

Impact of Financial Literacy on Financial Behavior among Sugarcane Farmers

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Abstract

This research investigates the status of financial literacy and its influence on the financial behavior of Sugarcane Farmers. Data were gathered between March and May of 2023 in Bardibas Municipality, Mahottari district, Nepal, involving 350 Sugarcane Farmers through face-to-face interviews utilizing a well-structured questionnaire. Analysis was conducted using Smart-PLS (version 4) and SPSS (version 22), calculating data frequency, percentage, mean, standard deviation, path coefficients, t-statistics, and R-squared. Hypotheses were tested employing path coefficients and t-statistics. The study reveals a significant, positive impact of financial literacy on financial behavior, encompassing saving, spending, investing, and borrowing behaviors. Notably, the research identifies a deficiency in financial literacy among these farmers, which correlates with diminished tendencies in saving, spending, and investing behaviors. Conversely, borrowing behavior remains relatively stable. These findings underscore the necessity for targeted financial literacy programs for sugarcane farmers in Nepal, emphasizing comprehension of financial concepts such as simple interest, compound interest, risk management, rational borrowing, and investment diversification. Such initiatives directly shape their financial decision-making and overall financial well-being, signaling important implications for policy-makers.

Keywords: *Financial literacy, saving behavior, spending behavior, investing behavior, borrowing behavior,*

Introduction

The Nepalese economy is heavily dependent on the agriculture industry, with sugarcane farming emerging as a major contributor to employment and income for a significant number of farmers, playing a crucial role in the country's overall GDP (FAO, 2023). Nepalese sugarcane farmers face significant financial challenges, including an excessive loan burden, exploitation by loan sharks, high interest rates, limited access to formal credit, high production costs, insufficient government assistance, and a lack of financial management skills, leading to financial losses and hampering sustainable income generation from sugarcane cultivation, thereby posing a potential threat to the country's GDP and overall economic growth (Pradhan, 2022; Bajagain et al., 2021).

Garg and Singh (2018) highlighted a global concern regarding the persistently low levels of financial literacy among young individuals worldwide, a phenomenon echoed by Yew et al. (2017) as a widespread issue. Xu and Zia (2012) observed diminished financial literacy across various societal strata, including lower-middle, upper-middle, and high-income countries. The significance of financial literacy has been underscored by recent events, notably the global financial challenges triggered by the COVID-19 pandemic, which began on January 30, 2020, and escalated dramatically following the Russia-Ukraine war that commenced on February 24, 2022 (Bohme, 2022). The COVID-19 pandemic and Russia-Ukraine war triggered widespread financial crises, affecting people across the globe (Gunay, 2022). Based on an overview of theoretical research, financial literacy is conceptualized as an investment in human capital, reflecting individuals' understanding of financial matters (Lusardi & Mitchell, 2014). It encompasses the capacity to effectively manage financial resources throughout one's life, involving the application of knowledge and skills for sustained financial well-being (PACFL 2008). Llewellyn (2012) defines financial literacy as the capability to comprehend fundamental financial concepts and make informed decisions based on that knowledge. In essence, "financial literacy" denotes a grasp of diverse financial concepts, instruments, and skills essential for prudent decision-making in personal finance (Lusardi et al., 2022). Comprising elements such as financial knowledge, attitude, and behavior (Atkinson and Messy, 2011), financial literacy necessitates a foundational understanding of basic financial principles like budgeting, saving, investing, borrowing, and debt management to facilitate informed decisions and optimal utilization of financial resources (Huston, 2010). Insufficient financial literacy leaves individuals prone to inadvertently making unsuitable financial choices and less resilient in coping with unexpected economic challenges (Hung et al., 2009). Supporting this notion, Lusardi (2012a) provides evidence linking financial literacy and numeracy to various financial decisions, including saving, spending, investing, and borrowing. Grohmann (2018) demonstrates that enhanced financial literacy correlates with improved financial decision-making, aligning with the conclusions of Chen and Volpe (1998) and Lusardi (2012b) suggesting that a lack of financial literacy and knowledge constrains decision-making abilities. Reinforcing prior research, Chijwani (2014)

underscores that inadequate financial literacy may lead to adverse financial decisions impacting personal financial well-being.

