DETERMINANTS OF HERDING BEHAVIOUR AMONG INDIVIDUAL INVESTORS OF NEPAL STOCK EXCHANGE

A Research dissertation submitted to

Kathmandu University School of Management

in partial fulfillment of the requirement for the

Degree of Master of Philosophy (MPhil) in Management

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DECLARATION

I hereby affirm that the dissertation titled "Determinants of Herding Behavior among Individual Investors in the Nepal Stock Exchange" represents my own original research conducted as part of the fulfillment for the degree of Master of Philosophy (MPhil) in Finance at the Kathmandu University School of Management. I confirm that this dissertation has not been previously submitted for any other academic degree.

.....

Bikash Rana

November, 2023

RECOMMENDATION

This is to certify that Mr. Bikash Rana has successfully completed his research on "Determinants of Herding Behavior among Individual Investors in the Nepal Stock Exchange" under my guidance. His dissertation reflects the outcomes of his investigation carried out during his tenure as an MPhil candidate at the Kathmandu University School of Management. The dissertation aligns with the quality standards expected from a Master of Philosophy (MPhil) candidate and adheres to the prescribed format of the Kathmandu University School of Management. The dissertation is forwarded for evaluation.

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RESESEARCH COMMITTEE APPROVAL

We have conducted the Viva – Voce examination of the dissertation entitled "*Determinants of Herding Behavior among Individual Investors in the Nepal Stock Exchange*" submitted by Bikash Rana. We found the dissertation to be the original work of the candidate and written according to the prescribed format of the Kathmandu University School of Management. We approve the dissertation as the partial fulfillment of the requirements for the degree of Master of Philosophy (MPhil) in Management.

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ABSTRACT

Investors' rational decision-making is vital for successful investments but is often impeded by behavioural biases and cognitive errors. A key issue is herding behavior, where investors mimic the actions of others, leading to asset mispricing in stock markets. This study delves into the role of cognitive factors, past investment experiences, and information availability in shaping herding tendencies among individual investors in the Nepal Stock Exchange. From a total of 540 questionnaires, a 55.55% response was garnered. Through PLS-SEM analysis, it was determined that the illusion of control, self-attribution, overconfidence, and past investment experience significantly foster herding. However, information accessibility deters it. Notably, financial literacy moderates the impact of illusion of control and past experience on herding behaviour. The findings can guide NEPSE, SEBON, and the Nepalese government to devise strategies that amplify financial literacy, curtailing the herding inclination of individual investors.

Keywords: herding behaviour, cognitive factors, past investment experience, information availability, financial literacy.

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ABBREVIATION

NEPSE	Nepal Stock Exchange
SEBON	Securities Board of Nepal
NYSE	New York Stock Exchange
PT	Prospect Theory
SLT	Social Learning Theory
HB	Herding Behaviour
OC	Overconfidence
IOC	Illusion of Control
SA	Self-Attribution
PIE	Past Investment Experience
IA	Information Availability
FL	Financial Literacy
GFL	General Financial Literacy
SIK	Stock Investment knowledge
EMH	Efficient Market Hypotheses
EUT	Expected Utility Theory
PLS	Partial Least Square
SEM	Structural Equation Modeling

CHAPTER I

INTRODUCTION

Herding behavior in investment occurs when investors ignore their personal information and instead copy the decisions of others, resulting in the mispricing of securities due to incorrect assessments or anticipation of risks (Bikhchandani & Sharma, 2000). Herding behavior arises due to various factors, including insufficient information, emotional influence, imitation of noise traders, and following the larger group of traders (Chiang et al., 2013). This behavior can lead to excessive speculation in the stock market (Pablo Marcos Prieto & Javier Perote, 2017). Investors may avoid making independent decisions and invest based on contemporary market behavior in uncertain environments and out of greed, jealousy, and the desire for high returns during positive trends (Barber & Odean, 2012).

Investors' herding behavior is common in extreme stock markets and linked to their cognitive profiles and lack of financial knowledge (Zafar, 2017). Cognitive profiles consist of interconnected elements such as the illusion of control, self-attribution, and overconfidence that shape individuals' attitudes, risk propensity, intuition, and ambiguity tolerance (Sabir et al., 2019). Herding creates a speculative environment, leading to exaggerated asset prices and excessive market volatility, potentially damaging investors' wealth (Pablo Marcos Prieto & Javier Perote, 2017). These cognitive biases significantly impact investors' behavior in the stock market, leading them to imitate other investors and ignore contradictory information (Daniel et al., 1999). Investors' herding behavior can be influenced by their confidence in their information, past investment experiences, and the availability of information (Fernández et al., 2011). While overconfident investors may be less likely to exhibit

herding behavior, they tend to exaggerate information and ignore facts (Tan et al., 2012). Mispricing of assets due to herding behavior can lead to excess volatility and a decline in investors' wealth (Schiller, Robert, 2000). Financial literacy is crucial in investment decision-making, especially in developing countries with complex financial products (Bateman et al., 2012). Without a basic understanding of financial concepts and products, individual investors may be more likely to rely on the actions and opinions of others, leading to herding behavior. The current study will help in assessing the financial literacy of stock market investors in developing countries like Nepal.

Nepal is a developing country with a relatively small size stock market. At present, 432 companies are listed on the Nepal Stock Exchange (NEPSE), which are classified into 12 sectors that contribute towards the market capitalization. NEPSE has almost 75 registered brokerage houses. In 2022, as per the CDSC, Demat account has reached 5,346,000. There were 1,486,442 online clients in the stock market out of them 755,339 were active online clients. According to the CDSC annual report 2022/2023, the total number of active individual investors in the NEPSE market was 1,037,381 (CDSC, 2022) and approximately 1.037381 million individual investors that are participating in stock market activities. Market Capitalization data was reported at 2,700,495.890 NPR mn in May 2023 as reported by CEIC and is reported by Nepal Stock Exchange Limited.

NEPSE is a very unpredictable and volatile market due to its sensitivity towards unexpected shocks and news which affect the market activities instantly (Rana, 2020). Even for a small capital Market of Nepal, security market has boomed over the past few years. Severe fluctuations in the NEPSE Index over time has been seen for the past 27 years of operations. The Index during 1996 was 176.3 and

1868.18 in 2022 (NEPSE, 2022). It shows a gain of 960% over 22 years. After the 27-year growth of the Nepal Stock Market, Nepalese investors' decisions are still difficult for financial analysts to understand. Many experts explain the fluctuations as the cyclic nature of share market. According to records, NEPSE had remained bearish for few years, but the year 2020 kicked off with a bullish trend, the stock exchange making it to 1632 points on February 27 even amidst the pandemic. At early 2014, the capital market reported an increasing trend for the NEPSE Index as well as the trading volumes. But by Mid- August of 2014, the indicators started to decline. During this period, the listed companies report their earnings and declare dividends. And they did show an increase in their profits and well as declared handsome dividends that make it favorable for market growth as predicted by previous trends in the market. But the market trend at that period showed a different scenario. The trend of NEPSE index for beginning 12 years show increase in index value by near to three times within one and half years during the bullish trends of 2007-08 and 2013-14. During 2007-08, it also reversed at a higher speed (Silwal & Bajracharya, 2021).

The movement of the NEPSE index showed that the Nepal stock exchange is a very volatile market. Due to extreme market volatility, most of the investors of NEPSE prefer to follow the market trend instead of utilizing the necessary available information to support their investment judgments (Basnet Chhetri, 2022). Such move could lead investors to overreact to any news hitting the stock market (Rana, 2020) and this behaviour proves to be harmful for investors.

To conclude, herding behaviour is one of the most persistent issues in developing stock markets, especially in Nepal. Investors follow the decisions of others due to unavailability of proper information, insufficient financial literacy, poor past performance in investing/trading and influence of cognitive biases. Many studies

have indicated that investors indulge in irrational behaviours due to cognitive factors, the influence of behaviour biases, unavailability of information and uncertain stock market environment (Sui & Wang, 2023). Therefore, this study intends to examine the impact of illusion of control, self-attribution, overconfidence, past investment experience and information availability on the herding behaviourss of stock market investors.

Problem Statement

Nepal Stock Exchange (NEPSE) is only stock exchange of Nepal for the secondary market, which has been operating since 1993, with a history of three decades. Nepal is a small country with a small GDP, NEPSE has witnessed significant growth and expansion in recent years, with a surge in the number of listed companies and trading activities. For instance, the total market capitalization of NEPSE increased from NPR 1856.83 billion in 2016 to NPR 2869.34 billion in 2021, representing a growth of over 55% and for 2022, total market capitalization was 2,700,495.890 NPR mn in May 2023 as reported by CEIC and is reported by Nepal Stock Exchange Limited. Moreover, the average daily turnover of NEPSE increased from NPR 1 billion in 2016 to NPR 21 billion in 2021, indicating a more active and dynamic market. However, this growth has also been accompanied by several challenges and issues, including the prevalence of herding behavior among individual investors.

Several studies have explored the presence and patterns of herding behavior among NEPSE investors which has resulted market inefficiencies, increased volatility, and mispricing, and can be especially harmful in small and illiquid markets like NEPSE, where a few large transactions can significantly affect prices and

sentiments. For instance, a study conducted by (Kunwar, 2021) highlighted the prevalence of herding behavior among individual investors in the Nepal Stock Exchange and its negative impact on the market. Similarly, a study by (Risal & Khatiwada, 2019) found that herding behavior can lead to excess volatility in NEPSE, as herding amplifies the impact of news and events on stock prices. Another study by (Karmacharya et al., 2022) found that herding behavior can lead to higher trading volume and lower liquidity in NEPSE, as investors tend to trade in a clustered and synchronized manner. A study by (J. Dangol & Manandhar, 2020) found evidence of herding behavior in NEPSE, particularly among small investors, who tended to follow the buying and selling decisions of their peers rather than making independent judgments. Similarly, a study by (Rijal, 2022) found that herding behavior was a significant determinant of stock returns in NEPSE, especially during periods of market volatility. A study by (Risal & Khatiwada, 2019) found that attitudinal factors like hasty decision can be the key drivers of herding behavior in NEPSE, as investors tend to rely on each other's decisions and opinions, rather than on fundamental analysis or expert advice. However, this study only focused on a small sample of investors and did not explore the role of other factors that may shape investors' decision-making processes. These studies indicate the importance of examining the determinants of herding behavior among individual investors in the Nepalese context, to understand the factors contributing to market inefficiencies and identify potential solutions.

Despite the potential risks and costs of herding behavior, there is limited empirical research on its determinants and consequences in the Nepalese context. While some studies have explored the presence and patterns of herding behavior among NEPSE investors, there is a lack of consensus on its underlying drivers and

moderators. Therefore, there is a need for a comprehensive and rigorous investigation of the determinants of herding behavior among individual investors in NEPSE, with a focus on both internal and external factors that may shape their decision-making processes.

Herding behavior has been observed in many financial markets worldwide, including emerging markets like Nepal. Herding behavior in the stock market can be explained by various theories, however, Prospect theory has been taken for this study which suggests that investors' perceptions of gains and losses, as well as their reference points and biases, can influence their behavior. For example, overconfidence, illusion of control, self-attribution bias, information availability, and past investment experience have been identified as potential drivers of herding behavior in other contexts, and may also apply to NEPSE. However, it is unclear how these factors interact and moderate each other, and how they may vary among the individual investors in Nepal is still unexplored.

Moreover, the lack of financial literacy and investor education in Nepal may exacerbate the problem of herding behavior, as individual investors may rely more on social cues and rumors rather than objective and reliable information. According to the Global Findex Database 2021, 76% of adults owned an account at a bank or a regulated financial institution across the world. It is a significant increase from 51% in 2011. Nepal too has seen a significant improvement over the years in the percentage of adults holding an account. It has jumped from 33.8% in 2014 to 54% in 2021, giving millions of people increased access to financial services. Similarly, a survey by NRB shows the country's financial literacy score at 57.9 percent, scoring 11.59 out of 20 (Nepal Rastra Bank, 2022). A recent study by the Nepal Rastra Bank (NRB) found that the level of financial literacy among Nepalese adults is low, with only 57% of the

population being financially literate. Similarly, a survey by the Nepal Economic Forum (NEF) revealed that the female financial literacy score in 2022 was 7.5% less than the male financial literacy score. According to study of (Lamichhane, 2022) shows most of the Nepalese investors have low financial knowledge. Similarly, a survey by the Nepal Economic Forum (NEF) revealed that 63% of Nepalese investors follow the recommendations of brokers and friends when making investment decisions, while only 23% rely on their own analysis. This indicates that many Nepalese investors may have limited knowledge and understanding of financial concepts and products, which may increase their vulnerability to herding behavior and other biases.

In the context of NEPSE, low levels of financial literacy can exacerbate the prevalence of herding behavior among individual investors. Without a basic understanding of financial concepts and products, individual investors may be more likely to rely on the actions and opinions of others, leading to herding behavior. Furthermore, low levels of financial literacy can limit the ability of individual investors to assess the risks and returns of different investments, leading to poor investment decisions and increased susceptibility to market volatility. However, the level and impact of financial literacy in NEPSE are not well understood. Therefore, it is essential to address the issue of financial literacy while studying the determinants of herding behavior among individual investors in Nepal.

Despite the growing interest and attention in NEPSE as a key driver of economic growth and development in Nepal, there is no empirical evidence on the factors that drive herding behavior and its impact on market efficiency and stability. This knowledge gap is particularly concerning given the increasing number of listed companies and the surge in trading activities in recent years, which have amplified the

potential risks and costs of herding behavior. Therefore, there is an urgent need for a comprehensive and rigorous investigation of the determinants of herding behavior among individual investors in NEPSE, using quantitative methods, and taking into account the heterogeneity and diversity of NEPSE investors.

