



## FINANCIAL LITERACY AND INDIVIDUAL INVESTORS' STOCK MARKET PARTICIPATION IN NEPAL

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### ABSTRACT

This study aims to examine the impact of financial literacy on individual investors' stock market participation (SMP). The data were collected through a survey-structured questionnaire. This paper has applied descriptive as well as causal research design to examine the effect of financial literacy on individual investors' stock market participation (SMP) in Nepal. Investors' SMP is a dependent variable and financial literacy-related variables; financial knowledge, behavior, and attitude are considered as explanatory variables. The results of this paper show that investors who are participating in the Nepalese stock market have a high level of basic financial knowledge on taxes, time value of money, money illusion, and inflation. In addition, descriptive results reveal that investors have advanced financial knowledge with positive financial behavior and attitudes which implies a higher level of financial literacy of stock investors. Moreover, correlation results indicate a positive association of financial literacy with individual investors' SMP. Finally, the regression results of this study conclude financial literacy variables (financial knowledge, behavior, and attitude) all have a positive and significant impact on investors' stock market participation in Nepal. The Nepalese government, the policy makers, and the regulatory bodies of the stock market should make effective and sound policies and programs to increase individual investors' financial knowledge, positive behavior, and attitude which lead to attracting more individual investors for stock market participation in Nepal.

**Keywords:** literacy - knowledge - behavior - attitude - stock market participation.

### INTRODUCTION

Financial literacy and investors' stock market participation (SMP) are recent debatable issues for academicians, practitioners, regulatory bodies, and policymakers. Individuals are becoming actively participating

in stock market to anticipate their wealth. Financial literacy is wide spread and individual investors lack knowledge of basic economic principles (Hilger *et al.* 2003). Most households are unable to make savings enough for retirement and are accumulating excessive debt which results unable to receive benefits of financial innovations (Campbell 2006, Lusardi & Mitchell 2007). Financially illiterate investors are unable to make plan to accumulate wealth for the retirement and they like to use more high-interest mortgage loans (Lusardi & Mitchell 2006). Financial literacy is the knowledge of both financial and economic concepts which increases investors' ability, skills, etc. in managing various funds (financial resources) in an effective way for the life time well-being (Angela *et al.* 2009).

Investors should unite assets to maximize return at a given level of risk through SMP (Markowitz 1952). Rationale investors are able for competing with others to forecast the future market value of securities where information is readily and freely available to participants in the stock market (Fama 1965). Grossman and Stiglitz (1980) examined how information on assets' returns affects portfolio choice and suggested investors are endogenous and financial information leads to reducing the uncertainty of returns.

Stock market has a key and fundamental role for the acceleration of economic development through the mobilization of different resources of the economy (Yartey & Adjassi 2007). The stock market provides platform for buying and selling financial securities to maintain a sound liquidity position in the market and creates investment opportunities for individual investors. Literature shows that investors' financial literacy affects their decisions to participate in stock market for trading various financial securities.

General knowledge and financial literacy contribute to financial decision-making (Rooij *et al.* 2011, Behrman *et al.* 2012, Lusardi & Scheresberg 2013). Bhushan (2014) found significant positive relationship of financial literacy (awareness concerning financial products) with investment preferences. Higher financial literacy results the human capital development and the associated positive impact of financial literacy on investors' SMP (Thomas & Spataro 2015).

Moore (2003) examined the impact of financial literacy on SMP through a survey using descriptive and regression models and revealed positive correlation of financial literacy with investment decisions. Further, Miles (2004) made a cross-sectional survey questionnaire, applied a

descriptive research design, and argued customers who had access to financial information on investments are able to maximize returns. Lack of financial awareness contributes to relatively low participation in financial markets, and SMP increases considerably when investors are aware of the risk level of assets (Guiso & Jappelli 2005).

There exists positive connection of financial literacy with investment decisions (Al-Tamimi & Kalli 2009). Financially educated people make standard financial behaviors and they have better financial management practices. Individual investors who have little financial literacy, they prefer less in participating stock market (Rooij *et al.* 2011). Investors having less financial literacy prefer to invest in stocks and vice-versa. This implies that financially literate people like more to participate in stock market for the trading of financial assets.

In a further study, Rooij *et al.* (2012) argued financially literate individuals have less costs in collecting and processing market information which results to face lower economic threshold for SMP. Women have less financial literacy in comparison to men, therefore, women participate less in stock market for trading stocks as well as mutual funds (Almenberg & Dreber 2012). Less financial literacy at higher age causes to decline cognitive ability of a person and affects investment decisions (Finke *et al.* 2012). Access to financial services is not based on levels of financial literacy but rather on factors such as income levels, distance from banks, age, marital status, gender, household size and level of education. (Wachira & Kihnu 2012).

