

# ***Investor Bias: A Case of Nepalese Investor Perspective***

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## **Abstract**

*Behavioral finance incorporates the field of psychology into finance and studies the behavior of individual which are guided by behavioral biases. The current study aims to examine the behavioral biases which can be seen in Nepalese stock investor and studies if the behavioral biases affect the financial decisions of investor or not. The study tested the following behavioral bias: Loss Aversion, Overconfidence, Optimism, Mental Accounting, Illusion of Control, Confirmation and Status Quo Bias. The data was collected from 136 respondents. The sample size was set as minimum of 120 on the basis of rule of thumb of Roscoe (1975). Likewise, four in-depth interviews were taken in order to collect response from institutional investor. The number of interviews for institutional investor was determined on the basis of Rao soft Sample Size Calculator. The study showed that Loss aversion, overconfidence and confirmation bias were correlated with financial decision making of the investor. The correlations were significant. But the regression analysis showed that there is influence of loss aversion, overconfidence and optimism bias in the financial decisions. Confirmation bias did not have significant relationship. Also, the behavioral bias as a whole affects the financial decisions. Likewise, the study also showed that status quo bias and mental accounting bias are prevailed in the institutional investor. These biases also influenced the individual investor financial decisions. As a whole the study shows that Nepalese investor are influenced by behavioral biases.*

**Key words:** Investment Management, Behavioral Finance, Behavioral Bias.

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## **I. Introduction**

Behavioral finance is defined by Shefrin (1999) as a rapidly growing area that deals with the influence of psychology on the behavior of financial practitioners. Behavioral finance is a new paradigm of finance, which seeks to supplement the modern theories of finance by introducing behavioral aspects to the decision-making process. It focuses on the application of psychological and economic principles for the improvement of financial decision making as per Olsen (1998).

Hasan, Khalid and Habib (2014) identified the influence of two behavioral bias "loss

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aversion and overconfidence” bias in the investment decision. The study showed loss and overconfidence bias were influenced by age and gender.

In another study, Babajidi and Aditiloye (2012) studied three other biases which affected the financial decision making. The impact of overconfidence, loss aversion, framing, anchoring and status quo bias on Nigeria stock during last twenty years were outlined. In the paper, it was concluded that bias can be reduced through the assistance of professional services.

Chira, Adams, and Thornton (2008) targeted business students and studied how cognitive and heuristics affect their decision – making process. The study was conducted through questionnaire and designed to check the behavior mistakes that they make during both financial and non-financial decision making. The data resulted on presence of bias and heuristics on the students and these biases were overconfidence, excessive optimism, loss aversion, familiarity, sunk cost, illusion of control and confirmation biases. Also, the author concluded that student rationality is bounded in their decision – making behavior. Even the business students were not immune to the biases.

Bashir, Javed, Ali, Meer and Naseem (2013) also identified impact of overconfidence, confirmation, illusion of control, loss aversion, mental accounting, status quo and excessive optimism bias in the financial decision making of Pakistani Investors.

Likewise, Adhikari (2010) studied the impact of herd behavior and overconfidence bias on Nepalese investor. Still there are many other biases to be tested among the Nepalese investor. This leads to a research gap where different biases are yet to be tested and also their influence in financial decisions.

The current study will focus on the overconfidence, confirmation, illusion of control, loss aversion, mental accounting, status quo and excessive optimism biases and their influence on Nepalese investor’s financial decision – making process. Similarly, the strength of relationship between these behavioral bias and Nepalese investors financial decision making will be analyzed. Also, the influence of demographic variable on the biases will be examined. The biases held by individual investor will be compared with the biases held by the institutional investors. The study deals with the following issues:

- What bias can be seen in Nepalese Investor?
- What groups of people are more susceptible to the bias?
- Is there any relation between different biases and investment decision?
- On what extent is the bias associated with financial decision making?

The main objective of the study is to identify the biases on the Nepalese investor’s financial decision – making process. The other specific objectives of the study are as follows:

- To examine the relationship between these behavioral biases and investor’s financial decision making.
- To analyze the relationship of demographic variable on these biases.
- To analyze biases held by individual and institutional investors.

The aim of study is to explain the influence of behavioral biases on the investor financial decision making. The past literature has showed that bias influences the financial decision of the investors. The outcomes of the study will be helpful for the investors, policy makers, financial advisor, and students. The individual investor can take help from the findings of this study and can come to know which bias interrupted their decision making, by overcoming these biases they can make good investment decisions. Thus, individual can understand the pitfall and make their decision wiser, free from bias.