Research Question

- What are the specific determinants of herding behavior among individual investors in NEPSE, and to what extent do they impact the likelihood of herding behavior?
- To what extent does financial literacy moderate the impact of the relationships between investors' cognitive profile, past investment experience, and information availability with herding behavior among individual investors in NEPSE?

Research objectives

- To identify and analyze the specific determinants of herding behavior among individual investors in NEPSE, and assess the impact of each determinant on the likelihood of herding behavior.
- To examine the moderating effect of financial literacy on the relationship between investors' cognitive profile, past investment experience, information availability, and herding behavior among individual investors in NEPSE.

Significance of the study

The study on the determinants of herding behavior among individual investors in the Nepalese stock market has significant practical and theoretical implications for the financial sector in Nepal. The Nepalese stock market, represented by the Nepal Stock Exchange (NEPSE), has been growing rapidly over the years and has become

an important source of capital for the country's businesses. However, there is a lack of research on the behavior of individual investors in NEPSE, particularly on herding behavior.

Firstly, the findings of the study can contribute to a better understanding of the investment behavior of individual investors in the Nepalese stock market. This understanding can help investors and financial institutions to make better investment decisions and to develop investment strategies that are more aligned with the behavior of individual investors in the market.

Secondly, the study can provide insights into the effectiveness of financial literacy programs in Nepal. By identifying the role of financial literacy as a moderating variable in the relationship between the independent variables and herding behavior, the study can inform the design and implementation of financial literacy programs to improve the investment behavior of individual investors in the Nepalese stock market.

Thirdly, the study can also have theoretical implications for the field of behavioral finance. By exploring the determinants of herding behavior among individual investors, the study can contribute to the development of existing theories and models in the field.

Fourthly, the findings of this study would be of significant importance to the Nepalese stock market stakeholders, such as investors, brokers, and regulatory bodies. By understanding the factors that drive herd behavior, investors can make more informed investment decisions, and brokers can provide better advice to their clients. Moreover, the regulatory bodies can use the findings to design effective policies that promote investor protection and market stability.

Lastly, the study can contribute to the literature on herding behavior in emerging markets, particularly in South Asia, where there is limited research on this topic. In sum, this study's findings could have practical implications for the Nepalese stock market and could help promote investor protection, market stability, and informed investment decisions.

Organization of the study

This thesis contains five chapters. The first chapter explains the background of this research, the problem statements, the research questions, the research objectives, and structure of the study. Chapter Two presents' theories related to the current research and the review of literature related to herding behaviour, information availability, illusion of control, self-attribution, overconfidence, and past experience regarding investment with respect to the investors of stock market. Additionally, the relationship between all the variables is evaluated and strengthened with the literature from previous studies. Chapter Three consists of the methodology and techniques applied in the collection and processing of data. Next, this chapter presents the research design as well as the sources of data, the description of the research instrument and the sampling method used to collect data. Furthermore, this chapter also explains the procedures of data analysis that are applied to the estimation of the hypotheses. Chapter Four contains the findings estimated after the analysis of data. The first part of this chapter entails the discussion on the response rate, data entering, and screening of data. The second section of this chapter discusses the respondents' profile and statistics results of the data screening on all the variables. The third section explains the statistics results regarding the association between the independent variables with dependent variable and moderating effect of the moderator. It also elucidates the findings of the hypotheses estimation and presents a concise discussion

on the findings. Lastly, Chapter Five entails the conclusion of the study. Further, it presents a comprehensive discussion on the theoretical novelties of the study. The next section in this chapter describes the implications of this study from the theoretical, methodological and practical perspectives. This chapter also explains the limitations of the current research as well as recommendations for future similar studies.

CHAPTER II

LITERATURE REVIEW

In this chapter's first section, herding behaviour definitions are presented. The second part initiates a theoretical discourse connecting herding behaviour with Prospect Theory - analyzing investor actions in risky conditions, and Social Learning Theory - examining the societal and cognitive impacts on individual behaviour. The third section discusses the influence of cognitive profiles, available information, and prior investment experiences on herding behaviour. Furthermore, it offers an empirical analysis on herding behaviour, illusion of control, self-attribution, overconfidence, previous investment experiences, and information accessibility, presenting valuable scholarly insights pertinent to the research issues tackled in this chapter.

Herding Behaviour (Dependent Variable, DV)

Investors often mimic others' investment decisions, even if it contradicts their own information, leading to irrational choices and market instability (Kumar & Goyal, 2016). The traditional theories, EMH and EUT, suggest that markets are efficient and decisions are logical, based on complete information, although this clashes with the actual complexities and uncertainties in markets (Fama, 1970). In contrast, behavioral finance, anchored by the Prospect Theory, acknowledges investors' irrational behaviors and biases, offering a more realistic insight into decision-making processes, even incorporating neurological aspects (Tversky & Kahneman, 1973). It aims to guide investors to make better decisions by understanding their behavioral patterns, complementing rather than replacing

traditional finance theories (Statman, 2014). Understanding personal biases and group influences are crucial for investors to make rational decisions.

Theoretical Review

Discussions on the occurrence of herding behaviour in the stock market and approaches to reduce herding behaviour among individual investors require the understanding of the theoretical aspects which act as the fundamental in understanding herding behaviour. According to (Curi, 2012) a theory is a set of propositions and assumptions that help understand the possible relationship between any phenomena. Thus, a theory should create a direction and sense among the facts that are going to be observed, although it may appear disorderly and separated. Many other researchers such as (Galichon & Henry, 2012) explain that ideally, a good theory should create predictive and descriptive values simultaneously. In an ideal world, a theory must recognize relevant variables and the association between these variables. Then, empirically testable hypotheses have to be established and tested (Sekaran & Bougie, 2011). Theories can also play a critical role in simplifying the relationship between explained variables (Ott, 2013). Therefore, this research has chosen two theories i.e. the Prospect Theory and Social Learning Theory which act as the foundation for the subjects being studied.

Prospect Theory

The Prospect Theory by (Kahneman & Tversky, 2021) highlights the irrational and emotionally influenced decisions people make in uncertain situations, as noted by (Altman, 2010). This theory, superseding the Expected Utility Theory, focuses on actual observed behaviors and reveals a tendency for individuals to prioritize avoiding losses over acquiring gains. It offers a clear insight into the average investment

choices in financial markets, emphasizing subjective reference points in decision-making rather than absolute outcomes, according to (Kahneman & Tversky, 2021) and (Shiller, 1999).

Assumptions of the Prospect Theory

The Prospect Theory developed by (Kahneman & Tversky, 2021) is recognized by many behavioral economists for explaining individuals' risk-averse nature. According to this theory, people's risk-taking or risk-averse tendencies vary depending on the specific prospect, forming an S-shaped curve representing the changes in perceived value relative to a subjective reference point, as highlighted by (Altman, 2010). It illustrates that individuals evaluate gains and losses differently, demonstrating a bent towards risk-aversion in positive scenarios and risk-taking in negative ones.

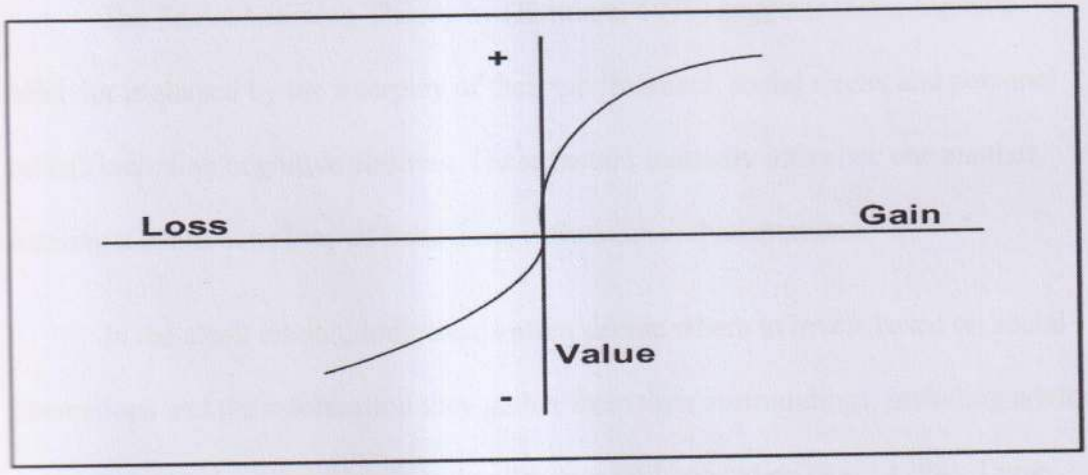

Figure 2.1: A Hypothetical Value Function of Prospect Theory

Source: (Kahneman & Tversky, 2021)

The Prospect Theory, developed by (Kahneman & Tversky, 2021), describes how investors' decisions are influenced more by changes in wealth rather than absolute wealth, with reactions differing significantly between gains and losses. This theory underlines that people are more distressed by losses than they are pleased by

gains, a phenomenon termed as "loss aversion". (Fisher & Dellinger, 2015) quantify this by noting that the distress from losses is about 2.5 times the joy from equivalent gains. Similarly, (Mallouk, 2014) elaborates that this aversion to loss can often lead to detrimental investment decisions, such as holding onto losing stocks or keeping cash at the cost of purchasing power, as the fear of loss outweighs the pursuit of gain. This theory is chosen for the study as it encapsulates the emotional influences, including fear and pleasure, on investment decisions, showcasing that individuals often display both risk-averse and risk-seeking behaviors depending on their subjective evaluation of potential gains and losses. It highlights that the pain of losses significantly sways investors' choices, making them reliant on external advice, thereby leading to herding behavior in investment decisions.

Social Learning Theory (SLT)

The Social Learning Theory by (Bandura, 1977) suggests that a person's behavior is shaped by the interplay of their environment, social circle, and personal beliefs including cognitive abilities. These factors mutually influence one another, forming a continuous loop of behavioral influences and adaptations.

In the stock market, individuals often decide where to invest based on social interactions and the information they gather from their surroundings, including advice or trends noticed among friends and colleagues (Bikhchandani et al., 1998). These decisions are also heavily influenced by personal cognitive factors like overconfidence or illusion of control, which can either encourage or discourage investment actions (Fernández et al., 2011). The environment, filled with rumors and uncertainties, plays a role in shaping individuals' cognitive profiles, thus influencing their behavior in the market. According to the Social Learning Theory by (Bandura,

1977), individuals' investment choices are further shaped by their past experiences - if a strategy was successful before, they are likely to stick to it, while constant failure may lead to abandonment. This theory, chosen for the current study, highlights that one's cognitive profile and past experiences significantly dictate their behavior in investment decisions, including the tendency to follow others' choices when faced with previous bad investment experiences.

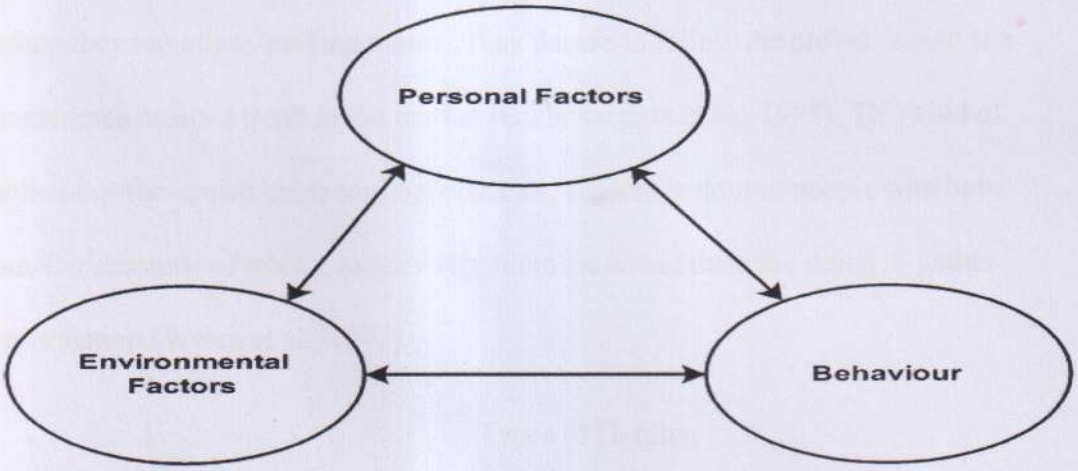

Figure 2.2: Social Learning Theory
Source: (Bandura, 1977)

Investment Decision Making

Making choices in the stock market is tough because of the unpredictable and risky nature of it. Investors have to pick from many options based on the data they've got (Pak & Mahmood, 2015). These choices are made through thought-out processes that are shaped by individuals' beliefs and willingness to take risks (Beach & Lipshitz, 2017). The decision-making is like solving a problem in a certain setting, being influenced by many factors, including different levels of risk-taking among investors (Nga & Ken Yien, 2013). Investors' actions are often based on their feelings and thoughts, and can only handle a limited amount of information. So, investor mostly rely on what others think (Bosner & Lakehal-Ayat, 2008). This can sometimes lead to

unreasonable choices, with varying reactions to new info or events, showcasing the need to study these inconsistent behaviors in the stock market more closely (Pablo Marcos Prieto & Javier Perote, 2017).

