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Income, Entrepreneurial Orientation, and Financial Literacy on Investment Decisions of MSMEs

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ABSTRACT

This study aims to analyze the effect of income level and entrepreneurial orientation on investment decisions, with financial literacy as an intervening variable among Micro, Small, and Medium Enterprises (MSMEs) in Padang City. The study is motivated by the importance of financial understanding and entrepreneurial spirit in supporting rational and productive investment decisions among MSME actors.The research method used is quantitative with a survey approach. The sample consists of 400 MSME actors selected through purposive sampling. Data were collected using a questionnaire comprising 44 items covering the variables of Income Level, Entrepreneurial Orientation, Financial Literacy, and Investment Decisions. Data analysis techniques include multiple linear regression and mediation testing using IBM SPSS Statistics 25. Validity and reliability tests were conducted using corrected item-total correlation (CITC) and Cronbach's Alpha, along with classical assumption tests for normality, multicollinearity, and heteroscedasticity.The results show that: (1) Income Level has a positive and significant effect on Financial Literacy and Investment Decisions; (2) Entrepreneurial Orientation has a positive and significant effect on Financial Literacy and Investment Decisions; (3) Financial Literacy significantly mediates the influence of Income Level and Entrepreneurial Orientation on Investment Decisions. These findings emphasize the importance of enhancing Financial Literacy and strengthening Entrepreneurial Orientation as strategies for sustainable MSME investment development.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in the national economy, particularly in fostering job creation, income distribution, and improving community welfare. In Indonesia, MSMEs contribute more than 60% to the Gross Domestic Product (GDP) and absorb over 97% of the workforce (BPS, 2023). In the city of Padang, MSMEs also serve as a key driving force in the local economic dynamics. However, many MSME actors face serious challenges in making financial decisions, including investment decisions for business development. One important factor influencing investment decisions is income level. Stable and sufficient income enables business actors to allocate part of their funds into investment instruments that can enhance business value. On the other hand, entrepreneurial orientation—which includes innovation, proactiveness, and risk-taking—

is also highly influential in encouraging MSME actors to make strategic and long-term investment decisions.

However, the relationship between income and entrepreneurial orientation with investment decisions is not always direct. Financial literacy as an intervening variable becomes a key factor that can strengthen or even alter the direction of this relationship. Financial literacy reflects the ability of business actors to understand, analyze, and make the right decisions regarding financial management, including investments (Lusardi & Mitchell, 2014). MSME actors with good financial literacy tend to be wiser in evaluating risks, choosing appropriate investment instruments, and planning their business finances in a sustainable manner. This study aims to empirically examine the effect of income level and entrepreneurial orientation on investment decisions by considering financial literacy as an intervening variable among MSME actors in the city of Padang. The findings of this study are expected to contribute to the formulation of MSME development policies that are more adaptive and empirically based, especially in terms of financial literacy and entrepreneurship.

LITERATURE REVIEW

Income Level

Income level is one of the crucial factors influencing economic behavior, including investment decisions. Individuals or MSME actors with higher income levels tend to have more disposable income, enabling them to invest. According to Lusardi and Mitchell (2014), adequate income enhances an individual's capacity to manage finances, including making sound investment decisions. Similarly, Al-Tamimi and Kalli (2009) found that income is significantly associated with individuals' tendencies to invest

Entrepreneurial Orientation

Entrepreneurial orientation reflects the mindset and attitude of an individual or organization in responding to opportunities and business risks. Common dimensions include innovativeness, proactiveness, and risk-taking (Covin & Lumpkin, 2011). MSME actors with high entrepreneurial orientation tend to be more responsive to investment opportunities, as they possess the courage to try new things and take calculated risks. Ahmad et al. (2022) stated that entrepreneurial orientation is positively correlated with strategic decision-making, including investment decisions.

Financial Literacy

Financial literacy refers to the ability to understand and utilize various financial concepts and instruments to make effective decisions. According to Huston (2010), financial literacy encompasses knowledge, skills, and confidence in managing personal and business finances. MSME actors with a high level of financial literacy are better equipped to assess the risks and potential returns of investments. Lusardi and Mitchell (2014) emphasized that financial literacy mediates the relationship between income and investment decisions, as financially literate individuals tend to act more cautiously and rationally

Investment Decisions

Investment decisions are the result of evaluating various investment alternatives based on risk, return, liquidity, and long-term objectives. In the context of MSMEs, such decisions are influenced not only by internal factors such as income and entrepreneurial orientation but also by external conditions and the ability to comprehend financial information (i.e., financial literacy). According to Gitman and Zutter (2015), sound investment decisions require accurate information and sufficient understanding of the financial instruments being used.

