

## **Heuristic and Biases Related to Financial Investment and the Role of Behavioral Finance in Investment Decisions: A Case Study of Pakistan Stock Exchange**

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### **Abstract**

*The Behavioral Determinants (BD) of Perceived Investment Performance (PIP) are considered to be one of the most sizzling research concerns in the world of investment behavioral finance. Therefore, the main purpose of this study was to investigate the Heuristic and Biases Related to Financial Investment and the Role of Behavioral Finance in Investment Decisions in case of Pakistan stock exchange (PSX). Specifically, this study aimed to identify which biases impact more on PIP and to identify useful insights from the results of the study that may benefit in this discipline. Five likert scale questionnaire adapted from prior studies as it is satisfying the current scenario for industry settings of PSX. A quantitative cross sectional research design has been used in this study. The regression results found that the herding effects, over confidence, availability bias and representativeness have positive and significant impact on perceived investment performance. This study has significance for the individual investors, financial advisors, companies listed in PSX and Government. For the investors, the factors that influence their investment performance are crucial as these will influence their financial plans of future. Practical implications includes investors who desires to invest should incorporate the said BD for the accurate valuation of the assets and in taking future investment decisions. In PSX, it is first endeavor to uncover the HE, OC, AB and R as BD of PIP. This paper contribute to the existing body of literature since main stream of the previous studies concentrate more on the developed countries markets of the world. Moreover, this study put forth a well-integrated model to probe the effect of variables under consideration on PSX. Reflection of the said effect of behavioral impact in the decision making process of individuals will make the decisions more optimal and rational as well.*

**Keywords:** Behavioral determinants; Herding effects; Over confidence; and representativeness; Investment decision; Pakistan

## **1. Introduction**

Theories of Economics and finance reveal that individuals act rationally or reasonably in their decision by using of available information. But there are proof, showing regular patterns of irrationality at the time of decision. Behavioral finance is actually, study of market based on mentality, shows that why some investors are involved in buying and selling of stocks and real estates and others not involved. The profit and loss of investors can be linked with the power of their decisions. It is noted that speculative bubble in 2008 sub-prime prices affected all types of investors. The collapse of 2008 invited attention of investors to look into the matter that what is basically missing in traditional models of Finance. There is need of accurate and timely information for the efficiency of the market. The analytical and professional abilities of business traders or true businessmen also like to have information and they seek and spread information. Abraham, (2000) argued that the importance of behavioral finance is largely discussed and analyzed by researchers but not as it should be. It has been observed and predicted that dividend payment is vital for the investors but not mandatory, however it is more often paid by many firms. The uncertainty in business can be decreased by various strategies applied by the investor and it is depend upon the investment decision of the investor due to the role of behavioral finance, which specially results in minimizing the portion of cost of capital (Osei, 1998).

Bracha and Donald (2012) contended that the organizations' appearance of profit does not influence the stake of the investors. They consider statement of profit share approach does not affecting the genuine estimation of firms but rather the corporate theory and benefits of return risks its genuine market esteem. In any case when the up going profit share approaches are declared by the structures then it express the financial Managers' advantage. Litner (1956) expressed that when there is a shot of future prospects for firms to increase their profit and results in a positive for the market. Financial Managers have different behavior as for organization, their desires and abhorrence's, sentiments and nature are not exactly the equivalent as one another. A portion of the investors are inclining toward individual firms while some finance related directors are absolutely against of it. Portfolio selection is chosen by the fund managers on their past experience and sooner or later on the information given by others as asserted by Shefrin (2010). Social fund subsists comfortable relationship among learning and financial manager's organization selection. Public rear ensures the individual firm return and offer share risk while in a comparable market. With no susceptibility, behavior has transformed into an imperative instrument for trading the selection procedure of different stock. Analysis of profit shows that how a budgetary managers trading selection is affected by investor selection segments. Social back clears up each one of these parts in light of which finance related managers take purchasing and offering decision. Exchange process said to be emotional in nature since selection is made out of various selections.