Human Behaviour and Investment Decision Making

People often make choices in the stock market based on their feelings or what they see others doing, which is known as "herding (Hoffmann et al., 2013). Basically, when they see others making money, they decide to follow the crowd, which can sometimes create a trend in the market (Bikhchandani et al., 1998). This kind of following-the-crowd behavior happens a lot, especially among people who have smaller amounts of stocks, as they rely more on what others are doing to gather information (Welch et al., 1992).

Types of Herding

The action of people in the stock market copying what others are doing, called "herding," can actually make the market more risky and shaky. This has been seen in the Korean market and is a big reason for ups and downs in the financial world (Drehmann et al., 2005). (Rannou, 2010) also found that in Europe, the more people followed others, the more the prices of things in the market became inflated. On top of this, when people just follow the crowd in the stock markets, it usually means the market isn't working properly, leading to choices that don't really make sense (Franco et al., 2010).

(Lindhe, 2012) in his study agreed that herding could be categorized into two types as presented in the Figure 2.3:

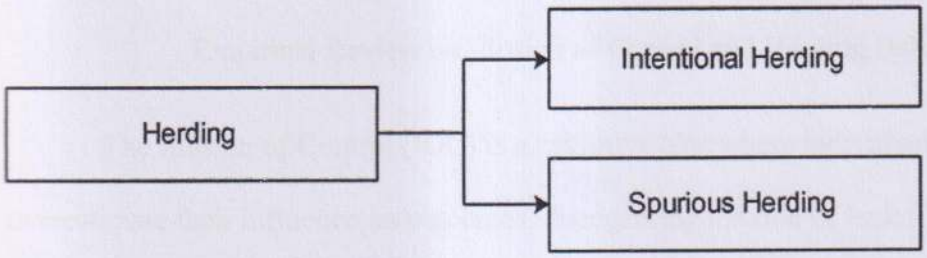

Figure 2.3: Forms of Herding

Source: (Lindhe, 2012)

Herding Behaviour and Financial Decision Making

Using Brazilian financial data from 2005 to 2009, (Kutchukian et al., 2014) identified inconsistent herding trends, with 2007 marking the highest. (Menkhoff et al., 2006) noted that senior investors are more prone to herding than juniors. In Japan, investors tend to follow prevailing trends and shared information, as pointed out by (Suto & Toshino, 2005). (Nofsinger, 2005) cautioned that herding often sidesteps analytical judgment in favor of gut feelings, causing investors to mimic others based on popular opinion.

Herding Behaviour in the Context of Nepalese Stock Exchange

NEPSE's erratic nature, characterized as an emerging market, often drives investors to act irrationally (Rana, 2020). Through attitudinal analysis, (Risal & Khatiwada, 2019) detected herding during sparse trading times. (J. Dangol & Manandhar, 2020) linked herding to asset misvaluation and inefficiencies. (KC & Tamang, 2022), (R. Dangol & Shrestha, 2019), and (Kunwar, 2021) consistently found herding's profound effect on both Nepalese investment decisions and outcomes.

Yet, no study has probed the root causes of such behavior or proposed remedies specifically for NEPSE.

Empirical Review on Illusion of Control and Herding Behaviour

The Illusion of Control (IOC) is a cognitive bias where individuals overestimate their influence on outcomes, disregarding the role of luck (Pompian, 2011). This overconfidence often results in investors downplaying risks, as they regard their judgments superior (Hendrickx et al., 2001). (Fellner, 2009) identified IOC as a factor diminishing portfolio diversification. Additionally, it may drive investors to favor historically underperforming stocks (Duhaime & Schwenk, 1985). (Boyd & Vozikis, 1994) linked IOC to riskier investment choices. Studies like those of (Mary Metilda, 2015) demonstrated IOC's connection to herding behavior and asset valuation. Experience might mitigate its influence (Lambert et al., 2012). Investigations into various stock exchanges like Islamabad and Nepal consistently showed a robust link between IOC and investors' decisions (Ramalakshmi et al., 2019); Rana, 2022). Ultimately, IOC emerges as a significant predictor of herding tendencies among investors (Fernández et al., 2011).

Empirical Review on Self-Attribution and Herding Behaviour

Self-attribution (SA) describes a mindset where successes are seen as personal achievements, while failures are blamed on outside factors (Miller & Ross, 1975). It suggests that individuals link accomplishments to their skills and deflect blame for failures (Mishra & Metilda, 2015a). (Daniel et al., 1998) showed that investors with SA traits credit their successes to aptitude but fault luck for losses. (Doukas & Petmezas, 2007) discerned that SA correlates negatively with risk-taking, leading to over-trading. In a varied group study, (Kauppakorkeakoulu, 2009) found SA

impacting decisions differently based on experience. Similarly, (D. Choi & Lou, 2012) pinpointed stock investors assigning successes to skill and failures to external elements. (Hoffmann & Post, 2014) revealed that past positive returns cause investors to attribute current success to their prowess. Interestingly, market returns don't sway SA tendencies. (Nguyen & Schuessler, 2012) identified SA's influence on German investors' herding habits. In a related vein, (Fernández et al., 2011) found SA inversely tied to herding behavior.

Empirical Review on Over-Confidence and Herding Behaviour

Investors' overconfidence can lead them to overvalue their expertise and downplay associated risks (Tan et al., 2012). They might either be overly sure about predictions or be excessively certain of their evaluations (Ngwabebhoh et al., 2020). This overconfidence, intertwined with flawed judgment, means they might misjudge the validity of data (DeBondt et al., 2010) and make information processing errors (Nofsinger, 2017). This excessive self-belief results in individualistic decisions and overlooks external advice, even on major platforms like NYSE (Bernardo & Welch, 2001). Overconfidence's effects ripple into stock pricing by altering how investors gather information (Li & Yang, 2018). The outcomes are mixed: while some see it causing asset mispricing (Bernardo & Welch, 2001), others note the financial strain of excessive data hunting (Li & Yang, 2018). Research on its relation to herd behavior is varied: (Fernández et al., 2011) and (Gill et al., 2018)found a positive link, (Michailova et al., 2017) a negative one, and (Jain et al., 2015) found no significant relationship. Overall, overconfidence remains a critical factor in influencing investor decisions.

Empirical Review on Past Investment Experience and Herding Behaviour

Memories, more emotion-based than factual, direct investors' decisions (Nofsinger, 2005). These decisions, linked with Prospect Theory, lean towards familiar patterns. Emotionally charged recollections, like joy or sorrow, inform investment risks (Nofsinger, 2017). After a loss, investors exhibit caution, reflecting the sting of losing described by Prospect Theory (Nofsinger, 2005). Investors often link good outcomes to skill and bad ones to luck (Nofsinger, 2017). Previous wins spur risk-taking, while losses induce caution. This behavior echoes consumers hesitating after missed big discounts (Raeva et al., 2011) Investors also tend to shy away from stocks sold at a loss but favor those sold at a profit (Strahilevitz et al., 2011). (Gupta & Sharma, 2011) highlighted the influence of past experiences on decisions, with losses pushing investors towards external advice. Past performance sways investor tendencies (Mallouk, 2014). Losses push investors to follow the crowd, but interestingly, those with past wins display stronger herding behaviors (Merli & Roger, 2014). In essence, past experiences play a crucial role in shaping investor herd mentality.

Empirical Review on Information Availability and Herding Behaviour

Information access greatly sways investment decisions (Abreu & Mendes, 2012). Investors delving deep into data tend to trade more, potentially earning sizable profits (Peress, 2004). (Epstein & Schneider, 2008) stress that data reliability is paramount, influencing investor rationality. (Fischer & Gerhardt, 2011) note the enhanced investor confidence when backed by financial expert insights. In contrast, (Ivković & Weisbenner, 2007) believe the information's origin isn't crucial, and some risk-averse investors downplay even precise insights (Peress, 2004). Supporting the

data's importance, (Abreu & Mendes, 2012) found a strong link between information and investor behavior in the Portuguese market, a sentiment mirrored in a Chinese investor study (Tauni et al., 2015). In essence, information shapes, and possibly magnifies, herd behavior in investing.

Empirical Review on Financial Literacy

Financial literacy, a blend of knowledge and skills, guides effective money decisions (Bay et al., 2014). Poor financial understanding can lead to investment blunders (Disney & Gathergood, 2013). Notably, it impacts retirement and wealth strategies (Lusardi & Mitchell, 2011). Studies show varied outcomes: in the UAE, financial know-how crucially influenced investment actions (Al-tamimi & Kalli, 2019), while in Nepal, it deterred risk-taking. Multiple information sources feed investor knowledge (Oberlechner & Hocking, 2004), yet those lacking literacy often favor market trends, causing herd behavior. Lastly, in Tunisia, limited knowledge meant increased investment caution (Yosra Mefteh Rekik, 2013).

Moderating effect of Financial Literacy

Behavioural finance plays a pivotal role in financial choices, with financial literacy being a key influencer (Jappelli & Padula, 2013). Investors armed with more financial knowledge tend to take greater risks (Hayat, 2016). Yet, biases arise when there's a knowledge deficit; for instance, those less literate might focus only on past successes (Jain et al., 2015) or face decision-making confusion (Disney & Gathergood, 2013). Essentially, high financial literacy equips investors with better tools for decision-making, while those less educated navigate differently (Almenberg & Dreber, 2015).

Research Gap

The research gap for the study is as follows:

1. Limited Research in Developing Economies:
    - Previous studies have predominantly focused on developed markets, raising questions regarding their applicability in emerging markets, such as Nepal.
2. Prospect and Social Learning Theory's Application in NEPSE:
    - Both Prospect Theory and Social Learning Theory have been employed in financial decision-making studies. However, their roles in explaining herding behavior in the context of NEPSE require further exploration.
3. Financial Literacy's Implications:
    - The existing literature offers limited insights into the implications of financial literacy, particularly in the context of developing economies. The influence of financial literacy on herding behavior remains an underexplored area.
4. Study's Analytical Approach:
    - The analytical approach chosen for this research involves the utilization of PLS-SEM path modeling. This methodology facilitates comprehensive validation and assessment of variable associations, encompassing considerations such as reliability, discriminant validity, and convergent validity.

Conceptual Review

This study adapts the research framework of (Fernández et al., 2011) as shown in Figure 3.1.

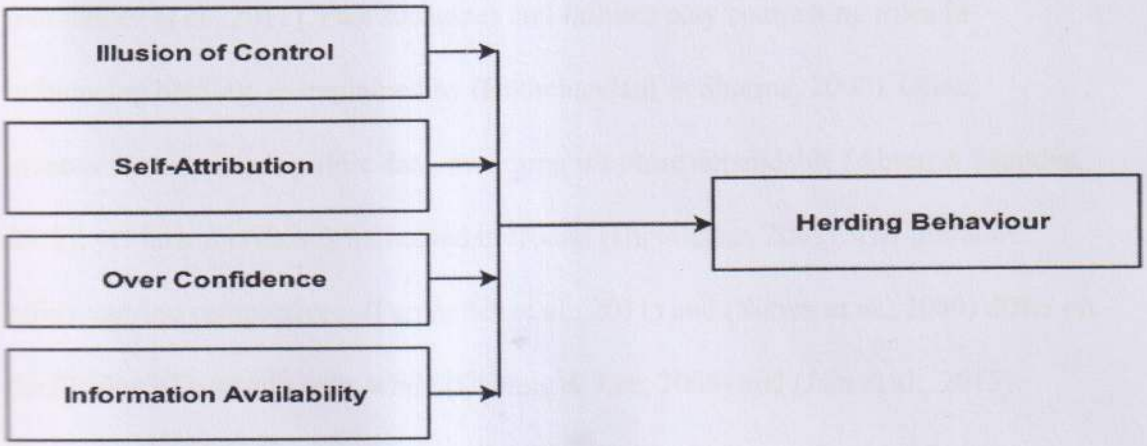

Figure 3.1: The partial Research Framework of this study showing the Cognitive Factors
Source: (Fernández et al., 2011)

Investment decisions are notably influenced by a "herding" mentality, with four main catalysts identified by (Fernández et al., 2011): illusion of control, overconfidence, self-attribution, and how readily available information is. (Ibnrubbian, 2012) links this behavior to stock market inefficiencies and significant fluctuations. Expanding on (Fernández et al., 2011), this research suggests financial literacy and historical investment outcomes also shape herding tendencies in Nepal, as highlighted by (Coşkun et al., 2016). Risk aversion and perceived information reliability often push investors towards mimicking peers (Tauni et al., 2015). (Fernández et al., 2011) discuss a cognitive profile constructed from risk behaviors, confidence, and perceptions of control, which potentially influences investment mimicry. This illusion that investors can influence unforeseen results (Mary Metilda, 2015) and that their peers operate with full information (Simon et al., 2000) drives herding.

Furthermore, a self-assessment bias, where successes are self-credited and failures blamed externally, propels peer-following tendencies (Nofsinger, 2017). Overconfidence can skew how investors weigh their own versus public information (Fernández et al., 2011). Past successes and failures play contrasting roles in influencing herding, as explained by (Bikhchandani & Sharma, 2000). Often, investors lean towards public data, assuming it's more dependable (Abreu & Mendes, 2012), yet how this data is harnessed is crucial (Hirshleifer, 2001). The literature offers varying perspectives: (Fernández et al., 2011) and (Simon et al., 2000) differ on the illusion of control's role, while (Chuang & Lee, 2006) and (Jain et al., 2015) diverge on overconfidence's impact. This disparity underscores the need for a moderating variable, as proposed by (Baron & Kenny, 1986). This study introduces financial literacy as this moderator, given its pivotal role in economic choices (Müller & Weber, 2010) and decision-making enhancement (Fernandes et al., 2014). The limited exploration of financial literacy's bearing on herding amplifies the importance of this research in the context of NEPSE's investors. The proposed research framework of the study with the inclusion of financial literacy as the moderator is shown in Figure 3.2.

