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Effect of Behavioural Biases on Investment Performance: A Case of The Emerging Economy

Tahseen Mohsan Khan[1], Dr. Safia Nosheen[2], Muhammad Usman Islam[3]

Abstract

This study focuses on the equity investors' base on their educational qualification and experience by using their behavioral cognitive and behavioral emotional biases. Study performing a cluster analysis by using the respond of 317 stocks investors in Pakistan. Descriptive analysis along with SEM is applied as the combination of Confirmatory factor analysis and multiple regressions. The results show that cognitive biases have more impact on investment performance as compared to emotional biases. The path coefficient (standardized beta) has the maximum magnitude for framing biases and this is the only bias that impacts the investment performance through the mediator variable (fundamental anomalies) in cognitive biases. Myopic has mediation impact through fundamental anomalies on investment performance in emotional biases. The study is divided into direct and indirect effects (mediation effect). The study rejoins anomalies existence in Pakistan equity market and most investors having dependence on the fundamental analysis of investment decision making.

Keywords: Cognitive biases, Emotional biases, fundamental anomalies, technical anomalies.

[1] Assistant Professor Department of Finance, Dr. Hasan Murad School of Management, University of Management and Technology, Lahore, Pakistan Email: tahseenmkhan@hotmail.com
[2] Assistant Professor Department of Finance, Dr. Hasan Murad School of Management, University of Management and Technology,Lahore, Pakistan Email: safia.nosheen@umt.edu.pk
[3] Assistant Professor, Lahore Business School, University of Lahore, Lahore, Pakistan
Email: muhammad.usman@lbs.uol.edu.pk

1. Introduction

In the earlier literature, most of the researchers perceive that institutional investors and financial markets are full of rationality, but it is not fully true because most of the theories identify that something is beyond rationality. In similar, Lagoarde-Segot (2015) argues that irrationality is the mainstream of research in finance. The existence of irrationality identifies the concept of behavioural finance. This is the application of sociology and psychology to finance (Pompian, 2011). Micro behavioural finance helps us to understand the psychological aspect of institutional investors and their related biases. Macro behavioural finance helps us to study the financial market behaviour and its related anomalies.

Several authors and scholars developed different definitions of behavioural finance. Gigerenzer, G., & Gaissmaier, W. (2011) describes the behavioural finance, as the open-minded financial decision practices. Barberis and Thaler (2003) say that behavioural finance is a new dimension that eliminates the difficulties that are faced by traditional finance. Ritter (2003) defines that behavioural finance encompasses research to drop the assumption of standard finance of expected utility maximization with a rational investor in an efficient market. Baltussen (2009) explains behavioural finance is the knowledge of psychology and sociology to improve the financial decisions with the relaxation of rationality assumptions. Sewell (2007) well said that behavioural finance explains the reason why and how markets are inefficient. The reason for so many definitions is that most of the related topics (behavioural sciences, cognitive psychology, investor psychology, behavioural economic) are also discussed around us which creates confusion to better understand the meaning of behavioural finance. To avoid such confusion, Pompian (2011) divides the behavioural finance into two subtopics:

Micro Behavioral Finance(MIBF) investigates the institutional investors' behavioural factors that differ from the rational investor that visualized the classical economic theory (Pompian, 2011).

Macro Behavioral Finance (MABF) examines the financial market-related market anomalies in the context of (EMH) efficient market hypothesis. Anomalies refer to the meaning of feelings of something egregiously wrong with the concept of EMH can be felt (Jain, 2012). Financial market strategies are the key indicator to acquire relevant information (Lagoarde-Segot, 2013).

Fundamental or basic anomalies refer to the existence of miss regulation in trading financial securities, to the components of fundamental analysis (Richardson, Tuna & Wysocki, 2010). Fundamental analysis is used (Graham& Dodd, 1934) to decide the fundamental value of the security by watching the economic factor, companies' financial statement and industry trends. The fundamental analysis follows the basic concept of economic (demand and supply) which describes that the market value of the financial instrument is derived from the demand and supply of the instrument (Elena-Dana & Loana-Cristina, 2013). Fundamental anomalies describe the anomalies that come forth in the stock's value (Pompian, 2011).