Most by far of the investors doesn't have the information of securities exchange thoughts which give assistance with the strategy of essential administration. Along these lines, in this way, it has ended up being necessary to get light up one about those components which affect the firms angle (Lusardi and Midtchell, 2006). Comprehensive analysis of behavior make prospecting financial Managers prepared to participate in investment decision. Budgetary administrators have confined figuring out how to isolate among the peril and awesome return of the associations. Veteran

analysts have thought about that finance related markets are enduring in addition, convincing, stock costs take after a "discretionary up down" and the general economy inclines toward "general view of purchasing upward moving stock and offering downward stock". If all else fails obviously, as appeared by Shiller (1999) fund related finance related supervisors don't think and carry on sensibly. The research would address basic issues pulled by intellectual decision making in investment decision process. Behavioral economist, strongly are of the opinion that psychological or mental factors impacting the investment decisions. They stress on the importance of behavioral factors in investment decisions. Although, many economists do not entertain concept of irrational behavior and taking investment decision in compliance to traditional theories. Foregoing in view, it is important to sort out whether the behavioral factors have significant impact on investment decision or not.

### **1.1 Problem Statement**

Traditionally the investors using rational behavior in investment decisions, but the financial crises of 2008 shaken the foundations of world economy which started in USA and resulted a global recession. The occurrence of these financial crises compels the financial analyst to drag out the basic thing which is lagging in the rational behavior of market. The missing area which invited the attentions of investors terms as behavioral finance and its role in investment decisions.

### **1.2 Purpose of the Research**

The main purpose of this study is to evaluate the pivotal role of behavior finance's role in investment decision. More specifically, the factors, which have a high influence on finance with respect to the behavior used to be assessed.

### **1.3 Research Question**

On the basis of problem statement, some of the research questions are;

- Are behavioral factors having significant impact on the investment decision of investors?
- Is overconfidence bias mostly notice with investors?
- Are people really rational?
- Are people dragged by emotions which could result in decisions?

### **1.4 Significance of the Study**

As it is cleared from the literature review that factors of behavior have impact on investment decisions.

- The research would help in investment decision regarding portfolio investment in Pakistan.
- The result of the study would help by explaining the behavioral finance's impact in investment decisions.
- Finance is the back bone of the economy and as an important as blood in the human body so the result of the study could help to boost the developing economy of Pakistan.
- Recently the Pakistan stock market index is aggressively moving towards forward in terms of value and return. In this scenario the awareness of investors regarding behavioral finance and its role in investment decision is deadly required which would be coped by the research study up to maximum level.
- The result of study will also help the Academia.
- Last, but not the least the result of the study will open windows for further research in the area of behavioral finance specifically in Pakistan and generally in the world.

### **1.5 Research Objectives**

Till 2008, the traditional theories of Finance and economics proposing rational behavior of the market and considering that the investors act as rational. But the odd event of financial crises 2008 gave a totally differed picture. It was noticed that something originally ignored at the time of decision and the decisions were not rational.

- The objective of the research is to point out that the average investors participating in Pakistan stock exchange as rational.
- Research would focus on three behavioral biases namely, Over-confidence, Representativeness and Herding.
- The study analyzed effects of the behavioral factors on the investor's decisions in Pakistan.

## **2. Review of Literature**

### **2.1 Introduction**

This chapter presents a review of related literature on the subject. It contains theoretical foundation, behavior finance role and investment behavior. The materials are drawn from several sources which are related to the study objectives.

### **2.2 Theoretical Foundation**

Subash (2012) analyzed behavioral finance's role and its relation with investment decision. The studies focus on the rationality of investors (Market participants) and emotions like fear and greed which endorsed bad decision. Taking investors in Pakistan stock market by focusing on nine identified behavioral biases. Through structure questionnaire, responses were collected from individual investors. The study concluded that, most of biases significantly affected investors and proved that behavioral finance has a dominant impact on investment decision.

### **2.3 Behavioral Finance and Behavioral Biases**

Investors having tendency to go up for or against with various sorts of desire for investment in various port folios, which move them to confer psychological blunders. Individuals select a selection according to their expectation and not ideal decisions when they confront unverifiable and troublesome selection due to the unraveling of the heuristics. Behavioral bias, can be characterized in comparable courses as in judgment, orderly mistakes are characterized (Chen et al, 2007).