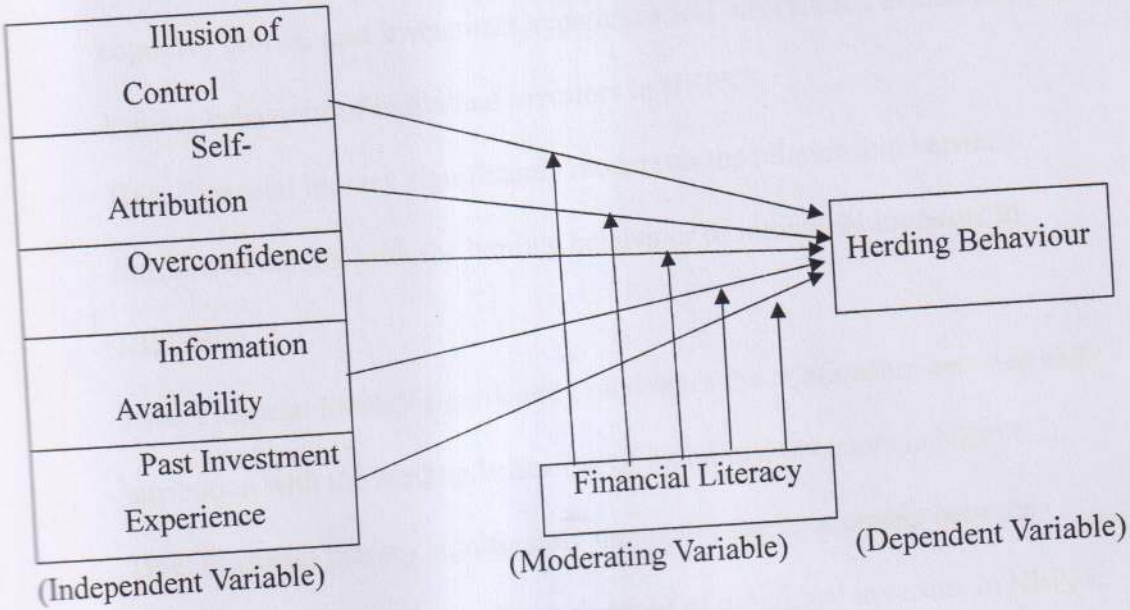

Figure 3.2
Proposed framework of current study with the inclusion of Financial Literacy as the moderating variable

Hypotheses

H1: Illusion of control has a significant relationship with the herding behaviour of individual investors in NEPSE.

H2: Self-attribution has a significant relationship with the herding behaviour of individual investors in NEPSE.

H3: Overconfidence has a significant relationship with the herding behaviour of individual investors in NEPSE.

H4: Past investment experience has a significant relationship with the herding behaviour of individual investors in NEPSE.

H5: Information availability has a significant relationship with the herding behaviour of individual investors in NEPSE.

H6: Financial Literacy significantly moderates the relationship between investors' cognitive profile, past investment experience and information availability with herding behaviour of individual investors in NEPSE.

H6a: Financial literacy significantly moderates the relationship between illusions of control with the herding behaviour of individual investors in NEPSE.

H6b: Financial literacy significantly moderates the relationship between self-attribution with the herding behaviour of individual investors in NEPSE.

H6c: Financial literacy significantly moderates the relationship between overconfidence with the herding behaviour of individual investors in NEPSE.

H6d: Financial literacy significantly moderates the relationship between past investment experience with the herding behaviour of individual investors in NEPSE.

H6e: Financial literacy significantly moderates the relationship between information availability with the herding behaviour of individual investors in NEPSE.

CHAPTER III

RESEARCH METHODOLOGY

This section discusses in detail about the research design, data collection method, data sources, study population and the sampling design.

Research Design

The current study used the survey method to collect data and applied a quantitative research method. Random sampling method was applied and data was collected by using survey questionnaires. The sample respondents in this study comprise of individual investors that are taking part in the Nepalese stock exchange through different brokerage houses.

Population of the study

In 2022, as per the CDSC, Demat account has reached 5,346,000. There were 1,486,442 online clients in the stock market out of them 755,339 were active online clients. The population of this current study comprise of individual investors of the Nepal Stock Exchange (NEPSE). According to the CDSC annual report 2022/2023, the total number of active individual investors in the NEPSE market was 1,037,381 (CDSC, 2022). Therefore, the total population for the study would be all the active individual investors in the NEPSE market.

Unit of Analysis

The unit of analysis for the current study will be individual investor. It consists of all local individual investors participating in the "Nepal Stock Exchange" (NEPSE) directly or through different brokerage houses in various areas of Nepal.

Sampling Technique

The research focused on top stockbrokers in Nepal using a list of all registered brokers from the Nepal Stock Exchange's website. From this list, attention was given to the 10 brokers who won excellence awards in 2022, as investors typically favor more prominent and high-performing brokers.

Upon visiting these brokers to request client contact details, the brokers hesitated due to privacy concerns. However, a view of their client lists was permitted. From these lists, 540 individuals (54 from each broker) were randomly selected for the study. With assistance from the brokerage houses, questionnaires were distributed to these chosen individuals.

Sample Size

The sample size in this study was determined based on (Krejcie & Morgan, 1970) table, which recommends a minimum of 384 samples for populations over 100,000. Given the 1,037,381 individual investors of NEPSE, 384 was deemed appropriate. Additionally, G*Power version 3.1, following (Erdfelder, 2007), suggested a sample size of 146 for six predictors, with a 0.15 effect size and 5% significance level, achieving a 0.95 power. To account for possible low response rates, as noted by (Salkind, 1997), the questionnaire distribution was increased by 40% to 540.

Operational Definitions

In this research, measurements are based on previous studies. Eight variables, including herding behaviour and financial literacy, are detailed further.

Herding Behaviour (HB)

In this study, herding behavior means investors follow others' actions rather than deciding themselves, often influenced by peers or market trends. This idea is from (Lin, 2011).

Illusion of Control (IOL)

Illusion of control is when investors believe they can control investment results, boosting their confidence in decisions. This idea is from (Lambert et al., 2012).

Self-Attribution (SA)

Investors tend to believe their successes come from their own skills while blaming losses on outside factors they can't control. This idea is from (Mishra & Metilda, 2015b).

Overconfidence (OC)

Overconfidence means investors trust their own opinions too much, thinking they're doing better than others and underestimating risks. Based on (Abdallah, 2016).

Past Investment Experience (PIE)

Investor's use their past wins and losses to judge new investments. Good past results make them more confident, while past losses make them cautious. Based on (Mouna & Jarboui, 2018).

Information Availability (IA)

Information availability is about where and how often investors get stock market updates. They use various sources to learn about stock prices. Based on (Abreu & Mendes, 2012).

Financial Literacy (FL)

Financial literacy is understanding and making smart financial choices. It involves grasping concepts like stocks and bonds, analyzing asset returns and risks. This study's approach to measuring financial literacy is based on (V. Rooij & Rob, 2007) and (M. Van Rooij et al., 2011). Using an objective scale, based on (Wu & Zumbo, 2008) advice, ensures the measure is stable and consistent. Personal beliefs about financial understanding, which can lead to overconfidence (Kramer, 2014), weren't considered. This method aligns with significant studies such as (Lusardi & Mitchell, 2014) and (M. Van Rooij et al., 2011).

Instrumentations

The current research gathered data using a survey, with questions sourced from various studies. Questions about herding behaviour came from (Prosad et al., 2015), illusion of control from (Lambert et al., 2012), self-attribution from (Mishra & Metilda, 2015a), overconfidence from (Abdallah, 2016), past investment experience from (Mouna & Jarboui, 2018), and information availability from (Abreu & Mendes, 2012). Financial literacy questions were based on (V. Rooij & Rob, 2007).

Questionnaire Descriptions

This study used a survey to explore how financial literacy affects the link between cognitive profile, past experience, and information availability with the

herding behaviour of individual investors. The 42- close-ended questions survey is divided into three parts:

- Demographics like age, education level, level of income, marital status, and occupation (Section A).
- Questions related to herding behavior, cognitive profile, past investment experience, and information availability (Section B).
- Financial literacy questions, measured using (V. Rooij & Rob, 2007)'s test, resulting in scores from 0 to 10 (Section C). This method aligns with research like (M. Van Rooij et al., 2011) and (Osman et al., 2018).

Data Collection Procedure

Data was gathered from stock market investors in Nepal. Brokerage employees helped reach these investors. The study's purpose and questions were clarified to participants. The questionnaires were received between May, 28th, 2023 to June 30th, 2023.

Pilot Study

Before the main study, a pilot was conducted to ensure the research methods were reliable and valid, as highlighted by (Flynn et al., 1990). Pilot studies are essential to refine research tools, according to (Dom, 2017) and to address potential issues, as pointed out by (Behan, 2014). (Lu et al., 2011) suggest that a pilot should have 25-100 participants. During May 28th to June 30th, 2023, this study handed out 50 surveys to stock market investors. 42 were returned, but with 1 incomplete, leaving 41 usable responses. This resulted in an 82% response rate.

Smart-PLS 4 helped test if the study's parts were reliable and valid. Table 3.1 used Cronbach's Alpha to see if the testing tool was trustworthy. (Ngwabebhoh et al.,

2020) say a score above 0.6 is good, while (Sekaran & Bougie, 2011) define scores below 0.6 as poor, 0.7 as okay, and 0.8 as great. In Table 3.1, parts like information availability, illusion of control, self-attribution, overconfidence, past investment experience and herding behaviour scored between 0.752 to 0.912, which is great.

Table 3.1
Reliability Results

Construct	Items	Cronbach's Alpha
Illusion of control	5	0.808
Self-Attribution	5	0.752
Overconfidence	6	0.798
Past Investment Experience	6	0.912
Information Availability	6	0.808
Herding Behaviour	4	0.901

To check validity, the study measured the "average variance extracted" (AVE). (Straub & David, 2004) and (Ngwabebhoh et al., 2020) say items should have a factor loading above 0.4. Items below 0.4 should be removed to improve AVE. Table 3.2 reveals all items exceed the desired factor loading of 0.5. The study also meets the recommended composite reliability (above 0.7) and AVE (above 0.5) standards as shown in Table 3.2.

Table 3.2
Internal Consistency, Convergent Validity and Average Variance Extracted (AVE)

Construct	Indicators	Loadings	Composite Reliability	AVE
Illusion of control (IOL)	IOC1	0.723	0.875	0.584
	IOC2	0.825		
	IOC3	0.745		
	IOC4	0.775		
	IOC5	0.750		

Self-Attribution (SA)	SA1	0.650	0.865	0.564
	SA2	0.751		
	SA3	0.740		
	SA4	0.780		
	SA5	0.823		
Overconfidence (OC)	OC1	0.614	0.873	0.537
	OC2	0.733		
	OC3	0.800		
	OC4	0.733		
	OC5	0.787		
	OC6	0.713		
Past Investment Experience (PIE)	PIE1	0.668	0.881	0.553
	PIE2	0.670		
	PIE3	0.745		
	PIE4	0.807		
	PIE5	0.798		
	PIE6	0.765		
Information Availability (IA)	IA1	0.852	0.962	0.809
	IA2	0.879		
	IA3	0.945		
	IA4	0.930		
	IA5	0.902		
	IA6	0.887		

Herding Behaviour (HB)	HB1	0.927	0.939	0.796
	HB2	0.878		
	HB3	0.937		
	HB4	0.821		

Data Analysis Techniques

This study utilized two main tools for data analysis: SPSS and Smart-PLS. With SPSS, basic summaries such as average values were obtained, offering clarity on respondent profiles. For a comprehensive examination of data interactions, Smart-PLS was employed. This tool, endorsed by (Ngwabebhoh et al., 2020), uses Structural Equation Modeling (SEM), a method prevalent in social sciences. Thus, while SPSS provided a data overview for this study, Smart-PLS elucidated deeper relationships and patterns.

Descriptive Analysis Technique

In this study, descriptive statistics were used as an initial step to simplify and interpret the data, as outlined by (Sekaran & Bougie, 2011). This technique provided insights into various characteristics of the respondents, such as age, education, marital status, profession and income, highlighting their diversity and significance for the research.

Partial Least Square (PLS)

Smart PLS, introduced by Swedish statistician Herman World, is a tool commonly used for data analysis in social sciences and many other fields. Known as partial least squares (PLS) regression, this method is vital for studies with many variables, as seen in fields from anthropology to medicine. This study utilized PLS to

examine the relationships between variables. Structural equation modeling (SEM) is another analysis method chosen for this research because of its benefits, such as reducing measurement errors and managing complex data (Karimimalayer, 2012). SEM, especially with tools like Smart-PLS, is great for examining multiple theories in one study, as supported by (Hair et al., 2017), making it ideal for this research which looks into two theories.

Measurement Model Assessment

This study employs a two-step process using PLS-SEM for analysis. Measurement model assessment through confirmatory factor analysis, focusing on validity and reliability. This includes assessing internal item reliability via factor loadings and external consistency with average variance extracted (AVE). Structural model assessment. The measurement model emphasizes factor loadings, convergent validity, and discriminant validity.

Factor Loading

Using the Smart PLS method, items require a 0.5 factor loading (Ngwabebhoh et al., 2020). If it's below, they're removed. Reliability should be 0.7 or higher (Hopkins, 2014), and AVE must be over 0.5 (Fornell & Larcker, 1981).