Technical anomalies are defined as irregularities in the stock market through the financial trading instrument, caused by technical analysis (Elena-Dana & Ioana-Cristina, 2013). In technical analysis, historical prices and volume is analyzed to predict the stock return. It is the analysis to use the past price and volume data, especially

price patterns and volume spikes (Turner, 2007). The technical analysis aim is to study the past price to predict the future price based on various methods primarily based on chart techniques (Achelis, 2001).

Behavioural finance provides a mechanism, which helps us to understand the investor and market behaviour in a natural context. The theoretical background of market anomalies has not yet strongly established or empirically validated. Therefore, the main objective of this study is to investigate whether or not market anomalies measure institutional investment performance. If so, how this anomaly explains the investor's behaviour toward investment performance.

This study further suggests that out of the four types of behavioural biases the confirmation bias induces only one class of anomalies. Three other biases induce only fundamental anomaly rather than a technical anomaly. This study has shown that in Pakistan stock market investment decisions are highly influenced by the market anomalies and the cultural ties that exist in our domestic life have a significant influence on the professional life (investment decisions) of the investors. The study indicates that most of the investors are biased toward fundamental anomaly that indicates the basic anomaly influence on the investment decision.

1.1 The rationale of the Study

The rationale behind using the dual-mediation hypotheses model in this research is that anomalies always present in the stock market rather temporary or permanently, especially in the case of institutional investors' who are known to be psychologically biased (Kyle, 1985). Therefore, stock market anomalies strategically developed to measure the investment performance, because institutional investors' behaviour is a major reason for the existence of anomalies. It is necessary to investigate the role of anomalies that is present because of institutional investors' behaviour and in turn influence their investment decision and performance. Institutional investors are taking advantage of anomalies to earn an abnormal return.

2. Literature Review

Confirmation bias refers to a type of selective perception that emphasizes ideas that confirm our beliefs while devaluing whatever contradicts our beliefs. For example, you may believe that more red automobiles drive by your house during the summer than during any other time of the year; however, this belief may be due to confirmation bias, which causes you to simply notice more red cars during the summer while overlooking them during other months. Another indicator for confirmation bias is overconfidence, the way for people to view information that confirms their arguments, expectations or beliefs (Russo, J. E., & Schoemaker, 1992). For example, you believe that people purchase red cars more in summer rather than any other time of the years, however, this belief due to confirmation, which causes them to simply notice the red automobile use in summer rather than focusing on other months. Confirmation biased People perceive that their abilities, information, and knowledge lead them above average or better than average, they believe to make a better investment decision and expect a high return. Most of the authors imply that overconfident investors exposed to losses due to their overconfident decision-making (Russo, J. E., & Schoemaker, 1992; Griffin&Tversky, 1992; Kahneman&Riepe, 1998). Framing is the notion that how a concept is presented to individuals matters. For example, restaurants

may advertise "early-bird" specials or "after-theatre" discounts, but they never use peak-period “surcharges” (pompain 2011). Status Quo refers to the tendency of people’s judgment to estimate the value. People often start the initial value or default number by imagination or heavily rely on the first piece of information (Pompian, 2011).

2.1. Stock Market Anomalies

Varieties of anomalies are present in the stock market, which are uncovered. These anomalies are affecting the stock market and institutional investor’s performance. These anomalies are consistent with some class of securities and cause them to perform above or below the value. In conventional finance, anomalies are described as the situation or event which is not explained by the efficient market hypothesis (Silver, 2011). In the English dictionary, the word anomaly means any deviation from the normal or common order or a rule. In more simple words, an anomaly is defined as the situation or person who is unusual. Fundamental anomalies cite to the anomalies in trading a financial instrument, to the element of fundamental analysis (Richardson, Tuna & Wysocki, 2010). Fundamental analysis is used to decide the intrinsic value of the stock based on the economic factor, companies' financial statement and industry trend(Graham, B., & Dodd, D. L). The fundamental analysis describes the market value of financial instruments based on the basic economic concept of demand and supply of the instrument (Elena-Dana & Loana-Cristina, 2013). Fundamental anomalies refer to the irregularities that come forth in the stock’s value due to fundamental analysis (Pompian, 2011). Technical anomalies refer to the irregulatory in the stock’s value, based on technical analysis (Elena-Dana & Ioana-Cristina, 2013). In technical analysis, historical values and trading volume is analyzed to forecast the future stock return (Mizrach, B & Weerts, 2009b). Technical analysis aim is to study the past prices to predict future prices based on various method primarily based on chart techniques (Achelis, 2001).

