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# The Confidence Trap: Past Investments and Financial Literacy in the Herding Behavior of Investors

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**Abstract**

This study mainly focused to evaluate the influence of overconfidence and past investment experience on investor behavior with the effect of moderator financial literacy and mediator herding Behavior. Theories related to behavioral finance are also considered to check the behavior of individual investors whether it is rational or irrational. As the investor will make all the decisions based on the information available to him so the investor can maximize his profit and multiply his investment. On the other behavioral finance theory will give the best result when merging psychological influence towards his Investment plans and decisions. A simple survey questionnaire was designed to collect data from 200 investors relate to the different financial sectors, researcher used a quantitative research method. The evaluated result shows that overconfidence has a positive impact on investor behavior, past investment experience has an insignificant impact on investor behavior, and past investment has a significant influence on herding behavior whereas financial literacy as the moderating effect is an insignificant influence on overconfidence and past investment experience of investor whereas herding behavior will

have a significant impact on investors behavior. The results show that investors will have more impact on overconfidence and herding behavior in investment decisions. This study will be very much helpful for other financial analysts and Advisors. The way to improve is by conducting a training seminar for investors.

**KEYWORDS: Investment Behavior, Overconfidence Bias, Herding Behavior, Financial Literacy**

## 1. INTRODUCTION

In our financial markets whether it's national or international the trading activities and operational activities are based upon the behavioral and cognitive biases of the investors' decision-making. However, it’s a significant effect on the stock market. There are many theories and models that explain to us the relation of behavioral finance and investor’s decision making such theories and models are capital assets pricing model, utility theory and modern portfolio theory and many others. Behavior changes and biases of investors have an eminent role in the stock market (Kumar and Goyal, 2016) (Sabir, Mohammad & Shahar, 2019). Many cognitive factors result in an investor’s decision-making at the time of investment and herding behavior is also influenced to provide that desired expected result. Herding behavior appears in the investor's actions when he is following the actions, decisions, and perceptions of other investors who have limited information and are deficient in knowledge. (N got, 2014; Kumar and Goyal, 2016) (Sabir, Mohammad & Shahar, 2019). To understand the herding behaviour we must understand the consequence upon which it's based such as past investment experience and confidence. To focus on the investor’s past investment experience and overconfident behavior we can find the best result of financial literacy.

Remittances Review
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The herding behavior of the investor explains that the investor is following the other investors in such a way that he is capturing the actions and attitudes of other investors. As he is following, the other investor just because of the lack of knowledge and information on his own investment decision so the investor is following the forecast types of the other investors because of lack of information regarding the specific criteria of investment, this is according. (Kumar and Goyal, 2016).

Investors are overlooking their personal beliefs and ideas and approaches and he is showing our lack of information regarding the investment in the specific area. So for this reason, he is following the steps of other businessmen that are called investors and he is imitating their behaviors and attitudes toward investing. This imitating behavior of the investor is considered herding behavior because of less approach and less looking forward behavior. It pushes down or slows down the stock market because he is not following the fair values and fair prices so his action is very much less bothering and he is trying to replicate the other investor's steps. (Nofsinger and Sias, 1999; Gębka and Wohar, 2013).

Past investment experience and over confidence are very important factors in making behavioral decisions and changing the attitude of the investors and the financial strategies as a part of an important element in affecting the different factors such as investors learning to practice their work ethics and also the financial literacy as an integral part of the investment. The investor had the knowledge and expertise skills to make the investment decision making (Altman, 2012) The investors are understanding the market behaviors and functions, and objectives of the investment and factors of overconfidence (Giesler and Veresiu, 2014), and those investors are having knowledge of finance and they should understand the proper analysis

Volume: 9, No: 3, pp. 37-70
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in the making investment decisions and for this, they are getting the proper information through the different resources like financial applications and different magazines for different researches on the social media and they are following the upgraded news to make the decisions more powerful in this investment world.

Financial literacy provides a piece of knowledge about the different factors of the market like services products and items of the sales by which the investors generate maximum profit and fruitful profit for the business. All such elements provide so much appreciative information to the investors so that they can use an accurate level of finance (Lusardi and Mitchell, 2007). Financial literacy improves the skills and knowledge of the individual investor to understand the information related to the investment and its factors in the market knowledge about the understanding of the financial literacy and improves the behavior and attitude of the investor in making decisions. The learning about financial literacy is still not incorporated and mixed up with the model of psychology. The concept and the study aim to fulfill the gap in the literature between financial literacy, the organizational attitude of the investor, overconfidence, and past investment experience.

Investors in this stock market have different behavior and in this research, the aim is to elaborate on the relationship between overconfidence and past investment experience are independent variables and herding behavior as a mediator which has linked between the dependent and independent variables and the impact of financial literacy as a moderator for dependent and independent variables like overconfidence, past investment experience, herding behavior of the investors in the stock market is majorly discussed in this research.

