



## Behavioural Finance and Stock Investment Decisions

Mohan Prasad Sapkota

Faculty of Management, Birendra Multiple Campus,  
Tribhuvan University, Bharatpur, Chitwan, Nepal.

### Abstract

*Market anomalies is the source of inefficient market where investors can generate abnormal return which is the centre point of behaviour finance. Behavioural finance incorporates the human behaviour; cognitive and social aspects, emotions, moods and psychology of the individual investors that might create investment mistakes. This study focuses on exploring the influence of behavioural finance on stock investment decision of the master level students in Chitwan district due to poor literature available in this field. This study is based on quantitative approach of research and utilizes analytical research design. The sample of the study is 284 students with usable response rate of 60.21 percent. This study utilizes reliability analysis, descriptive statistics and multiple regression analysis. Evidence indicates that herding, loss aversion, overconfidence and risk propensity has significant positive influence on stock investment decisions among investors. Finally, this study concluded that behavioural finance plays the key role while making stock investment decision of the students. In investment decision, investors should properly understand financial behaviour biases that facilitates investors while making superior investment decisions as well as risk propensity will make investors aware of fears, nervous and uncertainty toward risks which might occurs while making stock investment decisions.*

**Keywords:** *Behaviour Finance; Herding; Loss Aversion; Overconfidence; Risk Perception; Stock Investment Decision.*

Corresponding E-mail: mohansapkota24@gmail.com

## Introduction

Conventional finance theory is based on investors are supposed to be rational and wealth maximisers so they always tend to rational financial decisions which is the central motto of modern portfolio theory (Markowitz, 1952), capital assets pricing model (Sharpe, 1964) and efficient market hypothesis (Fama, 1970). The standard finance has been the paramount subject matter for the numerous decades focus on cogent choice of investors focusing to maximizing expected utility is based on classical decision theory, rationality, risk aversion, modern portfolio theory (MPT), the capital assets pricing model (CAPM), and the efficient market hypothesis (EMH) (Ackert, 2014). Furthermore, Ackert (2014) explained that numerous empirical studies and evidences justified that many of the beliefs and evidences associated with standard finance are unrealistic, unsound and invalid. Investors take decisions rationally due to they are risk averse. However, there is presence of some behavioural biases like herding, overconfidence, anchoring, farming and representative biases that might disturb the rationality of the investors and sound influences on stock investment decision making process (Bagchi et al., 2022). Therefore, behavioural finance enlarges from the pitfall assumption of rationality of the standard finance and it contributes to understand the investors behaviour and stock market behaviour (Sharma & Sharma, 2022). Behaviour finance utilizes insights from finance, sociology and psychology to better understand the investors behaviour of individuals, groups and markets and it is based on behavioural decision theory, bounded rationality, prospect theory, farming, heuristics, overconfidence, regret aversion theory and mental accounting with emerging fields of study are behavioural portfolio theory (BPT), the behavioural assets pricing model (BAPM), and the adaptive markets hypothesis (Ackert, 2014).

Investor behavioural biases affects investor's decision-making ability which ultimately affects the rational decisions making process (Kumar & Goyal, 2015). There is immense area in behavioural finance which can be studied in the future (Zahera & Bansal, 2018). There is still presence of scope to study in depth of the behavioural finance in developing economies (Sharma & Sharma, 2022). Likewise, numerous empirical evidences in different financial markets justified that investment decisions are not consistently based on the crux of contemporary financial theories, as a sequel, studies of behavioural finance became more crucial in stock investment decision-making process (Ackert, 2014). Behavioural finance is profound by different scholars

to elaborate investors behaviour while standard finance fails to explain sufficiently (Sharma & Sharma, 2022). There is no one specific behaviour that influence stock investment decision so this study utilizes four behavioural biases to explain the stock investment decision. To the best knowledge of the researcher, there are no any previous studies that explain about investment behaviour of master level students of management stream especially in Chitwan district. So, there is no clear finding about influences of behavioural finance of students while making stock investment decisions. Likewise, there are very nominal studies that incorporates the risk propensity as behavioural biases in Nepalese context so there is no clear information about direction and influences of risk propensity on stock investment decisions. Hence, the basic objective of this study is to explore the influence of behavioural finance on stock investment decision among the master level students especially in management stream in Chitwan district.