In the Nepalese Stock Market where information plays a vital role, the findings of the study can provide a framework to understand the behavioral aspect of individual in the investment decision making. The individual investor can be aware where were they going wrong in the process of investment decision making and understand the way institutional investor make decision.

Likewise, the study has some contribution to the existing literature. The contribution of this study in the existing literature is that there was no much study where all these biases i.e., status quo, overconfidence, confirmation bias, illusion of control, excessive optimism, loss of aversion, and mental accounting have been discussed together. This study covers the knowledge gap of the previous studies.

## **II. Theoretical Framework**

Kahneman and Riepe(1998) presented a paper which highlighted about behavioral bias affecting the decisions. They termed behavioral bias and wrong judgment as cognitive illusions which affect the decision-making potential of the investors. They have focused on eight different biases, out of which overconfidence and optimism were two. Likewise, they have also presented recommendations for financial advisor to overcome these biases.

Likewise, Riccardi and Baker (2014) mentioned that Investor displays various behavior which affects the decision-making process. Investors deviates from rationality and logics and be influenced by the bias. The author has mentioned various biases and said that although the bias cannot be completely avoided but can be managed but still the investor will be influenced by bias. They further explained that investor exhibit status quo behavior or overconfident behavior.

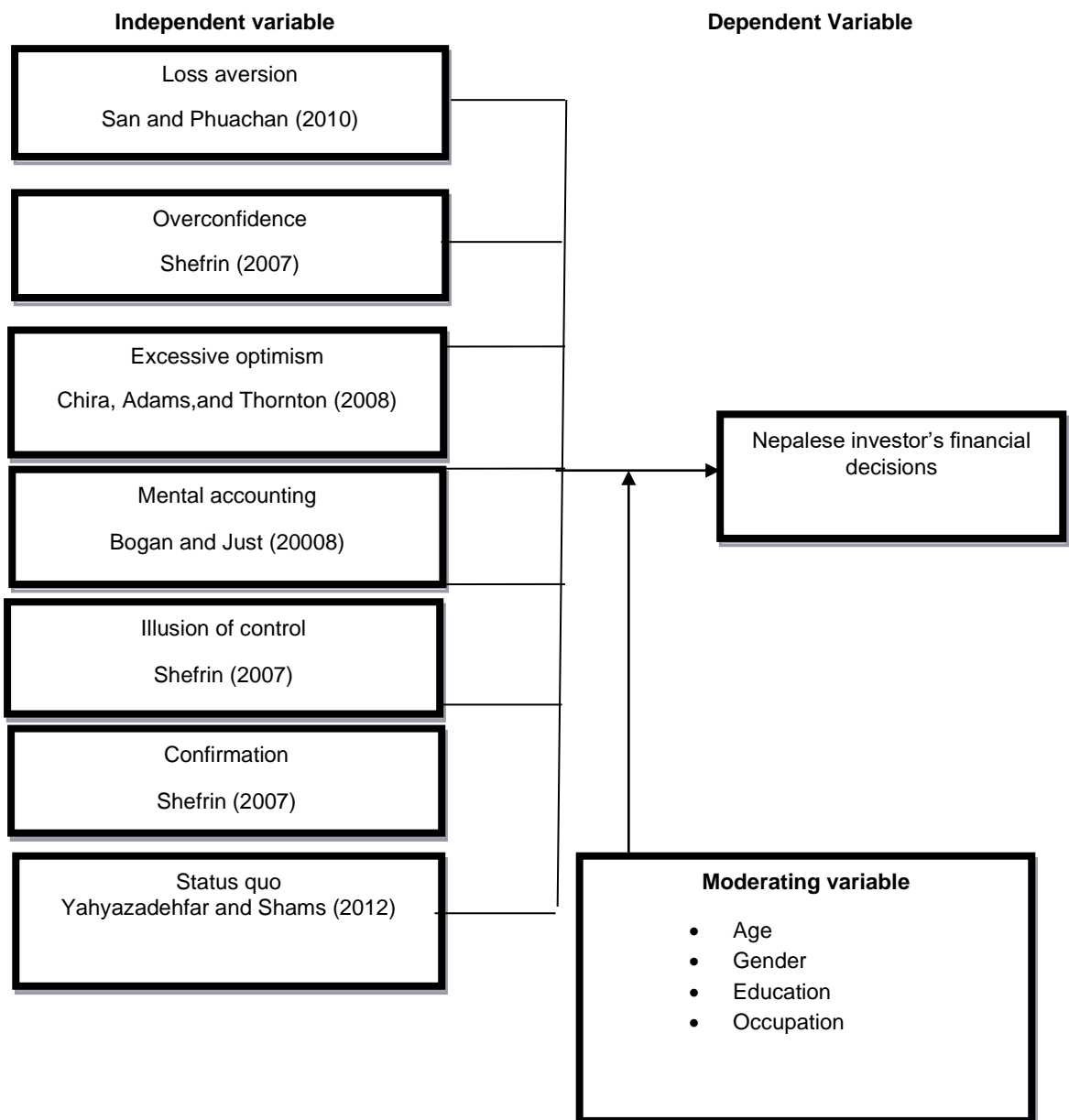
Also, Ashta (2005) claimed that behavioral bias affects the decision making in risky project evaluation. He forwarded Joss aversion, framing, herd behavior, optimism and anchoring as the biases which affected the decision making for risky projects. He has forwarded the role of psychology as base for these biases. The study was done in corporate investment decision.