### **2.4 Representative bias**

Like other Behavioral factor, representativeness Bias is as same important as others in investment decision process. In representativeness Bias, the investors basing known events and link it with new event and take the decision. Representativeness is normally observed in which investment taking decision focusing as overreliance stereotypes. Decision of investors basing on experience is known as stereotype (Shefrin 2000). Representativeness alludes to the level of similarity that a sample has with its population or how much an sample looks like its population (Wang 2001). The most conventional finance related definition is that investors more likely guess their firms to be important if the organization is very much supposed or influential and took care of the stockholder stack by providing what they expect. It is some way or another very adequate probability that the value of an organization is motioned through the cost of a stock and the future perceptions with respect to return.

### **2.5 Herding**

It is a behavioral bias wherein the individuality lacking in investment decision. The decision making is influence by peers of the investors. More clearly, investors

followed the decision investment process taken by the majority. Focusing on one piece of information and no left the relevant information e.g. News/Financial reports. Taking case of Reliance Power IPO, 2008, numerous financial managers bought in as the higher part doing therefore, without having clear and strong data. Behavior in securities exchanges is depicted as a social desire for a financial manager to pursue the activities of other investor (Amihud, Mendelson and Lauterbach 1997). Herding is that behavior in which individuals will tail others regarding their selections and decisions in view of the straightforwardness they find rather preparing their private data (Sitkin, Pablo 1992).

### **2.6 Perceived Investment Performance**

Seen firms performance is the self-analysis of the arrival on stock investor by the individual investor performance. Earlier study have taken a shot at this territory and discovered that different social bias affect the performance in positive and negative way (Falconer, 2002). The offers with collective qualities are being favored that pull the institutional financial managers to seek after one another's investor selection in the supplies of any organization (Merilkas and Prasad 2003). Interestingly, financial managers have much desire to pursue the firms selection of individuals in contrast with institutional investors (Tran, 2007). Pompous financial managers with investor exchanges approach could hit with an edge as raised results (Odean 1998).

### **2.7 Investment Decision**

Investment decision is the only dependent variable in the proposed research study. Investment decision making is defined as to take a particular alternative from the available alternatives. When the decision related to investment, it is called investment decision. Traditionally, it was considered that decision making is based on personal factors. In the proposed study focus was on some other factors i.e Behavioral factors which is closely related with investment decision. Researcher like subash (2012) contended that organizations with investment selections in regards to profit can impact the stock costs of firms, proposing that as the organizations strongly report finance or stock profit it upgrades the firm normal return in the wake of declaring these sorts of profit. While Eston and Sinclair (1989) therefore, anticipated solid changes in the stock costs because of profit declaration. They found that profit declaration is emphatically related with stock returns, it upgrades the market productivity by positive change in the irregular return of the stock.

### **2.8 The Efficient Market Hypothesis (Emh)**

"An 'efficient' market is defined as a market where there are large numbers of rational, profit-maximizes actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. The Efficient market hypothesis(EMH) proposes that opposition between financial manager's irregular benefits infers when costs higher than their "reasonable return." This implies costs ought to be settled by market limit. There are three kinds of Efficient Market Hypothesis: Weak, Semi-Strong and Strong Form (Fama, 1965). The feeble type of Efficient Market Hypothesis spins around the recorded data of investor system of current stock costs of a firm. As there happens irregular changes in market costs, in this way the old investor procedure are not giving better than expected comes back to the firm. The semi-solid shape Efficient Market Hypothesis connotes that all the general population required data is found in current stock costs with speed and precise frame to the market reaction.