Remittances Review
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The finding of the research gives us a better understanding and knowledge about the relationship between the herding behavior of the investor and financial crisis as a mediator which is well explained by understanding the different investor's past experiences and their skills, knowledge, and understanding about the investment in the market. (Fernandez *et al.*, 2011) Investors should understand the theoretical background and all the policies, plans, and procedures of the investment to make sure to get the maximum amount of profit and desired feedback from the market.

In investment behavior, investment plays a very important role in the planning of finance, and to understand the financial literacy of the investor, we must evaluate his knowledge about the investment and his previous experience with money circulation in the market because the investment gives protection to the investor to increase its market stability and fruitful profit.

## 2. LITERATURE REVIEW

A literature review of the topic deals with the study of the theoretical framework done by previous researchers. Such empirical study deals with variables such as overconfidence, past investment experience, herding behavior, and financial literacy, such variables have a major effect on the decision-making of investors. Behavior finance elaborates on the emotional mistakes that investors attempt while making investment decisions. In the research, we deal with the factors of behavioral biases of the investor such factors are herding behavior, overconfidence, and past investment experience of the investor keeping in view the influence of financial literacy. In this regard, the researcher discusses all those theories which investor’s performance and emotions such theories are decision theory, social theory, Prospect theory, behavioral finance theory, herding theory, and behavioral finance theory and some factors such as Efficient market

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
hypothesis, behavioral biases, disposition effect, herding bias, experience regret, Risk perception. (Rubinstein, 2001)

This section explains the main two ways in which our research paper is consistent moreover in this section we have discussed basic theories and their applications to the investment behavior of the investor.

Moreover, we have discussed the past attributes and their application and implementation on investor behavior. Besides this, we have discussed the implementation of these theories regarding the variables such as past experience, overconfidence, and herding behavior of investors such attitude of the investor while deciding at the time of investment in the last step we have discussed the actual and major framework of the review paper and all the hypothesis which we have extracted in the research paper are explained well.

**2.1 Decision Theory**

Decision theory as per the study of (Hansson, 1994) (V Novianggie & N Asandimitra, 2019) explained an individual makes his own decision as liberal without any force or pressure exerted on him. While making the decision an individual need to choose the best available option and simultaneously have an alternative plan of action too. A person is free in his actions and decision-making. He needs to face difficulties and problems while making decisions and needs to put consideration to making best decisions plans and goal-oriented action plans so that he will be successful to desire output. This decision theory is directly related to the personal action plans, behavior, attributes, and way of finalizing his plans and how the best plan will opt. Decision theories have two types. The first type is normative theory and the second one is descriptive theory. Normative can be explained as how a person will form the best decision plans .in the

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

normative theory decision should be made coherent and rational way. This is another type is Descriptive theory in which only a limited number of scholars in this regard advocate that financial literacy has a significant impact on minimizing the effect of behavioral biases in investment decision making (Hsiao & Tsai, 2018; Skagerlund, Lind, Strömbäck, Tinghög, & Västfjäll, 2018).

According to Efficient market hypothesis, all the present information, ideas are explained by existing market Prices which shows that prices can be calculated by different market representatives or brokers who took sensible Decisions and those representatives are well aware about the rules, regulations of the law and society. Therefore, we should focus the each and every item while making the investment decision. (Ritter, 2003).

**2.2 Social theory**

This theory explains that investor having contact with the other investors, peers and practitioners to gain knowledge and experience from them in order to make best decision making of investment.

**2.3 Prospect theory**

This theory name as Prospect Theory relates to study of (Kahneman and Tversky, 1979) (V Novianggie, N Asandimitra, 2019) of decision making process by an individual while facing uncertainties and risk may occur. Considering in view investor cannot take his decision without focusing on finance theory that creates rational and irrational choice of the investor.

Prospect theory is focusing on the rational behavior of the investors underlines the point that investor should not be rational in their decision making they should not be very much quick they should be very much determinant and consistent in their actions. Investors are behaving in a

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
different way and taking diverse action while they are thinking about the losses and gain of the same investment.

It's investor decision making that he will not only always consider the financial perspective but he has too focus on the risk and uncertainties regarding with the investment as if he will ignore the risk factors and will take the decisions quick in the investment process. So his decision will not be taken as a result decision. (Ross et al. 2008). First one value function in this function it gives the appropriate opportunity for the investor that how he can earn profit and loss can be occurred so value function gives the investor one of the framework for the invested how we can he earn profit and how he can face during losses so it gives one of the best decision framework for investor

The second one is the framing effect, this factor that the prospect theory will be helpful for the investor that how can choose the appropriate answer for the problem and behaves like an independent decision maker for the problem in this way the investor will not so much dependent on the problem he will find the solution and minimize the risk and losses.

The third one is psychological accounting, in this function or principle of prospect theory gives more options and tendencies to the investor in making this decision making that will be mostly considered as the best choice to make investment decisions off the investment.

It gives the investor a smooth and relaxed mode of choice so that he can take the decision firmly and can pick the best alternative for the decision making.