Suresh (2013) adopted exploratory and descriptive based on the figures from the secondary data of the various financial reports and speeches of financial advisors and primary data from researcher's and various financial expert's ideas and opinions mentioned that the understanding of behavioral biases can help individual take sound financial decisions and in tum make him a better investor.

Adhikari (2010) surveyed on Nepalese investor and concluded that Nepalese investor's financial decisions are also influenced by behavioral biases. These behavioral biases were herding behavior and overconfidence.

Likewise, Bashir, Javed, Ali, Meer and Naseem (2013) also surveyed on Pakistani investor and found the presence of behavioral bias OB Pakistani investor. They too found similar result as of Adhikari (2010). The behavioral bias affected the decision-making process of Pakistani investor as of Nepalese investor.

**Theoretical framework**



According to Sekaran and Bougie (2012) dependent variable is the one on which the researcher has primary interest. The researcher tries to predict, describe or explain its variability. The variability comes from the change in those variables on which it depends. Financial decision making is the dependent variable.

#### *Decision making*

Decision-making can be defined as the process of choosing a particular alternative from a number of alternatives. It is an activity that follows after proper evaluation of all the alternatives. (Mathews, 2005).

#### *Independent variable*

As per Sekaran and Bougie (2012) independent variable is the one which influences the dependent variable in either positive or in negative way. In this case, behavioral bias affects the decision making so behavioral biases are independent variable.

#### *Loss aversion*

Loss aversion refers to the tendency for people to strongly prefer avoiding losses than acquiring gains. Loss aversion was first convincingly demonstrated by Tversky and Kahneman - Pompian (2006).

#### *Overconfidence*

The overconfidence is a bias in which a people overestimate both their own predictive abilities and the precision of the information they've been given. It is a tendency in which a person subjective confidence in his or her judgments is reliably greater than the objective accuracy of those judgments, especially when confidence is relatively high – Pompian (2006).

#### *Confirmation*

Confirmation bias, also called myside bias, is the tendency a have type of selective perception that emphasizes ideas that confirm our beliefs, while devaluing whatever contradicts our beliefs. It is a type of cognitive bias and a systematic error of inductive reasoning -Pompian (2006).

#### *Status Quo*

Status quo bias is an emotional bias that predisposes people facing an array of choice options to elect whatever option ratifies or extends the existing condition (i.e., status quo) in lieu of alternative options that might bring about change – Pompian (2006).

#### *Mental accounting*

Mental accounting contends that individuals di vide their current and future assets into separate, non – transferable portions. The theory purports individuals a sig n different levels of utility to each asset group, which affects their consumption decisions and other behaviors – Pompian (2006).

*Illusion of control*

The illusion of control is the tendency for people to overestimate their ability to control events; for example, it occurs when someone feels a sense of control over outcomes that they demonstrably do not influence – Pompian (2006).

*Excess optimism*

The optimism bias is a bias that causes a person to believe that they are less at risk of experiencing a negative event compared to others – Pompian (2006).

*Moderating variable*

Sekaran and Bougie (2012) has again defined moderating variables as the one which has a strong contingent effect on the independent variable - dependent variable relationship. In this case age, gender, occupation and education, background is moderating variable.