5. Financial Literacy as an Intervening Variable

Financial literacy functions as an intervening variable that can strengthen or weaken the influence of independent variables on the dependent variable. In this context, financial literacy acts as a bridge between income/entrepreneurial orientation and investment decisions. Sabri and MacDonald (2010) showed that financial literacy strengthens the relationship between income and financial behavior.

Meanwhile, Fatoki (2014) indicated that financial literacy serves as a significant mediator in the relationship between entrepreneurial orientation and business decision-making, including investment decisions.

METHOD

This study employed a quantitative approach with a causal design to analyze the relationship between income level and entrepreneurial orientation on investment decisions, with financial literacy as a mediating variable. The research was conducted on Micro, Small, and Medium Enterprises (MSMEs) in Padang City, Indonesia. The population consisted of all active MSME actors in the city, and a sample of 400 respondents was selected. The data collection instrument used a closed-ended questionnaire, developed based on theoretical indicators of each variable. There were four main variables measured: Income Level (7 items), Entrepreneurial Orientation (15 items), Financial Literacy (10 items), and Investment Decision (12 items). Each item was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Validity testing was conducted using the Corrected Item-Total Correlation (CITC) method, where an item was considered valid if the correlation value exceeded 0.30 (Sugiyono, 2022). Reliability testing was conducted using Cronbach's Alpha, where a coefficient of $\alpha \geq 0.70$ indicated that the instrument was sufficiently reliable (Ghozali, 2018). Data analysis was performed using IBM SPSS Statistics version 25. The analysis steps included classical assumption tests to ensure the suitability of the multiple linear regression model, consisting of: Normality test (using the Kolmogorov-Smirnov test and/or graphical analysis), Multicollinearity test (with Variance Inflation Factor (VIF) < 10 and Tolerance > 0.10), and Heteroscedasticity test (using the Glejser test and/or residual scatterplots).

Multiple Linear Regression Analysis was used to test the direct effects of the independent variables (income level and entrepreneurial orientation) on the dependent variable (investment decision), both partially and simultaneously. Additionally, Path Analysis was employed to examine the role of financial literacy as a mediating variable. The path model was used to determine whether financial literacy mediates the relationship between income and entrepreneurial orientation on investment decisions. All hypothesis testing was conducted at a significance level of 5% ($\alpha = 0.05$).

RESULT AND DISCUSSION

The first stage in this analysis is to conduct validity and reliability tests on the research instruments. The validity test is carried out to ensure that each item in the questionnaire is capable of measuring the intended construct. The technique used is the Corrected Item-Total Correlation, with items considered valid if the correlation value is greater than 0.30 (Sugiyono, 2019). Based on the analysis results, all items for each variable have a correlation value above 0.30, and therefore are declared valid. Next, a reliability test is conducted using Cronbach's Alpha value, where a construct is considered reliable if the Cronbach's Alpha value is ≥ 0.70 (Ghozali, 2018).

Table 1. Results of Instrument Validity and Reliability Testing

Variable	Number of Items	Item Correlation Value (range)	Cronbach's Alpha	Remarks
Income Level	7	0.410 – 0.772	0.823	Reliable
Entrepreneurial Orientation	15	0.511 – 0.834	0.901	Reliable
Financial Literacy	10	0.436 – 0.799	0.874	Reliable
Investment Decision	12	0.489 – 0.826	0.889	Reliable

Source: Processed primary data using SPSS 25.

Thus, all instruments in this study were proven to be valid and reliable for further analysis. Before testing the hypotheses using multiple linear regression, classical assumption tests were

conducted to ensure the feasibility of the model. The tests performed included: normality test, multicollinearity test, and heteroscedasticity test.

a. Normality Test

The normality test was conducted to determine whether the residuals of the regression model were normally distributed. The test used the Normal Probability Plot (P-P Plot). Observations showed that the points were spread along the diagonal line from the bottom left to the top right, indicating that the residuals were normally distributed (Ghozali, 2018).

b. Multicollinearity Test

Multicollinearity was tested by examining the Tolerance and Variance Inflation Factor (VIF) values. According to Gujarati and Porter (2010), multicollinearity is not considered present if the Tolerance value is greater than 0.10 and the VIF value is less than 10. The results of the test are presented in the following table.