The fourth one is the certain effect it is one of the effects of prospect theory and the principle of prospect theory in which the investor is free in the risk choices and he is not so much bothered about the risk factors or environmental factors for the losses which he will suffer in the future so

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

in certain, it affects it will be treated as the risk-free choice for the investor during investment (V Novianggie & N Asandimitra 2019).

**2.4 Behavioral Finance Theory**

Behavioral Finance deals with (Manurung, 2012) (V Novianggie & N Asandimitra, 2019) the study of behavioral keep considering financial knowledge and psychology theory. As per (Sehfrin, 2000) biases don't need to always result in losses. Investors need to focus on all drawbacks and factors that decline in their decision. So to make the best decision, an investor should control complex problems very strategically to control any crucial. Financial literacy in investment can be explained as the amount of understanding, thinking, knowledge, skill, and ability related to the Static of an individual or particular item related to Financial Management and it is one of the significant units of rational and sensible financial investment. The philosophy and understanding of science related to the investors understanding, skill, ability, competency, and proficiency in the financial market and how that investor is Capable to generate maximum Finance. (Giester and Veresiu, 2014). The major of financial literacy in the behavior of investment as the investor utilizes his knowledge of financial literacy as a major impact unit while making investment decisions related to Credit Management, behavioral management, Savings, loans, etc. It is also one of the major factors that irradiate and brightens the different multiple criteria in the investment decisions of several investors (Idris, Krishna, and Azmi, 2013).

**2.5 Herding Theory**

Herding Theory is best explained by the study (Tuominen, 2017) which explains that an individual investor is performing any action which is following the action of others. In this

theory, it explains that an investor is not self-sufficient to make his own decision and he is using the information of another individual. It depends upon the degree of confidence (Fernandez et al, 2011) (Sabir, S., Mohammad, H., & Shahar, H. 2019). Herding behavior is taken as the mediator because it explains the relationship between two variables (Independent variable and Dependent variable) such as Over Confidence and Investor Behavior. Just as herding actions liberate that the information is owned by the individual is basically how he can take the decision and this decision is classified into two types which are number one that the information has been taken from the individual itself which reflects and explains his own preferences choices and a second one the information which the action followed by the other individuals on the similar problem. The information from the action of the other individuals as he is following in their footsteps, actions, and decisions in the same manner (V Novianggie & N Asandimitra 2019).

**2.6 Past Experience**

This explains that after making numerous decisions an individual get fails in some of them and due to herding behavior and past experience an investor will face risk again. Experience regret is the feeling of disappointment after getting an undesirable result.

**2.7 Financial Literacy**

It deals with the basic knowledge of finance and its different tools by which we can manage the best outgrowth result, but it's not always a fruitful result there is a chance of risk factors in making financial decision making. As per the study of (Borden et al, 2008; Disney Gathergood, 2013) (Sabir, S., Mohammad, H., & Shahar, H. 2019) financial literacy has very capability to get mix with irrational behavior in comparison to others. The most noteworthy and imperative research presentation on the ground of financial literacy and behavioral finance has been finished

by two psychologists named (Kahneman & Tversky, 1979). Three main psychologists are considered to be the predecessor and inventors of Behavioral finance name as (Thaler, 1980) and (Kahneman and Tversky, 1979) (Hammond, 2015).

**2.8 To Understand the Impact of Overconfidence on Investor's Behavior**

It deals with the abilities of the investors that can be overstated and skills to control the current situation of decision-making. (Glaser et al., 2003; Koehler and Harvey, 2008; Tan et al., 2012). As per the study (Pompian, 2006) those investors who are exaggerated by the factor of overconfidence have a lack in decision making. Overconfidence is considered to be a situation where a person is so much satisfied in making his decision and he has confidence in his decision and strongly believes in his own decision making.

**2.9 To Understand the Impact of Past Investment Experience on Investors' Behavior**

It is the study of investors' previous experience while making the decision of investment and stored in their memory to have a certainty of the same output of result at all the upcoming events. As the researcher (Merli and Roger, 2013) explain that there is a positive relationship between past investment experience and herding behavior.

**2.10 To Understand the Impact of Overconfidence on Herding Behavior**

This study explains that following other investors blindly without being utilized own knowledge creates more decline in output. Investors refusing his knowledge and work consideration that results in poor outcomes of decision-making.

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

## 2.11 To Understand the Impact of Past Investment Experience on Herding Behavior

This study explains the effect of past investment experience and the herding approach of investors and explains that opting for another investor's decision of investment and starting following it gives less market growth of the market.

## 2.12 To Understand the Effect of Financial Literacy on Overconfidence

To understand financial literacy and its effect on investors' decision making we must understand the techniques opted for by the investor for the best decision-making outcome. According to (Jain et al., 2015) investors should ignore improper information at the time of decision-making. (V Novianggie & N Asandimitra 2019).

