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Behavioral biases and individual investor's decision making in nepalese stock market: descriptive perspectives

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Abstract
Nepal stock Exchange is the only stock market of Nepal. This study examines the effect of the independent variables on investment decision making behavior of individual in stock market. This study has used primary data to investigate the effect of the independent variables on investment decision making behavior of individual in stock market of Nepal. The data related to the study was collected from the investors present in broker house which was used for calculating the correlation and regression. This study has used both descriptive and inferential analysis. Correlation Test has found that all the independent have positive relationship except psychological factor has negative relationship. Regression analysis has found that only social interaction and regulatory policies has significant effect on investors decision making behavior for overall investors while regression analysis for beginners investors has shown psychological factor, social interaction, regulatory policies and firms image has significant effect on investors decision making behavior and for experienced investors only social interaction has significant effect on investors decision making behavior. As a whole, the study of the topic has made us understand the behavioral aspect of people while investing in Nepalese stock market.

Keywords: Decision Making, Stock Market, Biases, Nepal stock exchange, Investors

Introduction
Financial market *all*ows both individual and institutions to invest on different securities. As a result, be it small or big investors, they invest their funds into stock market certainly expecting some gains. Big investors like organizations and institutions often invest huge funds into the market even influencing the functioning of the market sometimes. But there are investors who invest in small amounts. Their individual investment might be small but the group of such individual investors has invested lot in financial market. The study tries to explore the effect of psychological, social interaction, Information, Regulatory Policies and finally Firms Image on building individual investors decision making behavior in stock market. Further it explores the overall behavioral factors of valley based investors in making investment decision through the perception building factors.

Ritter (1988) [17] argued that behavioral finance is built on the framework of standard finance but reflects a different model of human behavior- prospect theory, cognitive errors, problems of self-control, and the pain of regret.

There are several irrational behaviors shown by investors in the market that cause the variation between the actual and estimated return for the investment. Some of such behaviors are: Heuristic decision process also known as rule of thumb, where investors go for trial and error method for making decision usually in uncertainty, overconfidence of the investors, gambling fallacy; where individual invest irrationally on risky stock expecting the situation to reverse, representativeness; where investor perceives the past event will continue in future, ignoring the market changes, anchoring, where one relied too heavily on single piece of available information and so on. This kind of common irrational behavior shown by investors often causes the investment theory to face unexpected outcome. This research particularly aims to identify the behavioral factors that play a vital role in individual investors' decision-making process based on the Nepalese investors.

Chandra (2008) [6] investigated investor psychology and different aspects of behavior in decision making. The basic purpose of this study is to find the impact behavioral aspects and the relationship between investors" behavior and risk. He found out that investors are not always rational unlike the theories of standard finance. They are subject to several cognitive and emotional errors; they are suffering from several biases while taking the investment decision. Due to different investors" biases their perception change about risk taking. Results show that investors who are actually risk averse in their characteristics show the risk seeking behavior by holding the losing investments.

Waweru, Munyoki, and Uliana (2008) [20] indicate that price change of stocks has impact on their investment behavior at some level. It states that investors prefer buying to selling stocks that experience higher price changes during the past two years. Change in stock price in this context can be considered as an attention-grabbing occurrence in the market by investors. Additionally, it proposes that investors are impacted by herding effect and 11 tend to move in the same flow with the others when price changes happen. Besides, investors may revise incorrectly estimates of stock returns to deal with the price changes so that this affects their investment decision-making.

Hoffmann (2007) [9] in his study on Social Dimensions of Investor Behavior stated that Traditional finance theories assume that investors only evaluated risk and expected returns when making investment decision. The respondents of Hoffmann's online investment survey indicated that besides financial needs, they also strive to satisfy more socially oriented needs through investing. These investors like to identify themselves with other investors and enjoy participating in investment-related conversations. Moreover, these investors considered investing to be a nice free time activity. Hoffmann also investigated the effects of striving to satisfy these different needs on the decision making behavior of these investors. It was found that investors for whom socially oriented needs are important also attribute more value to the opinion of others about their investment decisions and also request more information from these others before making their own decisions.

Hussein (2006) [10] performed the study with the aim to explore the UAE investor behaviour, representing the first attempt to be undertaken in the UAE. The study is important for individual investor, companies listed in Dubai Financial Market and Abu Dhabi Securities Market and Government. To collect the primary data modified questionnaire was used. The developed questionnaire included thirty-four items, where ten items correspond to self-image/ firm-image coincidence category, seven items correspond to the accounting information category, seven items correspond to neutral information category, four items to advocate recommendation and six items to personal financial needs. Seven-point Likert scale was used for the response purpose. Six factors were the most influencing factors on the UAE; corporate earnings get rich quick, past performance of the stock, stock marketability, government holdings, and the creation of the organized financial market. Five factors were found the least influencing factors, expected losses in other local investments, minimizing risk, expected losses in international financial markets, family member opinions and gut feeling on the economy. Two factors had unexpectedly least influence on the behaviour of the UAE investor behavior, namely the religious reasons and the factor of family member opinions.