According to Xiao (2008), financial behavior is interpreted as any human behavior related to money management. Financial behavior pertains to how individuals or groups handle their finances, which includes how they earn, save, spend, invest, borrow, and budget their money (Lusardi & Mitchell (2022). Good financial behavior is characterized by responsible management of financial resources, which involves avoiding excessive debt, creating and sticking to a savings plan, making informed investment decisions, adopting an economical spending habit, and practicing sound financial decision-making (Knoll and Houts, 2012). People have to make some financial decisions to fulfill their needs; therefore, they have to be able to make the right financial choices to reach financial well-being (Huston, 2010).

Based on some scholars, it could be observed in many kinds of behavior related to spending, investing money, or gaining a profit. Previous studies explain the impact of financial literacy on financial behavior. Low financial literacy will lead to poor financial behavior, including retirement planning behavior (Agnew, Bateman, & Thorp, 2013; Lusardi & Mitchell, 2007 a, 2007 b; Van Rooij et al., 2012), retirement saving (Bateman et al., 2010), participation in the stock market (Siva Ramakrishnan et al., 2017; Van Rooij et al., 2011), investment decisions (Hassan Al-Tamimi & Anood Bin Kalli, 2009), and saving investment behavior (Bhabha et al., 2014). Another research explores financial behavior in terms of saving decisions (Murendo & Mutsonziwa, 2017) or saving behavior (Jamal et al., 2015; Widyastuti et al., 2016), shopping behavior (Zulaihati et al., 2020; Varcoe et al., 2005). Previous research also has been widely studied financial behavior which is reflected by short-term investment decision making (Hunjra & Akhtar, 2011; Henager & Cude, 2016), long-term investment decision (Yamang, 2022; Kaur, 2021; Kamboj, 2017; Henager & Cude, 2016). The research about the influence of financial literacy on financial behavior is also carried out by Allgood and Walstad (2016). Financial behavior has observed as credit card behavior, investment behavior, loan behavior, insurance behavior, and behavior of using financial advisors. Therefore, financial illiteracy, or the lack of financial knowledge, could lead an individual into ineffective financial decision-making that contributes to financial problems (Widyastuti et al., 2020; Yew et al., 2017). So, financial literacy supports an individual's ability to manage their finances effectively (Kumar et al., 2017).

Financial literacy is linked to financial stability which, in turn, leads us to a more efficient economy (Singh, 2014). The NRB Strategic Plan (2012–2016) focused on improving financial literacy among various marginalized groups, including women, victims of conflict, ethnic minorities, and other disadvantaged individuals. Additionally, the monetary policy of the NRB since 2012 has placed a strong emphasis on promoting financial awareness programs, as it recognized that low financial literacy can impede the effectiveness of financial services.

Review of Literature

A study conducted by Chen and Volpe (1998) to examine the financial literacy of 924 college students from 13 campuses in USA revealed that college students had insufficient knowledge about personal finance that served as a hindrance in effective financial decision making. In a multinational research initiative aimed at assessing financial literacy across eight countries, Lusardi and Mitchell (2011) reported the presence of low levels of financial literacy worldwide, regardless of the economic development status of the countries involved.

Van Rooij et al. (2011) indicated a positive association between financial literacy and stock market participation. Individuals with higher financial literacy scores were more likely to invest in stocks and mutual funds. Atkinson and Messy (2012) found, through their study with 14 countries across four continents as part of the OECD International Network on Financial Education, a pervasive lack of financial knowledge among a substantial portion of the population in all surveyed nations, emphasizing a consistent correlation between greater financial knowledge and increased likelihood of positive financial behaviors, mirroring the interconnectedness of financial attitudes and behaviors.