## 2.13 To Understand the Effect of Financial Literacy on Past Investment Experience

It deals with the know-how of financial knowledge in decision-making. It is the process in which the investor is ensuring the right amount of investment.

Financial literacy can be explained as the ability of which a person is using the mechanism of am capital Management and how he is investing in his finance in the business. For example, how he will utilize manage and invest the amount of capital later on by person it is also stated that the higher will be the financial literacy of the investor the more power of understanding he will use in his field of finance but he should consider and focusing the risk factor in making his financial decision making in the future.

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

### 2.14 To Understand the Impact of Herding Behavior on Investor's Behavior

It deals with the tendency to follow others' decisions and the investors' decision-making. It is the process in which an investor ensures the perception of other investors. It happens because the investor has a lack of knowledge and believes in his decision-making.

## 3. METHODOLOGY

The research model as mentioned in the framework consists of different variables, such variables are dependent, independent, and moderating. This model explains theories such as cognitive factors, social theory, and Prospect theory. Cognitive factor theory explains how individual investors behave when he is deciding on an investment. It also explains how's his behavior, emotions, and perception changes in taking different actions plan of investment.

### 3.1 Model Effect of Financial Literacy on Investor Behavior

Figure 1: Theoretical Framework

### 3.2 Statistical Technique

**H1:** There is an impact of overconfidence on investor's behavior

$$IB = a + \beta (OC) + e$$

Where,

OC = Over Confidence (Independent Variable)

IB = Investor Behavior (Dependent Variable)

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

Equation 1 is calculated and estimated with partial least square (PLS) regression. To check the relation between variables of overconfidence and the investor behavior of an individual the research use an equation to estimate the effect of overconfidence on the investor behavior of individual investor in Pakistan.

**H2:** There is an impact of past investment experience on investors' behavior.

$$\mathbf{IB = a + \beta\ (PIE) + e}$$

Where,

PIE = Past Investment Experience (Independent Variable)

IB = Investor Behavior (Dependent Variable)

Equation 2 is calculated and estimated with partial least square (PLS) regression. To check the relation between variables of past investment experience and the investor behavior of an individual the research use an equation to estimate the effect of past investment experience on the investor behavior of individual investor in Pakistan.

**H3:** To understand the impact of overconfidence on herding behavior

$$\mathbf{IB = a + \beta_1\ (HB) + \beta_2\ (OC) + e}$$

Where,

OC = Over Confidence (Independent Variable)

HB = Herding Behavior (Mediating Variable)

IB = Investor Behavior (Dependent Variable)

Equation 3 is calculated and estimated with partial least square (PLS) regression. To check the relation between variables over confidence on herding behavior of an individual. The researcher

use an equation to estimate the effect of overconfidence on the herding behavior of individual investors in Pakistan.

**H4:** To understand the impact of past investment experience on herding behavior

$$\mathbf{IB = a + \beta_1 (HB) + \beta_2 (PIE) + e}$$

Where,

PIE = Past Investment Experience (Independent Variable)

HB = Herding Behavior (Mediating Variable)

IB = Investor Behavior (Dependent Variable),

Equation 4 is calculated and estimated with partial least square (PLS) regression. To check the relation between variables past investment experience and herding behavior of an individual. The researcher use an equation to estimate the effect of past investment experience on the herding behavior of individual investors in Pakistan.

**H5:** To understand the effect of financial literacy on overconfidence

$$\mathbf{IB = a + \beta_1 (OC) + \beta_2 (FL) + \beta_3 (OC) (FL) + e}$$

Where,

OC = Over Confidence (Independent Variable)

FL = Financial Literacy (Moderating Variable)

IB = Investor Behavior (Dependent Variable)

Equation 5 is used to measure the impact among variables confidence and financial literacy on investor behavior using the product indicator approach. This approach provides potential products from two sets of indicators and it also generates product indicators. The relationship

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
between the variables overconfidence, financial literacy, and investor behavior can be determined by estimation of the moderating effect of financial literacy on the relationship of overconfidence and financial literacy of individual investors participating in Pakistan. (Sabir, S., Mohammad, H., & Shahar, H., 2019).

**H6:** To understand the effect of financial literacy on past investment experience

$$\mathbf{IB = a + \beta_1 (PIE) + \beta_2 (FL) + \beta_3 (PIE) (FL) + e}$$

Where,

PIE = Past Investment Experience (Independent Variable)

FL = Financial Literacy (Moderating Variable)

IB = Investor Behavior (Dependent Variable)

Equation 6 is used to measure the impact among variables of past investment experience and financial literacy on investor behavior using the product indicator approach. This moderating effect of financial literacy on the relationship between past investment experience and financial literacy of individual investors participating in Pakistan. (Sabir, S., Mohammad, H., & Shahar, H., 2019)

**H7:** To understand the impact of herding behavior on investor's behavior

$$\mathbf{IB = a + \beta (HB) + e}$$

Where,

HB = Herding Behavior (Mediating Variable)

IB = Investor Behavior (Dependent Variable)

Equation 7 is calculated and estimated with partial least square (PLS) regression. To check the relation between variables herding behavior and investor behavior of an individual. The

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
researcher use an equation to estimate the effect of herding behavior on the investor behavior of individual investors in Pakistan.