Al-tamimi (2005) [4] aimed at identifying factors influencing the UAE investor behavior. Six factors were found to be the most influencing factors in UAE investor behavior. The most influencing factors was in order of importance: expected corporate earnings, get rich quick, stock marketability, past performance of the firm's stock, government holdings and the creation of the organized financial markets. On the other hand, five factors were found to be the least influencing factors on the UAE investor behavior. The least influencing factors in order of importance were: expected losses in other local investments, minimizing risk, expected losses in international financial markets, family member opinions, gut feeling on the economy.

Kadiyala and Rau (2004) [12] investigated investor reaction to corporate event announcements. They concluded that investors appear to under-react to prior information as well as to information conveyed by the event, leading to different patterns. The behavioral finance literature has proposed two contradictory models of irrational investor behavior. In the first model, investors have a tendency to overreact to information, leading to a pattern of long term return reversals when firms announce corporate events such as new issues of stock. In the second model, investors under react to information, leading to long term return continuations when firms announce corporate events such as open-market share repurchases or cash-financed tender offers. Behavioral models have been viewed with skepticism partly because they do not reconcile why investors seemingly overreact to a corporate event such as a seasoned equity offering, while seeming to underreact to an event such as a share repurchase. For instance, Kadariya (2012). argues that behavioral models cannot explain the long run abnormal return evidence since the overreaction of investors to some events and under reaction to others implies that, on average, investors are unbiased in their reaction to information. Ritter and Loughran (1995) argue that 16 investor overreaction explains the negative long-run abnormal returns following a seasoned equity offering (SEO), a conclusion based on the good past performance of firms announcing an SEO.

Hodge (2003) [8] investigated the investors" perception of earning quality, auditor independence and the usefulness of audited financial information. He defined the earning quality as the extent to which actual and reported earning differ. He analyzed that earning quality and auditor independence have declined over time. He also considers whether the perception of earning quality has decreased due to more or less reliance on the audited financial statement and its usage while making a decision. He found that perceived earning quality declined with the passage of time as the perceived independence of auditor and the reliability of the financial information has decreased. In addition low perception of earning quality is related with greater reliance on financial statement has increased for decision making.

Nagy and Obenberger (1994) [16] conducted a survey on determining the underlying criteria that affect decisions of individual equity investors with substantial holdings in fortune 500 firms. According to empirical evidence, wealth-maximization criteria were found significant among respondents while the effect of recommendations of brokerage houses, individual stock brokers, family members and co-workers were identified as insignificant. The research findings examined factors influencing investor behavior, suggested that classical wealth – maximization criteria are important to investors, even though investors employ diverse criteria when choosing stocks. Contemporary concerns such as local or international operations, environmental track record and the firm's ethical posture appear to be given only cursory consideration. The recommendations of brokerage houses, individual stock brokers, family members and coworkers go largely unheeded. Many individual investors discount the benefits of valuation models when evaluating stocks.

Due to the positive correlation between stock market and economy, the rise of stock market positively affects the development of the economy and vice versa. Thus, the decisions of investors on stock market play an important role in defining the market trend, which then influences the economy. To understand and give some suitable explanation for the investors' decisions, it is important to explore which behavioral factors influencing the decisions of individual investors at Nepalese stock market. The attitude toward

investment toward stock market vary from person to person depending on personal characteristics, needs, wants, knowledge, experience, risk tolerance, suggestion and others.

Research Objective
The objective of the study is to examine the factors (social interaction, information, psychological factors, regulatory policies, firms image) influencing individual investors' investment decision making behavior using descriptive statistics.

Research Variables
The independent variables in this research are the behavioral factors affecting investors' decision.

Psychological factors: Under this factor, Safety/Security, Long Term Gain Short term Return, Gut Feelings, Market Noise and previous mindset are considered**.**

Social Interaction: This factor includes Advice from financial advisor, Broker Recommendation, Advice from Stock Analyst and Advice from Family Friends**.**

Information: Under this category, factors like Firm's Financial Statement, Past performance, Firm's expected Return, Published information in Newspaper, Industry Status and recent price rise and fall are taken.

