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BEHAVIOURAL FACTORS INFLUENCING INDIVIDUAL INVESTOR'S TRADE PERFORMANCE: A COMPARATIVE STUDY OF PESHAWAR AND ISLAMABAD

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ABSTRACT

The behavioral factors have an influence on the individual investor decision making in the stock market, therefore, the investor does not make rational decision as assumed by the standard finance theories. The current study was conducted to determine the dominant behavioral factors that affects the individual investor financial decision making in the stock market in the context of Pakistan and to compare the investment behavior of Peshawar and Islamabad investors in the stock market. The data was collected from the individual investors from both the cities through adapted questionnaires, the sample size was 618, out of which 302 from Islamabad and 316 responses were from Peshawar. The collected data were analyzed by using SmartPLS. The findings of the study showed that Anchoring bias has a negative impact on individual investor investment return, while overconfidence, gamblers fallacy, regret aversion, loss aversion, herding and mental accounting have a positive impact on investor investment return. Moreover, the multi group analysis (MGA) was used to find the difference in investment behavior of two regions, which showed that there is a difference exist in investment behavior of Peshawar and Islamabad regarding anchoring, gamblers fallacy, mental accounting and regret aversion, while no difference was reported regarding herding, loss aversion and overconfidence.

Keywords: Behavioral factors, Measurement model, Structural model, Multi group analysis.

BACKGROUND

The term investment refers to develop surplus funds and to invest it in an investment avenue in order to earn an optimum return in the future (Jayaraman, Vasanthi, & Ramaratnam, 2014). One of the important investment avenues is the stock market which plays an important role in the development of a country. As far as the conventional finance is concern, so all the models, theories and assumptions of conventional finance are based on rationality of the market participants and efficiency of markets, while recent studies in the area of behavioural finance has proved that investor is not always rational in the stock market (Nigam, Srivastava, & Banwet, 2016). Efficient market hypothesis and expected utility theory believe in the full rationality of individual investor and the efficiency of markets. In real life if the decision-making process of an investor is observed so it can be seen that decision-making process of an individual investor is not always rational as assumed by the standard finance theories (Rasheed, Rafique, Zahid, & Akhtar, 2015), but there are various factors which have an effect on individual investor decision making.

Behavioural finance has got popularity among the researchers and academicians in the last two decades. The area of behavioural finance is against the idea that investor is always rational during investment in the stock market, but the behavioural biases affect their investment decision making. The behavioural finance suggests that the investor's feelings, emotions, and biases can influence his decision-making process (Kahneman & Tversky, 1979b). Behavioural biases can be defined as a

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as a tendency towards error, and due to which individual investor is exposed to irrational decision making. Decision making is a critical process which requires timely judgment and proper evaluation, but it is not necessary for an individual investor to judge stock market anomalies properly, because there is a number of behavioural biases which influences his decision making (Hassan, 2014).

Asia is considered to be the mixture of different cultures and capitalism, therefore, it is important to study the behavior of the investor in this region (Luong & Hu, 2011). Pakistan is an emerging economy in the world having similar features like other Asian countries, therefore, it is necessary to conduct a study regarding behavioral finance in Pakistan. The current study is important as there are two aspects discussed in it, first it is going to evaluate the behavioural factors affecting individual decision making secondly it is going to make a comparison between two important cities of Pakistan i.e. Islamabad and Peshawar. It is useful to know for the individual investor that which behavioural biases affect their investment decision making in the stock market, due to which they can avoid these biases and make an optimum decision to earn a reasonable return on investment. Moreover, it is also important to compare the individual investor behaviour between Islamabad and Peshawar because Islamabad is the capital of Pakistan where the investors have more financial literacy and investment experience. Peshawar is an emerging market but still, the investors are reluctant to invest in the stock market, so it is important to study the behavior of both these cities of Pakistan.

Objectives of the study

1) To identify the dominant factors that affect individual investor decision making.
2) To investigate the impact of behavioural factors on individual investors trade performance in the stock market.
3) To compare the investment behaviour of individual investors in Peshawar and Islamabad.

The significance of the study

It is a fact that investor's decision making is affected by various behavioral factors, which affect their investment performance and trade returns. Therefore, the current study is important for the individual investors, as they can make their investment performance better by simply avoiding these behavioral factors in their investment decision making. The current study is also a unique contribution in Pakistani context to the existing literature, as limited studies are available in the area of behavioral finance. The study used modern software i.e. SmartPLS and modern econometric techniques which is also a good contribution and helpful the emerging researchers in the area of behavioral finance. The outcomes of the study is also important for the practitioners and regulators, as they can know that behavioral factors are also a reason due to which deviation occurs in stock market trends.