Higher financially literate individuals are less likely to suffer from unexpected macroeconomic shocks (Klapper *et al.* 2013). Aroni (2014) suggested financial variables have a important influence on investment decisions. Acquiring financial information has a role in investors' decisions to improve portfolio performance in the stock market. In addition, Bhusan (2014) found significant association of financial literacy with awareness. There is an imperative relationship between awareness and the level of SMP (Sindambiwe 2014). Bitok *et al.* (2014) revealed that level of knowledge, awareness, and education promotes both supply and demand of securities. Financial literacy overconfidence is positive and under-confidence is inversely associated with SMP (Xia *et al.* 2014).

In the analysis of financial literacy, human capital, and SMP, Thomas and Spataro (2015) stated that financially literate investors have

more SMP. Human capital and the effectiveness of education are positively associated with SMP and concluded that financial attractiveness has an appositive influence on SMP. Intensity and variety of social interaction lead to more financial literacy and an increase in investors' SMP (Changwony *et al.* 2015).

In the investigation of attitudinal factors, financial literacy, and SMP, Shivramkrishnan *et al.* (2017) used the in-depth interview with investors and financial experts applying structural equation modeling and found investment intention helps to predict investors' actual investments in stocks and financial literacy has a significant influence on behavior which effects on investors' SMP. Financial literacy has positive effect on investors' SMP (Langar *et al.* 2019).

Nguyen and Nguyen (2020) examined the effect of financial literacy on SMP and revealed individual investors who have more financial literacy are highly motivated in SMP. Hermansson *et al.* (2022) used banks to register as well as survey data to investigate effect of media and financial literacy on SMP and found financial literacy has a moderating role in the analysis of the effect of learning through media and their impact on investors' SMP.

Literature shows that most of prior empirical studies of financial literacy and SMP were made to address issues of developed countries like the US and the UK. There is preponderance of previous studies on financial literacy and SMP administered inside the developed and developing economies, but, some limited similar studies have been made in developing economies. However, there are still absence of in-depth studies in Nepal. Thus, issues of this paper are: (a) which factor has a key role in affecting financial literacy and investors' SMP?, (b) what is impact of financial literacy on individual investors' SMP in Nepal? It is believed that sound financial literacy creates knowledge, ability, awareness, etc. of stock investors to reduce risk, make access to participate in capital markets, and enhances stock marketability through diversification. Finally, stock investors would be able to maximize returns from sound investment decisions. Therefore, this paper is an attempt to examine impact of financial literacy (knowledge, behavior and attitude) on investors' SMP to address the stated issues.

The basic aim of the study is to investigate effect of level of investors' financial literacy on SMP in Nepal. Specific objectives are: (a) to

analyze financial literacy and individual investors' SMP, and (b) to examine the impact of financial literacy on individual investors' SMP in Nepal.

This paper is outlined into four sections. The following section two briefly summarizes the research methods and materials of this paper. Similarly, section three deals with results and discussion. Finally, section four concludes the findings based on the results and discussions of this study.

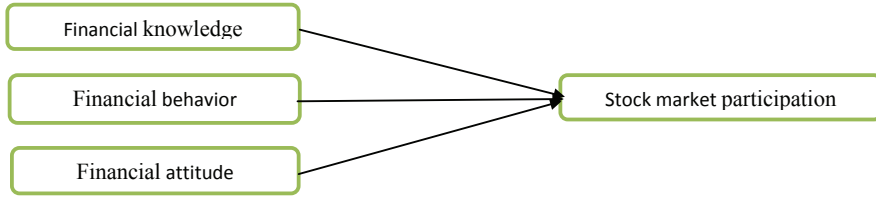
## **METHODS AND MATERIALS**

This study has applied descriptive and causal research design which helps to address the above stated research questions and objectives. A descriptive research design has been used to describe the characteristics of respondents' responses on various aspects of financial literacy and investors' SMP. Causal method (design) has been employed to examine the impact of explanatory variables on investors' SMP. Data were collected through a survey based on structured questionnaires from Kathmandu Valley in the year 2021. 500 questionnaires containing fifteen questions were distributed to individual investors. Five questions were related with respondents' profile (excluding the respondent's name). In addition, five closed-ends multiple choice questions were asked to tick mark (in an appropriate option) regarding basic financial knowledge of investors participating in the stock market. Finally, four questions were prepared as five-point Likert scale with various statements/items to identify the degree of disagreement or agreement about factors affecting advanced financial knowledge, behavior, attitude, and investors' SMP.