This study has been segmented into five sections. Section 1 presents background of the study, section 2 is the literature review, section 3 documents the research methodology, section 4 dispenses the results and discussion. Conclusions and implications are documented into section 5. Finally, references are incorporated at the end of the study.

## **Literature Review**

Investors follow the herd behaviour like when market is rise and increases in trading volume, investors become more positive, enthusiastic and optimistic, neglecting their own information and follows the other buying decisions. Contrarily, when the stock market falls, drives by panic, fear and risk, investors adopt the market consensus and engage in excessive selling of securities (Pochea et al., 2017). The global financial crises have been changed the presence of herding behaviour during conditions of upward and downward in the market place and in each sector (Elshqirat, 2019).

Wu et al. (2020) found that herding behaviour is more evident for upside market gesture, poor trading volume in the market place, and weaker market volatility caused by pandemic 2019. Bagchi et al. (2022) found that herding behaviour has significant influence on individual investment decision-making process. Similarly, different studies found that herding has significant positive influence on investment decision-making process (Desrita, 2022; Adielyani & Mawardi, 2020; Madaan & Singh, 2019).

Likewise, Jain et al. (2020) found that herding is the main indicating bias that effect investment decision among Indian investors.

H<sub>1A</sub>: Herding has significant positive influence on stock investment decisions.

Loss aversion is the component of prospect theory propounded by Kahneman and Tversky in 1979. People always feel serious discomfort about losses so people have rich instinct to circumvent losses rather than to obtain gains (Kahneman & Tversky, 1979). Specifically, loss aversion is the rule of thumb: psychologically, the prospect of loss is twice as powerful a stimulator as the prospect of making gain of equal magnitude (Pompian, 2012).

Loss aversion is the rule of thumb with loss is more panic compared to gain in a same magnitude. Loss aversion is positively related to stock investment decision (Khan, 2017) and various studies found that loss aversion has significant positive effect on stock investment decision (Hossain & Siddiqua, 2022; Kumar & Babu, 2018; Mahina et al., 2017). Similarly, Jain et al. (2020) found that loss aversion has third major bias among other biases that affect investment decision.

H<sub>1B</sub>: Loss aversion has significant positive influence on stock investment decisions.

Overconfidence is an ‘error’ of judgement or decision-making process due to it guides to overrating one’s competences and/or underrating an antagonist, the difficulty of a task, or potential risks (Johnson & Fowler, 2011). Overconfidence is the unwarranted faith in one’s intuitive reasoning, judgements, and cognitive abilities that leads to overestimate both their own predictive abilities and precision of the information guide to excessive risk taking and people surmise about they have acuter and have finer information than they actually have (Pompian, 2012). Overconfidence is a human behaviour has the inherent to mainspring individuals to adventure psychological bias due to superior prospects are not always the key determinant for decision making process of the individuals (Arik & Sri, 2021). The overconfidence may have in past, may some settings in present and likely to be in future also (Johnson & Fowler, 2011).

Overconfidence leads to overestimate their own ability has significant positive impact on stock investment decisions found by various studies like (Arik & Sri, 2021; Desrita, 2022; Ainia & Lutfi, 2019; Adilyani & Mawardi, 2020; Madaan & Singh, 2019).

H<sub>1C</sub>: Overconfidence has significant positive influence on stock investment decisions.

Sitkin and Weingart (1995) explained that risk propensity and risk perception are the decisive considerations that affect individual risky decision making. Sitkin and Weingart (1995) further defined that an individual's current attribute to accept or avoid risks and can be 'conceptualized as an individual trait that can change over time and thus is an emergent property of the decision maker' and it is dispensed as a trait that is 'persistent' however, can appear under certain qualities, expertise and experiences (Garvey, 2010). Likewise, risk propensity anticipated a way to account for the effect of contestant's tendency level of perception of risk (Furman et al., 2010).

Hamid et al. (2013) found that risk propensity positively affects the risk-taking behaviour that ultimately affects the stock investment decisions. Likewise, different studies like Mulyani et al. (2021); Riaz and Hunjra (2015); Ul Abdin et al. (2022) found that risk propensity has significant positive influence on stock investment decision.

H<sub>1D</sub>: Risk propensity has significant positive influence on stock investment decisions.