Convergent Validity

Convergent validity, as per (Hair et al., 2017), evaluates construct item correlation. If AVE exceeds 0.5, it's considered valid (Chin, 2014b).

The Discriminant Validity

To ensure the distinctiveness of constructs and confirm their validity, Smart-PLS discriminant validity was employed. In the outer model, assessing discriminant

validity is vital for validating construct validity. This step confirms that study constructs don't overlap. (Fornell & Larcker, 1981) guidelines were adopted, where the square roots of the AVE for each variable were contrasted with the correlations of latent variables (Hopkins, 2014).

Structural Model Assessment

In PLS-SEM, the structural model evaluation is the second main step, focusing on hypotheses testing. This assessment looks at the path coefficient, R^2 determinant, f^2 effect size, and Q^2 predictive relevance.

Path Coefficient

The Smart PLS technique is utilized to analyze the relationship between independent and dependent variables. To validate hypotheses, a t-statistics score of 1.96 or above, evidenced by p-value and t-value, is essential; any lower and the hypothesis isn't supported. This method gives a comprehensive analysis, including mean, t-value, and standard deviation. Furthermore, it ascertains if financial literacy, when placed as a moderator, significantly impacts the link between cognitive profile, past investment experience, and information availability with herding behavior.

Coefficient of Determination (R^2)

The Smart-PLS procedure was also applied to examine the coefficient of determinations (R^2). The coefficient of determinations (R^2) investigates the strength of relationship with the dependent variable. R^2 was determined for both individual as well as overall basis. In the case of individual analysis, Smart PLS R^2 was used to examine the strength between each independent variable with the dependent variable. The Smart PLS R^2 was used to compare the strength of the relationship between the independent variables and the dependent variable.

Assessment of Effect Size (f^2)

Effect size (f^2) gauges the impact of an independent variable on the dependent one (Oliver et al., 2010). (Cohen, 2013) categorizes it into three levels: 0.02 to 0.15 is small, 0.15 to 0.35 is moderate, and above 0.35 is strong. This study adhered to these classifications to assess the effect size of each variable.

Predictive Relevance (Q^2)

The Stone-Geisser test (Q^2) serves as an additional check for model fit (Duarte & Raposo, 2015). Using PLS, the model's quality is evaluated through the blindfolding procedure (Sattler et al., 2010). A Q^2 value greater than zero indicates predictive relevance, as stated by (Reinartz et al., 2009).

CHAPTER IV

RESULTS

The first part of this chapter discusses on response rates, data entry, and screening, including tests like multi collinearity, missing values, and normality. Also, profiles and descriptive stats of variables. The second section presents hypothesis test results. It covers reliability, validity, Structural model assessment (R-squared, path coefficients), and direct relationship results. Also, tests moderating role of financial literacy on herding behavior.

Data Validation and Verification

The sections cover response rate, data input and coding, and pre-analysis data screening and cleaning.

Response Rate

540 questionnaires were distributed to Nepalese Stock Exchange investors via brokers. 320 returned, 20 incomplete, excluded. 300 valid responses (55% rate) used for analysis. (Johnson & Owens, 2014) cite AAPOR's 32.6% standard social science response rate; this study's 55% rate is well-regarded. Refer to Table 3.3 for response rate specifics.

Table 3.3
Response Rate

	Total	Rate
Questionnaires Distributed	540	100%
Returned	320	59.26
Usable	300	55.55
Unusable	20	3.70

Data Coding and Entering

Questionnaire items got codes based on variables. Grouped by categories, e.g., descriptive questions together. Each question coded with letters and a number for its variable, like IOC for Illusion of Control, while Self-Attribution questions were coded as SA. Coding aided reference and lowered data entry errors. Collected questionnaires set for data entry. SPSS software was used for entering and analysis.

Data Screening and Preliminary Analysis

Initial analysis is vital in research (Hopkins, 2014). It finds problems in data and aids understanding. Data cleaning means fixing errors (Pallant, 2011), like outliers and missing values. Outliers are values far from the expected range, e.g., a 5-point Likert scale from 1 to 5. Outliers need correction. 300 questionnaires' data was put in SPSS. Missing values were checked. Normality and multicollinearity (Ngwabebhoh et al., 2020) were tested.

Missing Value Analysis

SPSS software found 10 random missing values in the data: Herding Behaviour (1), Illusion of Control (1), Self-Attribution (2), Overconfidence (1), Information Availability (2), and Past Investment Experience (3). According to (Schafer, *2013*), up to 5% missing values don't affect stats. As ours are <5%, we used nearby point means for imputation, as per (Raymond, 1986). The detailed distribution of these missing values is presented in Table 3.4

Table 3.4

Total Number of Missing values

Constructs	Missing Values
Herding Behaviour	1
Illusion of Control	1
Self-Attribution	2
Overconfidence	1
Information Availability	2
Past Investment Experience	3
Financial Literacy	0
Total	10

Treatment of Outliers

Outliers can distort regression results, making them unreliable (Croux, 2009). This study employed the Mahalanobis test in SPSS to identify outliers and found the data free from such anomalies.

Test of Normality

(Reinartz et al., 2009) state that PLS SEM doesn't need data normality, but (Hair et al., 2012) advise checking it. Histograms of residuals (Fricker, 2001) and normal probability plots (Ngwabebhoh et al., 2020) are common tools for this. (Toti et al., 2020)sets skewness and kurtosis ranges between -2 and +2 for normality. This study confirmed data normality using these metrics, as seen in Figure 4.1.

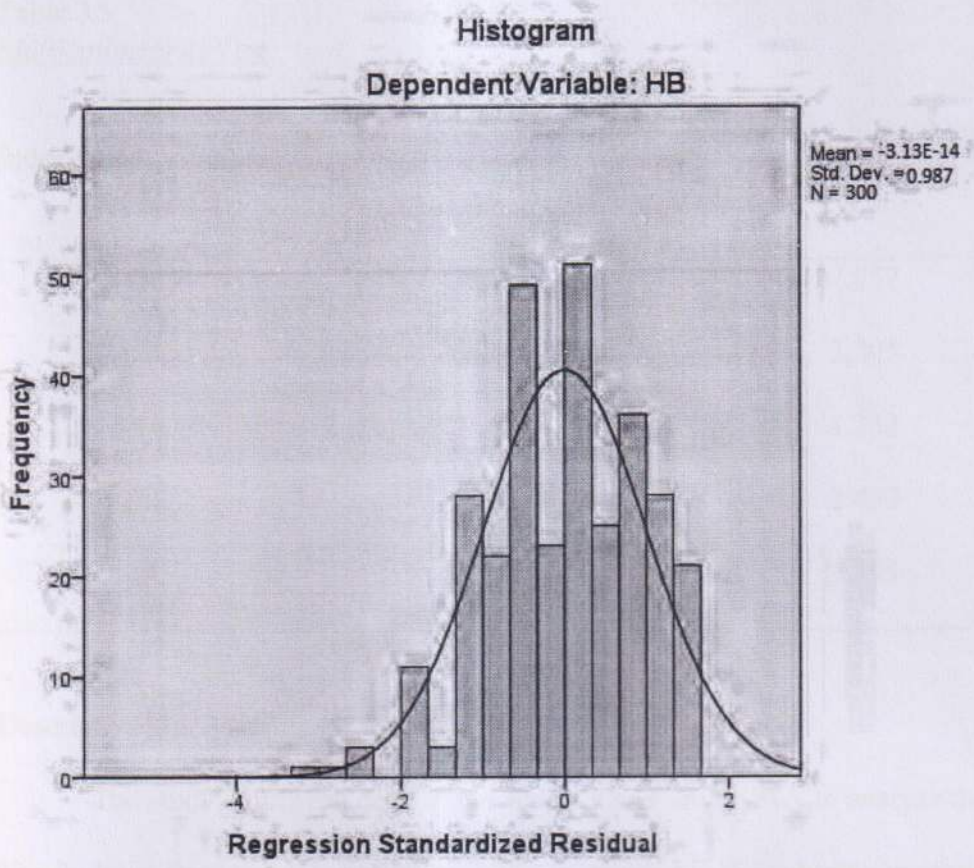

Figure 4.1

Histogram of Herding Behaviour (Dependent Variable)

Multicollinearity Test

Multicollinearity measures the correlation between independent variables in a model. High levels can distort regression outcomes (Field, 2009). For accurate interpretation, independent variables shouldn't perfectly correlate (Pituch & Stevens, 2015). Two common checks are: 1) a correlation matrix where correlations ≥ 0.90 suggest multicollinearity (Ngwabebhoh et al., 2020) and 2) the Variance Inflation Factor (VIF) method, with VIF > 5.0 indicating problematic multicollinearity (Ngwabebhoh et al., 2020). According to Table 3.5, there's no multicollinearity, as all VIF values were < 5.0 and tolerance values were below 1.

Table 3.5
Multicollinearity Test

Independent Variable	Collinearity Statistics	
	Tolerance	VIF
OC	.350	2.857
IOC	.312	3.205
SA	.751	1.332
PIE	.410	2.439
IA	.313	3.195

Descriptive Analysis

The study employed descriptive analysis and Smart-PLS to analyze the data. The findings from the descriptive analysis are detailed in the subsequent section.

Descriptive Technique

Descriptive analysis was applied to the non-quantified data from respondents, encompassing their profile, education, income, and investment habits.

Descriptive Analysis Result

Descriptive analysis using SPSS summarized respondent details, with results in Table 4.4 and 4.5.

Demographic Profile of the Respondents

Table 3.6 showcases respondent demographics. Out of 250 males (83.33%) and 50 females (16.67%), age distribution is: below 25 (10% males, 1.67% females), 26-35 (40%, 6.67%), 36-45 (23.33%, 3.34%), 46-55 (6.6%, 3.4%), over 55 (3.3%, 1.7%). Education levels are: under SLC (3.33% males, 1.67% females), intermediate (6.67%, 3.33%), Bachelor's (24.33%, 2.34%), Master's (42.7%, 7.3%), and PhD (2.33%, 0.34%). Monthly incomes are: under Rs.50, 000 (18.3% males, 3.4%

females), Rs.50, 000-100,000 (45%, 8.33%), Rs.100, 001-150,000 (10%, 3.3%), above Rs.150, 000 (10%, 1.7%). Marital status: single (38.33% males, 3.34% females), married (43.3%, 11.7%), and divorced (1.66%, 1.67%). Occupation: finance sector (36.6% males, 6.7% females), other roles (46.7% males, 10% females).

Table 3.6
Descriptive Analysis of the Respondents' Background

Respondent Demographics	Frequency	%
Gender (N = 300)		
Male	250	83.33
Female	50	16.67
Age (N = 300)		
Up-to 25	35	11.67
26-35	140	46.67
36-45	80	26.67
46-55	30	10
Over 55	15	5
Educational Level (N = 300)		
Under SLC	15	5
Intermediate	30	10
Bachelor	80	26.67
Master	150	50
PhD	5	1.67
Other	20	6.66
Monthly Income (N = 300)		
Below Rs.50,000	65	21.7
Rs.50,000-100,000	160	53.3

Rs.100,001-150,000	40	13.3
Above Rs.150,000	35	11.7
Marital Status (N = 300)		
Single	125	41.67
Married	165	55
Divorced	10	33.33
Occupation (N = 300)		
Finance-Related	130	43.3
Others	170	56.7

Table 3.7
Demographic Profile of the Respondent in Depth

		Male	Female	Total
Gender(300)		250	50	300
		83.33%	16.67	100%
Age (300)	Up-to 25	30	5	35
		10%	1.67%	11.67%
	26-35	120	20	140
		40%	6.67%	46.67%
	36-45	70	10	80
		23.33%	3.34%	26.67%
	46-55	20	10	30
		6.6%	3.4%	10%
	Over 55	10	5	15
		3.3%	1.7%	5%

Education level (300)	Under SLC	10	5	15
		3.33%	1.67%	5%
	Intermediate	20	10	30
		6.67%	3.33%	10%
	Bachelor	73	7	80
		24.33%	2.34%	26.67%
	Master	128	22	150
		42.7%	7.3%	50%
	PhD	4	1	5
		1.33%	0.34%	1.67%
	Other	15	5	20
		5%	1.66%	6.66%
Monthly Income (300)	Below Rs.50,000	55	10	65
		18.3%	3.4%	21.7%
	Rs.50,000-100,000	135	25	160
		45%	8.33%	53.33%
	Rs.100,001-150,000	30	10	40
		10.0%	3.3%	13.3%
	Above Rs.150,000	30	5	35
		10.0%	1.7%	11.7%
Marital Status (300)	Single	115	10	125
		38.33%	3.34%	41.67%
	Married	130	35	165
		43.3%	11.7%	55.0%

Occupation (300)	Divorced	5	5	10
		1.66%	1.67%	3.33%
	Finance-*Related*	110	20	130
		36.6%	*6.7%*	*43.3%*
	Others	140	30	170
		46.7%	10%	56.7%

Analysis of Data

The data was analyzed using Smart-PLS software. Basic techniques and relationships between variables were explored. The influence of financial knowledge on these relationships was also studied. Results are presented in tables and figures.

Factor Analysis

To validate the items in the research framework and confirm they measure as intended, factor analysis was conducted using Smart-PLS software. Data from SPSS was imported into Smart-PLS to assess model fit and construct validity.

Assessment of PLS-SEM Path Model Results

This study employed a two-stage PLS-SEM process based on (Ringle et al., 2017), sidestepping the GoF index due to its limitations highlighted by (Hopkins, 2014). Supported by (Vinzi, 2013) and (Ringle & Sinkovics, 2014), this method involves:

1. Measurement Model: It ensures the reliability and validity of the constructs.
2. Structural Model: Analyzes construct relationships using the PLS-SEM bootstrapping technique (Ringle & Sinkovics, 2014). Critical evaluation metrics include "significance of path coefficients", "the effect size (f^2)", "coefficient of determination (R^2)" and "predictive relevance (Q^2)". All processes are detailed in Figure 4.2.