2.2. Investment Decision And Performance

Several theories explain investor preferences and market move (Barber&Odean, 2011). Wall Street split the investment theories into two categories. According to Efficient Market Theory, investors believe that stock price fully reflects all the information about the stock contrary to this Inefficient Market theory believes that stock price does not completely reflect all information and investor action market moves can also affect the stock prices inefficient market theories attempt to explain the influence and behaviour of the market on stock prices.

An opponent of EMH investors supported the irrational price of the stock in the overall market and used behavioural finance as a study to explain the irrationality. Sharpe (1964); Treynor (1965) and Jensen(1968) developed a framework to measure the investment performance in two dimensions, risk and return. Unfortunately, the frameworks of these researchers are not completely helping the investor to achieve the desired rate of return on their investment. Behavioural finance identifies the numerous behavioural factor and market anomalies that may be harmful to investor's investment performance and that be used for better decisions (Malkiel, Mullainathan & Stangle, 2005).

3. Research Model And Hypotheses Development

In this study, the impacts of cognitive and emotional biases on the investment performance are studied by using two anomalies, fundamental and technical, as a mediator.

3.1 Confirmation bias and Fundamental Anomalies

Confirmation bias is the most dominant heuristic (Munyoki, &Uliana, 2008) and one of the most powerful causes of irrational behaviour in the stock market. Confirmation bias causes investor irrationality about stock prices and returns that results in market inefficiency

The kind of behaviour that completely focuses on price variation of specific growth stocks is a major reason for generating fundamental anomalies. Therefore, the first hypothesis that is developed:

H1a: Higher the level of investor's confirmation bias, the higher fundamental anomalies.

3.2 Confirmation bias and Technical Anomalies

Investors making future investment decisions based on historical prices and graphical trends cause confirmation bias. Generally, unprofessional and immature investors believe that they can predict stock movements only based on the historical and currently available information (Ji, Zhang & Guo, 2008). Only relying on historical trends for making future decisions investors deviate from the standard finance principles like the EM hypothesis that causes the technical anomalies. Therefore the hypothesis is developed to test the impact of confirmation bias on technical anomalies:

H1b: Higher the level of confirmation bias, higher the level of technical anomalies.

3.3 Framing bias and Fundamental Anomalies

Cognitive biases suggest that investors usually make an irrational decision as he doesn't want to think out of the box. The investor builds a boundary in terms of thinking and draws a conclusion regarding future investment based on that frame. Influential work by Tversky and Kahneman (1975) introduced some primary versions of framing biases used by investors for an investment decision. It is observed that if an investor has earned a reasonable profit in past then most of his future investments revolve around those specific stocks (Tversky and Kahneman 1975). Based on such behaviour of the investor following hypothesis is formed

H2a: The higher the level of framing, the higher the level of fundamental anomalies.

3.4 Framing bias and Technical Anomalies

Investors with cognitive biases make some irrational investment decisions due to shorter time frames as well as to avoid complexity in investment decision making (Ricciardi, 2008). Pompian (2011) describes that investor's behaviour is based on their decisions that are based upon limited statistical data processed by investors or

someone trusted by the investor. In this context investors overweight the importance and significance of historical data and make future investment decisions using available historical trends that were based on an insignificant number of samples.

H2b: Higher the level of framing, Higher the level of technical anomalies.

3.5 Status Quo bias and Fundamental Anomalies

In the absence of compact information, investors behave the Status Quo. Shiller (1999) argues that investors feel resistance to change usually due to status quo bias. Change is not always easily acceptable for people. The investors that are not likely to take a slight risk and worried about the loss of capital investment use fundamental information and stay persistent with current stocks. Based on this information hypothesis is developed:

H3a: A higher level of status Quo, higher the level of fundamental anomalies.