Regulatory Policies: As there are several governing and monitoring bodies who are making various programs and policies to make the capital market perfect and mature so that there may be a good practice for the investment and protect the investors' money. SEBON has formed various rules and requirements for companies, traders and brokers that need to be followed by all the secondary market participants. Various regulatory factors considered are; Cost/Fee per trade or transaction, Trading time and day, Intervention by SEBON and NRB Directives.

Firms Image: Under this category, factors like Firm's Product, foreign investment, public image are considered.

Dependent Variables: Here the dependent variable is investment decision of individual investors which include: type of investment securities, investment cap, duration of investment, frequency of investment, preference of investment in IPO, preference of reinvestment in stock market.

Research Methodology
The study is aimed at finding the individuals' behaviors that affect their decision of investment. This study has been adopted the descriptive and analytical research design. In order to collect required information from the individual investors, the sampling design has carefully and properly chosen for the study. Convenience sampling has adopted for the study as population is considered as infinite for the retail investors and is difficult to estimate. The sample size for this study includes 250 respondents. Those respondents were from different categories such as government employees, private job holders, service providers, retired and students. Broker house was chosen for convenient and that broker house with highest turnover the day before questionnaire was distributed. Thus, to fill up the questions 3 broker houses were visited i.e. 41, 45 and 36. The study was conduct through the primary survey. The data was collected through the structured questionnaire from the various individual investors in Kathmandu. Likert scale with 6 points scale has been included in questionnaire. Respondents have been asked to mark appropriate number on the scale from 1 (strongly agree) to 6 (strongly disagree) which indicate to what extent their investment decisions are affected by these factors. Likert question was based on the five factors and their characteristics. Psychological Factor (safety/ security, short and long term gain, noise of market). Social Interaction (advice from professional, broker, stock analyst and family and friend advice). Information (published information, past performance, status of industry). Regulatory policies (independent management team, highly regulated company, high work ethics) and Firms Image (more public image, foreign investment, branded products/services).

The Cronbach's alpha coefficient technique was used to check the reliability and validity of the data collected for the further analysis. Cronbach alpha coefficient value more than 0.6, is considered as the reliable and validate for the further analysis. The cronbach alpha for psychological factors is 0.725, social interaction is 0.769, information is 0.852, regulatory policies are 0.805 and firm's image is 0.788. The data was analyzed through the Statistical Package for Social Science (SPSS) software package and Microsoft Excel.In order to analyze the data mean and standard deviation were used.

Results
Descriptive analysis
Awareness of Investors about Investment Decision
Descriptive analysis is a summary statistics that quantitatively describe or summarize features of a collection of information. In this study, mean is measured as measure of central tendency and standard deviation is measured as measure of variability of different variables of the study like psychological factors, social interaction, information, regulatory policies and firms image.

Table 1: Descriptive statistics of Psychological Factors

Code	Opinion statement	N	Test Value	Mean	Std. Deviation
QM1	I took long term gain rather than short term	250	3.5	2.22	1.367
QM2	I have strong gut feeling that will be profitable while buying particular script	250	3.5	2.46	1.051
QM3	I generally buy stocks with less volatility and which have more safety	250	3.5	2.47	1.335
QM4	I tend to invest in stocks from my previous mindset	250	3.5	2.84	1.362

*Sources***:** Field Survey, 2020

Table 1 shows the mean score for the statement "I tend to invest in stock from my previous mindset" has 2.84 mean with standard deviation of 1.362 which means respondent only slightly agree with the given statement while the statement "I took long term gain rather than short term" is 2.22 with standard deviation 1.367 which means respondent agree with the given statement.

Table 2: Descriptive statistics of Social Interaction

Code	Opinion statement	N	Test Value	Mean	Std. Deviation
SI1	I take advice from financial advisor while investing in securities	250	3.5	3.18	1.714
SI2	I take advice from Stock Broker while investing in securities	250	3.5	3.44	1.618
SI3	I take advice from my family and friends.	250	3.5	2.52	1.280
SI4	I prefer to buy stocks when particular stock has high market noise.	250	3.5	3.40	1.566

Sources: Field Survey, 2020

Table 2 shows the mean score for the statement "I take advice from Stock Broker while investing in securities" has 3.44 mean with the standard deviation of 1.618 which means respondent slightly agree with the statement while the statement "I take advice from my family and friends" has 2.52 mean with the standard deviation 1.280 which means respondent slightly agree with the given statement.