## 4. RESULTS AND DISCUSSIONS

This study deals with the quantitative research approach. Research contains the analysis of investors' behavior and their decision-making. Such a population consists of different investors and practitioners who link with the stock market directly or indirectly. For the data collection sampling of individuals, two hundred investors are made to get an understanding of the variables' relation and correlation. A survey questionnaire is the best tool for the collection of data. (Sabir, S., Mohammad, H., & Shahar, H., 2019)

The sampling technique used in the research is the quantitative research technique. Quantitative research is using the deductive approach for testing different variables. Such research type is explanatory and also exploratory (Ullah, 2019). Sampling techniques related to choosing the specific groups of persons from the population, researchers use to find the statistical data and also to know the features and choice of the population group.

The sampling size which is considered in the research consists of 200 investors from different areas of business or stock market or trading activities.

The instrument of data collection in this research is the questionnaire and market survey to meet the appropriate result by filling up a questionnaire from multiple investors of different fields. At the start, the questionnaire will be distributed to 200 investors for analysis and interpretation of results. (Sabir, S., Mohammad, H., & Shahar, H., 2019)

The questionnaire method has been used for the collection of primary data the most preferred tool with which is used in this research is the record scale that is characterizing the questions into

Remittances Review
June 2024,
Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
strongly agree and then disagree. These values have the respondent choose their answers on some specific range concerning a series of statements such type of the question (Tuominen, N., 2017) (Zahera & Bansal, 2018). The research model as mentioned in the framework consists of different variables, such variables are dependent, independent, and moderating. This model explains theories such as cognitive factors, social theory, and Prospect theory. Cognitive factor theory explains how individual investors behave when he is deciding on an investment. It also explains how's his behavior, emotions, and perception changes in taking different actions plan of investment.

**4.1 Confirmatory Factor Analysis**

The table 1 shows the detail of the calculation of present factor loading, Cornbrash's alpha, rho A, composite reliability, and Average Variance Extracted (AVE), all the above tests were used to show the convergent validity of the construct. The construct validity is the factor used to converge and loading of items in detail whether the value is greater than 0.5 and therefore the item refused has factor loading Less than 0.5 should be erased from the calculated table and do not consider valid. Therefore, such items should be ignored and removed from the scale. A variable that needs to be checked by convergent validity is checked by composite reliability and Average Variance Extracted (AVE). For all variables, the value of composite reliability should be greater than 0.8 and if any one of them has a composite reliability value higher than 0.8, it indicates that for all variables convergent validity was found and established.

**Table 1: Reliability and validity indicators**

| | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| **Financial Literacy** | 0.937 | 0.978 | 0.954 | 0.839 |
| **Herding behavior** | 0.752 | 0.765 | 0.842 | 0.571 |
| **Investor behavior** | 0.706 | 0.749 | 0.814 | 0.528 |
| **Over Confidence** | 0.774 | 0.795 | 0.845 | 0.526 |
| **Past Investment Experience** | 0.829 | 0.861 | 0.879 | 0.595 |

## 5.2 Discriminant Validity

The table 2 to use to show the data and values of the HTMT (Heterotrait – Monotrait) ratio. The testing of the discriminant validity has been done by the use of the HTMT ratio and a very reliable, efficient, and effective way of calculation method. HTMT ratio should be less than 0.85 to show confirmation of discriminant validity. To confirm the value on the discriminant validity scale, all the values of the ratio are as per threshold value. (Voorhees et al. 2016).

**Table 2. Discriminant validity through Heterotrait-Monotrait Ratio (HTMT)**

| | Financial Literacy | Herding behavior | Investor behavior | Over Confidence | Past Investment Experience |
|---|---|---|---|---|---|
| **Financial Literacy** | | | | | |
| **Herding behavior** | 0.318 | | | | |
| **Investor behavior** | 0.208 | 0.816 | | | |
| **Over Confidence** | 0.180 | 0.560 | 0.709 | | |
| **Past Investment Experience** | 0.285 | 0.368 | 0.374 | 0.338 | |

**Table 3: Outer loadings**

| | Financial Literacy | Herding behavior | Investor behavior | Over Confidence | Past Investment Experience |
|---|---|---|---|---|---|
| **FL1** | 0.912 | | | | |
| **FL2** | 0.944 | | | | |
| **FL3** | 0.916 | | | | |
| **FL5** | 0.890 | | | | |
| **HB1** | | 0.737 | | | |
| **HB2** | | 0.750 | | | |
| **HB3** | | 0.728 | | | |
| **HB5** | | 0.807 | | | |
| **IB1** | | | 0.822 | | |