Hastings et al. (2013) discovered that financial literacy interventions had a positive impact on borrowing behavior. Participants who received higher-intensity financial education interventions exhibited more responsible borrowing behavior, such as lower credit card balances and reduced reliance on high-cost borrowing methods. Lusardi and Mitchell (2014) revealed a positive relationship between financial literacy and investment behavior. Participants with higher financial literacy scores demonstrated a greater understanding of investment concepts, made more informed investment decisions, and displayed higher levels of risk tolerance.

The study conducted by Yoshino et al. (2015) on behalf of The Asian Development Bank Institute found low financial literacy scores for Asian countries. The researchers emphasized the need for more concerted policy efforts at the national level to channelize savings into well-diversified financial products that might have contributed to economic growth. Allgood and Walstad (2016) concluded that financial behaviors were influenced by perceived and real financial literacy, with the latter perhaps being as significant as the former despite the absence of causation. Widyastuti et al. (2016) revealed that financial literacy had little impact on attitudes about saving and saving intentions but had a significant impact on saving behavior.

Murendo and Mutsonziwa (2017) concluded that financial literacy had an impact on people's saving habits in both urban and rural areas. Furthermore, it had a positive effect on both informal and formal savings. Huang et al. (2017) discovered a positive association between financial literacy and retirement investment behavior. Baidoo et al. (2018) found a positive relationship between financial knowledge and saving.

Miller and Smith (2018) confirmed a positive relationship between financial literacy and responsible spending behavior. Brown et al. (2019) explored a positive correlation between financial literacy and responsible spending/budgeting behavior. Widyastuti et al. (2020) revealed that financial literacy had a significant impact on financial behavior, encompassing saving behavior, shopping behavior, short-term planning, and long-term planning.

In reviewing existing literature, it became evident that similar studies had been conducted worldwide, primarily focusing on the relationship between financial literacy and financial behavior. Majority of these studies have centered their investigations on specific groups such as college students, employees, and working women (Widyastuti et al., 2020; Huston, 2010; Lohia, 2021; Rahayu et al., 2022; Lusardi and Mitchell, 2013; Xiao et al., 2014; Priyadharshini, 2017; Ramya, 2020). Additionally, many of these studies have been limited in scope, considering only one or two variables to determine financial behavior (Smith et al., 2018; Kaur, 2021). Some noteworthy research has explored the role of financial literacy among educators responsible for teaching undergraduate and graduate students (Zulaihati et al., 2020).

Most studies on how financial literacy affects financial behavior have been conducted in developed or rapidly growing economies such as the USA, UK, Australia and many others (Murendo & Mutsonziwa, 2017; Sayinzoga et al., 2016; Thara & Ali, 2014). Few studies have explored these dynamics in developing countries (Widyastuti et al., 2020; Reswari et al., 2018). Furthermore, there is a shortage of research, particularly comparative studies between urban and rural areas, on financial literacy and its impact on financial behavior (Joseph, 2012). This underscores the novelty and importance of the research on sugarcane farmers in Bardibas Municipality, Nepal, as it aims to fill these crucial gaps in the existing literature. Thus, this study is a step in that direction, evaluating the state of financial literacy among sugarcane farmers in Bardibas Municipality and analyzing its impact on their financial behavior (saving, spending, investing, and borrowing) in a more intensive manner.

Research Methodology

Research Design

After the collection of data, its editing, coding, classification, tabulation, and summarization were done for analysis purposes. This study has used the summary of descriptive as well as inferential statistics associated with the primary data analysis, which was carried out based on responses derived from the questionnaire survey. For data analysis, frequency, percentage, mean, standard deviation, path coefficients, t-statistics, and R-squared were calculated using Smart-PLS (version 4) and SPSS (version 22) for analysis. The hypotheses were tested using path coefficients and t-statistics. The reflective measurement model was applied to examine the influence of exogenous latent variables on endogenous latent variables. The research design employed in this study was a descriptive and explanatory research approach. It explores the financial literacy level of sugarcane farmers and describes its impact on their saving, spending, borrowing, and investment behaviors. The study was based on survey, interview and observation methods, and the data were collected from Bardibas Municipality between March and May of 2023. The instrument used for data collection was a structured questionnaire. The research questionnaire was based on the study conducted by Ramu (2020) and Yamang (2022). Several considerations were made in the selection of questionnaire items in accordance with the objective of the study. Along with demographic information, survey participants were asked 28 questions,