3.6 Status Quo bias and Technical Anomalies

Zeelenberg, M., & Pieters, R. (2007) argue that usually while making an investment decision, investors prefer their previously formed portfolio. They use technical analysis reports and if the partial report is as per their perceptions, they ignore the rest of the report indications and prefer not to go with any change. Status Quo usually based on incomplete computation or intuitive basing of the subject. Furthermore, investors with a higher level of status quo bias are slow to reenter the stock investment changes. Such investors use technical analysis, price trends, and institutional reports for future price predictions (Waweru, Munyoki, &Uliana, 2008). Historical trends are usually followed by using technical analysis. Technical analysis and its assumptions with the status quo is basically against the assumptions of the efficient market hypothesis. Thus the hypothesis is developed to test the relationship;

H3b: Higher the level of status Quo, higher the level of technical anomalies.

3.7 Myopic and Fundamental Anomalies

Investors exhibit the regret aversion when they make the wrong choice or do a wrong action when they miss the opportunities (Ackoff, 1994). Regret aversion investor behaves irrationality in the consideration of a change in stock price. When investors gain, they sell stocks quickly by considering that stock prices will fall in the future (Dodonova & Khoroshilov, 2005). They do it to avoid regret in the future. In contrast, they hold losing stock with the hope that stock prices will go up. They do not feel regret that they make the wrong decision. Singh, (2012) find that regret aversion is the cause to deviate the market price from its fundamental values. Shefrin& Statman, (1985) model predicts that investors prefer cash dividend paid companies because of regret. Therefore, the study suggested the following hypothesis.

H4a: The higher the Regret aversion, the stronger it will generate the fundamental anomalies in the stock market.

3.8 Myopic/Regret Aversion and Technical Anomalies

The aversion to regret investors not only conscious about what they lost but also what they have forgone (Bleichrodt, Cillo & Diecidue, 2010). Similarly, investors feel regret after making the poor decision making (errors of commission) and regret after missing the effective opportunity (errors of omission) (Pompian, 2011). Regret aversion tends to force the investors to hold the losing stock for long and sell the winning stock too quickly (Shefrin& Statman, 1985). Therefore, myopic investors heavily used past price and volume to make an investment decision. Prospect theory suggests investors are not rational all time (Ricciardi& Simon, 2000). Thus, the above considerations suggest the following hypothesis.

H4b: The higher the Regret aversion, the stronger it will generate the technical anomalies.

3.9 Fundamental Anomalies and Investment Decisions

These anomalies represent irregularities or biases in return that arise from fluctuations in stock's value (Xie, 2001); that are the irregularities in the trading business of available financial stocks triggered due to fundamental analysis. Behavioural finance mainly argues and claims that EMH is not completely conclusive as other than EMH there are market anomalies that play their role in the stock market (Ball, 1992); in the same market, some investors make abnormal returns while in the same trading medium some faced loss on their stocks. These are the arguments that prove markets are not efficient as described by the EMH.

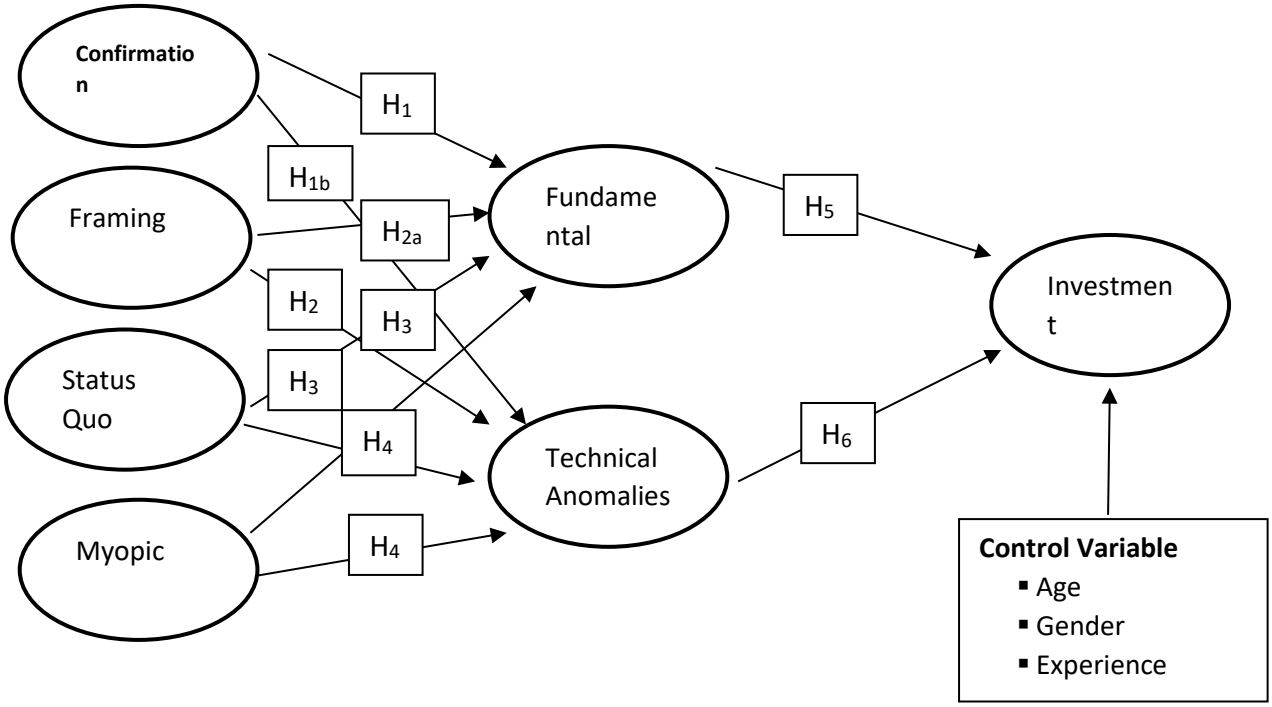
H5: Fundamental anomalies have an impact on institutional investment decisions.