LITERATURE REVIEW

The theories of behavioural finance are based on cognitive psychology, which recommends that human decision-making process is composed of several cognitive illusions. These illusions are mainly consisted of two main theories i.e. prospect theory and heuristics theory (Waweru, Munyoki, & Uliana, 2008). The behavioural finance theories are an alternative to the conventional finance theories which suggests the inclusion of various biases in investment decision making which ultimately affects their decision making.

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CONVENTIONAL AND BEHAVIOURAL FINANCE THEORIES

Efficient Market Hypotheses

The efficient market hypothesis is one of the important and oldest theory which suggests that the markets are systematic which reflects all information to the investors, and investors are rational while making decision making regarding investment. According to (Sewell, 2011) the stock market is considered to be efficient if the price of the stock exhibit full information set, and the price will not be affected by disclosing the relevant information to the investors and practitioners. There are many criticism on EMH theory as well, and according to (Ball, 2009) efficient market hypothesis theory are responsible for the worldwide financial crisis as it exaggerates these crisis. At the start of twenty first century the financial experts started to believe that investors are not fully rational and market cannot be predictable (Malkiel, 2003).

Expected Utility Theory

Conventional theory of finance assumes that most of the investor's decision making process is based on the expected utility theory. The Expected Utility theory can be explained as the concept of rationality and suggests that investors make continuous and independent decisions among different available alternatives (Kumar & Goyal, 2016). The expected utility theory essentially presumes that individuals always try to increase their utilities by fixing limits to their feelings and act only by using their minds as an emotionless instrument such as calculator or robots. However, the modern theories in behavioural finance suggests that these kind of theories are mere assumptions, while practically individual decision making are subject to various behavioural biases which influence their decision making (Yalcin, Tatoglu, & Zaim, 2016).

Prospect Theory

(Kahneman & Tversky, 1979) developed a theory which was a critique on expected utility theory which is a descriptive model regarding investor decision making in risk and develop another model which is alternate of EUT, is known as prospect theory. The prospect theory suggests that investor take decisions which is based on potential value of losses and gains rather than the final outcome. It is basically a behavioral economic theory which states the decisions between different alternatives that involve risk. The prospect theory says that avoiding losses are more valuable for the investor as compared to gain, therefore, investor make decision based on perceived gains and losses.

Heuristics Theory

Heuristics refers to the rules of thumb, which makes the decision-making process simple, particularly in difficult and uncertain situations (Ritter, 2003). It becomes easier by reducing the difficulties and making probabilities to judge a specific situation. According to (Kahneman and Tversky, 1979) heuristics are very useful for the individuals especially in a situation where the time is limited and the decision has to be made quickly, but there is a possibility that it can lead to the baseness. Anchoring, overconfidence and gambler's fallacy are the part of heuristics theory.

Behavioural Factors Influencing Investor Decision Making

It is important for the Investors to educate themselves about different behavioural biases, which is more likely to exhibit in their financial decision making and then take initiatives to avoid these biases

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which can improve their effectiveness. Some common mistakes made by the investors are to sell some of the stocks too early for earning a profit and holding it too long which resulted in losses (Mouna & Anis, 2015). Behavioural finance is a new area which presents an alternative approach in order to improve the standard finance theories, therefore, the behavioural finance focus on to present alternative theories to conventional finance (Kahneman & Tversky, 1979b). Behavioural biases have an impact on the investor decision making which can be defined as "a bias is a prejudice or a propensity to make decisions while already being influenced by an underlying belief" (Rekik & Boujelbene, 2013). Seven behavioural biases have been discussed in this study which may affect the individual investor decision making.

Overconfidence refers to a situation where an individual overestimates his or her abilities while making a decision (Odean, 1998). Overconfidence is a behavioural bias in which the people rank their abilities higher than the average. Such people have the tendency to overestimate their knowledge, and that they can over perform in the market, but in reality they have not that much knowledge to make rational decisions and to know about the market anomalies (Jagongo & Mutswenje, 2014).