### III Research Methodology

In order to test the behavioral bias on individual investor, questionnaire method was used and in – depth interview was carried out for institutional investor. The questionnaire contained bias testing question and likert scale questions for financial decisions alongside the demographic information. The questionnaire was designed to carry out cross tabulation, chi square, descriptive analysis, correlation and regression analysis. A separate checklist question was prepared for in depth interview.

The data was collected from 136 respondents. The sample size was set as minimum of 120 on the basis of rule of thumb of Roscoe (1975). Likewise, four in-depth interviews were taken in order to collect response from institutional investor. The number of interviews for institutional investor was determined on the basis of Raosoft Sample Size Calculator.

### IV Results and Analysis

As per the respondent profile, majority of the individual investor in stock market are male. Only one third of the investors are female. In case of age profile, the respondents are almost equally distributed in the entire age category. The age group of 30 to 40 has higher proportion of investor, i.e., 41.2 percent. Likewise, significant proportions of investor (42.6%) are from non – finance academic background.

The data showed those Nepalese individual investors were mainly influenced by Loss Aversion, Overconfidence, Optimism, Mental Accounting and Status Quo bias. More than 50 percent of the respondents were influenced by these biases. While illusion of control and confirmation bias influenced less proportion of the investor.

The behavioral biases with respect to the demographic variable (gender, age, education and occupation) were tested. Male were more influenced by loss aversion, overconfidence, optimism and mental accounting bias. While female was more influenced by confirmation and status quo bias. There was no significant relationship between gender and behavioral bias. The age group of 20 to 30 was more influenced by loss aversion, overconfidence, optimism and status quo bias. While the mid age group, i.e., 30 to 40 was more influenced

by mental accounting bias. Similarly, confirmation bias mostly influenced the investor above the age group of 40. The study also showed that as age increases, influence of overconfidence and optimism bias also reduces. Likewise, the respondent from finance background were more overconfident and optimist. The respondents from non-finance background were more influenced by confirmation, status quo and mental accounting bias. The study also showed that regular traders were more loss averse, overconfident and optimist.

The study showed that Loss aversion, overconfidence and confirmation bias were correlated with financial decision making of the investor. The correlations were significant. But the regression analysis showed that there is influence of loss aversion, overconfidence and optimism bias in the financial decisions. Confirmation bias did not have significant relationship. Also, the behavioral bias as a whole affects the financial decisions.

Likewise, the study also showed that status quo bias and mental accounting bias are prevailed in the institutional investor. These biases also influenced the individual investor financial decisions.

As a whole the study shows that Nepalese investor are influenced by behavioral biases. This bias also affects the financial decisions taken by the investor. The bias influences investor across the gender, different age group and occupation. The investors who regularly invest, do have financial background and are experienced are also influenced by behavioral bias.

#### Relationship between behavioral biases

The study of interrelationship between the selected behavioral biases is one of the major objectives of the study. One behavioral bias can influence another bias. The relationship between the behavioral biases is studied by analyzing the correlation between the biases. Table 4.37 exhibits the correlation between the biases for the study. The correlation between the biases has been studied at the significance level of 1 percent and 5 percent significance level.

The data presented in table shows that there exist the significant relationships. The first significant relationship exists between loss aversion and optimism bias. The relationship is positive and significant. Similarly, loss aversion has significant relationship with mental accounting, confirmation and status quo bias but the relationship is negative.

Similarly, overconfidence bias also has significant relationship with optimism bias and confirmation bias. The relationship with optimism bias is significant at 5 percent and the relationship is positive. On other hand, the relationship with confirmation bias is negative and significant at both 1 percent and 5 percent.

Overconfidence bias also has significant relationship with optimism bias and confirmation bias. The relationship with optimism bias is significant at 5 percent and the relationship is positive. The overconfident investor will have more confidence in his/her decision and will trade more and be optimist that he will earn good return or had taken positive decisions. On other hand, the relationship with confirmation bias is negative and significant at both 1

percent and 5 percent. Thus, the overconfident investor will ignore the negative information and rely on positives one only.

Mental accounting and illusion of control also do have positive and significant relationship at 1 percent significance level. And the last relationship exists between illusion of control and status quo bias. The relationship is positive between these two biases.