### **Research Methodology**

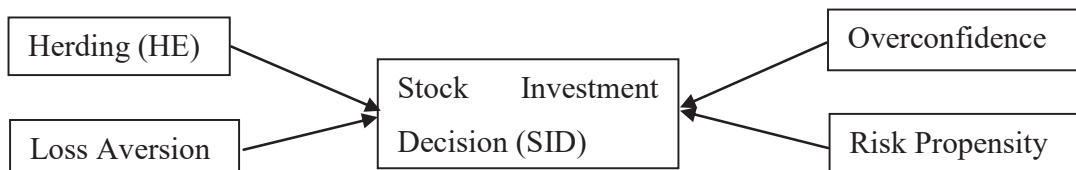
This study utilizes quantitative research approach and adopted an analytical research design to draw the conclusion of the study. The total population of the study is the total number of students currently studying in master level in management discipline in Chitwan district is approximately 1,100 which is collected from the record of the campus and/or college. The appropriate sample size with 1,100 population is 284 (Sekaran & Bougie, 2016) is collected randomly. The total collected responses were 179 due to the students who do not have experiences in stock markets are unable to response. However, the usable responses were 171 representing a response rate of 60.21 percent from total responses. Data were collected through survey technique of 5-points Likert type self-administered close-end structure questionnaire from the respondents. The required data were collected through survey from May 2022 to October 2022 using physical and online mode both.

This study examines the influences of behavioural finance on stock investment decision among the students of the Chitwan district. The behavioural finance is represented by herding, loss aversion, over confidence and risk propensity. This study utilizes the stock investment decision from the study of (Wood & Zaichkowsky, 2004; Kourtidis et al., 2011; Khan et al., 2021), herding from the study of (Kengatharan

& Kengatharan, 2014; Hossain & Siddiqua, 2022), loss aversion from the study of (Areiqat et al., 2019; Mahina, 2017; Chun & Ming, 2009), overconfidence from the study of (Wood & Zaichkowsky, 2004; Areiqat et al., 2019; Raut & Kumar, 2018; Sahi, 2017; Combrink & Lew, 2020) and risk propensity from the study of (Combrink & Lew, 2020). Likewise, these questionnaires were contextualized with the succour of experts in the Nepalese context. Reliability analysis is conducted for internal consistency using Cronbach alpha with minimum coefficient of 0.70 (Sekaran & Bougie, 2016), VIF with 10 and above indicates the multicollinearity (Sekaran & Bougie, 2016) is tested. Data were analysed using descriptive statistics and multiple regression to examine the influences of behavioural finance represented by herding, loss aversion, overconfidence and risk propensity on stock investment decision through MS excel and SPSS version 25. Finally, normality test is conducted using K-S test. The research framework of the study is presented into Figure 1 and fitted model is given into equation (i).

**Figure 1**

*Research Model*



Specifically, the fitted final model is,

*Stock Investment Decision = f (Behavioural finance) Or,*

*Stock Investment Decision = f (Herding, Loss Aversion, Overconfidence and Risk Propensity).*

Symbolically,

$$SID = \beta_0 + \beta_1 HE + \beta_2 LA + \beta_3 OC + \beta_4 RP + e_i \dots\dots\dots (i)$$

The limitations of the study are only focus on students of Chitwan district, management stream students and currently studying master level students are only incorporated, utilize only herding, loss aversion, overconfidence and risk propensity

to measure the behavioural finance, not inclusion of all investment alternatives like stocks, bonds and mutual funds, unable to separate between private and public or government campus/college, and unable to incorporate the influences of gender, age group and place of residence.

## Results and Discussion

Cronbach alpha is utilized to measure the internal consistency of the constructs. The minimum Cronbach alpha to determine the reliability of the construct is fixed to 0.70. The detailed of the results of the Cronbach alpha is documented into Table 1.

**Table 1**

*Cronbach Alpha*

Constructs	No. of Items	Alpha
Stock Investment Decision (SID)	6	0.899
Herding (HE)	7	0.871
Loss Aversion (LA)	7	0.856
Overconfidence (OC)	8	0.835
Risk Propensity (RP)	6	0.804

*Source: Field Survey, 2022.*

Table 1 depicts that the minimum reliability coefficient is 0.804 in risk propensity construct and maximum is 0.889 which is in stock investment decision. Likewise, all the constructs have Cronbach alpha of more than 0.70 indicates that there is an internal consistency of the constructs.