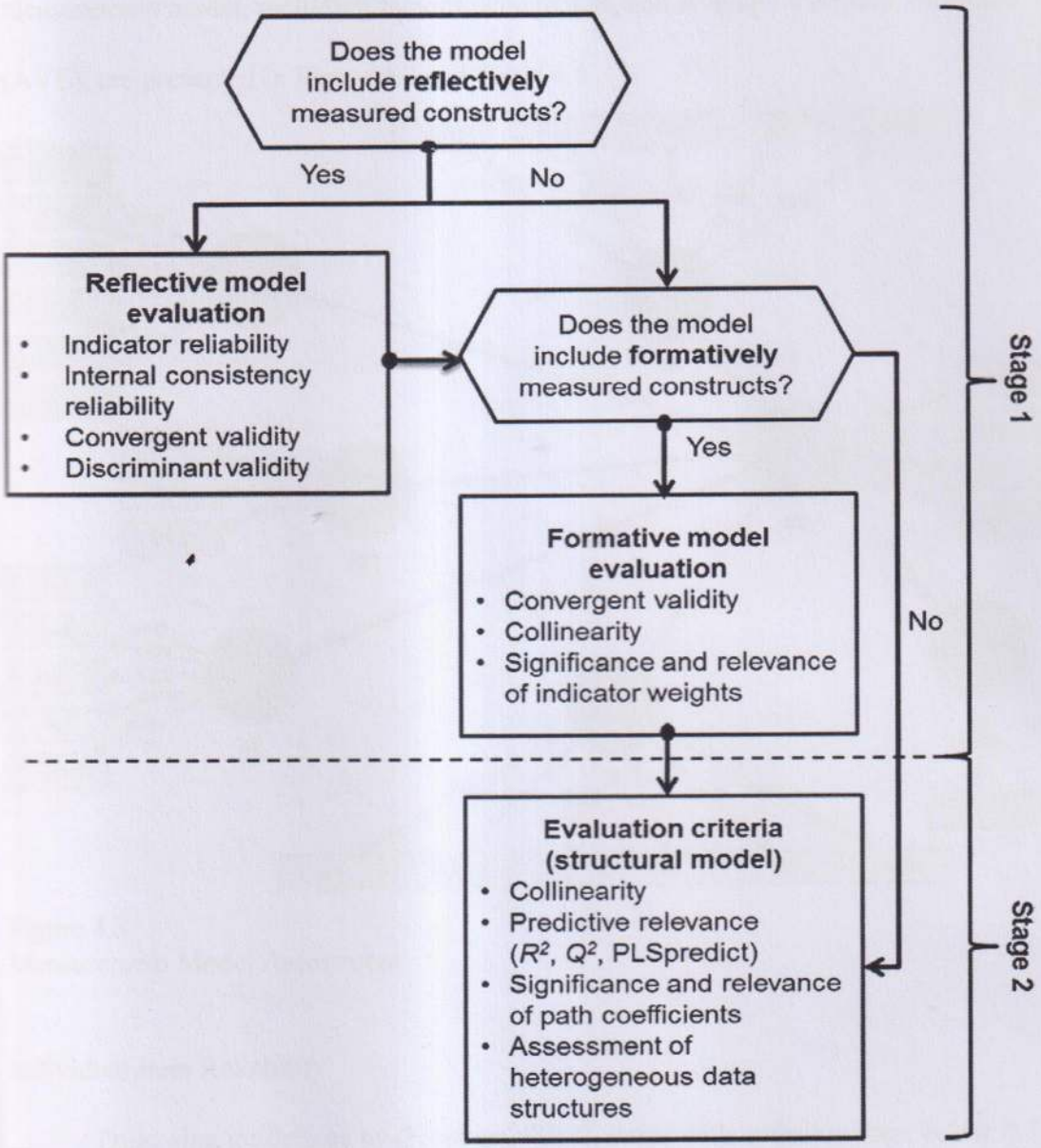

Figure 4.2
PLS Path Modeling Assessment (Two Step Process)
Source: (Ringle & Sinkovics, 2014)

Measurement Model Assessment

The study used PLS-SEM, specifically Smart-PLS, to test theory and assess model validity and reliability (Ringle & Sinkovics, 2014). The measurement model checks the validity and internal consistency of scale items, with Composite Reliability (CR) gauging the construct's internal consistency (Hopkins, 2014). CR, differing from

Cronbach's alpha, focuses on individual item reliability. Key outcomes from the measurement model, including factor loadings, CR, and Average Variance Extracted (AVE), are presented in Figure 4.3 and Table 4.6.

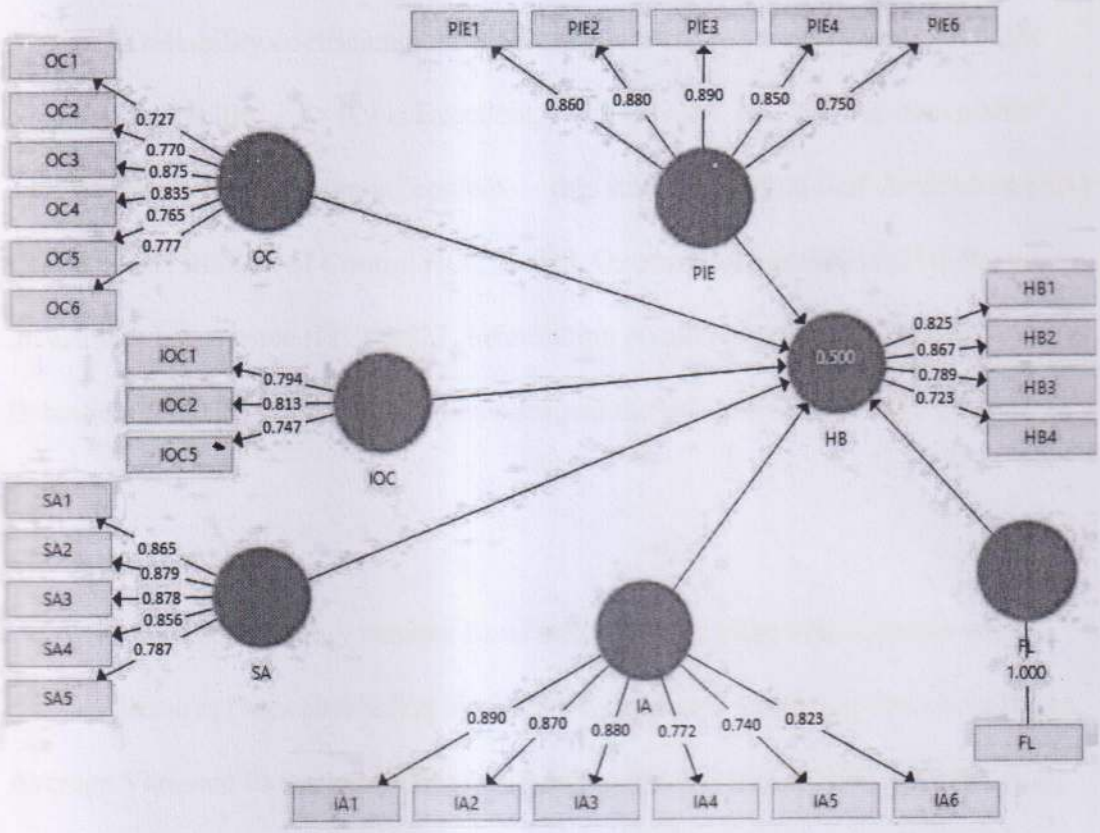

Figure 4.3
Measurement Model Assessment

Individual Item Reliability

Following guidelines by (Hopkins, 2014), items with outer loadings below 0.5 are deemed unreliable. (Ngwabebhoh et al., 2020) further suggest omitting items with 0.4 loadings. Using this criterion, 3 out of 42 items in this study were dropped due to loadings under 0.5, resulting in 39 items for analysis. This led to the exclusion of 7.14% of the original scale, with 2 items from the illusion of control and 1 from past investment experience being removed. The revised measurements are detailed in Table 3.8.

Internal Consistency Reliability

(Sun et al., 2007) described internal consistency reliability as the consistency of items measuring the same concept in a scale. (Hopkins, 2014) recommended using composite reliability coefficients for this. Using the criteria from (Vinzi, 2013) for composite reliability - "> 0.9 is Excellent, > 0.8 is Good, and > 0.7 is Acceptable" with 0.7 being the minimum acceptable — this study found that Self-Attribution (SA) scored 0.931, Illusion of Control (IOL) 0.828, Overconfidence (OC) 0.910, Past Investment Experience (PIE) 0.927, Information Availability (IA) 0.930, and Herding Behaviour (HB) 0.878. All these values surpass the acceptable threshold, detailed in Table 3.8.

Convergent Validity

Convergent validity ensures items of a construct align and correlate with similar measures (Ngwabebhoh et al., 2020). Convergent validity is confirmed when Average Variance Extracted (AVE) is ≥ 0.5 (Fornell & Larcker, 1981). In this study (Table 3.8), the AVE values are: IOC 0.616, SA 0.728, OC 0.629, PIE 0.718, IA 0.690, and HB 0.644, indicating all constructs meet the convergent validity criteria.

Table 3.8
Factor Loading, Cronbach Alpha, Composite Reliability, Average Variance Extracted

Construct	Indicators	Loadings	Composite Reliability	AVE
Herding Behaviour (HB)	HB1	0.825	0.878	0.644
	HB2	0.867		
	HB3	0.789		
	HB4	0.723		

Self-Attribution (SA)	SA1	0.865	0.931	0.728
	SA2	0.879		
	SA3	0.878		
	SA4	0.856		
	SA5	0.787		
Illusion of control (IOC)	IOC1	0.794	0.828	0.616
	IOC2	0.813		
	IOC5	0.747		
Overconfidence (OC)	OC1	0.727	0.910	0.629
	OC2	0.770		
	OC3	0.875		
	OC4	0.835		
	OC5	0.765		
	OC6	0.777		
Past Investment Experience (PIE)	PIE1	0.860	0.927	0.718
	PIE2	0.880		
	PIE3	0.890		
	PIE4	0.850		
	PIE6	0.750		
Information Availability (IA)	IA1	0.890	0.930	0.690
	IA2	0.870		
	IA3	0.880		
	IA4	0.772		
	IA5	0.740		
	IA6	0.823		

Discriminant Validity

Discriminant validity measures how distinct a latent construct is from others in a model (Duarte & Raposo, 2015). This study assessed this using two methods: (Fornell & Larcker, 1981) AVE and (Chin, 2014a) cross-loadings. Initially, AVE values were compared, following (Fornell & Larcker, 1981) rule, with an acceptable value of 0.5 or higher. Table 3.9 shows all constructs exceed this threshold. Additionally, to confirm discriminant validity, the square root of each AVE should surpass its corresponding latent variable correlations. This study confirms this, as illustrated in Table 3.9.

Table 3.9
Discriminant Validity

	FL	HB	IA	IOC	OC	PIE	SA
FL	1.000						
HB	-0.056	0.802					
IA	0.198	-0.287	0.830				
IOC	-0.050	0.384	-0.250	0.785			
OC	-0.222	0.688	-0.498	0.412	0.793		
PIE	-0.262	0.618	-0.306	0.205	0.566	0.847	
SA	-0.028	0.479	-0.349	-0.030	0.367	0.488	0.853

Assessment of Significance of the Structural Model (Direct Relationship)

Using the PLS-SEM algorithm and bootstrapping, the structural model was assessed as per (Chin, 2010). With 500 bootstraps and 300 cases, the model's significance was determined, in line with methods from (Hopkins, 2014) and (Ringle & Sinkovics, 2004). Figure 4.4 evaluated direct hypotheses using a t-value threshold

of 1.96 and the β-value to gauge relationship direction. The figure details the influence of five independent variables on the dependent variable, herding behaviour.