3.10 Technical Anomalies and Investment Performance

The efficient market hypothesis claims that stock prices fully reflect information at any time(Safeer& Kevin, 2014). Sometimes it is difficult to achieve and maintain an efficient market because of the rapid flow of new information (Fama, 1998). Many anomalies occur in the market, stock prices are subject to seasonal tendencies, such as payments of dividends on certain dates. Seasonality is not just measured annually but is based on periods such as weekly or monthly. Such seasonal anomalies can be the reason for variation in investment decisions.

H6: Technical anomalies have an impact on investment decisions.

3.11 Hypothesized Model



4. Methodology

In the positivist approach, the use of the survey method is common. To determine the true value of variables and strength of relationships among variables the survey method is considered the best one (Newsted, Huff & Munro, 1998). Also, the survey method explains the validity of the proposed variables in the research model. Further, the most suitable analysis can be applied to these scales or numbers to analyze the postulated hypotheses and confirm the conceptualized research model. To analyze the proposed research model survey method is used.

4.1 Unit of Analysis and Sample Selection

In this study, the unit of analysis is institutional investors. Specifically, this study investigates the effects of emotional and cognitive factors on investment performance mediating the market anomalies (fundamental and technical anomalies). This study targets the institutional investors who were expected to have a minimum one year of experience in the stock market, which helps us to evaluate their behaviour to measure the stock market anomalies and any subsequent effects of this on their investment performance.

This study uses institutional investors from the Pakistan stock market. Therefore, the subjects were directed by an aim to choose a sample that adequately signified the target population of institutional investors. The subjects' knowledge about the study's objectives must ensure by delivering an effective lecture on behavioural factors and market variables. Further, together the actual investors in the stock market are necessary because to confirm the validity of the proposed variables in the research model because real investors are identical.

4.2 Preparation of Survey Instruments

A diligent act was followed in the intellection of the survey instrument. Firstly, all construct measurement was supported based on existing literature from behavioural finance. These measurement scales are specifically designed for the present study. SevenpointsLikert scale is used, and it constitutes to be accessible for the condition of self-reported belief and behaviour (Torkzadeh& Van Dyke, 2001).

4.3 Analysis

The research models of this study present07 latent variables, which are essential to be evaluated in a suited method. Regression is a very common analysis, but for this study, it is not a suitable method. Regression analysis addresses total latent variables as the one scale of their various dimensions, thus losing any information about the possible differential performance of some dimension of a given construct over others (Savalei&Bentler, 2010). In contrast, SEM allows analyzing the result of the construct, especially that it has multiple dimensions and analyze the assessment of measurement properties and theoretical relationship (Kline, 2015). SEM also analyze multiple independent and dependent variable as well as hypothetical latent constructs that cluster of observed variables might represent (Savalei&Bentler, 2010). SEM has used in many disciplines especially in behavioural finance. The present study used SEM for analyzing the investor's behaviour, market condition, and investment performance. Latent constructs only measured with multiple dimensions that follow them because that is unobserved.