Mental Accounting is a behavioural bias which influence investor decision making and as a result affect their investment return as well. According to (Thaler , 1999) in mental accounting the individual normally make different accounts and compartment in their minds, due to which their investment decision making is affected. The term mental accounting refer to the tendency of individual investor to organize their day to day activities into various mental accounts, and as a result may become a reason of irrational decision making (Sukanya & Thimmarayappa, 2015).

Loss Aversion the common objective of an investor to earn reasonable profit and to avoid the losses to the best of the possibility. The investors feels hesitation to invest his money in the stock market because of the loss aversion bias. (Kahneman & Tversky, (1979) explains that loss are more influential than the profit, the investor will always want to avoid the loss initially as compare to earn profit.

Regret Aversion is a psychological bias which arises because of unnecessary concentration on the feelings of regret on a decision which was made previously by the investor and, which resulted into a poor decision, especially because of the results of another alternative which turned out to be a better decision for other investors. The basic reason of regret aversion is the intentions of the individuals to hate to admit the mistakes which he made in the past. Due to regret aversion bias the investor may not be able to take aggressive and bold decisions, and this fear of regret can lead him to make a poor investment return in the stock market (Subash, 2012).

Herding refers to the situation in the financial market where the investors have a tendency to follow others investor's behaviors and actions in the stock market. Herding is a behavioral bias which influence the investor decision making because the individual investor rely more on collective information as compared to private information, as a result they can have loss by following others without proper judgment and evaluation. The existence of herding is carefully considered by stock market participants, because it can lead the price deviation of the securities from its present fundamental value, and can impact investors expectation from the present values (Ngoc, 2013).

Gamblers Fallacy is a belief that a small sample can be similar to the parent population from which it is taken is known as the "law of small numbers" (Fisher & Statman, 2000). More specifically, Gamblers' fallacy arises in stock market when the investors predict inaccurately and inappropriately that trend will be reversed as a good or poor market trend (Waweru et al, 2008). So it is a misbelief of the investor that the trend may be changed quickly which affect his decision making.

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Anchoring is a term which is used in circumstances where people use some initial values for estimation, which is biased in various situations for initial values in the starting points yield different estimates (Tversky & Kahneman, 1973). The anchoring is used in the stock market in such a way that the value of securities is fixed by recent observations i.e. individual investor always rely on the initial purchase price of the securities while making purchasing or selling. Now a days the prices of the stocks are determined by proper evaluation and judgment of the organization previous records, while anchoring bias makes investors to rely on the initial values rather to make analysis of the trend and ratios to make a decision.

Investment Performance refers in the current study as the decision making of individual investor in the stock market. The conventional finance theories such as EMH, EUT and CAPM etc. are of the opinion that investor is rational, and investment markets are efficient, therefore, investor can have a better performance (Lall, 2016). However, the researchers in behavioral finance has disclosed that investor performance are affected by various psychological factors which ultimately affect their investment returns.

Research hypotheses

H1: Overconfidence has a positive impact on individual investor investment return.
H2: Mental accounting has a positive impact on individual investor investment return.
H3: Loss aversion has a positive impact on individual investor investment return.
H4: Regret aversion has a positive impact on individual investor investment return.
H5: Herding has a positive impact on individual investor investment return.
H6: Anchoring has a positive impact on individual investor investment return.
H7: Gamblers fallacy has a positive impact on investor investment return.
H7: Peshawar investors incorporate more behavioral biases that Islamabad investors.

RESEARCH METHODOLOGY

The study is quantitative in nature and the nature of the data is primary data. Quantitative study refers to the situation where the existing theory is tested. There are two research approaches that can be used in research i.e. inductive and deductive approach. The current study has used deductive approach which starts from theory and ends on results whether hypothesis is accepted or rejected. The objective of the study is to identify the behavioral factors that influence individual investor decision making, therefore, it is a descriptive study. The target population of the study is the whole investors of Peshawar and Islamabad. As it is not possible to collect data from the whole population, therefore, the researcher applied convenience sampling method which is the best technique to collect data from the respondents (Luong & Hu, 2011). The sample size was determined by G power software which recommended 290 responses for each region, but the researcher distributed 10 per cent extra in order to have better result. The data have been collected through questionnaire which was adapted from the previous studies i.e. (Antony and Joseph, 2017) (Luong and Hu, 2011), (Mahmood, Kouser, Abbas, and Saba, 2016) and (Hon-snir, Kudryavtsevl, and Cohen, 2012) containing seven main constructs. These constructs include Overconfidence, Herding, Loss aversion, Regret aversion, Gamblers fallacy, mental accounting, and investment return. All the constructs in the questionnaire are based on five likert scale ranging from 1 strongly disagree to 5 strongly agree. Following is the research model of the study;