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

| | | | | | |
|---|---|---|---|---|---|
| **IB2** | | | 0.812 | | |
| **IB3** | | | 0.631 | | |
| **IB4** | | | 0.614 | | |
| **OC1** | | | | 0.746 | |
| **OC2** | | | | 0.793 | |
| **OC3** | | | | 0.756 | |
| **OC4** | | | | 0.743 | |
| **OC5** | | | | 0.564 | |
| **PIE1** | | | | | 0.620 |
| **PIE2** | | | | | 0.795 |
| **PIE3** | | | | | 0.790 |
| **PIE4** | | | | | 0.790 |
| **PIE5** | | | | | 0.842 |

***FL: Financial literacy, HB: Herding Behaviors, OC: Overconfidence, PIE: Past Investment Experience***

## 4.2 Hypotheses Assessment Summary

**H1:** There is an impact of overconfidence on investor's behavior

**Table: 4 Direct Effects**

| Relationship | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **Over Confidence > Investor behavior** | 0.312 | 0.311 | 0.062 | 5.000 | 0.000 |

The data was analyzed it was found that the impact of overconfidence on investment behavior was significant p-value is 0.000 but has a relatively small effect original sample with a Beta value of 0.3 12. It is statistically significant. Here we reject the null hypothesis of H1.

**H2:** There is an impact of past investment experience on investors' behavior
**H4:** There is an impact of past investment experience on herding behavior

**Table: 5 Direct Effects**

| Relationship | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **Past Investment Experience > Investor behavior** | 0.093 | 0.085 | 0.055 | 1.684 | 0.098 |
| **Past Investment Experience > Herding behavior > Investor behavior** | 0.091 | 0.103 | 0.034 | 2.694 | 0.010 |

The analysis of data also reveals the impact of Past investment experience on investor behavior was insignificant (P = 0.098)

**H3:** There is an impact of overconfidence on herding behavior

**Table 6**

| Relationship | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **OverConfidence > Herding behavior** | 0.392 | 0.406 | 0.060 | 6.586 | 0.000 |

It was assumed that there is an impact of our confidence on herding behavior the data analyzed shows a significant relationship between the said variables (P-value is equal to 0.000) more from the Beta value 0.39 to be found that it has a moderate impact over Herding behavior.

**H5:** To understand the effect of financial literacy on overconfidence

**H6:** To understand the effect of financial literacy on past investment experience

**Table: 7 Moderating Effects results**

| Relationship | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **FL * OC > Investor behavior** | 0.118 | 0.094 | 0.087 | 1.350 | 0.183 |
| **FL * PIE > Investor behavior** | -0.058 | -0.049 | 0.062 | 0.927 | 0.359 |

Financial literacy was taken as a moderator in the research the relationship between overconfidence and investment behavior was checked with the moderation of financial literacy. It was found that financial literacy is an insignificant moderator in the relationship between overconfidence and investment behavior (P value=0.183).

Remittances Review
June 2024,
Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

**H7:** There is an impact of herding behavior on investor's behavior

**Table: 8 Direct Effects**

| Relationship | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **Herding behavior > Investor behavior** | 0.453 | 0.447 | 0.059 | 7.687 | 0.000 |

It was assumed that there is an impact of Herding behavior on investor behavior, the data analyzed shows a significant relationship between the said variables (P-value is equal to 0.000) which is less than 0.05 more than the Beta value is 0.453, and t –value is 7.687 to be found that the null hypothesis could be rejected.

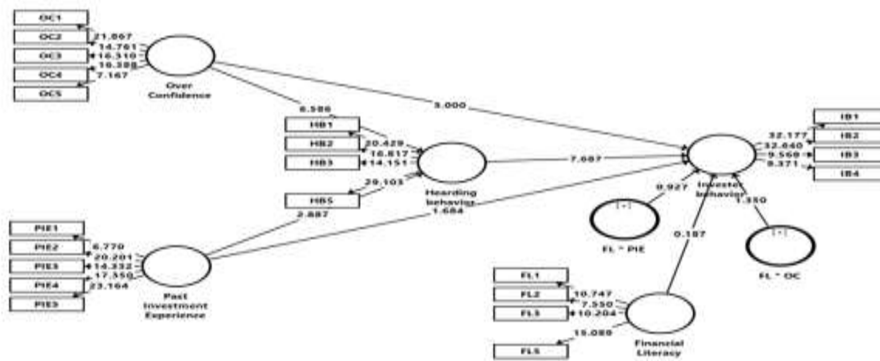


**Figure 2: Structural Model**

**Table: 9 Assessment of Structural Model**

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **FL * OC > Investor behavior** | 0.118 | 0.094 | 0.087 | 1.350 | 0.183 |
| **FL * PIE > Investor behavior** | -0.058 | -0.049 | 0.062 | 0.927 | 0.359 |
| **Herding behavior > Investor behavior** | 0.453 | 0.447 | 0.059 | 7.687 | 0.000 |
| **Over Confidence > Herding behavior** | 0.392 | 0.406 | 0.060 | 6.586 | 0.000 |
| **Over Confidence > Investor behavior** | 0.312 | 0.311 | 0.062 | 5.000 | 0.000 |
| **Past Investment Experience > Herding behavior** | 0.201 | 0.229 | 0.070 | 2.887 | 0.006 |
| **Past Investment Experience > Investor behavior** | 0.093 | 0.085 | 0.055 | 1.684 | 0.098 |