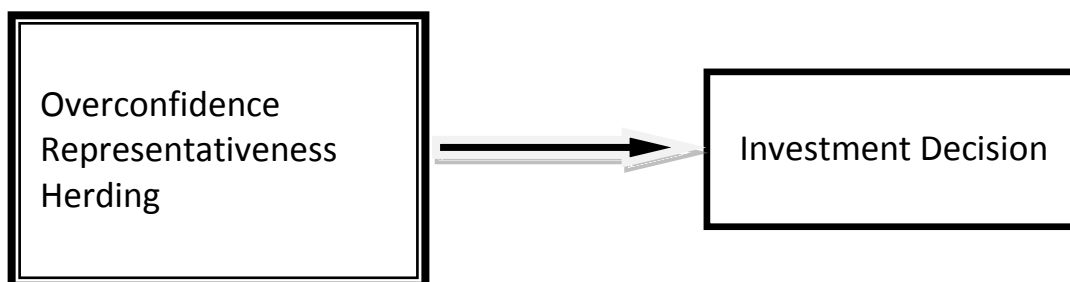
## 2.9 Foundation of the Efficient Market Hypothesis

Transformations often produce counter revolutions and the efficient market hypothesis in fund is no exemption. The scholarly strength of the proficient market transformation has more been tested by financial analysts who give intellectual and social components of stock-value assurance and by researchers who contend that stock returns are, to an impressive degree, unsurprising. This review inspects the assaults on the productive market theory and the connection among consistency and proficiency (Anderson, Henker & Owen 2005). Lament shirking (2015) argued that individuals to get around to making a move, frequently even on things they need or have consented to do. A related issue is desire for feelings to influence you from a concurred strategy. A crucial study about how to continue fabrications return at the core of inactivity regarding investment decision contended that investors prefer the high return securities. For instance, if an investor is thinking about liquidating investment to improve to their portfolio, needs sureness about the return of making a move, the financial manager may choose to pick the most advantageous way – keep a watch out. In this example of behavior, so basic in numerous parts of our day by day lives, the desire to delay rules financial selections. Social Managers have outlined frameworks to check risk and return.

### THEORETICAL FRAME WORK

INDEPENDENT VARIABLE

DEPENDENT VARIABLE



### 3. 2.10 Research Hypotheses

Based on research objective the following hypotheses are developed

*H<sub>1</sub>: Overconfidence has significant impact on investment decision of investors.*

*H<sub>2</sub>: Representativeness has significant impact on investment decision of investors.*

*H<sub>3</sub>: Herding has significant impact on investment decision of investors.*

### 4. Research Methodology

Primary data will be used in the research study. Through structured questionnaire primary data would be collected from investors participating in Pakistan Stock Market. The collected data will be process and analyzed through different statistical tools. Hypotheses developed will be tested using SPSS software.

#### 3.1 Population and sampling Techniques of Research

From the review of literature it is found that Behavioral finance has an eye catching role in portfolio investment. To proceed in the research study and find out the result that the behavioral factors impact investor's decisions, area (Market) and people (investors) are selected. For the proposed research all the investors participating in the Pakistan Stock Exchange, real estate would be considered our populations.

#### 3.2 Sampling

To overcome the triple constraint (time, resource and quality of data) faced by the proposed research study, the following group of investors (sample) would be target in Pakistan stock market.

- 1) Investors whose age is 30 or above and participating in Pakistan stock exchange.
- 2) Investors having an experience more than 5 years of investment in Pakistan stock exchange.

**3.3 Tools for Data Analysis**

Through Questionnaire the data of the research will be collected from the brokerage firms registered with Pakistan Stock Exchange.

**3.4 Co-Relation**

It is statistical tool used to find out the co-relation between dependent and independent variables.

**3.5 Regression**

It is used to know how much independent variables effects depending variable.

**3.6 Model**

$$Y = \beta_0 + \beta_1 (\text{overconfidence}) + \beta_2 (\text{Herding}) + \beta_3 (\text{Representativeness}) + \mu$$

**5. 4. Data Analysis**

**4.1 Demographic analysis**

This shows that more percent like 18.7 were employed and the others gender wise percentages were 30% females and 70 % males.

**Table 1: Statistical Tests**

Statistical to be applied

<b>Pilot survey Test</b>	<b>Reliability Testing</b>
<b>Normality of data</b>	Pearson’s Correlation
<b>Descriptive analysis</b>	Regression assumption’s tests
<b>Content Validity Testing</b>	Regression Analysis

**4.2 Descriptive Statistics**

The unmistakable study watches the pattern of the information. The table demonstrates the risk qualities, average deviation, and the scope of least and most extreme insights. The base and highest demonstrates the accuracy of information and it ought to be in points of confinement of 1 to 3 estimation size of instrument. As appeared over, the most extreme and least qualities are in the range from 1 to 5 Likert scale. No qualities are surpassing as far as possible for all factors.