including Likert scale questions ranging from 1 to 5, where 5 indicates “strongly agree” and 1 indicates “strongly disagree,” as well as multiple-choice questions. However, the names of the respondents were optional.

Sample Selection

The sample for this study was taken from sugarcane farmers in Bardibas Municipality, which is located in Mahottari district. The farmers who produce and sell sugarcane to sugar mills are taken for the study. Here, 2650 (Everest Sugar Mill, Mahottari, 2023) families of sugarcane farmers in Bardibas Municipality were the population, and among them, 350 families were the sample. The sampling design adopted for primary data collection was non-probability convenience sampling, which has its own disadvantages, but efforts were made to minimize this issue as much as possible.

Data Collection Procedures

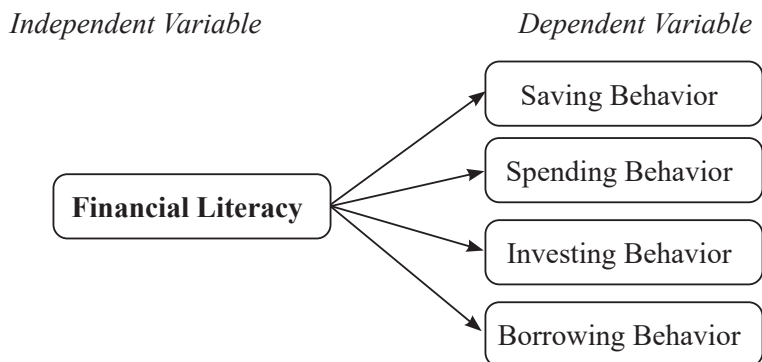
To collect data, primary sources were used. Primary data were collected via a survey method using a well-structured questionnaire. The questionnaire was divided into six sections. Section 1 was concerned with demographic and educational profiles; Section 2 focused on measuring the level of financial literacy, and the remaining four sections gathered information regarding financial behavior, namely saving behavior, spending behavior, investing behavior, and borrowing behavior of sugarcane farmers. Questionnaires were filled out by the researcher himself on the spot through face-to-face interviews with each respondent.

Research Framework

The conceptual framework of this study is depicted in Figure 1.

Figure 1

Conceptual Framework



Research Hypotheses

The research hypotheses are tested using one-tailed t-test with a significance level (α) of 5%. The hypotheses are accepted when the p-value is less than α , or the value of t statistics is more than t-table (one-tailed test = 1.64). This study developed four hypotheses to be tested in a quantitative approach, as follows:

H₁: There is a positive impact of financial literacy on saving behavior.

H₂: There is a positive impact of financial literacy on spending behavior.

H₃: There is a positive impact of financial literacy on investing behavior.

H₄: There is a positive impact of financial literacy on borrowing behavior.

Regression Model

This study has employed the following equations and variables:

1. Saving Behavior (SB):
 $SB = \beta_0 + \beta_1(FL) + \varepsilon_1$
2. Spending Behavior (SpB):
 $SpB = \beta_0 + \beta_2(FL) + \varepsilon_2$
3. Investing Behavior (IB):
 $IB = \beta_0 + \beta_3(FL) + \varepsilon_3$
4. Borrowing Behavior (BB):
 $BB = \beta_0 + \beta_4(FL) + \varepsilon_4$

In these equations:

FL = Financial Literacy

SB = Saving Behavior

SpB = Spending Behavior

IB = Investing Behavior

BB = Borrowing Behavior

β_0 = Intercept term for each equation

$\beta_1, \beta_2, \beta_3,$ and β_4 are the coefficients representing the impact of FL on each financial behavior.