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$IRR = \beta_0 + \beta_1 OC_R + \beta_2 MA_R + \beta_3 LA_R + \beta_4 HER_R + \beta_5 RA_R + \beta_6 GF_R + \beta_7 ANC_R \ldots\ldots. \varepsilon_R$

Where:

IR = Investment return
OC = Overconfidence
MA = Mental accounting
LA = Loss aversion
RA = Regret aversion
HER = Herding
GF = Gamblers fallacy
ANC = Anchoring

DATA ANALYSIS

Table 1: Demographics

Particulars	Group	No. of Respondents	Percentage
Region	Islamabad	302	48.9
	Peshawar	316	51.1
	Total	618	100
Age	30 to 40 years	342	55.3
	40 to 50 years	160	25.9
	50 to 60 years	116	18.8
	Total	618	100
Gender	Male	506	81.9
	Female	112	18.1
	Total	618	100.0
Marital status	Single	244	39.9
	Married	374	60.1
	Total	302	100
Education Background	SSC or Less	124	20.1
	Undergraduate	192	31.1
	Graduate	84	13.6
	Masters	154	24.9
	MPhil or PhD	64	10.4
	Total	618	100.0
Income Levels	Less than 20000	124	20.5
	20000-40000	218	41.1
	40000-60000	172	27.8
	60000-80000	76	12.3
	More than 80000	28	4.5
	Total	618	100

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The data was collected from individual investors in Peshawar with the help of brokerage houses, while from Islamabad the data was collected from the stock market by the researcher personally. Before the collection of data the respondent were cleared about the objective of the study and it was also ensured to him that this data will be kept confidential. After taking consent of the investor the questionnaire would be handed over to them in order to fill it. The data was collected from individual investors from both the regions including different age, gender, education level, experience level etc. Total 700 questionnaires were distributed to the individual investors in both the regions i.e. Islamabad and Peshawar. Out of which 618 was received from both the regions which represent more than 90% response rate. 340 questionnaires were received from the age to 30 to 40 years, 160 questionnaire from 40 to 50 years and 116 responses from the age of 50 to 60 years. The response from the male investors were 506 which represent 81.9% while response from female investors were 112 which is 18.1% of the total responses. The reason is of such a high difference is that the males are dominant in our society and investment decisions are normally made by them. Moreover, the respondents were composed of different income level, having different education background, and employment level.

For the achievement of research objectives the study used Partial Least Squares, structural equation modeling using Smart PLS 3.2.7. In the current study two techniques were used as recommended by previous literature i.e. assessment of measurement model and structural model (Hair J, Sarstedt, Hopkins, & Kuppelwieser, 2014). PLS-SEM can be viewed as quite similar to multiple regression analysis to examine the possible relationships with less emphasis on the measurement model (Hair J et al., 2014). Before the structural model all the criterion has to be satisfied by measurement model through convergent validity and discriminant and discriminant validity. Convergent validity denotes to the degree where numerous items used in the research to measure the same concept are in agreement (Ee, Abdul Halim, & Ramayah, 2013). In order to evaluate the convergent validity factor loading, composite reliability and average variance extracted are used (Hair, Black, Babin, & Anderson, 2010).

Table 2: Measurement Model Construct Reliability and Validity

Items Anchoring	Factor Loadings	Cronbach's Alpha 0.882	Rho A 0.969	Composite Reliability 0.905	Average Variance Extracted (AVE) 0.579
Anc1	0.603				
Anc2	0.806				
Anc3	0.770				
Anc4	0.871				
Anc5	0.751				
Anc6	0.811				
Anc7	0.682				
Gamblers fallacy		**0.803**	**0.825**	**0.864**	**0.561**
GF1	0.600				
GF2	0.795				
GF3	0.819				
GF4	0.747				
GF5	0.765				