4.4 Results

Respondents are selected from the Pakistan stock market; therefore, there were so many variations in their demographics factors. Old age and males are dominant investors in the stock market. Out of total usable data, 288 were male respondents and 29 female respondents. The main point between getting this data collection was that each respondent must have a minimum of one year of experience. Table-1 provides a detailed summary of the 317 respondents.

Table-1: Respondent summary

	Gender		**Years of Experience**			
	Male	Female	1-5 years	6-10 year	11-15 years	Above 15 years
Sample	288	29	185	87	42	3
Percent	91	9	58	27	14	1

4.4.1 Respondents Educational Level

The concreteness of the study also depends upon the level of the education of respondents. In most of the stock houses, most of the respondents are with bachelor's level of education almost 63% of the total respondent. Rest of the respondent's detail is given in table 2

Table-2: Respondents educational level summary

Education				
	Frequency	Percent	Valid Percent	Cumulative Percent
MBA	75	23.7	23.7	23.7
Bachelor	202	63.7	63.7	87.4
M.Phil.	38	12.0	12.0	99.4
PhD scholar	2	.6	.6	100.0
Total	317	100.0	100.0	

4.4.2 Data Screening and Preliminary Analysis

For the present study to confirm the appropriateness of using SEM, the psychometric assumption of the data is first examines. This includes identifying the missing data, the normality of data. Finally examine the common method bias, which all may have an impact on applying the relevant data analysis techniques.

4.4.3 Strategy for Analysis

The analysis has been conducted in three steps. First, outer loading is checked as in smart-pls the algorithm gives all construct loadings and as per standard, each construct result should be more than 0.7. Second, the structural model was to analyze the effect of each causal path. This technique enables us to determine both direct and indirect effects. Thirdly to conclude this research phantom modelling was performed (Macho& Ledermann, 2011) with the use of structural equation modelling (SEM) to examine the dual mediations and to examine the total also known as direct plus indirect effect and specific indirect effects known as mediation effect.

4.4.4 Outer-Loading

The table-3 shows the seven latent variables and their constructs' observed values. The outer-loading is very important as in smart-pls this is the authentication of using the constructs for further working like the use of CFA in AMOS. The value of each construct should be greater than 0.7 the table shows that each construct has met the criteria only one construct of fundamental anomalies is 0.67 but it is still acceptable as others construct of the variable are above the defined criteria.

Table-3: Outer-loading

CONSTRUCTS	ITEMS	OUTER-LOADING
CONFIRMATION BIAS (CB)	CB1	0.86
	CB2	0.82
	CB3	0.81
FUNDAMENTAL **A**NOMALIES (FA)	FA1	0.83
	FA2	0.84
	FA3	0.76
	FA4	0.67
FRAMING **B**IAS(FR)	FR1	0.92
	FR2	0.91
TECHNICAL ANOMALIES(TA)	TA1	0.85
	TA2	0.88
	TA3	0.90
MYOPIC(MY)	MY1	0.87
	MY2	0.89
	MY3	0.79
STATUS QUO(SQ)	SQ1	0.92
	SQ2	0.82
	SQ3	0.85
INVESTMENT PERFORMANCE(IP)	IP1	0.85
	IP2	0.81
	IP3	0.81

4.4.5 Discriminant Validity

Discriminant validity is a tool to verify the variables taken in the study either they are fit enough for the analysis or not. It is also established by the "square-root" of average variance extracted (AVE) each variable should be greater than the correlation value of selected constructs (Fornell and Larcker, 1981). Table 4 shows the values of the test.

Table-4: Correlation Analysis

	1	2	3	4	5	6	7
Confirmation Bias	**0.83**						
Framing	0.43	**0.91**					
Fundamental anomalies	0.44	0.46	**0.78**				
Investment Performance	0.27	0.29	0.47	**0.82**			
Myopic	0.47	0.51	0.45	0.32	**0.86**		
StatusQuo	0.42	0.37	0.47	0.21	0.40	**0.85**	
Technical Anamolies	0.47	0.42	0.54	0.29	0.36	0.43	**0.87**

4.4.6 Convergent Validity

The value of convergent validity should be greater than 0.5 as per the previous study (Ul Abdin et al 2017). The diagonal value in discriminant validity is the square root of AVE values that shows the connectivity between analyzed values and authenticity too. As shown in table-5