:

Table 2. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	30.220	2.722		11.102	.000		
	Income Level	.162	.030	.318	5.424	.000	.280	3.572
	Entrepreneurial Orientation	.105	.051	.093	2.078	.038	.479	2.087
	Financial Literacy	.234	.033	.430	7.058	.000	.259	3.859

a. **Dependent Variable: Investment Decision**

Thus, no multicollinearity problem was found in the regression model.

c. Heteroscedasticity Test

The heteroscedasticity test was conducted using the scatterplot method between the predicted values (ZPRED) and the residuals (SRESID). The results show that the points are randomly dispersed, do not form a specific pattern, and are symmetrically distributed above and below the zero axis. This indicates that heteroscedasticity is not present, or in other words, the assumption of homoscedasticity is met (Hair et al., 2010). Based on the results of all tests, the regression model satisfies the three main assumptions of classical linear regression, namely:

- The residuals are normally distributed
- There is no multicollinearity
- There is no heteroscedasticity

Therefore, the regression model is suitable for further hypothesis testing.

Multiple Linear Regression with Path Analysis

This study employs a path analysis approach estimated through multiple linear regression**,** aiming to examine the direct influence of the independent variables Income Level (X_1) and Entrepreneurial Orientation (X_2 on the intervening variable, Financial Literacy (Y)**,** which in turn affects the Investment Decision (Z) as the dependent variable. The path model in this study consists of two stages of regression analysis:

1. First Regression (X_1 and X_2 on Y)**:** *(Model Structure I)*

This model measures the direct effect of Income Level and Entrepreneurial Orientation **on** Financial Literacy. The regression equation is:

$Y = \beta_1 X_1 + \beta_2 X_2 + \varepsilon_1$

Explanation:

Y = Financial Literacy

X1 = Income Level

X2 = Entrepreneurial Orientation

β_0 = Constant
β_1, β_2 = Regression coefficients
ε_1 = Error term 1, calculated as: $\varepsilon_1 = \sqrt{(1 - R^2)}$

Table 3. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-9.594	4.096		-2.342	.020
	Income Level	.626	.032	.670	19.318	.000
	Entrepreneurial Orientation	.525	.072	.253	7.285	.000

a. Dependent Variable: Financial Literacy

Based on Table 3 the regression equation becomes:

$$\mathbf{Y = 0.626\ X_1 + 0.525\ X_2 - 9.594}$$

This model shows the extent to which each independent variable contributes to the financial literacy of MSME actors. Specifically, Income Level contributes 0.626 and Entrepreneurial Orientation contributes 0.525 to the Financial Literacy of MSME actors in Padang City.

Tabel 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.861[a]	.741	.740	1.562

a. Predictors: (Constant), Entrepreneurial Orientation, Income Level

Based on the regression analysis results, the coefficient of determination (R^2) is **0.741**, indicating that 74.1 % of the variation in the dependent variable is explained by the independent variables in the model. The remaining 25.9 % is explained by other factors outside the model.
To determine the magnitude of the error (residual standard error), the **ε_1** value is calculated using the formula:

$\varepsilon_1 = \sqrt{(1 - R^2)}$
$\varepsilon_1 = \sqrt{(1 - 0.741)}$
$\varepsilon_1 = \sqrt{(0.259)}$
$\varepsilon_1 \approx 0.509$

The result shows that the error value (ε_1) is approximately 0.508**9**. This indicates a 50.9% deviation or prediction error due to other factors outside the regression model. This value also reflects the extent to which the model's predictions are not fully accurate and can serve as a basis for evaluating and improving the precision of the model used.