$\varepsilon_1, \varepsilon_2, \varepsilon_3,$ and ε_4 represent the error terms, accounting for unexplained variability in each financial behavior.

Results and Analysis

Respondents' Profile

Table 1 presents the demographic characteristics of 350 sugarcane farmers in Bardibas Municipality, where 61.3 percent of the respondents were male, and 38.7 percent were female. When categorized based on age, the majority of the respondents (44.89%) were from the 40-54 age groups. Regarding marital status, 0.9 percent of the respondents were unmarried, and 99.1 percent were married. In terms of educational qualification, 53.3 percent of the respondents had no formal education, while 42.3 percent, and 4.4 percent had studied up to primary, and

secondary levels, respectively. Categorizing respondents based on income level, majority of the respondents (67.11%) had monthly income below Rs. 10,000. When categorized by religion, 95.6 percent were Hindu, and the remaining 4.4 percent were Buddhist, while the participation of Muslims and Christians was 0 percent. The average age of all the respondents was 45 years. Similarly, the average family income from all sources was Rs. 9,582 per month.

Table 1

Respondents' Profile

Demographic Factors/Variables		Frequency	Percent (%)	Mean
Gender	Male	215	61.3%	
	Female	135	38.7%	
	Grand Total	350	100%	
Age	25-39	123	35.11%	
	40-54	157	44.89%	
	55-69	65	18.67%	45
	70-85	5	1.33%	
	Grand Total	350	100%	
Marital Status	Unmarried	3	0.9%	
	Married	347	99.1%	
	Grand Total	350	100%	
Education	No Formal Education	187	53.3%	
	Primary Education	148	42.3%	
	Secondary Education	15	4.4%	
	Graduate	0	0.0%	
	Grand Total	350	100%	
Monthly Income (NRS)	0-9999	235	67.11%	
	10000-19999	95	27.11%	
	20000-29999	11	3.11%	
	30000-39999	3	0.89%	9582
	40000-49999	3	0.89%	
	50000-59999	2	0.45%	
	90000-100000	1	0.44%	
	Grand Total	350	100%	
Religion	Hindu	335	95.6%	
	Buddhist	15	4.4%	
	Muslim	0	0.0%	
	Christian	0	0.0%	
	Grand Total	350	100%	

Source: Field Survey, 2023, SPSS

Validity and Reliability Test

The purpose of the validity and reliability analysis is to determine the trustworthiness of the data. Validity can be examined through a test involving the assessment of the loading factor for

each indicator, which is reflected latent variable. Table 2 presents the loading factor for every indicator in the outer model. A loading factor greater than 0.7 suggests the acceptability of the indicator (Hair et al., 2016). The indicator that failed to meet the requirements has to be removed from the outer model before the data analysis continues again for the second iteration. Table 2 also demonstrates the loading factor of the outer model for the first and second iterations after certain indicators were eliminated from it.

Table 2

Factor Loading of the Outer Model

Indicator of Latent Variable	Factor Loading for the First Iteration	Factor Loading for the Second Iteration
Subjective Financial Knowledge:		
Do you pay tax to the government?	0.726	0.726
Suppose you deposit Rs.10000 in a savings account and the bank pays 8% interest per year. How much interest would you receive after 1 year?	0.701	0.701
Are you able to calculate your farm's profit margins, BEP, and ROI?	0.182	Deleted
Are you able to fill up the cheque yourself?	0.726	0.726
Are you able to keep the record of your income and expenditure?	0.282	Deleted
Are you aware of government programs & policies that can help & support your farm's financial stability & growth?	0.702	0.702
Do you have a plan in place to manage financial risks, such as crop failures or changes in commodity prices?	0.723	0.723
Knowledge about Simple Interest	0.709	0.709
Knowledge about Compounding Interest	0.704	0.704
Knowledge about concept of Crop Insurance	0.700	0.700
Knowledge about Time value of Money	0.811	0.811
Knowledge about Financial Assets	0.705	0.705
Knowledge about Risk-Return concept	0.706	0.706
Knowledge about portfolio	0.421	Deleted
Knowledge about Procedure of obtaining loan	0.713	0.713
Knowledge about usage of ATM	0.801	0.801
Knowledge about usage of Debit and Credit cards	0.576	Deleted
Knowledge about concept of Banking	0.718	0.718
Knowledge about usage of Mobile Banking	0.452	Deleted