The population size in this paper indicates all individual investors participating in the Nepalese stock market. The sample size is 420 investors who responded in usable form out of the distribution of 500 questionnaires. After collecting data, a coding procedure was made. A reliability test has been made using Cronbach's alpha (CA). Descriptive statistics such as mean (average), and standard deviations based on a five-point Likert scale question; and inferential analysis such as regression analysis have been used along with statistical tools such as t-statistics, Adjusted R<sup>2</sup>, F-statistics, etc.

Literature shows that risk aversion theory (Bernoulli, 1954), and technology acceptance model theory (Davis et al., 1989) are commonly used theories of financial literacy to explain investors' stock market participation. This paper is prepared based on risk aversion theory to examine impact of financial literacy on individual investors' SMP. Investors participate in stock market to yield the best economic benefits (returns) through the

minimization of risk (Rooij *et al.* 2011). Thus, the conceptual framework of this paper is presented in Figure 1.



**Figure 1.** Conceptual framework

In this paper, investors' stock market participation (SMP) is a dependent variable, and financial knowledge, behavior, and attitude are explanatory variables to examine their impact on investors' SMP. Weighted average mean scores of responses from stock investors are used to analyze the impact of financial literacy on SMP under the regression model which is exhibited in equation 1.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon_t \quad (1)$$

Y is investors' SMP,  $X_1$  indicates financial knowledge,  $X_2$  represents financial behavior,  $X_3$  stands for financial attitude,  $\beta_0$  represents the coefficient of constant,  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  indicate coefficients of explanatory (independent) variables and  $\varepsilon_t$  is the error term.

## RESULTS AND DISCUSSION

### Profile of respondents

The survey result shows out of the total respondents 75.11 percent are male which implies most of investors in Nepalese stock market are male. The result of the age group of stock investors demonstrates 51.11 percent of investors are between 30 to 50 years. With respect to academic qualification, most of investors participating stock market have qualification of bachelor's degree or above. The result of this paper indicates the majority of stock investors have an income of Rs. 30,000 to Rs. 70,000 per month. Concerning years of participation, majority investors are participating in stock market for less than five years.

### Basic financial knowledge of investors participating in the Nepalese stock market

The correct responses of more than 50 percent represent more literacy and less than 50 percent represent less literacy of investors who are

participating in the Nepalese stock market. Responses of investors on basic financial knowledge are presented in Table 1.

**Table 1:** Frequency and percent of components of basic financial knowledge

Response Items	Correct		Incorrect		No idea	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Taxes	314	74.76	61	14.52	45	10.71
Time value of money	278	66.19	103	24.52	39	09.29
Money illusion	267	63.57	99	23.57	54	12.86
Inflation	263	62.62	133	31.67	24	05.71
Compound interest	207	49.29	142	33.81	71	16.90

Note: Field Survey 2021.

Table 1 shows 74.76 percent of investors correctly answered the questions regarding taxes and followed by the time value of money (66.19%), money illusion (63.57%), inflation (62.62%), and compound interest (49.29%). Results indicate investors who are participating in stock market have basic financial knowledge about taxes, time value of money, money illusion, and inflation but have less knowledge of compound interest.

**Advance financial knowledge of investors participating in the Nepalese stock market**

Investors were asked to rate statements affecting advanced financial knowledge which affects investors’ SMP. Table 2 exhibits mean scores, standard deviations, and overall ranks assigned by stock investors.

**Table 2:** Mean and standard deviation and overall rank of components of advanced financial knowledge

Statements representing advanced financial knowledge affecting investors’ SMP	Mean	Std. dev.	Overall rank
Net worth of a company is the difference between total assets and outside liabilities.	3.75	8.57	2
If EPS increases, the price-earnings ratio of a company is expected to decrease.	3.512	6.12	1
I think investment in different financial assets reduces risk.	3.75	9.26	3
If you buy a company’s common share, you have ownership of the company.	3.64	9.38	5
I consider ROA and ROE are important measures of a company’s performance.	3.87	9.86	4
I think the value of bonds falls with rises in market interest rates.	3.64	10.20	7
I prefer common stock because it gives a higher rate of return.	3.88	10.51	6
I make strategic investment decisions using financial knowledge.	3.87	11.06	8
Beta measures the systematic risk associated with financial assets.	3.76	11.10	9
Cronbach’s Alpha	0.78		