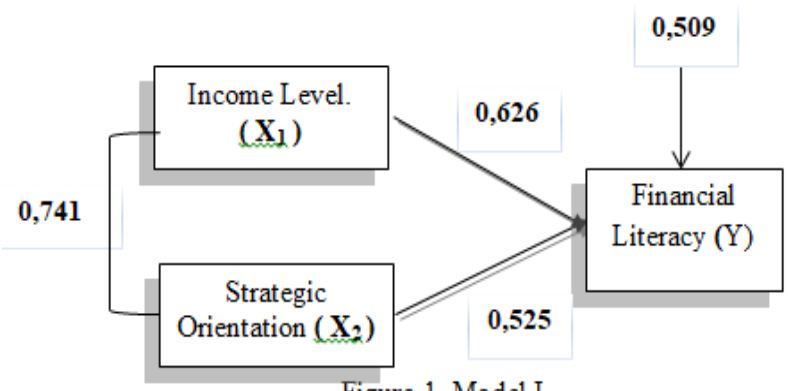

Figure 1. Model I

2. Second Regression (X_1, X_2, and Y toward Z); (Structure Model II)

This model examines the direct effect of X1, X2, and Y on Investment Decision (Z). The regression equation is as follows:

$$\mathbf{Z = ß3\ X_1 + ß4\ X_2 + ß5\ Y + ε2}$$

Description:
Z = Investment Decision
Y = Financial Literacy
X_1, X_2 = Income Level, Entrepreneurial Orientation
β3, β4, β5 = Regression coefficients
ε2 = Error term**,** calculated as**:** $ε2 = \sqrt{(1 - R^2)}$

This model is used to observe whether Financial Literacy significantly acts as an intervening variable that mediates the influence of X_1 and X2 on Z.

Tabel 5. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	30.220	2.722		11.102	.000
	Financial Literacy	.234	.033	.430	7.058	.000
	Income Level	.162	.030	.318	5.424	.000
	Entrepreneurial Orientation	.105	.051	.093	2.078	.038

a. Dependent Variable: Investment Decision

$$\mathbf{Z = 0{,}234\ X_1 + 0.162X_2 + 0.105\ Y + \ 30.220}$$

This model shows the magnitude of each independent variable's contribution in influencing the Investment Decision of MSME actors. Specifically, Income Level contributes 0.234, Entrepreneurial Orientation contributes 0.162, and Financial Literacy contributes 0.105 to the Investment Decision of MSME actors in Padang City.

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787[a]	.620	.617	1.031

a. Predictors: (Constant), Entrepreneurial Orientation, Income Level, Financial Literacy

Based on the regression analysis results, the coefficient of determination **(R^2)** is 0.620. This value indicates that 62 **%** of the variation in the dependent variable can be explained by the independent variables in the regression model, while the remaining 38.% is explained by factors outside the model. To determine the size of the estimation standard error, the following formula is used:

$\varepsilon_2 = \sqrt{(1 - R^2)}$

$\varepsilon_2 = \sqrt{(1 - 0.620)}$

$\varepsilon_2 = 0.616$

An ε_2 value of 0.616 indicates the level of standard deviation of the actual values from the predicted values produced by the regression model. The smaller the ε_2 value, the better the model's predictive ability in explaining the dependent variable.

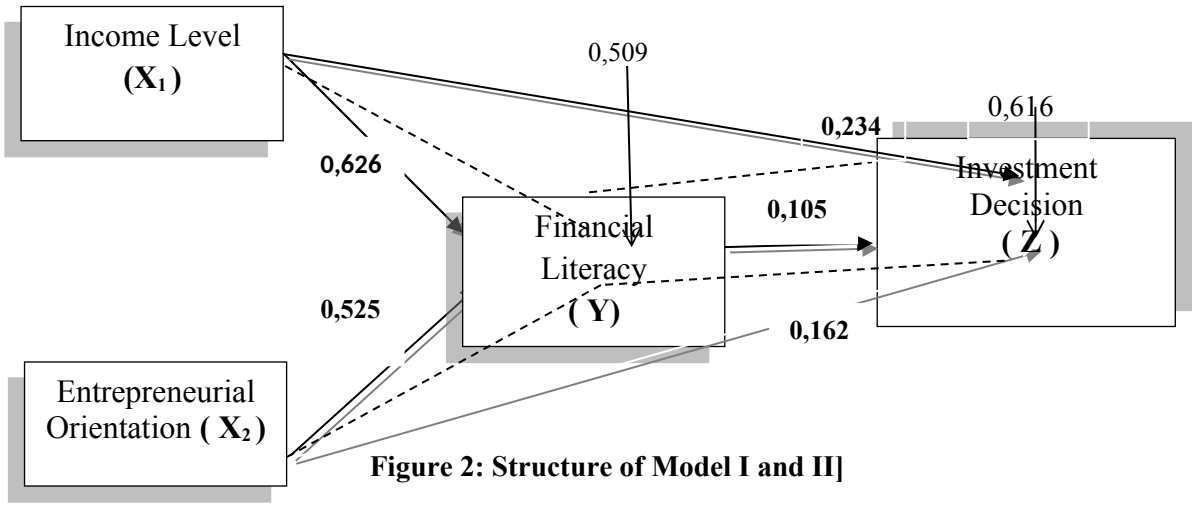

Figure 2: Structure of Model I and II]

Table 7 shows the Direct Effects of this study, indicating the influence of Income Level and Entrepreneurial Orientation on Financial Literacy, and the influence of Income Level, Entrepreneurial Orientation, and Financial Literacy on Investment Decisions.