Knowledge about Functions of NRB	0.714	0.714
Knowledge about Foreign Exchange Rate	0.711	0.711
Knowledge about concept of budgeting	0.708	0.708
Knowledge about concept of Money market	0.357	Deleted
Knowledge about concept of Capital/Stock market	0.740	0.740
Knowledge about concept of Mutual Fund	0.376	Deleted

Saving Behavior:

If you (your family) have/has any money left right before the next income arrives, what would you usually do with it?	0.736	0.736
What do you usually do when you (your family) run(s) out of money before the next income arrives?	0.208	Deleted
What percentage of your income do you typically save each year?	0.891	0.891
Practice level of Saving Account	0.706	0.706
Practice level of Bank Fixed Deposit	0.702	0.702
Practice level of Emergency fund	0.700	0.700
Practice level of Local Saving Group	0.766	0.766
Practice level of Systematic Investment Plan (SIP)	0.482	Deleted

Spending Behavior:

How economically spending oriented are you?	0.753	0.753
Do you prepare financial plan before purchasing any product or services?	0.725	0.725
I spend only on essential items	0.704	0.704
I have low cost of farming (sugarcane)	0.33	Deleted
I spend low on children Marriage	0.285	Deleted
I regularly keep the record of my expenses	0.981	0.981
My income is more than my expenses	0.815	0.815

Investing Behavior:

Have you ever invested in a farm cooperative or other farming organization?	0.385	Deleted
Do you evaluate the risk and return factors while making investment decision?	0.834	0.834
Do you search for investment opportunities frequently?	0.718	0.718
Level of investment on Agriculture	-0.287	Deleted
Level of investment on Security Market	0.729	0.729
Level of investment on Real Estate	0.701	0.701
Level of investment on Gold/Silver	0.45	Deleted

Level of investment on Insurance plan	0.702	0.702
Borrowing Behavior:		
Have you ever borrowed money from a financial institution (bank or credit union)?	0.209	Deleted
I don't have excessive loan burden	0.717	0.717
I am not a victim of loan shark	0.821	0.821
I borrow only from formal sources	0.736	0.736
I compare the interest rates while borrowing	0.946	0.946
I have never defaulted on a loan or missed a payment	0.228	Deleted
I don't borrow money frequently	0.24	Deleted
I haven't taken loan for farming tools & operations	-0.115	Deleted
I haven't taken loan due to delayed payment by Mill	0.006	Deleted
I think I can repay my loan with my income	0.734	0.734
I have applied for government-backed loans or subsidies for my farming operations	0.292	Deleted

Source: Field Survey, 2023, Smart-PLS

Following consideration of the loading factor, the second criterion for testing construct validity is the value of Average Variance Extracted (AVE). If AVE is greater than 0.5, it indicates that the construct explains more than half of the variance in its indicators. Table 3 presents that the test of validity using AVE for each variable is significant with p-value 0.000; therefore, the instrument to measure latent variables has been matched with the construct validity criteria.