*Note: Author's own estimation based on Field Survey 2021. Std. Dev. represents value of standard deviation.*

Table 2 shows CA (Cronbach's Alpha) is 0.78. This indicates items of financial knowledge are consistent, reliable and are sufficient to explain investors' financial knowledge affecting investors' SMP. Mean values of more than three indicate that investors agree with statements that imply Nepalese stock investors have advanced financial knowledge. Ranks are made based on the trade-off of means and standard deviations. The first important considerations are the earnings per share (EPS) and price-earnings ratio. The second important consideration is the net worth of a company. The third important consideration is an investment decision in different financial assets to minimize risk and so on. Thus, the results conclude that Nepalese investors have advanced financial knowledge which motivates them for stock market participation.

### **Financial behavior of investors participating in the Nepalese stock market**

Mean scores, standard deviations, and overall ranks on statements of financial behavior assigned by investors of the stock market of Nepal are presented in Table 3.

**Table 3:** Mean, standard deviation, and overall rank of components of financial behavior

<b>Statements representing financial behavior affecting investors' SMP.</b>	<b>Mean</b>	<b>Std. dev.</b>	<b>Overall rank</b>
I maintain adequate financial records.	3.47	9.31	3
I prefer to purchase shares/stocks under an initial public offering.	3.75	12.10	5
I like to borrow money from relatives and friends for deficit amounts.	3.17	4.61	2
I compare the prices of stock for an appropriate investment decision.	3.83	10.54	4
I prepare the budget for investment and track my spending on it.	3.46	2.77	1
I have a life insurance policy.	3.70	12.35	6
I like to invest in the capital market with my savings.	3.88	14.17	8
I like to purchase financial assets after analyzing financial information.	4.12	14.22	7
Cronbach's Alpha		0.73	

*Note: Author's own estimation based on Field Survey 2021.*

Table 3 shows that CA is 0.73 which indicates items of financial behavior are consistent, reliable, and sufficient to explain investors' SMP. The first important consideration is the preparation of a budget for investment



and track on it. The second important consideration is to borrow money from relatives and friends for the deficit amount. The third important consideration is maintaining adequate financial records and so on. Thus, the results show a mean score of more than three which indicates investors have positive financial behavior which affects investors’ stock market participation in Nepal.

**Financial Attitude of investors participating in the Nepalese stock market**

Mean scores, standard deviations, and overall ranks on statements of financial attitude assigned by respondents are shown in Table 4.

**Table 4:** Mean, standard deviation, and overall rank of components of financial attitude

Statements representing financial attitude affecting investors’ SMP.	Mean	Std. dev.	Overall rank
I prefer present consumption rather than saving for the future.	3.12	6.01	2
I am afraid that where my investment (money) is utilized/spent.	3.04	4.78	1
I enjoy reading publications related to investment analysis.	3.83	11.21	4
I am able to achieve my financial goal.	3.58	11.40	6
I prefer to invest in common stock rather than to invest in other assets.	3.82	10.35	3
I often worry to manage funds to participate in the stock market.	2.60	7.62	5
I have sufficient knowledge to manage my investment portfolio.	3.46	11.75	7
Cronbach’s Alpha			0.72

*Note: Author’s own estimation based on Field Survey 2021.*

Table 4 shows that CA is 0.72 which indicates all items of the financial attitude of stock investors are consistent, reliable, and sufficient to explain investors’ financial attitude which affects on stock market participation (SMP). Mean scores of more than three indicate investors have positive financial attitudes. The first important consideration is investors' being afraid of where their money is utilized. The second important consideration is present consumption. The third important consideration is the preference to invest in common stock and so on. Results show all statements excluding worry to manage funds to SMP about financial attitudes are more than three which implies investors have positive financial attitudes toward the stock market participation (SMP) in Nepal.

**Investors’ stock market participation in Nepal**

Mean scores, standard deviations, and overall ranks on statements of investors’ SMP in Nepal are presented in Table 5.