Table 7. Direct Effects

Hypothesis	Path	Coefficient	Description
H1	$X_1 \rightarrow Y$	0.626	Significant
H2	$X_2 \rightarrow Y$	0.525	Significant
H3	$X_1 \rightarrow Z$	0.234	Significant
H4	$X_2 \rightarrow Z$	0.162	Significant
H5	$Y \rightarrow Z$	0.105	Significant

All direct relationships show significant and positive effects, supporting hypotheses H1 through H5.

c. Indirect Effect

The sixth hypothesis (H6) in this study examines the indirect effect of Income Level (X_1) on Investment Decisions (Z) through Financial Literacy (Y) as a mediating variable. The path model used is $X_1 \rightarrow Y \rightarrow Z$, where the path coefficient from X_1 to Y is $ß_1 = 0.626$, and from Y to Z is $ß_5 = 0.105$.

To determine the magnitude of the indirect effect, the product of the two coefficients is calculated:

$X_1 \rightarrow Y \rightarrow Z = ß_1 \times ß_5$
$ß_1 = 0.626$; $ß_5 = 0.105$
$Z = 0.626 \times 0.105$
$Z = 0.066$

The value of 0.066 indicates that there is an indirect effect of Income Level on Investment Decisions through Financial Literacy. Although this indirect effect is relatively small, it still reflects the mediating contribution of Financial Literacy. Therefore, it can be concluded that Financial Literacy acts as a partial mediating variable in the relationship between Income Level and Investment Decisions among MSME actors in Padang City. This result is consistent with the view that higher income tends to increase entrepreneurs' financial literacy, which in turn can strengthen their tendency to make more rational and informed investment decisions.

$X_2 \rightarrow Y \rightarrow Z = ß_2 \times ß_5$
$ß_2 = 0.525$; $ß_5 = 0.105$
$Z = 0.525 \times 0.105$
$Z = 0.055$

The path analysis shows that Entrepreneurial Orientation (X_2) has a significant effect on Financial Literacy (Y) with a regression coefficient of $\beta_2 = 0.525$. Furthermore, Financial Literacy (Y) also has a significant effect on Investment Decisions (Z) with a coefficient of $\beta_5 = 0.105$. Thus, the indirect effect of Entrepreneurial Orientation on Investment Decisions through Financial Literacy can be calculated by multiplying the two coefficients.
This value indicates that there is a positive indirect effect of entrepreneurial orientation on investment decisions through increased financial literacy. Although the size of this indirect effect is relatively small, it still provides empirical evidence that financial literacy mediates the relationship between entrepreneurial orientation and investment decisions among MSME actors in Padang City. These findings are in line with financial behavior theories and previous studies that emphasize the importance of financial literacy in guiding more rational and strategic economic decisions among entrepreneurs.

Table 8. Indirect Effect

Path	Path Coefficient	Indirect Effect (β)
$X_1 \rightarrow Y \rightarrow Z$	0.626×0.105	0.066
$X_2 \rightarrow Y \rightarrow Z$	0.525×0.105	0.055

The path analysis results show that the indirect effect of Income Level (X_1) on Investment Decisions (Z) through Financial Literacy (Y) is 0.066. This means that an increase in income level will encourage an increase in financial literacy, which in turn will enhance MSME actors' investment decisions. Therefore, financial literacy serves as a mediator in strengthening the relationship between income level and investment decisions.
Furthermore, the indirect effect of Entrepreneurial Orientation (X_2) on Investment Decisions through Financial Literacy is 0.055. This indicates that MSME actors with a strong entrepreneurial orientation tend to have higher levels of financial literacy, which subsequently has a positive impact on their investment decisions.