**Table 4.37**

*Relationship between behavioral biases*

|     | LA | OVC  | OPT    | MA      | ILC   | CON     | SQ      |
|-----|----|------|--------|---------|-------|---------|---------|
| LA  | 1  | .083 | .346** | -.269** | .038  | -.176*  | -.248** |
|     |    | .338 | .000   | .002    | .656  | .040    | .004    |
| OVC |    | 1    | .184*  | .020    | -.102 | -.259** | -.100   |
|     |    |      | .032   | .813    | .236  | .002    | .246    |
| OPT |    |      | 1      | -.176*  | .176* | -.129   | .052    |
|     |    |      |        | .040    | .040  | .136    | .552    |
| MA  |    |      |        | 1       | .176* | .018    | .052    |
|     |    |      |        |         | .040  | .832    | .552    |
| ILC |    |      |        |         | 1     | -.165   | .292**  |
|     |    |      |        |         |       | .054    | .001    |
| CON |    |      |        |         |       | 1       | .126    |
|     |    |      |        |         |       |         | .144    |
| SQ  |    |      |        |         |       |         | 1       |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The positive relationship signifies that if the influence of one bias increases, the influence of another bias will also increase. For example, if the influence of overconfidence increases



then there are chances that the individual will demonstrate optimism bias. Similar relation exists between loss aversion and optimism, optimism and illusion of control, mental accounting and illusion of control, and status quo and Illusion of Control.

Likewise, negative relation signifies the decrease in influence level with the increase in influence level of another bias. Such relation exists between loss aversion and mental accounting, loss aversion and confirmation, loss aversion and status quo, and optimism and mental accounting.

#### Regression analysis

For the measurement of influence of behavioral bias on investment decision, regression analysis has been used in the study. Regression analysis has been done by taking bias individually and by taking all bias in a whole as well. As mentioned in the theoretical framework, investment decisions are taken as dependent variable while behavioral bias is taken as independent variable.

Table 4.38 shows the regression analysis between the financial decision making and behavioral biases. It shows the relationship between behavioral bias and financial decisions. The table only shows the model which had significant relationship. All other models which were not significant are not presented in the table.

The table shows that, loss aversion, overconfidence and optimism bias are significant at either 1 percent or at 5 percent. In Model 3, where R square is 0.097, independent variables are able to explain 9.7 percent of the variability in dependent variable.

The F ratio in the table shows that if the overall regression model is a good fit or not for the data. The Model 3 shows that the relationship between independent and dependent variable is statistically significant. This concludes that there is influence of behavioral bias on investment decisions.

Unstandardized coefficients indicate how much dependent variable varies with an independent variable, where all other independent variable is made constant.

Therefore, loss aversion, overconfidence and optimism bias individually have impact on financial decisions. Likewise behavioral bias also influences the financial decisions.

**Table 4.38***Regression analysis of behavioral bias and financial decisions*

| Model | Intercept          | Regression Coefficient |                     |                    |                  |                 |                  |                  | R <sup>2</sup> | SEE   | F                  |
|-------|--------------------|------------------------|---------------------|--------------------|------------------|-----------------|------------------|------------------|----------------|-------|--------------------|
|       |                    | LA                     | OVC                 | OPT                | MA               | ILC             | CON              | SQ               |                |       |                    |
| 1     | 2.53<br>(0.0) **   | 0.429<br>(0.04) *      |                     |                    |                  |                 |                  |                  | 0.42           | 0.918 | 5.805<br>(0.04) *  |
| 2     | 4.727<br>(0.00) ** |                        | -0.897<br>(0.00) ** |                    |                  |                 |                  |                  | 0.157          | 0.867 | 25.00<br>(0.00) ** |
| 3     | 3.155<br>(0.00) ** | -1.38<br>(0.383)       | -0.256<br>(0.103)   | 0.366<br>(0.021) * | 0.116<br>(0.439) | 0.261<br>(0.99) | 0.076<br>(0.637) | -0.238<br>(0.80) | 0.097          | 0.702 | 1.965<br>(0.00) ** |

Notes: (1) Figures in the parentheses are p value. (2) \*\*Relationship is significant at the 0.01 level. (3) \* Correlation is significant at the 0.05 level (2-tailed).

### **Discussion**

The finding of the study shows that behavioral bias affects the decision – making process of the investors. This outcome has been consistent with the study of Bashir, Javed, Ali, Meer and Naseem (2013) and Adhikari (2010). Their study also showed that behavioral bias has influence on the financial decision making of the investors.