**Table 5:** Mean, standard deviation, and overall rank of investors' stock market participation in Nepal.

Statements representing factors affecting investors' SMP.	Mean	Std. dev.	Overall rank
I prefer to invest in the secondary market because of higher liquidity.	3.28	5.01	3
I participate in the stock market for risk-return trade-offs.	3.26	4.28	2
I consider firm status in the industry for the investment in stocks.	3.46	8.14	6
I prefer to invest in financial assets to minimize tax.	3.12	3.46	1
I like to invest in financial assets than real assets to minimize risk.	3.04	4.83	4
I take my investment decision with the expectation of a bonus share.	3.34	7.84	5
I take my investment decision because of the affordable share price.	3.48	8.30	7
I consider friends' recommendations to invest in stocks.	3.42	10.24	12
I prefer to invest in financial assets for capital gain.	3.68	10.49	11
I consider family members' opinions in making investment decisions.	3.61	8.80	8
I make an investment decision based on the NEPSE index.	3.16	7.74	9
I invest my funds in different financial assets of various sectors.	3.78	10.75	10
I like to consider the recommendations of financial advisors and brokers.	3.45	10.52	13
I like to consider the historical performance of the firm's stock.	3.74	12.73	16
I invest in a stock based on an analysis of the firm's financial statement.	3.99	12.47	15
I prefer to invest in the stock with the expectation of a dividend.	3.47	10.80	14
Cronbach's Alpha		0.79	

*Note: Author's own estimation based on Field Survey 2021.*

Table 5 shows that CA is 0.79 which implies all statements of investors' SMP are consistent, reliable, and sufficient to explain investors' SMP in Nepal. Mean scores of more than three show investors agree with statements that indicate investors are positive in participating stock market. Overall ranks show that investors prefer to participate to minimize tax. The second important consideration is the risk-return trade-off. The third important consideration is higher liquidity and so on. Thus, results show that mean scores of responses on all statements on SMP are more than three which implies that investors accept statements for SMP in Nepal.

### **Impact of financial literacy on investors' stock market participation**

Table 6 summarizes regression results under the previously specified equation to examine impact of financial literacy ( knowledge, behavior, attitude) on investors' SMP in Nepal.

**Table 6:** Impact of financial literacy on Investors’ stock market participation

Model	$\beta_0$	$X_1$	$X_2$	$X_3$	Adj.R <sup>2</sup>	F
I	0.427** (2.513)	0.371** (2.729)	0.238** (2.147)	0.345** (2.436)	0.415	51.111**

Note: Author’s own estimation based on Field Survey 2021. Figures in parentheses are t-statistics. ‘\*\*’ represents statistical level of significance at 1 percent. Reported values are Adjusted R<sup>2</sup> and F-statistics.

Table 6 presents regression results to show the combined impact of financial literacy-related explanatory variables on investors’ SMP. Regression results indicate financial literacy variables (knowledge, behavior, and attitude) all have significant positive impact on investors’ SMP. Estimated measures suggest that impact of financial literacy (financial knowledge, behavior, attitude) on SMP is statistically significant at a 1 percent level. Adjusted R<sup>2</sup> of 0.415 implies explanatory power of financial literacy is 41.5 percent to predict and explain investors’ SMP in Nepal. The value of F-statistic is significant at 1 percent which indicates fitness of the test of the model. The regression result of this paper supports the findings of Al-Tamimi and Kalli (2009), Rooij et al. (2011), Laakso (2010), Lusardi and Scheresberg (2013), Thomas and Spataro (2015), Langar et al. (2019), Nguyen and Nguyen (2020). The findings of this paper support the aversion theory (Bernoulli, 1954). Thus, the regression results of this study conclude that financial knowledge, behavior, and attitude have significant and positive impact on investors’ SMP which indicates financial literacy has strong predicting power to explain investors’ SMP in Nepal.

## CONCLUSIONS

Financial literacy and investors’ SMP are recent arguable issues in finance. Financial literacy is widespread but individual investors lack financial and economic principles. This study is an attempt to analyze factors affecting financial literacy and to examine the effect of financial literacy on investors' stock market participation using descriptive as well as casual research design based on data collected through a survey questionnaire from individual investors participating in stock market. The findings of this paper conclude that investors who are participating in the stock market have basic financial knowledge of taxes, time value of money, money illusion, and inflation. The descriptive results reveal investors have advanced financial knowledge with positive financial behavior and attitudes which imply Nepalese investors have financial literacy. The regression

results of this study conclude financial knowledge, behavior, and attitudes all have a significant role to explain investors' stock market participation in Nepal. Therefore, this paper concludes that level of investors' financial literacy has a positive and strong impact on individual investors' stock market participation in Nepal. Thus, the Nepalese government, stock market policymakers, regulatory bodies, and the Nepalese stock market should make effective and sound policies and programs to increase individual investors' financial knowledge, positive behavior, and attitude which help to make more stock market participation of investors in Nepal.

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