Table-5: Diagonal Values

	Cronbach's Alpha	rho_A	Composite Reliability	Average.Variance Extracted (AVE)
Confirmation Bias	0.78	0.78	0.87	0.69
Framing_	0.80	0.80	0.91	0.83
Fundamental anomalies_	0.79	0.80	0.86	0.61
Investment Performance	0.76	0.76	0.86	0.67
Myopic	0.83	0.84	0.90	0.75
StatusQuo	0.81	0.81	0.89	0.72
Technical Anamolies	0.85	0.85	0.91	0.76

4.4.7 Model Fit Indices

The model used in this study uses fundamental and technical anomalies as mediators between behavioural biases (confirmation bias, framing bias, Status Quo, and myopic/loss aversion) and investment performance of institutional investors. The results for model fit indices are as per standard as shown in (Table.6).

Table-6: Model-Testing Model Fit

	Description of	**Model Fit Indices**						
Model	**Model**	**X2**	**df**	**X2/df**	**CFI**	**TLI**	**RMSEA**	**SRMR**
Proposed	Dual Mediation	837.21	270	3.20	0.881	0.819	0.071	0.073

4.4.8 Hypothesis Testing

The findings from the analysis affirm that the mediator role of anomalies has a significant impact on investment performance. Particularly, it is found that except confirmation bias the framing bias, status quo bias and myopic/regret aversion are significantly positively related to fundamental anomalies as well with technical anomalies. Confirmation bias is positively related to technical anomalies. Technical anomalies are not significant toward investment performance. On the other hand, fundamental anomalies are significant for investment performance. This proves the mediation role of anomalies towards investment performance. The dual mediation hypothesis is not proved as only one mediator variable has a significant impact on investment performance. The summary of hypotheses testing is given in Tables 7 and 8. Table-7 shows path coefficients along significance.

Table-7: P-values

Hypothesis	Path coefficient	P values
H1a	0.17	0.121
H1b	0.28	**0.000**
H2a	0.21	**0.024**
H2b	0.19	**0.022**
H3a	0.16	**0.001**
H3b	0.04	**0.001**
H4a	0.26	0.200
H5b	0.23	0.645
H6	0.44	**0.000**
H7	0.06	0.698

Table 8 shows the results of the hypothesis based on table 7 p-values. The results show that out of 10 developed hypothesis six are supported by the analysis's results. The results also show that fundamental anomalies have a strong significant impact on investment performance. This indicates that investor mostly relies on the fundamental information and analysis for an investment decision. The path coefficient is 0.44 with a p-value 0.000 indicate the highest level of significance. The important point is the rejection of H6 that indicates technical anomalies have no impact on investment performance.

Table-8: Hypothesis Results

	Hypothesis Subject	Results
H1a	Confirmation Bias impact on fundamental anomalies	**Not Supported**
H1b	Confirmation Bias impact on technical anomalies	**Supported**
H2a	Framing Bias impact on fundamental anomalies	**Supported**
H2b	Framing Bias impact on technical anomalies	**Supported**
H3a	Status Quo Bias impact on fundamental anomalies	**Supported**
H3b	Status Quo Bias impact on technical anomalies	**Supported**
H4a	Myopic/Loss averse Bias impact on fundamental anomalies	**Not Supported**

H4b	Myopic/Loss averse Bias impact on technical anomalies	**Not Supported**
H5	Fundamental anomalies impact on Investment performance	**Supported**
H6	Technical anomalies impact on investment performance	**Not Supported**

4.4.9 Mediation Analysis: Phantom Modeling

Phantom modelling is a modern technique to elaborate and present the mediation impact "indirect specific effects". Table 9 shows the results of all mediation relationships. The results show only two variable has mediation impact on investment performance. Framing affects positively to the investment performance of institutional investors via fundamental anomalies (indirect effect=0.09, P=0.05). The framing bias is part of cognitive bias and emotional biases myopic has mediation impact on investment performance through fundamental anomalies (path coefficient = 0.07, p-value = 0.003). Both variables have this impact through fundamental anomalies that also indicate that technical anomalies have no impact as per this study finds. The bold values in the following tables show the only meditating role through fundamental anomalies on investment performance.