Herding		**0.773**	**0.796**	**0.854**	**0.594**
Her2	0.708				
Her3	0.853				
Her4	0.768				
Her5	0.747				
Investment return		**0.801**	**0.816**	**0.882**	**0.713**
IR1	0.826				
IR2	0.839				
IR3	0.868				
Loss aversion		**0.813**	**0.846**	**0.862**	**0.514**
LA1	0.718				
LA2	0.724				
LA3	0.773				
LA4	0.821				
LA5	0.686				
LA6	0.551				
Mental accounting		**0.791**	**0.828**	**0.858**	**0.553**
MA1	0.606				
MA2	0.638				
MA3	0.882				
MA4	0.815				
MA5	0.739				
Overconfidence		**0.862**	**0.901**	**0.892**	**0.579**
OC1	0.702				
OC2	0.698				
OC3	0.747				
OC4	0.834				
OC5	0.782				
OC6	0.795				
Regret aversion		**0.823**	**0.832**	**0.877**	**0.589**
RA1	0.837				
RA2	0.804				
RA3	0.678				
RA4	0.705				
RA5	0.800				

The recommended value for the factor loading of each construct is that it should be more than 0.6 (Chin & Härdle, 2010) AVE refers to the grand mean value of the squared loadings and it should be 0.5 or higher which indicate more than half of the variance in the latent variables constructs. Composite reliability is used to determine consistency of measurement items and it is considered suitable PLS-SEM as compared to Cronbach's alpha and its standard value is 0.70 or above as suggested by (Hair et al.,2010) The above table shows all the measures are above the recommended values which suggests that the measurement model has enough convergent validity.

Table 3: Fornell-Larcker Criterion

	ANC	GF	HR	IR	LA	MA	OC	RA
ANC	**0.761**							
GF	0.247	**0.749**						
HER	0.006	0.078	**0.771**					

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IR	0.130	0.321	0.130	**0.844**				
LA	0.074	0.176	0.050	0.167	**0.717**			
MA	0.129	0.596	0.161	0.290	0.148	**0.743**		
OC	0.247	0.546	0.054	0.152	0.148	0.539	0.761	
RA	0.332	0.407	0.037	0.260	0.124	0.319	0.308	**0.767**

The above table shows discriminant validity which can be defined as a situation when two or more than two different measures have not correlation with each other (Sekaran, 2013). To determine the constructs discriminant validity Fornell and Larcker (1981) criterion has been applied which suggests that the upper level in each column should be higher that the lower values in that particular column, so the above table shows that discriminant validity exists in the constructs.

Table 4: Discriminant Validity (HTMT 0.90 Criterion)

	ANC	**GF**	**HER**	**IR**	**LA**	**MA**	**OC**	**RA**
ANC								
GF	0.291							
HER	0.074	0.106						
IR	0.126	0.383	0.158					
LA	0.122	0.214	0.120	0.192				
MA	0.215	0.754	0.205	0.351	0.194			
OC	0.323	0.662	0.106	0.160	0.194	0.641		
RA	0.377	0.495	0.066	0.305	0.177	0.398	0.371	

The discriminant validity can also be measured through Heterotrait-monotrait (HTMT) ratio of correlation and threshold for HTMT is close to 1 which shows lack of discriminant validity. After getting satisfactory results from the measurement model, the study applied structural model to test the established hypotheses. R square beta and corresponding t values are evaluated for each hypothesis of the study.

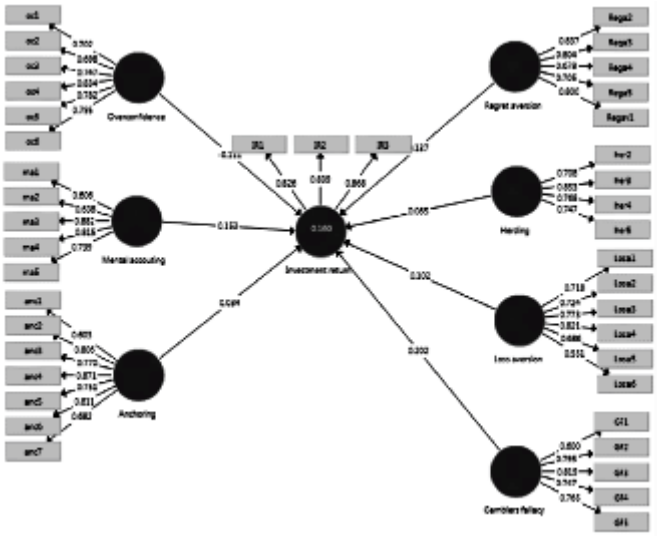

Figure 1: Conceptual Model with Loadings, Beta, and R-Square values

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The above conceptual model shows the independent variables i.e. anchoring, gamblers fallacy, overconfidence, herding, loss aversion mental accounting, regret aversion while independent variables along with their loadings, beta and r-square values.