### Demographic Profile

All the respondents are currently studying master level in Chitwan district so all the respondents are similar in nature. However, the detailed of the demographic character of the respondents are depicted into Table 2.

Table 2 depicts that male students are higher in stock investment decision compare to female students. The male students are 65.50 percent and the rest are the female students. Similarly, most of the master level students are 30 and below the age (more than 90 percent students) so majority of the students are the youth studying in master level in management discipline and also participate in stock market.

**Table 2***Demographic Profile of the Respondents*

<b>Dimension</b>	<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>	Male	112	65.50
	Female	59	34.50
<b>Age</b>	Less than 25	93	54.39
	25 to 30	61	35.67
	Above 30	17	9.94
<b>Total</b>		<b>171</b>	<b>100.00</b>

Source: Field Survey, 2022

**Descriptive Statistics**

Minimum, maximum, average, standard deviation is computed under descriptive statistics to describe the phenomenon. The detailed of the descriptive statistics are presented into Table 3.

**Table 3***Descriptive Statistics*

<b>Constructs</b>	<b>Minimum</b>	<b>Mean</b>	<b>Maximum</b>	<b>Std. Deviation</b>
Stock Investment Decision (SID)	6	24.518	30	6.163
Herding (HE)	7	29.117	30	4.614
Loss Aversion (LA)	7	29.039	35	9.152
Overconfidence (OC)	8	35.145	40	7.748
Risk Propensity (RP)	6	25.913	30	6.095

Source: Field Survey, 2022.

Table 3 demonstrates that the minimum summated score of stock investment decision is 6 and maximum is 30 with average of 24.518 which is striving towards strongly agree. Similarly, the mean summated scores of herding, loss aversion, overconfidence and risk propensity are 29.117, 29.039, 35.145 and 25.913 respectively. All these average scores indicates that each construct is followed to agree to strongly agree.



## Multiple Regression Analysis

The influence of behavioural finance like herding, loss aversion, overconfidence and risk propensity on stock investment decision is examined through multiple regression analysis. For multiple regression analysis, data should be normality distributed. Hence, the normality test of the distribution is conducted by utilizing Kolmogorov Smirnov test and K-S test justified that the data are normally distributed due to p value is greater than 0.05 level (p value = 0.311). After that, ordinary least square (OLS) is utilized to examine the influence on stock investment decision. The detailed of the results of the multiple regression is illustrated into Table 4 and 5.

**Table 4**

*Model Summary and ANOVA*

<b>R</b>	<b>R<sup>2</sup></b>	<b>Adj. R<sup>2</sup></b>	<b>S. E.</b>	<b>F stat</b>	<b>Sig.</b>
0.779	0.607	0.589	2.997	37.911	0.000

*Source: Field Survey, 2022.*

Table 4 depicts that the fitted model is significant at the level of 0.01 (F statistics = 37.911, p value<0.01). The herding, loss aversion, overconfidence and risk propensity explained the variation in stock investment decision by 60.70.

**Table 5**

*Regression Result*

<b>Construct</b>	<b>Coeff.</b>	<b>S. E.</b>	<b>t Stat.</b>	<b>Sig.</b>	<b>VIF</b>
Intercept	5.917	1.014	5.835	0.002	-
HE	0.484	0.117	4.137	0.004	1.816
LA	0.505	0.091	5.551	0.003	1.087
OC	0.884	0.079	11.192	0.000	1.972
RP	0.754	0.128	5.888	0.000	1.794