Table-9: Variable Mediations

Independent Variables	**Mediator role**	**Path Coefficient**	**P-value**
Confirmation Bias	Investment Performance via Fundamental	0.06	0.155
Confirmation Bias	Investment Performance via Technical	0.02	0.716
Framing	Investment Performance via Fundamental	**0.09**	**0.050**
Framing	Investment Performance via Technical	0.01	0.723
Myopic	Investment Performance via Fundamental	**0.07**	**0.003**
Myopic	Investment Performance via Technical	0.00	0.696
StatusQuo	Investment Performance via Fundamental	0.11	0.205
StatusQuo	Investment Performance via Technical	0.01	0.878

5. Discussion and Conclusions

The market is a combination of institutional buyers and sellers. Individual investors are trading irregularly than institutional investors because of the institutional psychologically biased. Such as, institutional investors heavily rely on heuristics and prospect factor for decision-making. In trying to get, abnormal return and get satisfaction toward their investments as institutional benefits are associated with investors' benefits. Institutions used these types of behavioral factors that result in different classes of stock price anomalies. To address, this problem,

how institutional investors feel regarding investment performance in the presence of anomalies. This research measures the investment performance in the context of satisfaction as well as risk and return.

In this study, it is realized that the behavioural biases like confirmation bias, Framing, Status Quo, and Myopic don't have a direct influence on investor performance, whereas their existence is the result of the mediation process of market anomalies. The results show out of ten developed hypotheses six are accepted and out of these six two are accepted on the highest level of significance (p-value =0.000). The confirmation bias has a partial effect as per analysis this bias has no significant impact through fundamental anomalies but through technical anomalies, it has a significant impact (path coefficient = 0.28, p-vale < 0.05). Status Quo has no significant impact on fundamental as well as on technical anomalies as shown in table-5.9. According to cognitive theory, investors tend to have maximum weightage in investment decisions for the more recent incident and information (Tversky & Kahneman, 1975). Cognitive biases both confirmation and framing describe the same phenomenon. An investment decision that relies on cognitive biases can lead to leaving anomalies in the stock market. The results in the light of cognitive biases also support the finding of Odean (1998b) for the emerging markets. In the cognitive biases framing bias has a more prominent impact on anomalies and decision making for investment. The framing bias is the limitation of one's thinking out of existing possibilities and in developing countries, most of the investors rely on close available information and make a decision on that fixed limited information (Ul Abdin, 2017).

The emotional biases have less impact as compared to cognitive biases. Status Quo bias has no significant impact on both fundamental as well as technical anomalies. The myopic bias also describes as loss aversion status has the most significant impact on both fundamental and technical anomalies. The path coefficient (coefficient = 0.16 & 0.04) for fundamental and technical respectively. Both coefficients have the highest level of significance. The investors in Pakistan are more concern about avoiding loss as compared to gaining abnormal profit (Ul Abdin 2017) is one of the reasons for such results in myopic bias. The complete results of the analysis reject the dual mediation hypothesis as proposed in this study. If a market heavily relies on fundamental analysis then they least bother technical analysis (Shefrin, 2001) and only one cause of market anomalies be having significant existence.

5.1 Conclusion

This research focuses on behavioural finance concepts mainly the existence of stock market anomalies as a mediating variable in determining the investor's performance. It shows that market anomalies are generated due to investor behaviour and these anomalies affect investment performance. Therefore, now as it empirically proved that stock market anomalies existence in market investors should consider stock market anomalies influences for an investment decision. On a broader level, this study expands the concept of behavioural finance in investment decision analysis.

The results show that investors' behaviour is irrational toward market conditions (anomalies). Therefore, to measure institutional investment performance, not only consider investors' behaviour but also consider the market condition as well. The findings throughout the literature are different from how behavioural dimensions

influences investment performance. The existing relationship supports a direct relationship. This study found no direct relationship but that the effect mediated by stock market anomalies relationship. Knowledge of the stock market anomalies is dominant for developing an effective behavioural model to become an effective investment decision. This is one of the first efforts to examine the behaviour of Pakistani investors and contribute to filling the gap in behavioural finance literature.

5.2 Contribution and Practical Implications

The main implication of the study is for trend followers that include a majority of individuals and nonprofessional investors, they may follow technical analysis for investment decisions that will narrow the space for anomalies causing players.

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