Table 5: Summary of the Structural Model

	Stnd. Beta	Stand. Error	t-value	p-value	Decision
Anchoring -> Investment Return	0.034	0.049	0.690	0.491	**Not Supported**
Gamblers Fallacy -> Investment Return	0.202	0.051	3.993	0.000	**Supported**
Herding -> Investment Return	0.085	0.036	2.384	0.018	**Supported**
Loss aversion -> Investment Return	0.102	0.036	2.847	0.005	**Supported**
Mental Accounting -> Investment Return	0.153	0.051	2.994	0.003	**Supported**
Overconfidence -> Investment Return	-0.111	0.045	2.469	0.014	**Supported**
Regret aversion -> Investment Return	0.137	0.053	2.578	0.010	**Supported**

The first hypothesis of the current study supposed that there is a positive impact of anchoring on investment return of the investor. As far as the results are concerned so H1 is Rejected because the above table shows t-value is 0.690, and p value is 0.491 which indicates that there is no impact of anchoring on investor decision making. It is true in the context of Pakistan because now a days the individual investors has more financial literacy and investment experience, therefore, they might not inclined towards the initial values in various situations. The gamblers fallacy has a positive impact on the investor decision making and hence affect their return on investment. The above table shows t-value 3.993, p-value 0.000 which are in acceptable range and therefore, H2 is accepted. In case of H3, it was assumed that herding has a positive impact on investor decision making, which is accepted as the above table shows the t-value 2.384, and p-value is 0.018. The loss aversion result shows t-value 2.847 and p-value 0.005 which indicates a positive impact of loss aversion on investor investment return, hence H4 is accepted. The Fifth hypothesis supposed a positive impact of mental accounting on investment return of investor, the above statistics shows t-value 2.994 and p-value 0.003 which suggests that H5 is accepted. The overconfidence predicted a positive impact on investment return. The results shows t-value is 2.469 while p-value is 0.014, which reflects that H6 is accepted. The results of regret aversion shows t-value and p-value is 2.578 and 0.010 respectively. Which shows that regret aversion has a positive and significant impact on investment decision making and hence affect their investment returns hence H7 is also is accepted.

Table 6: Multi-Group Analysis (MGA) Region wise

	Parametric Test		Welch-Satterthwait Test	
Hypotheses	t-value (R1vs R2)	P-Value (R1 vs. R2)	t-Value (R1 vs. R2)	p-Value (R1 vs R2)
ANC -> IR	2.513	0.012	2.522	0.012
GF -> IR	3.811	0.000	3.744	0.000
HER -> IR	0.215	0.829	0.215	0.830
LA -> IR	0.559	0.576	0.567	0.571
MA -> IR	2.715	0.007	2.674	0.008
OC -> IR	0.309	0.758	0.310	0.757
RA -> IR	2.978	0.003	2.959	0.003

R1 = Region 1 (Islamabad) R2 = Region 2 (Peshawar)

Anc = Anchoring; GF= gamblers fallacy; Her = Herding; LA= Loss aversion; MA= Mental Accounting; OC = Overconfidence; RA= Regret aversion; IR = Investment Returns