**4.4 Reliability**

This research was really very helpful to find the desired results and the behaviorance of experiments were high experience.

**Table 4: Age**

<b>Frequency</b>	<b>Percent</b>	<b>Valid</b>	<b>Cumulative</b>
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			Percent	Percent
<b>26-33</b>	32	16.9	16.9	16.9
<b>34-41</b>	61	32.3	32.3	49.2
<b>42-49</b>	65	34.4	34.4	83.6
<b>Above 50</b>	31	16.4	16.4	-
<b>Total</b>	189	100	100	100

**Table 5: Education**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Matriculation</b>	82	43.4	43.4	43.4
<b>Bachelors</b>	72	38.1	38.1	81.5
<b>Masters</b>	35	18.5	18.5	-
<b>Total</b>	189	100	100	100
<b>Total</b>	189	100	100	100

**Table 6: Experience**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Under 1 year</b>	19	10.1	10.1	10.1
<b>1-3 years</b>	78	41.3	41.3	51.3
<b>3-6 years</b>	73	38.6	38.6	89.9
<b>6-12years</b>	13	6.9	6.9	96.8
<b>Above12 years</b>	6	3.2	3.2	-
<b>Total</b>	189	100	100	100

**Table 8: Income**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Below 45000</b>	93	49.2	49.2	49.2
<b>45001-65000</b>	52	27.5	27.5	76.7
<b>65001-85000</b>	27	14.3	14.3	91
<b>85001-105000</b>	6	3.2	3.2	94.2
<b>Above 105000</b>	11	5.8	5.8	-
<b>Total</b>	189	100	100	100

## 5. Conclusion

Financial manager selections were affected a few social bias. The financial Managers along these lines demonstrated that their selections are impacted by the behavior factors instead of being sane. The components that were most pervasive among individual investors showed as representativeness biasness, prompting individual investors' past impacting their present investment decision. The individual investors were therefore, influenced by fantasy of control desire, as they imply to have been educated about every one of the fundamentals of the organization that they were certain about making their firms. Also, financial Managers were influenced by psychological discord desire, since dominant part reacted that they

were holding to their investor since offering them would be excruciating to them. The individual investors' selections were additionally affected by crowd impulse desire as they reacted considering every option and for quite a while about something give them little fulfillment. At long last the individual financial Managers are also influenced by knowledge of the past biasness since the past benefits produced from comparative investors by the organization made it exceptionally appealing to them to put investment into it. Be that as it may, singular financial Managers were not helpless to self attribution biasness, lament revulsion desire, over-good faith and misfortune abhorrence desire.

### 5.1 Recommendations

The study would prescribe instruction to be vested in financial managers and investors results caused by behavior bias. With the end goal to deal with the abundances of behavior impacts to investor basic leadership, programs that make investor mindfulness and capacity to distinguish and make preparations for social desires that firms decisions ought to be offered to both potential and existing individual financial Managers. The study additionally suggests that there are intensive need of information for individual, investors and financial managers to such an extent that their abilities overseeing and improved for making selection for high return investment. The search ought to be directed on how monetary capacity program could be composed and actualized in reasonable and behavior that improves the estimation of the financial managers. The analysis additionally prescribes the financial managers to look for the exhortation of stock dealers/subsidize directors to guidance them in like manner as far as performance of a particular security in which an investor would wish to put investment. The suggestion is that such representatives/finance administrators have the data of the market and know about the movers and shakers of securities and in this way give their recommendation at an expense. In connection to the above suggestion there should exist measure to control the practices of such intermediaries/finance managers in endeavoring to abuse gullible financial Managers by misadvising them or notwithstanding charging over the top expense for the sake of data arrangement. This is to state that there ought to be some sort of direction by the legislature or even say the overseeing body.

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