*Source: Field Survey, 2022.*

Table 5 shows that the influence of all behavioural variables like herding, loss aversion, overconfidence and risk propensity on stock investment decision is positive. The most influencing construct among all is overconfidence behaviour with coefficient of 0.884 which is followed by risk propensity and loss aversion with the coefficient

of 0.754 and 0.505 respectively while the least significant variable is herding with the coefficient of 0.484. Finally, based on model (i), the fitted regression model looks like,  

$$SID = 5.917 + 0.484 HE + 0.505 LA + 0.884 OC + 0.754 RP + e_i$$

Herd behaviour results form an obvious intent by investors to imitate the investment behaviour of other investors due to assuming that other investors have superior excess to relevant information for decision making and investors might feel intrinsic comfort as well as rational herd behaviour will occur due to information-based herding, reputation-based herding and compensation-based herding (Bikhchandani & Sharma, 2000). Herding behaviour has positive influence on stock investment decision due to investors copy and follow the investment decision of others. This finding is consistent with the finding of (Desrita, 2022; Adielyani & Mawardi, 2020; Madaan & Singh, 2019). Loss is the panic factors for investment decision which downsizes the value of investment and investors are risk averse so, they try to eliminate the risk. Hence, loss aversion has significant positive influence on stock investment decision and this finding is consistent with the finding of (Hossain & Siddiqua, 2022; Kumar & Babu, 2018; Mahina et al., 2017).

**Table 6**

*Results of Hypothesis*

<b>Hypothesis</b>	<b>Description</b>	<b>Decision</b>
H <sub>1A</sub>	Herding positively influences the stock investment decision	Accepted
H <sub>1B</sub>	Loss aversion positively influences the stock investment decision	Accepted
H <sub>1C</sub>	Overconfidence positively influences the stock investment decision	Accepted
H <sub>1D</sub>	Risk propensity positively influences the stock investment decision	Accepted

*Source: Author's collection*

Overconfidence behaviour has significant positive influence on stock investment decision due to overconfidence investors overestimate their abilities compare to other investors about stock investment that might leads to investment in risky assets

which might generate unexpected results and this result is consistent with the evidences of (Arik & Sri, 2021; Desrita, 2022; Ainia & Lutfi, 2019; Adielyani & Mawardi, 2020; Madaan & Singh, 2019). Similarly, risk propensity has significant positive influence on stock investment decision due to it makes investors aware about risk and try to take calculated risk which leads to positive investment decision and this evidence is consistent with the evidence of (Ul Abdin et al., 2022; Mulyani et al., 2021; Riaz & Hunjra, 2015). Finally, the summary of the results of hypothesis is dispensed into Table 6.

### **Conclusion and Implications**

This study explores the significance of behavioural finance while making stock investment decision among the youth students. This study found that behavioural finance represented by herding, loss aversion, overconfidence and risk propensity have significant influence on stock investment decision. Likewise, Nepalese investors are largely influenced by behavioural biases that leads to irrational decisions. Students who are currently studying in master level in management and also participation into share market are also follow the rumours, crowds, noise, trend and follows the decision of the others. They are failed to utilize their knowledge of financial management, economics, accountancy and statistics properly in the analysis of financial markets. Students try to avoid losses which is quite important than acquiring gains. However, Nepalese share market is highly affected by pandemic 2019 so students are also excessively suffered by loss. Similarly, they become more overconfidence of their knowledge about financial management that also leads to investment decisions. Finally, most of the students are youth with age of 30 or less so they are unaware about risk so they must give high attention towards risk and proper ware of risk factors and focus on holding for long-term investment.

This study recommends that students must aware about behavioural biases that ultimately affects the investment decisions. Students should not be always based on noise and needs to properly utilize their knowledge of management course especially financial management and analyse the market with up-to-date information. This finding will be fruitful to the academicians especially, finance subject faculties should properly aware about teaching not only finance text books but also real financial market place too.