The result from the study showed that the more than the majority of Nepalese investors were influenced by Loss Aversion, Overconfidence, Optimism, Mental accounting and Status quo bias. While the Illusion of control and Confirmation bias affected a small proportion of the respondents. However, it was Loss Aversion, overconfidence and optimism bias which had significant relationship with the financial decisions. These results were aligned the previous studies of Odean (1998) for loss aversion, Chen, Kim, Nofsinger and Rui (2007) for

overconfidence and Kafayat (2014) for optimism bias. Also, the study of Barandagh and Hasanzadeh (2013) was aligned as both studies showed no influence of mental accounting on investment decisions.

The current study also concluded that Male are more loss averse. The difference was very negligible. This finding was not consistent with the previous study of Onsomu (2014) and Hasan, Khalid and Habin (2014). Similarly, Onsomu tested overconfidence and the result was similar with the current study. In both the study male were more overconfident than the females. The result for confirmation bias in gender was also consistent with Onsomu study, where in both case female is more affected by Confirmation bias.

Likewise, the investors from finance background are more prone to overconfidence and optimism bias. The likely reason may be the capability of the investor which they obtained from their educational background. The investors who trade regularly are influenced by overconfidence and optimism bias. The similar result was produced by the study of Barber and Odean (2000) who concluded that overconfident investor trade too much and are optimist in their decision.

The interview carried out with the institutional investor showed that Institutional investor possessed Mental accounting and Status quo bias. The output was again similar with of Fisher and Statman (1997) who reported that institutional investor is influenced by mental accounting bias.

All the objectives were fulfilled of the study. The biases were held by both individual and institutional investor were analyzed, the significant relationship between behavioral bias and investment decisions were identified, the relationship of bias with respect to demographic variables were also studied and the comparison of bias held by individual and institutional investor was also carried out.

### **Conclusion and implications**

The demographic profile of Nepalese investor remains same as it was on the past. The market is dominated by the male. The similar respondent profile was seen in the study of Adhikari (2010). The profile in terms of age group was also the same. Likewise, in this study education background was classified as finance and non-finance which cannot be seen in previous study. It is interesting to analyze the result that the respondents from non-finance were more susceptible to the bias. However, the respondents from finance background were influenced by loss aversion, overconfidence and optimism bias. The reason may be the knowledge of market and subject might had increased the level of confidence and optimism.

The findings show that Nepalese investor is more prone to Loss aversion, overconfidence, optimism, status quo and mental accounting bias. This concludes that Nepalese investor prefer to hold the losing investment while they trade the winning one. This goes against the risk-return principle of Finance. Similarly, the result has shown that Nepalese are overconfident and optimist but they have no control on their decisions as they are not susceptible of illusion of control bias. This shows that Nepalese believe in other random chances for the return rather than their skills. Also, Nepalese investors divide their

investment into different categories. This tendency is shown by the institutional investors also.

Although, Nepalese investor has shown these biases but the biases which affects their decision making are Loss Aversion, Overconfidence and Optimism bias. Status quo bias does not influence the investment decisions of the Nepalese investor. Among Loss aversion, overconfidence and optimism bias, overconfidence have higher level of influence followed by the optimism bias.

Male are exhibiting more loss aversion, overconfidence, optimism and mental accounting bias. While female is more influenced by confirmation and status quo bias. Likewise, as the experience in trading increases the investor are less prone to the bias. The susceptibility for the bias has decreased as the experience of investor has increased.

As a whole, it can be concluded that Nepalese investor are prone to number of biases but all the bias does not influence the decision-making process of the investor.

There are number of implications that can be drawn from the study. Investors have to know the fact that market is groom by psychology. There will be psychological factor in the market so proper analysis of fundamental and technical tool is important alongside the understanding of psychological factor. The investor has to be aware about the behavioral bias inherent in him to the possible extent. Also, the result has shown that the investors from non-finance background are more influenced by the bias so it is very important for the investor to have financial knowledge while investing in the financial market. Also, the individual can follow as it seen that they are less influenced by the biases and hence their decision can be wiser in compared to other. Also, another implication which can be drawn is for the young trader. They are more influenced by bias so they have to gain more experience in order to eliminate behavioral bias to the possible extent.

The current study has left door open for further study also. Pompian (2006) has identified 20 behavioral biases. These biases can be tested under the similar study. Also, various other study has included the aspect of personality which affects the behavioral bias and decision making. This also can be studied under the similar study with new model. There are other similar study also where the impact of behavioral bias on security prices has been tested. Such study can also be carried out. Also, the secondary data from the stock market can also be used for further study. Lastly, the study can be carried out in other market as bond market, real estate, gold or foreign currency market.

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