Table 3

Construct Validity and Reliability

Latent Variable	AVE	Cronbach's Alpha	p-value	Composite reliability
Saving Behavior	0.521	0.829	0.000	0.859
Spending Behavior	0.526	0.837	0.000	0.875
Investing Behavior	0.508	0.806	0.000	0.831
Borrowing Behavior	0.502	0.724	0.000	0.820

Source: Field Survey, 2023, Smart-PLS

To ensure the reliability of the instrument, the reliability test relies on both the composite reliability and Cronbach's Alpha values. A Cronbach's Alpha coefficient below 0.6 is categorized as 'poor,' between 0.6 and 0.8 is considered 'acceptable,' and above 0.8 is deemed 'good' (Sekaran, 2000). If the composite reliability exceeds 0.7, it indicates that the indicator variables, loading

on the latent variable, share variance among themselves. A p-value below a 5% significance level affirms the instrument's reliability. As depicted in Table 3, this study demonstrates that the measurement of each latent variable is reliable.

Path Coefficient

Table 4 provides the direct effects of each variable in the inner model. It describes the path coefficient that explains the direct effect of each variable, namely: (1) the effect of financial literacy on saving behavior, (2) the effect of financial literacy on spending behavior, (3) the effect of financial literacy on investing behavior, and (4) the effect of financial literacy on borrowing behavior. As hypotheses were tested, the direct impact of financial literacy on saving behavior was significantly proven (path coefficient = 0.752; t-statistic = 24.263; p = 0.000). Thus, this study confirms the acceptance of the first hypothesis, indicating a positive impact of financial literacy on saving behavior. This can be interpreted as follows: individuals with a higher level of financial literacy tend to prioritize saving, set effective savings goals, make informed decisions about their saving strategies, and manage their finances in a way that leads to greater financial security.

Table 4

Path Coefficient

Direct Effect	Path Coeff.	t-statistics	P-values	R-square
Financial Literacy→ Saving Behavior	0.752	24.263	0.000** Accepted	0.565
Financial Literacy→ Spending Behavior	0.668	17.080	0.000** Accepted	0.447
Financial Literacy→ Investing Behavior	0.737	15.032	0.000** Accepted	0.543
Financial Literacy→ Borrowing Behavior	0.751	15.166	0.000** Accepted	0.563

**Significant at level 1%

This study has also demonstrated a significant positive impact of financial literacy on spending behavior (path coefficient = 0.668; t-statistic = 17.080; p = 0.000). Consequently, the second hypothesis has been accepted, implying that as financial literacy improves, individuals are more likely to exhibit better (responsible) spending habits, making more informed and conscious decisions about their expenditures.

Similarly, this study also establishes the acceptance of the third hypothesis (path coefficient = 0.737; t-statistic = 15.032; p = 0.000). Therefore, there is a significant positive impact of financial literacy on investing behavior. The positive value of the path coefficient (0.737) suggests that

as individuals' financial literacy improves, they are more likely to engage in informed and responsible investing behaviors. This could include better understanding investment options, assessing risks, making more effective investment decisions, and potentially achieving better returns on their investments.

The latest hypothesis has confirmed that there is a significant positive impact of financial literacy on borrowing behavior (path coefficient = 0.751; t-statistic = 15.166; $p = 0.000$). This suggests that an increase in financial literacy is associated with a significant increase in responsible borrowing behavior. The positive value of the path coefficient (0.751) implies that as individuals' financial literacy improves, they are more likely to better understand loan terms, interest rates, and potential implications of borrowing, leading to more effective management of debt.

The value of R-square in Table 3 reveals that the greatest contribution of financial literacy in the structural model is achieved in explaining saving behavior, as much as 56.5 percent. The lowest contribution of financial literacy is 44.7 percent in explaining spending behavior. As seen from R-square, the contribution of financial literacy to investing behavior is 54.3 percent. In contrast, the contribution of financial literacy to borrowing behavior is 56.3 percent.

Discussions

As mentioned earlier, financial behavior has been extensively examined across various financial decision-making scenarios, encompassing comprehensive money management. This study categorizes financial behavior into four distinct types of decisions: saving, spending, investing, and borrowing decisions regarding financial resources. The primary aim of this research is to scrutinize the state of financial literacy among sugarcane farmers and its influence on their saving, spending, investing, and borrowing behaviors.