Overall, both of these indirect paths indicate that Financial Literacy plays an important role as a mediating variable, strengthening the positive influence of Income Level and Entrepreneurial Orientation on Investment Decisions. These results support hypotheses H6 and H7, which state that both independent variables significantly affect investment decisions through financial literacy.

DISCUSSION

This study aims to empirically examine the influence of Income Level and Entrepreneurial Orientation on Investment Decisions, both directly and indirectly through Financial Literacy as an

intervening variable among MSME actors in Padang City. The analysis was conducted using multiple linear regression and path analysis.

The Influence of Income Level on Financial Literacy

The results show that Income Level (X_1) has a significant effect on Financial Literacy (Y), with a regression coefficient of 0.626. This finding aligns with Human Capital Theory, which suggests that an increase in economic resources can expand individuals' access to knowledge and information, including in the financial domain (Lusardi & Mitchell, 2014). In the context of MSMEs, higher income allows for greater opportunities to attend training, seminars, and actively access financial information, thereby improving financial literacy. This result is consistent with previous research by Sabri and MacDonald (2010), which found a positive correlation between income level and financial capability among small business owners.

The Influence of Entrepreneurial Orientation on Financial Literacy

Entrepreneurial Orientation (X_2) also has a significant effect on Financial Literacy, with a coefficient of 0.525. This indicates that the higher the innovation, proactiveness, and risk tolerance of MSME actors, the higher their tendency to understand financial aspects. Forward-thinking entrepreneurs tend to seek optimal financial strategies for business development. This finding supports the study by Fatoki (2014), which stated that entrepreneurial orientation enhances information-based decision-making behavior, including in financial matters.

The Influence of Income Level on Investment Decisions

Income Level also has a positive and significant effect on Investment Decisions (Z), with a coefficient of 0.234. This reflects that MSME actors with higher income have a broader opportunity to allocate their funds into productive investments. They tend to have financial surpluses that enable business portfolio diversification. This finding is reinforced by research from van Rooij et al. (2011), which revealed that income contributes to individuals' readiness in making long-term financial decisions.

The Influence of Entrepreneurial Orientation on Investment Decisions

Entrepreneurial Orientation also affects Investment Decisions, with a regression coefficient of 0.162. Although smaller than the effect of income, this result is still statistically significant. Entrepreneurs who are proactive and willing to take risks are more inclined to invest, as they have a vision for long-term growth. This is in line with Covin and Slevin (1989), who stated that entrepreneurial characteristics underpin dynamic decision-making, including in small business investment strategies.

e. The Influence of Financial Literacy on Investment Decisions

The Financial Literacy variable (Y) shows the greatest influence on Investment Decisions, with a coefficient of 0.105. This indicates that MSME actors with good financial understanding are more rational, analytical, and prudent in making investment decisions. They understand risk and return, and are capable of managing resources efficiently. This finding is consistent with Lusardi & Tufano (2015), who emphasized the importance of financial literacy in shaping wise financial behavior, particularly in investment contexts.

Indirect Effect of Income Level on Investment Decisions through Financial Literacy

Path analysis results show that Financial Literacy serves as a mediator in the relationship between Income Level and Investment Decisions, with a coefficient of 0.066, indicating a significant indirect effect. Higher income leads to increased financial literacy, which in turn influences investment decisions. This finding supports the partial mediation model, where the intervening variable strengthens the direct effect (Baron & Kenny, 1986).

g.Indirect Effect of Entrepreneurial Orientation on Investment Decisions through Financial Literacy

Similarly, Financial Literacy also mediates the relationship between Entrepreneurial Orientation and Investment Decisions. MSME actors with high entrepreneurial orientation show a willingness to learn

and improve their financial knowledge, which encourages more targeted investment decisions. This finding supports Fatoki (2014), who stated that financial knowledge serves as a vital bridge between entrepreneurial traits and financial decision-making.

CONCLUSION

Based on the research findings on MSMEs in Padang City, it can be concluded that: Income Level and Entrepreneurial Orientation have a significant influence on Financial Literacy, which in turn contributes to Investment Decisions. Entrepreneurial Orientation is the dominant factor that directly and indirectly affects Investment Decisions. Financial Literacy is proven to be an intervening variable that strengthens the relationship between Income Level and Entrepreneurial Orientation toward Investment Decisions. Investment decisions by MSME actors in Padang City are influenced not only by financial capability but also by a strong understanding and entrepreneurial mindset.

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