Table 3: Descriptive statistics of Information

Code	Opinion statement	N	Test Value	Mean	Std. Deviation
IN1	I prefer to buy stocks by looking the firm's financial statement	250	3.5	1.98	0.933
IN2	I prefer to buy stocks by looking the particular script past prices.	250	3.5	2.76	1.240
IN3	I prefer to buy stocks by looking the status of the Company/Industry in terms of their rating.	250	3.5	2.08	1.008
IN4	I prefer to buy stocks by looking the published information in Newspaper	250	3.5	2.57	1.200
IN5	I prefer to buy stocks by looking the firm future prospects.	250	3.5	2.10	1.015

Sources: Field Survey, 2020

Table 3 shows the mean score for the statement "I prefer to buy stocks by looking the particular script past prices" has 2.76 mean with the standard deviation of 1.240 which means respondent slightly agree with the statement while the statement "I prefer to buy stocks by looking the firm's financial statement" has 1.98 mean with the standard deviation 0.933 which means respondent agree with the given statement.

Table 4: Descriptive Statistics of Regulatory Policies

Code	Opinion statement	N	Test Value	Mean	Std. Deviation
RP1	I prefer to buy stocks of that company when the Company/Industry is highly regulated.	250	3.5	2.10	1.300
RP2	I prefer to buy stocks where the BOD members have high work ethics.	250	3.5	2.26	1.094
RP3	I prefer to buy stocks when the company has independent	250	3.5	2.45	1.012
RP4	Government should regulate all listed companies.	250	3.5	1.98	1.251

Sources: Field Survey, 2020

Table 4 shows the mean score for the statement "I prefer to buy stocks when the company has independent management team" has 2.45 mean with the standard deviation of 1.012 which means respondent agree with the statement while the statement "Government should regulate all listed companies" has 1.98 mean with the standard deviation 1.251 which means respondent agree with the given statement.

Table 5: Descriptive Statistics of Firms Image

Code	Opinion statement	N	Test Value	Mean	Std. Deviation
FI1	I prefer to buy stocks when the company having large number of branded Products/Services.	250	3.5	2.56	1.131
FI2	I prefer to buy stocks when the company has foreign investment i.e. joint venture.	250	3.5	2.60	1.301
FI3	I prefer to buy stocks which fall in Class A category of NEPSE.	250	3.5	2.61	1.528
FI4	I prefer to buy stocks when the company has more public Image.	250	3.5	2.33	1.301

Sources: Field Survey, 2020

Table 5 shows the mean score for the statement "I prefer to buy stocks which fall in Class A category of NEPSE" has 2.61 mean with the standard deviation of 1.528 which means respondent slightly agree with the statement while the statement "I prefer to buy stocks when the company has more public Image" has 2.33 mean with the standard deviation 1.301 which means respondent agree with the given statement.

Findings and discussion

The research contributed in understating the determinants of the behavior bias in Nepalese stock market. It confirms previous research study in the topic with an empirical support from Nepal. The main purpose of the study was to understand and identify the factors that affect the individual investor's decision making in NEPSE. This study investigated the different factors that can influence the investment activities.

The research used the data collected from the survey conducted within Kathmandu valley are used to examine the data covering 250 samples across the different broker house in Kathmandu. The present scenario of individual investor decision making is greatly affected by social interaction and regulatory policies. Within the individual dimensions of social interaction, "I take advice from stock broker while investing in securities" has moderate agreeableness. Also, dimension of regulatory policies, "I prefer to buy stocks when the company has independent management team" has good agreeableness.

The study has showed the mixed response while investing in the stock market. According to Thapa (2013) [18], it is found that investors have no preference in the types of market for

investment but they are motivated for short term profit. Ali & Tariq (2013) [3], Investor behavior is central concept in behavioral finance which analyzes the influence of various factors on individual equity investor decision making. The study found strong influence of self-image/firm-image coincidence, neutral information, and advocate recommendation on individual equity investor decision making, whereas no influences of factors like classical wealth maximization, accounting information and personal financial needs were found on individual equity investor's decision making in the context of Pakistan. Akbar, *et.al* (2016) [2] conducted a study to identify the factors that affect the investment decision making of investors in Islamabad Stock Exchange.

Overall, investors are influenced to social interaction and regulatory policies. So, SEBON should make good rules and regulation so that they increase the confidence of investors in stock market, which benefits the stock market as investment increases with increase in confidence level.

Recommendations for future researchers
This study has left door open for further study. It has been identified 20 behavioral biases. These biases can be tested under the similar study. Also, other studies have included the aspect of personality which affects the behavioral bias and decision making. This can also be studied under the similar study with new model. Likewise security prices affect the financial decisions which can be a major area of study in days to come. In addition, the primary data with 1000 sample across the country like Pokhara, Chitwan, Nepalgunj, Butwal can be used for further study to study in broader way. It can be used the structural equation modeling to get the reality and the research also can be explored by secondary method.

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