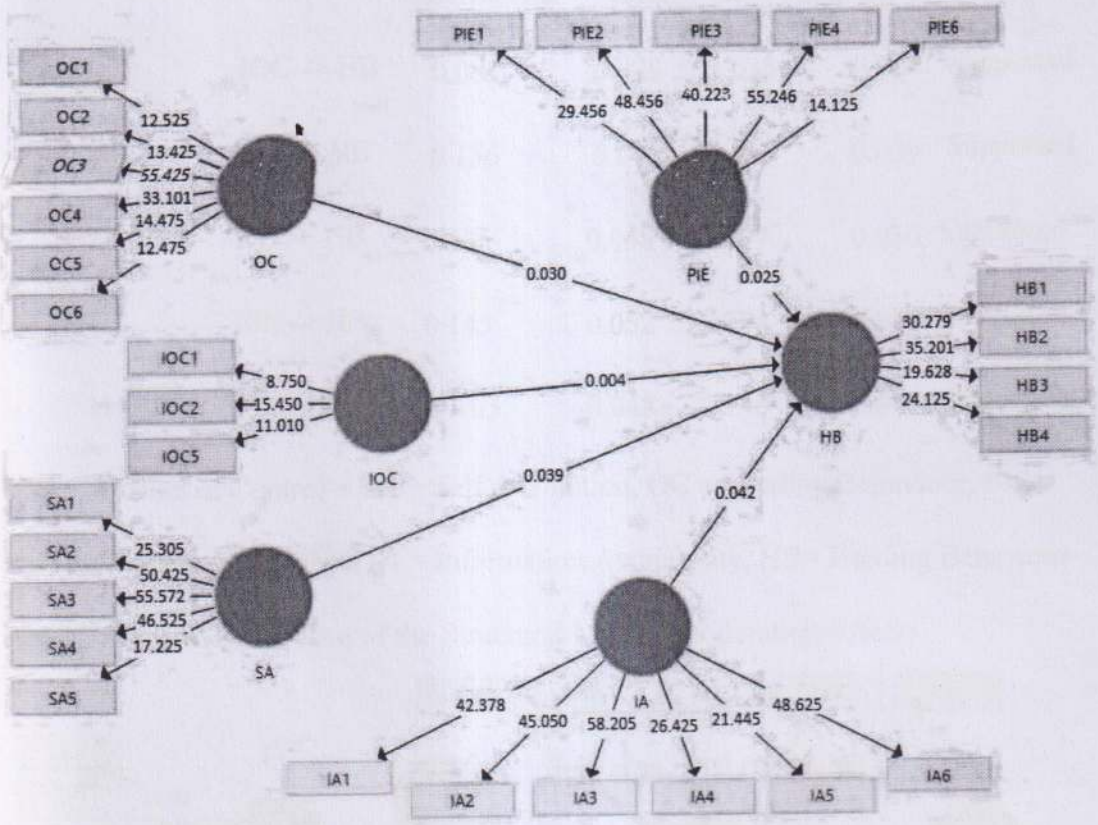

Figure 4.4
Assessment of Structural Model (Direct relationship)

Table 4.0 details the relationship between exogenous and endogenous constructs. Significant positive relationships are found between Illusion of Control and Herding Behaviour (β = 0.085; t=3.035), Self-Attribution and HB (β = 0.156; t=3.467), Overconfidence and HB (β = 0.435; t=6.397), and Past Investment Experience and HB (β = 0.145; t=2.788). A negative relationship exists between Information Availability and HB (β = -0.103; t=2.146).

Table 4.0
Structural Model Assessment (Direct relationship hypotheses results)

Hypotheses	Relationship	Path Coefficients	Std. Error	t-Value	P-Value	Decision
H_1	IOC -> HB	0.085	0.028	3.035	0.004	Supported
H_2	SA -> HB	0.156	0.045	3.467	0.039	Supported
H_3	OC -> HB	0.435	0.068	6.397	0.030	Supported
H_4	PIE -> HB	0.145	0.052	2.788	0.025	Supported
H_5	IA -> HB	-0.103	0.048	2.146	0.042	Supported

IOC = Illusion of Control = SA = Self Attribution, OC = Herding Behaviour, PIE = Past Investment Experience, IA = Information Availability, HB= Herding Behaviour

Assessment of Significance of the Structural Model (Moderation Effect)

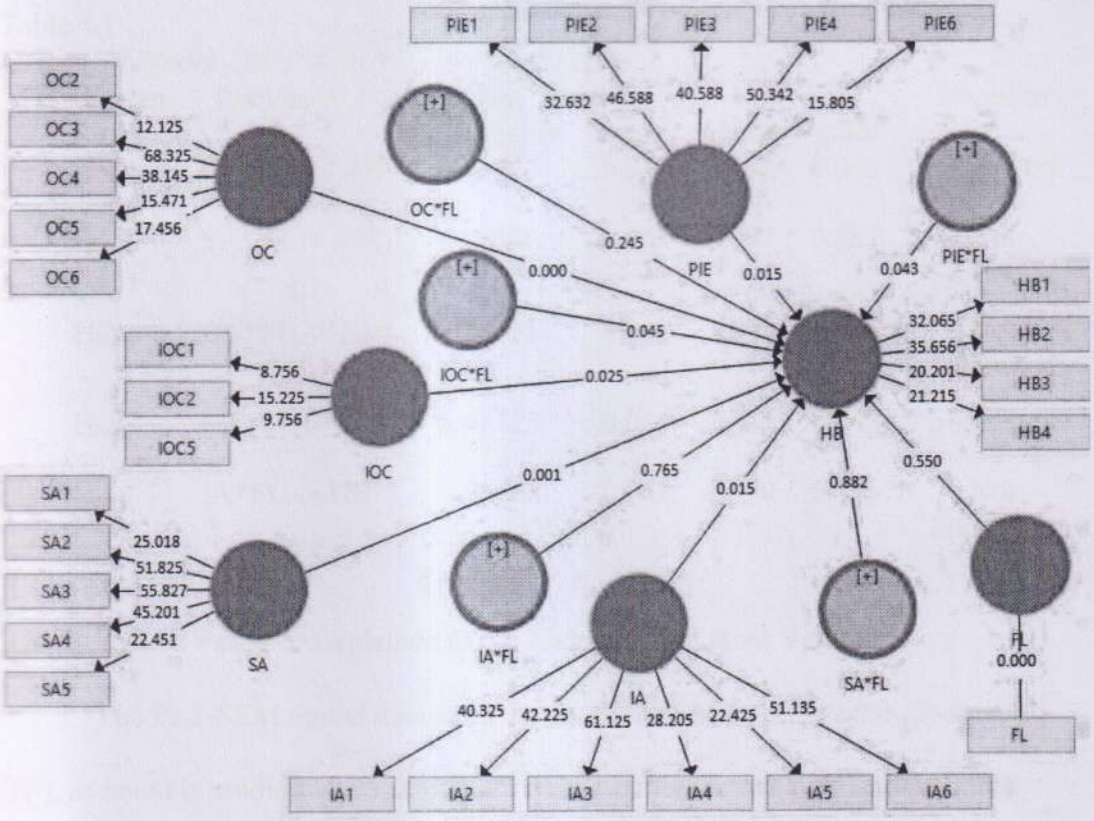

Figure 4.5
Structural Model Assessment (Moderation Effect)

The moderation effect of Financial Literacy (FL) was analyzed using PLS bootstrapping with 500 bootstraps and 300 cases, as depicted in Figure 4.5. A t-value of 1.96 determined the acceptance of the moderation hypothesis. Table 4.9 and Figure 4.5 detail the influence of FL on the relationship between independent variables and Herding Behaviour.

Table 4.1 displays the moderation effects of Financial Literacy (FL). FL notably moderates the relationship between Illusion of Control and Herding Behaviour ($\beta = 0.082$; $t=2.102$) and between Past Investment Experience and Herding Behaviour ($\beta = -0.123$; $t=2.733$). However, FL doesn't moderate the relationships between Self-Attribution ($\beta = 0.005$; $t=0.077$), Overconfidence ($\beta = 0.065$; $t=1.548$), or Information Availability and Herding Behaviour ($\beta = -0.008$; $t=0.190$).

Table 4.1
Structural Model Assessment (Moderation results)

Hypotheses	Relationship	Path Coefficient	Std. Error	t-Value	P-Value	Decision
H_{6a}	IOC*FL -> HB	0.082	0.039	2.102	0.043	Supported
H_{6b}	SA*FL -> HB	0.005	0.065	0.077	0.882	Not Supported
H_{6c}	OC*FL -> HB	0.065	0.042	1.548	0.245	Not Supported
H_{6d}	PIE*FL -> HB	-0.123	0.045	2.733	0.045	Supported
H_{6e}	IA*FL -> HB	-0.008	0.042	0.190	0.765	Not Supported

Assessment of Variance Explained in the Endogenous Latent Variable

The PLS-SEM model measures the coefficient of determination, R-squared (R^2), as noted in studies(Vinzi, 2013). R^2 indicates the variance in the dependent variable explained by predictors (Ngwabebhoh et al., 2020). Its standard varies based on the study context (Ngwabebhoh et al., 2020). (Falk & Miller, 2014) suggest 0.10 as acceptable. (Chin, 2014a) classify 0.60 as substantial, 0.33 as moderate, and 0.19 as

weak. In this study, the R^2 value is 0.50, considered moderate by (Chin, 2014a), explaining 50% variance in the dependent variable.

Table 4.2
Variance Explained in the Endogenous Latent Variable

Latent variable	Variance explained (R^2)
Herding Behaviour (HB)	50%

Assessment of Effect Size (f^2)

The f^2 value represents the variation in R^2 due to a specific independent variable on a dependent variable (Chin, 2014b). It's determined based on the variance in the R^2 value relative to the unexplained variance of the construct (Chin, 2014b). A formula from (Cohen, 2013) is used to calculate f^2:

$$\text{Effect Size } (f^2) = \frac{\mathbf{R^2\ Included - R^2\ Excluded}}{\mathbf{1-R^2\ Included}}$$

Using Smart-PLS 4, effect sizes are determined with f^2 values. (Cohen, 2013) specifies that an f^2 value of 0.02 indicates a small effect, 0.15 a medium effect, and 0.35 a large effect. In the study, Illusion of Control registers a small effect at 0.011, Self-Attribution at 0.025, Past Investment Experience at 0.022, and Information Availability at 0.028. Only Overconfidence, with a value of 0.161, presents a medium effect on Herding Behaviour. These findings are detailed in Table 4.3.

Table 4.3
Effect Size (f^2) of the Latent Variables

R-Squared	f^2	Effect
Illusion of Control (IOC)	0.011	None
Self-Attribution (SA)	0.025	Small
Overconfidence (OC)	0.161	Medium
Past Investment Experience (PIE)	0.022	Small
Information Availability (IA)	0.028	Small

Assessment of Predictive Relevance (Q^2)

In the current study, the predictive relevance (Q^2) of the model was assessed utilizing the Stone-Geisser's Q^2 value through the cross-validated redundancy approach, highlighted by (Trust, 2014), (Hopkins, 2014), and (Chin, 2014b). This method considers both the measurement and structural models during the blindfolding process, specifically focusing on reflective endogenous latent constructs. A Q^2 value exceeding zero, as supported by (Henseler & Chin, 2010), indicates the predictive relevance of the model. The model showcased a Q^2 value of 0.267, denoting its predictive relevance, as documented in Table 4.4.

Table 4.4
Construct Cross-Validated Redundancy (Predictive Relevance)

	SSO	SSE	$Q^2 = (1\text{-SSE/SSO})$
Herding Behaviour	1,150.0	880.780	0.234

CHAPTER V

SUMMARY, DISCUSSION AND IMPLICATIONS

This chapter discusses the data analysis results. The first section revisits the goals and links them to the discoveries. The second section gives a detailed discussion on the findings. The third section explores the importance of this study, considering theory, methods, and practical applications. Fourth section points out the limitations of the study and hints at directions for future research. Finally, chapter ends with a brief summary of the outcomes.

Summary of Main Findings

This study examined how individual investors in the Nepalese stock market are influenced by cognitive factors such as illusion of control, self-attribution, and overconfidence, along with past investment experience and information availability in exhibiting herding behaviour. It also investigated the moderating effect of financial literacy on these relationships. Six primary hypotheses were developed for this investigation.

Data for the study were gathered from 300 (55.55%) respondents out of 540 surveyed individuals engaged in the Nepalese stock market. Analysis using PLS-SEM revealed significant positive relationships between illusion of control, self-attribution, overconfidence, past investment experience and herding behaviour, but a negative relationship with information availability. These results affirmed the Social Learning Theory's suggestion regarding the role of cognitive factors influences on investor behaviour.

Furthermore, the study revealed financial literacy amplified the effect of illusion of control on herding behaviour while diminishing the impact of past investment experience. However, it did not alter the relationships involving self-

attribution, overconfidence, and information availability. Detailed results can be found in Table 4.5.

Table 4.5
Summary of All Tested Hypotheses

S.No.	Hypotheses Description	Decision
H_1	Illusion of control has a significant relationship with Herding behaviour of individual investors.	Supported
H_2	Self-Attribution has a significant relationship with Herding behaviour of individual investors.	Supported
H_3	Overconfidence has significant relationship with Herding behaviour of individual investors.	Supported
H_4	Past Investment Experience has significant Relationship with herding behaviour of individual investors.	Supported
H_5	Information Availability has a significant relationship With herding behaviour of individual investors.	Supported
H_{6a}	Financial Literacy moderates the relationship of illusion of control with herding behavior of Individual investors.	Supported
H_{6b}	Financial Literacy moderates the relationship of self-attribution with herding behaviour of individual Investors.	Not Supported
H_{6c}	Financial Literacy moderates the relationship of overconfidence with herding behaviour of individual Investors.	Not Supported

H_{6d}	Financial Literacy moderates the relationship of past investment experience with herding behaviour of Individual investors.	Supported
H_{6e}	Financial Literacy moderates the relationship of Information availability with herding behaviour of individual investors.	Not Supported

Discussions

This section discusses the study's key findings, tying them to established theories and prior research. It delves into the link between herding behaviour and factors like illusions of control, self-attribution, overconfidence, past investment experience, and access to information, offering a detailed analysis. The following part will focus on discussing the moderation results.

This study explored the possibility of individuals copying other investors in the NEPSE market due to an illusion of control. The data, marked by a t-value of 3.035, a p-value of 0.004, and a β-value of 0.085, supported hypothesis H1, demonstrating a clear connection between perceived control and a tendency to mimic others. This pattern is in line with the research of (Fernández et al., 2011). Furthermore, (Mary Metilda, 2015) noted that this illusion causes individuals to rate their skills too highly and not consider the role of luck sufficiently. Individuals often follow others' investment choices, assuming these are informed decisions, as observed by (Holm & Rikhardsson, 2015), a trend also documented by (Bashir et al., 2014) and (Lambert et al., 2012).