## References

- Ackert, L. F. (2014). Traditional and behavioral finance. *Investor behavior: The psychology of financial planning and investing*, 1, 25-41. <https://doi.org/10.1002/9781118813454.ch2>
- Adielyani, D., & Mawardi, W. (2020). The influence of overconfidence, herding behavior, and risk tolerance on stock investment decisions: The empirical study of millennial investors in Semarang City. *Jurnal Maksipreneur: Manajemen, Koperasi, dan Entrepreneurship*, 10(1), 89-101. DOI: <http://dx.doi.org/10.30588/jmp.v10i1.691>
- Ainia, N. S. N., & Lutfi, L. (2019). The influence of risk perception, risk tolerance, overconfidence, and loss aversion towards investment decision making. *Journal of Economics, Business, and Accountancy Ventura*, 21(3), 401-413. <https://doi.org/10.14414/jebav.v21i3.1663>
- Areiqat, A. Y., Abu-Rumman, A., Al-Alani, Y. S., & Alhorani, A. (2019). Impact of behavioral finance on stock investment decisions applied study on a sample of investors at Amman stock exchange. *Academy of Accounting and Financial Studies Journal*, 23(2), 1-17.
- Arik, S. L., & Sri, A. L. (2021). The Effect of Overconfidence and Optimism Bias on Stock Investment Decisions with Financial Literature as Moderating Variable. *Eurasia: Economics & Business*, 12(54), 84-93. <https://doi.org/10.18551/econeurasia.2021-12>
- Bagchi, S., Mukherjee, D., Mohanty, D., & Verma, A. (2022). Influence of behavioral biases while making decision on mutual fund investment. *Journal of Information and Optimization Sciences*, 43(7), 1733-1747. <https://doi.org/10.1080/02522667.2022.2128529>
- Bikhchandani, S., & Sharma, S. (2000). Herd behavior in financial markets. *IMF Staff papers*, 47(3), 279-310. <https://doi.org/10.2307/3867650>
- Chun, W.W., & Ming, L. M. (2009). Investor behaviour and decision-making style: a Malaysian perspective. *The Journal of the Institute of Bankers Malaysia*, 133, 3-13.
- Combrink, S., & Lew, C. (2020). Potential underdog bias, overconfidence and risk propensity in investor decision-making behavior. *Journal of Behavioral Finance*, 21(4), 337-351. <https://doi.org/10.1080/15427560.2019.1692843>

- Desrita, L. (2022). The Influence of Financial Behavior with Risk Perception as Moderation in Determining Investment Decisions in Batam City. *Inovbiz: Jurnal Inovasi Bisnis*, 12(2), 170-178. <https://doi.org/10.35314/inovbiz.v10i2.2782>
- Elshqirat, M. K. (2019). Testing Sectoral Herding in the Jordanian Stock Market. *International Business Research*, 12(8), 88-106. <https://doi.org/10.5539/ibr.v12n8p88>
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383-417. <https://doi.org/10.2307/2325486>
- Furman, N., Shooter, W., & Schumann, S. (2010). The roles of heuristics, avalanche forecast, and risk propensity in the decision making of backcountry skiers. *Leisure Sciences*, 32(5), 453-469. <https://doi.org/10.1080/01490400.2010.510967>
- Garvey, J. (2010). An investigation into risk propensity in bull and bear markets. *Journal of Risk Research*, 13(6), 789-804. <https://doi.org/10.1080/13669870903560283>
- Hamid, F. S., Rangel, G. J., Taib, F. M., & Thurasamy, R. (2013). The relationship between risk propensity, risk perception and risk-taking behaviour in an emerging market. *International Journal of Banking and Finance*, 10(1), 134-146.
- Hossain, T., & Siddiqua, P. (2022). Exploring the influence of behavioral aspects on stock investment decision-making: a study on Bangladeshi individual investors. *PSU Research Review*. 1-17. <https://doi.org/10.1108/PRR-10-2021-0054>
- Jain, J., Walia, N., & Gupta, S. (2020). Evaluation of behavioral biases affecting investment decision making of individual equity investors by fuzzy analytic hierarchy process. *Review of Behavioral Finance*, 12(3), 297-314. <https://doi.org/10.1108/RBF-03-2019-0044>
- Johnson, D. D., & Fowler, J. H. (2011). The evolution of overconfidence. *Nature*, 477(7364), 317-320. <https://doi.org/10.1038/nature10384>
- Kahneman, D., & Tversky, A. (1979). Prospect theory, an analysis of decision under risk. *Econometrica*, 47(2), 264-291.
- Khan, M. Z. U. (2017). Impact of availability bias and loss aversion bias on investment decision making, moderating role of risk perception. *Management & Administration (IMPACT: JMDGMA)*, 1(1), 17-28.

