between financial information. But in the other analyze correlation between their decisions and financial information weren't significant, which shows that they had appropriate perception but they didn't use it for making decision that can increase Herd-

like behavior. Future research can be extended to indirect or E-trading investors and causes of lack of using information deposit of their understanding or knowledge can be analyzed.

## CONCLUSION

In this research it is attempted to understand the investors' pattern of making decision through recognizing their perception of financial information, their type and temperaments. The personality and temperaments effect investors' decisions. As it was visible, the society of direct junior investors was mostly guardian. Guardians have some same behavior, which can make trading in the stock exchange more risky. Because of their same interest on financial information, perception and pattern of deciding the possibility of herd behavior is become more. Configuration of herd behavior is because of investors' explanation of information that makes investment choices. (Riza *et al.*, 2010) The DPS, EPS and return on investment played the prominent role in Guardian Iranian direct investors' decisions. And also same perception of financial information can lead to more herd-like movements. Training guardian investors about their strengths and weaknesses can improve the quality of their decision and prevent losses of impossible herb movements. Introversion, Sensation, Feeling, Judgment (ISFJ) investors in buying good stocks with strong upward growth and fairly stable growth in price, made slightly better decisions. While, the guardian decisions to buy and sell effected their other decisions. Companies operating in the stock market can attract investors to buy or sell by presenting them the information which are interested the guardian and are based on their preferences. There were some concentrates in this study that included the innate limitations of the data collected through the questionnaire and lacking of study on E-trading investors.

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