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

| | | | | | |
|---|---|---|---|---|---|
| **Past Investment Experience > Herding behavior > Investor behavior** | 0.091 | 0.103 | 0.034 | 2.694 | 0.010 |
| **Over Confidence > Herding behavior > Investor behavior** | 0.178 | 0.181 | 0.034 | 5.219 | 0.000 |

### 5.3 Robustness Tests

The majority of the effects are statistically significant, which suggests the robustness of the structural model. In summary, the data show that the measurement model (reliability and validity indicators) and the structural model (direct and moderating effects) appear to be robust for most relationships. However, there are a couple of interactions that do not appear to be statistically significant and may require further investigation or consideration.

**Table 10.**

| | Saturated Model | Estimated Model |
|---|---|---|
| **SRMR** | 0.075 | 0.081 |
| **d_ULS** | 1.440 | 1.656 |
| **d_G** | 0.451 | 0.458 |
| **Chi-Square** | 539.301 | 545.693 |
| **NFI** | 0.761 | 0.758 |

## 5. CONCLUSION & RECOMMENDATION

This study revealed that there is a strong positive between overconfidence and investor behavior of investors and which is supported by H1 and significantly proven over confidence boosts trade and buying and selling of Investors (Ullah, 2019 ) ( Moore, Kennedy, 2012 ) where the impact of past investment experience on investor behavior is significant which shows that their past investment experience has a negative impact in the actions, decisions, and plans of an investor during his investment decision making, so H2 is not supported. The study of the H3 hypothesis examined the mediating effect of heading behavior on the past investment experience of the

investor explaining statistically significant and has a positive impact. (Sabir, Mohammad & Shahar, 2019), (Thaler, 2010).

Therefore, it is proven that past investment experience has a great impact on the herding behavior of investors. This hypothesis was used to investigate the effect of past investment experience on the herding behavior of investors (Sabir, Mohammad & Shahar, 2019). Search findings explained that passed investment experience has a positive relationship with herding behavior and such findings are compatible with (Merli and Roger, 2013) and H4 supported. The study H3 hypothesis shows that there is strong impact of overconfidence on herding behavior and is significantly proven and has a positive relationship between variables and supported H3. Such results are based on (Fernandez et al, 2011), and (Ullah, 2019).

The study of the H5 hypothesis shows a moderating impact of financial literacy on overconfidence and it's also testing the relation between the moderating effect of financial literacy on overconfidence is an insignificant result and not supported. It shows that the financial literacy role is not a moderating variable (V Novianggie, N Asandimitra, 2019). Financial literacy has a moderating role in the relationship between past investment experience and investor behavior. This role of financial literacy has a negative impact and therefore it is also not supported it shows an insignificant result. H7 is the hypothesis that shows the relationship between herding behavior on investor behavior and a significant and positive relation between these two variables. Such results show that investors herd the behavior of other investors (M. Baker and Wurgler, 2007) (Ullah, 2019) and investor is a risk bears. H7 is supported and accepted.

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

Smart–PLS was used for the evaluation, assessment, and determination of the measurement model and calculation of the structural model researcher indicates Figure- 2 which shows the outcome and desired result after the calculation of the measurement model.

## 6. IMPLICATIONS

This research was intended to find the impact of our confidence past investment experience on investor behavior with the effect of financial literacy as a moderator and herding behavior as a mediating variable.

In the first hypothesis H1, the data analysis revealed that there is an impact of overconfidence on investor behavior. It also showed overconfidence is significantly positively related to investor behavior. The first hypothesis assumes a major influence of overconfidence on the investor's behavior. The results shown in the structure model supports the H1 (beta equals 0.312) and P values less than 0.05 which is 0.000 this means that most investor is much confident about the making of profit in their t is not much sustained in longer plans. Similarly, a moderate level of overconfidence May sustain in longer plans over future decisions of investors and it may also be the balance behavior of investors. Buying and selling then the low amount of transaction. (Anderson, Brion, Moore&Kennedy, 2012) (Odean, 1998) (ZainUllah, 2019). Moreover, proportional to the senses are the national. Overconfidence influence investment decisions when our conference increases which result in the possibility of positive investor behavior during investment decision. The other research from (Alquraan et al. 2016); (Alrabadi et al. 2018); (Budiarto and Susanti 2017) ;( Firah et al. 2017); (Khalid et al. 2016); (Pradikasari and Isbanah 2018); (Qasim et al. 2018) also showed that overconfidence has a positive influence on the investment decision making (V Novianggie, N Asandimitra, 2019).