- Kourtidis, D., Šević, Z., & Chatzoglou, P. (2011). Investors' trading activity, a behavioural perspective: professionals vs. individuals. *International Journal of Behavioural Accounting and Finance*, 2(3-4), 346-366. <https://doi.org/10.1504/IJBAF.2011.045021>
- Kumar, A. A., & Babu, M. (2018). Effect of loss aversion bias on investment decision: A study. *Journal of Emerging Technologies and Innovative Research*, 5(11), 71-76.
- Kumar, S., & Goyal, N. (2016). Evidence on rationality and behavioural biases in investment decision making. *Qualitative Research in Financial Markets*, 8(4), 270–287. <https://doi.org/10.1108/QRFM-05-2016-0016>
- Madaan, G., & Singh, S. (2019). An Analysis of Behavioral Biases in Investment Decision-Making. *International Journal of Financial Research*, 10(4), 55-67. <https://doi.org/10.5430/ijfr.v10n4p55>
- Mahina, J. N., Muturi, W. M., & Memba, F. S. (2017). Influence of Loss Aversion Bias on Investments at The Rwanda Stock Exchange. *International Journal of Accounting, Finance and Risk Management*, 2(5), 131-137.
- Markowitz, H. (1952). Portfolio selection. *The Journal of Finance*, 7(1), 77–91. <https://doi.org/10.1144/GSL.JGS.1861.017.01-02.11>
- Mulyani, E., Fitra, H., & Honesty, F. F. (2021, November). Investment Decisions: The Effect of Risk Perceptions and Risk Propensity for Beginner Investors in West Sumatra. In *Seventh Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2021)*, Atlantis Press. 49-55. <https://dx.doi.org/10.2991/aebmr.k.211117.034>
- Mumaraki, J., & Nasieku, T. (2016). Effect of overconfidence on individual investment decision: Evidence from the investment services sector in Kenya. *The International Journal of Business & Management*, 4(10), 254-261.
- Pochea, M. M., Filip, A. M., & Pece, A. M. (2017). Herding behavior in CEE stock markets under asymmetric conditions: a quantile regression analysis. *Journal of Behavioral Finance*, 18(4), 400-416. <https://doi.org/10.1080/15427560.2017.1344677>
- Pompian, M. M. (2012). *Behavioural finance and investor types: managing behaviour to make better investment decisions*. John Wiley & Sons.

- Raut, R. K., & Kumar, R. (2018). Investment decision-making process between different groups of investors: a study of Indian stock market. *Asia-Pacific Journal of Management Research and Innovation*, 14(1-2), 39-49. DOI: 10.1177/2319510X18813770
- Riaz, L., & Hunjra, A. I. (2015). Relationship between psychological factors and investment decision making: The mediating role of risk perception. *Pakistan Journal of Commerce and Social Sciences*, 9(3), 968-981. Available at SSRN: <https://ssrn.com/abstract=3229723>.
- Sahi, S. K. (2017). Psychological biases of individual investors and financial satisfaction. *Journal of Consumer Behaviour*, 16(6), 511-535. <https://doi.org/10.1002/cb.1644>
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill Building Approach*. John Wiley & Sons.
- Sharma, S. & Sharma, S. (2022). A Study of Traditional Finance and Behavioural Finance: Rationality to Irrationality. *Journal of Contemporary Issues in Business and Government*, 28(4). <https://doi.org/10.47750/cibg.2022.28.04.066>.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of finance*, 19(3), 425-442. <https://doi.org/10.1111/j.1540-6261.1964.tb02865.x>
- Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of management Journal*, 38(6), 1573-1592. <https://doi.org/10.5465/256844>
- Ul Abidin, S. Z., Qureshi, F., Iqbal, J., & Sultana, S. (2022). Overconfidence bias and investment performance: A mediating effect of risk propensity. *Borsa Istanbul Review*, 22(4), 780-793. <https://doi.org/10.1016/j.bir.2022.03.001>.
- Wood, R., & Zaichkowsky, J. L. (2004). Attitudes and trading behavior of stock market investors: A segmentation approach. *The Journal of Behavioral Finance*, 5(3), 170-179. [https://doi.org/10.1207/s15427579jpfm0503\\_5](https://doi.org/10.1207/s15427579jpfm0503_5)
- Wu, G., Yang, B., & Zhao, N. (2020). Herding behaviour in Chinese stock market during COVID-19. *Emerging Markets, Finance and Trade*, 56(15), 3578-3587.
- Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *Qualitative Research in Financial Markets*. 10(2), 210-251. <https://doi.org/10.1108/QRFM-04-2017-0028>