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The objective of the study is to identify the difference in the investment behavior of two regions i.e. Islamabad and Peshawar. In order to determine the difference the multi group analysis (MGA) was applied region wise. The results shown by MGA suggests that there is a difference between the investment behaviors of the individual investors in both the regions regarding some of the variables while there is no significant difference in the behavior of individual investors in both regions regarding few variables. According to Parametric test and Welch-Satterthwait test the anchoring, Gamblers fallacy, Mental accounting and Regret aversion exhibit difference between the investment behaviors of individual investors of both the regions because the t-values of all these variables are 2.522, 3.744, 2.674 and 2.959 respectively which are all significant. While in case of other three variables i.e. Herding, Loss aversion and Overconfidence the investment behavior of the individual investors of Islamabad and Peshawar are showing no difference as shown by Parametric test and Welch-Satterthwait test, because the t-values for these variables are 0.215, 0.567, and 0.310 respectively, which are all insignificant for these three variables. Furthermore, this difference can also be justified by path coefficient table which further clarify this difference i.e.in case of anchoring the t-value for Islamabad investor is 0.290 and the t-value for Peshawar investors is 2.417 which shows that Peshawar investors incorporate Anchoring bias while Islamabad investors does not incorporate anchoring in their investment decision making. Moreover, the t-value of the Gamblers fallacy bias is 4.433 for Islamabad investors, while t-value for Peshawar investors is 1.386 which shows that gamblers fallacy bias is incorporated by Islamabad investors while it does not incorporated by Peshawar investors. Similarly according to path coefficient the t-value for Herding regarding Islamabad investors is 1.401 which is insignificant while the t-value of Herding in case of Peshawar investors is 1.913 which is also insignificant which shows no difference exists and herding bias is not incorporated by the investor of both the regions. The loss aversion t-value as shown by the path coefficient table is 0.749 and 0.774 for Islamabad and Peshawar respectively, which indicates that there is no difference exists in investor behavior of both the regions. The path coefficient table shows difference exists in case of mental accounting in both the regions investor behavior, because the t-value for Islamabad investors is 1.735 while for Peshawar investors t-value is 2.715 which reflects that mental accounting bias is incorporated by Peshawar investors while Islamabad investors does not absorb mental accounting bias in their investment decision making. In case of overconfidence the investor behavior is similar of Islamabad and Peshawar investors because the t-value for both the regions are insignificant i.e.0.740 for Peshawar investors, while 0.227 is for Peshawar investors. The Regret aversion results in the path coefficient table shows that t-value for regret aversion is 3.812 regarding Peshawar investors while t-value for Islamabad investors is 0.869 which is insignificant and it explains that Regret aversion exists in Peshawar investors while it does not exists in the investment decision making of the Islamabad investors.

Discussion and Conclusion

The behavioral factors have an influence on the investor's decision making and hence affect their investment returns, moreover the study also focused to determine the difference in investment behavior in two important regions of Pakistan i.e. Islamabad and Peshawar. The study used dominant behavioral factors that affect individual investor investment performance in the stock market. The hypotheses were developed with the help of previous literature which supposed that there is a positive impact of these dominant factors on investor's investment returns. The nature of the research is quantitative and primary data has been used in the research. The data has been collected by using

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adapted questionnaire from different age group, gender, education background, investment experience etc. The collected data was analyzed to test the developed hypotheses using Partial Least Squares, structural equation modeling SmartPLS 3.2.7. The first model that was extracted is measurement model which includes convergent validity and discriminant validity. The convergent validity composed of factor loading, Composite reliability and average variance extracted, which all meets the required threshold. The discriminant validity was checked by using Fornell-Larcker criterion and HTMT criterion, both these models showed the satisfactory results, therefore, the structural equation model can be applied to test the established hypotheses after getting satisfactory results from the measurement model. The results of the structural model indicates that Anchoring has a negative impact of the individual investors financial decision making in Pakistan and affect his trade return, while all the other factors such as gamblers fallacy, herding, loss aversion, mental accounting, overconfidence and regret aversion have a positive and significant impact on investors decision making.

It is revealed from the above findings that the individual investors incorporates behavioral biases in their financial decision making and hence their trade return are affected. In order to determine the difference in investment behavior of Peshawar and Islamabad investors, the study applied multi group analysis (MGA), which shows that whether there is a significant difference between two groups or not. The results of MGA shows that there is a no difference in the investor behavior of both Peshawar and Islamabad regarding herding, loss aversion and overconfidence bias, while there is a difference shown by MGA regarding Anchoring, gamblers fallacy, mental accounting and regret aversion. The reason of no difference may be that there are so many individual investor who belongs to Peshawar but living or having trade in Islamabad, therefore, they have similarity in the living standard and investment decisions as well. The reason of difference may be that the investors of both these cities have different characteristics regarding investment performance, investment experience, financial literacy etc. So based on the above results it can be concluded that the behavioral factors have an influence on the individual investor's decision making in Pakistan, moreover there is a significant difference exists between the investment behavior of Peshawar and Islamabad investor behavior. The results are similar with the studies conducted on the same topic such as (Shikuku, 2014, Chandra, 2011).

RECOMMENDATIONS

It is recommended for the future researcher to conduct research in the area of behavioral finance in the context of Pakistan with more diverse data from other cities of Pakistan, moreover, the investment behavior of different Asian countries can also be compared to know that what the significant difference between their financial decision makings exist. Furthermore, the current study is based on primary data, therefore, it is suggested to conduct a research study based on the secondary data of individual investor as well as institutional investors.

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