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

The second hypothesis, the data analysis revealed that there is a significant impact of past investment experience on investor behavior. The findings discovered that past investment experience has a beta equal to 0.093 and a p-value of 0.98 which is greater than 0.05 and it has a negative relationship between variables such as past investment experience and investor behavior these findings are also explained and shown (hair et al, 2017).

In the third hypothesis, the study aimed to narrate the variables which give stability to the relationship between overconfidence on herding behavior. This study revealed that there is a positive relationship between overconfidence and the herding behavior of investors and thus it is accepted and supported by H3. Search results are based upon (Fernandez et al, 2011). Whereas overconfident investors overstate the idea, information, and decisions of the other investors in the decision-making.

The fourth hypothesis was to reveal the information related to the impact of past investment experience on the herding behavior of investors. The findings of the research show that the beta is equal to 0.0 91 and the p-value is equal to 0.0 10 is statistically significant. The finding reveals that past investment experience has a positive relationship with heading behavior and these findings are well matched (Merlin and Roger, 2013). H4 was accepted because past investment experience contributes to herding behavior (Thaler, 2010), and it is strong evidence. Similarly, investors will act riskier in their decisions, and actions and they became risk bearers. (Nofsinger, 2005), (Sabir, Mohammad & Shahar, 2019).

The fifth hypothesis reveals that there is no impact of financial literacy on overconfidence. Hypothesis 5 is an exam in that the moderating effect of financial literacy on the relationship of overconfidence of investors is negative and insignificant and it is also enhanced that there is no

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

effect of financial literacy on overconfidence. The behavior of financial literacy does not affect overconfidence financial literacy does not work when an investor behaves as overconfident making the investment decision and investor behavior of overconfident didn't rely on financial literacy in the investment decision. The h5 hypothesis has a beta value and p-value which shows that there is no effect on the investor behavior as overconfident why in the final decision-making of investment. It has no moderating impact on overconfidence. Financial literacy cannot mod rate this relation. Another feature of financial literacy owned by the investor cannot produce the imaging behavior of the investor in making the investment decision. Their financial literacy cannot moderate the relationship between overconfidence with investment decisions. It can be said that the financial literacy role is not a moderator variable. Therefore, the conclusive result is that financial literacy has a reduced impact on investor level of investment. The investor should consider all the factors of knowledge skills ability and experience at the time of his investment decision. (Novianggie, 2019).

The sixth hypothesis H6 revealed that there is no impact of financial literacy on past investment experience. This hypothesis H6 examined that financial literacy has no moderating effect on the past investment experience of investors. Between financial literacy and past investment, experience is negative and insignificant that beta value and p-value which is less than 0.05 so financial literacy has no impact on the fast investment experience of investors in the investment decision making. Financial literacy does not moderate the pass investment experience off investors, therefore, investors do not gain any knowledge from their own experience and knowledge will also not increase when herding and following their own experience of investment decisions. (Novianggie, 2019) financial literacy has no impact as a moderating role

Volume: 9, No: 3, pp. 37-70
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)
on the relationship of past investment experience. It gives a negative effect on the fast investment experience of investors (Sabir, Mohammad & Shahar, 2019).

The seventh hypothesis H7 herding behavior on investor behavior. It is a strong positive relationship between these two variables. The effect of adding behavior on investor behavior will be explained as a beta value of 0.45 3 and whereas p-value which is less than 0.05 and this results in repeated with (Kruyman, 2009), (Hirshleifer and Troy, 2003) and this relation of variables can be explained as investor tends to follow other investor and imitates other investor decision ideas and thoughts. (M. Baker and Wurgler, 2007), (Ullah, 2019)).it is because investors are wins' bear and they want as good as their other competitor investor or peers. The evidence of investors heard other invest as behavior just because of his small and experienced practice in the business and he started following the experience and successful investors to get the best results and maximum profit in his business.

Several researchers have recognized different factors that motivate the investor to promote his future profit maximization having working on different variables. This research is based on past investment experience, herding behavior, and the overconfidence behavior of investors. Investors indulge in behavior biases and this will result in irrational investment decisions. (Ullah, 2019) the current study fills the gap in financial literacy is hurting the bases of finding it is recommended for the individual investor that financial literacy should be taken as an independent variable or intervening Variable Rather moderating variable ( V Novianggie, N Asandimitra, 2019 ). Investors should be aware of his emotional biasedness and discipline, social factors, and cognitive factors. Where overconfidence, herding Behavior, and past investment experience have a possible effect and great impact on investor behavior.

Future researchers should focus on other variables such as uncertainty, information availability, and risk-taking. (Saeed, 2019) moreover suggested variables to test by the use of another independent variable such as cognitive dissonance, availability bias, self-attribution bias, conservation bias, ambiguity a version bias, mental accounting, self-control bias, loss aversion bias, regency bias, framing bias, and hindsight bias. (V Novianggie, N Asandimitra, 2019). Further search research could be studied with moderating role locus of control as well (Ullah, 2019)

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