The study examines if self-attribution sways individual investors to follow the mass trends in the NEPSE. Results, indicating a t-value of 3.467, p-value of 0.039, and β-value of 0.156, endorse hypothesis H2, implying that self-attribution plays a

significant role in fostering herd behavior in the Nepalese stock market. This outcome resonates with previous studies (Mishra & Metilda, 2015b), which pinpointed that self-attribution can modify investor confidence and induce them to mimic others' actions. This trend, documented by (Galariotis et al., 2014), becomes more pronounced during bullish market periods, with individuals equating rising stock prices with personal success, leading to heightened purchasing (Nguyen & Schuessler, 2012). Furthermore, the propensity to blame past losses on external factors also encourages people to follow the investment decisions of others, as indicated by (Strahilevitz et al., 2011).

This study examines the influence of overconfidence on NEPSE investors' herding behaviour. Findings validate H3, revealing a positive correlation between overconfidence and herding behaviour, as evidenced by a t-value of 6.397, p-value of 0.030, and β-value of 0.435. This suggests that in the Nepalese stock market, overconfident investors are likely to engage more in herding behaviour, a sentiment echoed in studies by (Fernández et al., 2011), indicating a pronounced trend in developing countries' stock markets. Such tendencies, highlighted by (Glaser & Weber, 2007), stem from an overreliance on personal assumptions, which often sways them towards irrational decisions (Ricciardi & Simon, 2000). This behavioural pattern, exacerbated by limited information availability (S. Choi, 2016) and increased reliance on others for data (Merkle & Weber, 2011), is particularly prominent in low-uncertainty situations and during market bubbles, where investors tend to closely observe and mimic others' actions (Fernández et al., 2011).

This study is to examine the impact of previous investment experiences on the herding behaviour of investors in NEPSE. The data, demonstrating a t-value of 2.788, p-value of 0.025, and β-value of 0.145, validates H4, illustrating a significant positive

correlation between past experiences and herding tendencies in the Nepalese stock market. This suggests that seasoned investors, seeking to avoid repeating past errors, are inclined towards herding behaviour, being particularly cautious in their subsequent investments (Thaler, 2013). Supporting this, (Nofsinger, 2005) noted a rise in risk aversion following financial setbacks, encouraging reliance on peers or brokers' guidance during decision-making (Gupta & Sharma, 2011). This behaviour, mirroring past performances, significantly influences their approach to stock market investments, as indicated by (Mallouk, 2014).

This study examines if the availability of information affects NEPSE investors' tendency to follow the crowd. Validating H5 with data points - t-value of 2.146, p-value of 0.042, and β-value of -0.103 - it reveals a notable negative link between reliable information and herding behaviour in Nepal's stock market. Essentially, well-informed investors are less likely to mimic others, a behavior accentuated in the Nepalese market where rumors often sway decisions rather than substantial information (Epstein & Schneider, 2008).

The current study scrutinized the role of financial literacy in modulating the link between individual investors' cognitive traits and herding behaviour in NEPSE. It was found that financial literacy considerably tempers the connection between the illusion of control and herding behaviour, thus supporting hypothesis H6a, with data showcasing a t-value of 2.102, p-value of 0.043, and β-value of 0.082 (M. Van Rooij et al., 2011). On the other hand, it doesn't significantly affect the relationship between self-attribution or overconfidence and herding behaviour, rejecting hypotheses H6b and H6c, hinting that these traits might overpower the influence of financial literacy (Mishra & Metilda, 2015b). Furthermore, financial literacy notably moderates the relationship between past investment experience and herding behaviour, affirming

H6d, with statistics indicating a t-value of 2.733, p-value of 0.045, and β-value of -0.123 (Al-tamimi & Kalli, 2019). The results underscore the importance of financial literacy in mitigating herding tendencies, especially for those with substantial past investment experience, encouraging a more rational investment approach.

In the case of information availability, financial literacy does not moderate the relationship between information availability and the herding behaviour of individual investors in the Nepalstock exchange. Therefore, H6e is not supported.

Implications of the Study

The Current study holds significant implications for stakeholders such as the Nepal Stock Exchange (NEPSE), the Securities Board of Nepal (SEBON), and other industry professionals and educators. The findings can guide NEPSE and SEBON policymakers in making informed decisions to foster a more robust stock market environment in Nepal.

The study shows that how people think greatly affects the way they invest in stocks. Many investors tend to follow others blindly because they overestimate their control and skills, and feel too confident. They often focus too much on analyzing market trends and don't pay enough attention to their own mental and emotional tendencies. The study also noticed that when there's less information available, people are more likely to follow the crowd in the stock market. This research suggests that understanding these mental patterns can help create strategies to profit from the irrational choices of others. Also, the findings encourage the authorities in Nepal to work on providing better information to the investors to help them make better decisions.

The study shows that financial literacy is vital in making investment decisions. It lessens the negative impact of overconfidence on following the crowd when

investing, and can make previous investment experience less influential. Hence, financial literacy should be given equal importance in investment decision-making.

This study is important for NEPSE and SEBON. The study shows that investors sometimes just follow the crowd without thinking clearly. Knowing the right stuff and understanding money matters help in making good investment choices. NEPSE and SEBON can help people realize it's good to learn from past actions and know about finance before investing. Classes on lessening risk, learning when to invest, and handling different investments could be helpful. This kind of help can stop people from just copying others, encouraging them to think more and make wise investments. Better financial learning can decrease the chance of losing money by following the crowd, leading to smarter investments. This plan will increase the financial understanding of Nepali investors, helping them make better investment decisions.

This study is important for individuals as well as groups such as the government. Limited knowledge about finance, insufficient information, and unclear thinking can make it difficult to manage complex financial dealings. This might hinder the growth and proper working of stock markets.

The results of this study are useful for merchant bankers in Nepal because they:

- Merchant bankers can emphasize the importance of risk management and portfolio diversification by recognizing the impact of overconfidence and self-attribution. They can educate their clients on risk management and the consequences of overconfidence, assisting investors in managing and mitigating potential losses.

- Because merchant bankers know that financial literacy can help keep people in check, they can work with schools and government agencies to make programs that teach people about money. These programs can help investors make better investment decisions by giving them the knowledge and skills they need. This can lessen the effect of investors' past investments and cognitive biases.
- By utilizing their understanding of cognitive biases such as self-attribution, illusion of control, and overconfidence, merchant bankers can offer their clients more effective and personalized investment advice. A comprehension of these psychological factors empowers them to customize their recommendations according to the unique profiles of each investor, thereby leading to enhanced decision-making.

Critique of the Study

This study opens up opportunities for more research. Firstly, it relied on a method that uses numbers, which might make the responses biased and less detailed. Secondly, the study depended on what people reported about themselves, which can influence their emotions, actions, and opinions (Podsakoff et al., 2003). Even though steps were taken to reduce bias, it might still exist. Thirdly, the results might not apply to individual investors outside of Nepal, as they might have different characteristics. So, using these findings for a broader group might not work well. Fourthly, future studies could track changes over a long time to validate the theories further and understand complex relationships better. Fifthly, to understand investment behaviors more deeply, upcoming research should combine both numerical and narrative methods for a richer insight. This study should also explore other factors like personality traits, social impact, and risk perception, along with financial knowledge,

to get a better grasp on how investors behave. Lastly, conducting similar studies in different countries can give more universal results, contributing to a broader understanding of the subject.

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ANNEXES

Questionnaire

Determinants of Herding Behaviour: A Study on Individual Investors of Nepal Stock Exchange

An Mphil research Survey

This questionnaire has three sections, A-C. Please answer all the questions. There is no right or wrong answer. Your spontaneous and honest response is important to the success of this research.

Section A: Demographic Information

The questions below are related to personal data. Please **TICK** one box which is best applicable to you.

Gender ☐ Male ☐ Female

Age (Years old) ☐ Up-to 25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ Over 55

Education Level 10+2 Intermediate ☐ Bachelor Master PhD ☐ Others _____

Monthly Income ☐ Below Rs.50,000 ☐ Rs.50,000-100,000 ☐ Rs.100,001-150,000 ☐ Above Rs.150,000

Marital Status ☐ Single ☐ Married ☐ Divorced

Occupation ☐ Finance-Related ☐ Others

Section B

Please encircle the appropriate number according to best of your knowledge.
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree

Herding Behaviour

1	HB1	I invest in financial products (Stocks and bonds) by following my friend's investment decisions.	1	2	3	4	5
2	HB2	I buy the securities whose prices have risen for a period.	1	2	3	4	5
3	HB3	I buy financial products that are highly sought by other investors.	1	2	3	4	5
4	HB4	I follow the market trends to trade in stock market.	1	2	3	4	5

Illusion of control

5	IOC1	I believe I can anticipate investment risk.	1	2	3	4	5
6	IOC2	My valuations are highly accurate regarding stock investment.	1	2	3	4	5
7	IOC3	It is easy for me to focuses on my investment objectives.	1	2	3	4	5
8	IOC4	Whatever happens in my stock investment, I believe I could handle it.	1	2	3	4	5
9	IOC5	I feel that I am able to exert control over my stock investments.	1	2	3	4	5

Self-Attribution

10	SA1	I used to seek information related to my stock investment in order to help me in confirming that my investment decision was right.	1	2	3	4	5
11	SA2	When I made a profitable stock investment, I believe that it is due to my investment skills.	1	2	3	4	5
12	SA3	The proceeds from my previous profitable investment will be used immediately for the next investment.	1	2	3	4	5
13	SA4	I think external uncontrollable factors are reasons of my less successful investment.	1	2	3	4	5
14	SA5	My unsuccessful investments are due to external uncontrollable factors.	1	2	3	4	5

Overconfidence

15	OC1	I am an experienced investor.	1	2	3	4	5
16	OC2	I feel that on average my investments perform better than the other investors.	1	2	3	4	5
17	OC3	I expect my investments to perform better continuously.	1	2	3	4	5
18	OC4	Knowledge and information that I have are enough to assist me in my investment decision.	1	2	3	4	5
19	OC5	I feel more confident in my own investment opinions over opinions of financial analysts.	1	2	3	4	5
20	OC6	My knowledge and investment opinions are better compared to my friends and colleagues.	1	2	3	4	5

Past Investment Experience

21	PIE1	I tried to avoid investing in companies with a history of poor earnings.	1	2	3	4	5
22	PIE 2	I rely on past investment performance to buy stocks because I believe that good performance will continue.	1	2	3	4	5
23	PIE 3	Good stocks are firms with past consistent earnings growth.	1	2	3	4	5
24	PIE 4	The past performance record of a company's stock will be well considered before any decision to include the stock in my investment portfolio could be made.	1	2	3	4	5
25	PIE 5	I am more concerned about a huge loss in my stock than missing a substantial gain (profits).	1	2	3	4	5
26	PIE 6	I am more concern on capital loss rather than investment returns as a whole.	1	2	3	4	5

Information Availability

27	IA1	I get information frequently regarding the evaluation of stock market indexes and stock prices.	1	2	3	4	5
28	IA2	I acquire investment related information from specific reports e.g. specialized press and the stock exchange bulletin.	1	2	3	4	5
29	IA3	Friends or family are among the main source of information for my investment activities.	1	2	3	4	5

30	IA4	I acquire investment related information from other newspapers, television, radio and	1	2	3	4	5
		online feeds (Social media).					
31	IA5	I do not have much problem in obtaining any information related to my investment portfolio.	1	2	3	4	5
32	IA6	I expect investment related information to be on timely basis.	1	2	3	4	5

Section C

Please tick the appropriate box according to best of your knowledge.

C1: General Financial Literacy (GFL)

GFL1	Suppose you had Rs.100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	More than Rs.102	Exactly Rs.102	less than Rs.102	Do not know	Lack of information for me to decide
GFL2	Suppose you had Rs.100 in a savings account and the interest rate is 20% per year and you never withdraw your money or any interest incomes. How much would you have on this account in total after 5 years?	More than Rs.200	Exactly Rs.200	less than Rs.200	Do not know	Lack of information for me to decide
GFL3	Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	More than today	Exactly the same	Less than today	Do not know	Lack of information for me to decide
GFL4	Assume a friend inherits Rs.10,000 today and his sibling inherits Rs.10,000, 3 years from now. Who is richer because of the inheritance?	My friend	His sibling	They are equally rich	Do not know	Lack of information for me to decide

GFL5	Suppose that in the year 2023, your income has oubled and prices of all goods have doubled too. In 2023, how much will you be able to buy with your income?	More than today	The same	Less than today	Do not know	Lack of information for me to decide

C2: Stock Investment Knowledge (SIK)

SIK 1. Which of the following statements describes the main function of the stock market?

1. The stock market helps to predict stock earnings
2. The stock market results in an increase in the price of stocks
3. The stock market brings people who want to buy and sell stocks together.
4. None of the above
5. Do not know

SIK 2. Which of the following statements is correct? If somebody buys the stock of firm B in the stock market:

1. He owns a part of firm B
2. He has lent money to firm B
3. He is liable for firm B's debts
4. None of the above
5. Do not know

SIK 3. Considering a long time holding period (for example 10 or 20 years), which financial asset normally gives the highest return during normal economic conditions?

1. Savings certificates
2. Bonds
3. Stocks
4. Do not know
5. Lack of information for me to decide

SIK 4. Normally, which of the financial assets displays the highest returns fluctuations over time?

1. Savings certificates
2. Bonds
3. Stocks
4. Do not know
5. Lack of information for me to decide

SIK 5. When an investor allocate his/her money among different assets, the risk of losing money ----------

1. increases
2. decreases
3. remain unchanged
4. do not know

Lack of information for me to decide