In this context, financial literacy represents subjective financial knowledge, encapsulating the farmers' comprehension of essential aspects such as interest calculation, banking services, crop insurance, time value of money, exchange rates, budgeting, money market, loan procedures, financial assets, portfolio diversification, risk-return concepts, and the stock market. The findings reveal a prevalent lower level of financial literacy among farmers, significantly impacting their financial decisions and practices. This observation aligns with prior studies conducted by Lusardi and Mitchell (2011) and Atkinson and Messy (2012).

Empirically, the study substantiates a noteworthy positive impact of financial literacy on financial behavior across all observed types. These results are consistent with a body of existing literature reporting a substantial positive influence of financial literacy (or financial knowledge) on financial behavior, as seen in studies by Zulaihati et al. (2020), Fernandes et al. (2014), Kumar et al. (2017), and Nicolini et al. (2013). Specific investigations, such as the work of de Bassa Scheresberg (2013), Murendo and Mutsonziwa (2017), Baidoo et al. (2018), Jamal et al.

(2015) and Lusardi (2008b), focusing on the impact of financial literacy on saving behavior, also corroborate the findings of this study, despite notable differences in participant demographics.

Furthermore, the study underscores that individual with heightened financial literacy are inclined towards more judicious financial behaviors, including a propensity to formulate responsible plans for rational purchase (spending) decisions. These findings resonate with previous studies conducted by Hung et al. (2009), Lee et al. (2017), Collins and Wagner (2017), Miller and Smith (2018), Brown et al. (2019), Martinez et al. (2021), and Smith et al. (2022). Similarly, the study reveals that individuals with higher financial literacy levels tend to favor rational and diversified investments, supported by studies conducted by Huang et al. (2017), Haliassos et al. (2016), Allgood and Walstad (2016), Ariff and Yap (2015), Lusardi and Mitchell (2014), van Rooij et al. (2011), Guiso et al. (2011), Huston (2010), and Calvet et al. (2007).

In conclusion, this study highlights that individual with elevated levels of financial literacy demonstrate a preference for cautious and formal borrowing practices, as evidenced by previous research conducted by Chen and Volpe (1998), Ambrose and Schlingemann (2004), Lusardi and Tufano (2009), Hastings et al. (2013), and Cole et al. (2014). It is noteworthy that this study specifically focused on sugarcane farmers, a group with lower formal education levels. While demographics contribute to financial literacy disparities, financial behavior is influenced by various factors. Further research is needed to explore these complexities. The study emphasizes the need to enhance financial literacy among sugarcane farmers, especially those with limited education, through tailored programs. Improved financial knowledge can empower farmers for informed decisions, fostering stability and growth. Additional research is crucial to understand factors shaping farmers' financial decisions and refine strategies for promoting financial literacy.

Conclusion

In conclusion, the majority of the farmers exhibited lower proficiency in personal finance matters, highlighting notable knowledge gaps in crucial areas. The lower level of financial literacy among sugarcane farmers was linked to decreased tendencies in saving, spending, and investing behaviors. However, the borrowing behavior of these farmers remained relatively stable at an average level. This study has concluded that there was a significant positive influence of financial literacy on sugarcane farmers' financial behavior, which was measured by four types of behavior including saving behavior, spending behavior, investing behavior, and borrowing behavior. It is evident that individuals with higher levels of financial literacy tend to exhibit more prudent financial behaviors, including increased savings for the secure future, a propensity to prepare responsible plan before making purchase decision, a preference for rational and diversified investments, and a proclivity for cautious and formal borrowing practices. In general, this study demonstrated that financial literacy plays a significant role in guiding individuals towards making informed and effective financial decisions and behaviors.

Based on the findings, it is recommended that the government should prioritize the promotion of financial education, with a particular focus on enhancing financial literacy, especially in the context of highly essential aspects, such as simple interest, compound interest, crop insurance, banking, budgeting, government support programs, financial assets, financial market, ATM usage, mobile banking, and different saving vehicles.

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