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## The Influence of Financial Risk Attitude and Financial Risk Tolerance on MSME Risk Management Strategies in West Pasaman

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### ABSTRACT

This study aims to examine the influence of financial risk attitude and financial risk tolerance on risk management strategies in Micro, Small, and Medium Enterprises (MSMEs) in West Pasaman Regency. A quantitative approach was used in this research, employing Partial Least Square-based Structural Equation Modeling (SEM-PLS) analysis method. Data was obtained from 120 MSME operators through questionnaires developed from valid indicators. The research results show that both risk attitude and risk tolerance have positive and significant effects on the applied risk management strategies. This finding indicates that the psychological dimensions of business operators play an important role in managerial decision-making for risk mitigation. The practical implications of this research emphasize the need to improve financial behavioral capacity in MSME empowerment.

Keywords: Financial Risk Attitude, Financial Risk Tolerance, Risk Management Strategy, MSMEs

### 1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of regional and national economies in Indonesia. Based on the latest data, the number of MSMEs in West Pasaman Regency has increased from around 21,000 units in 2022 to more than 23,000 units by 2025, with growth of approximately 2,000 businesses in the last two years (Maulana, 2025). The regional government actively develops these MSME operators through management training, marketing, and licensing assistance, with a budget allocation of IDR 480 million in 2023 (Maulana, 2025). Despite the increase in the number of business operators, most MSMEs still operate in non-agricultural sectors such as food and culinary, and only about 80 MSMEs have obtained halal certification by 2024. This indicates that aspects of product quality and business risk management are still not optimal, despite continuous development programs.

This situation raises questions about the extent to which MSME operators can manage risks inherent in their businesses, particularly financial risks (Husain, 2024). A Bank Indonesia survey (2022) revealed that more than 68% of MSMEs do not yet have adequate risk management strategies. Many financial decisions are still ad hoc and intuitive, without systematic approach support a condition that creates opportunities for weaknesses in business sustainability. Within the behavioral finance framework, two important psychological aspects that influence financial decision-making are financial risk attitude (FRA) and financial risk tolerance (FRT). Financial risk attitude refers to individuals' attitudes and preferences toward financial risk, indicating whether they tend to avoid risk (risk-averse), remain neutral (risk-neutral), or seek risk (risk-seeking) (Weber & Milliman, 1997) Meanwhile, financial risk tolerance reflects the level of comfort and ability of individuals to

accept potential losses as part of their financial decisions (J. Grable & Lytton, 1999). Hallahan et al. (2004) study shows that the combination of risk attitude and risk tolerance contributes significantly to investment decisions and risk mitigation approaches. However, empirical research related to FRA and FRT in the MSME context, especially in developing regions like West Pasaman, remains very limited.

This background reveals a gap between the large number of developing MSMEs and the low quality of financial risk management. This gap is exacerbated by the minimal understanding of psychological factors in risk decisions by MSME operators, even though these factors are crucial in designing effective mitigation strategies. Therefore, this research is designed to fill this void with a sound empirical approach. The objectives of this research are to analyze the influence of financial risk attitude on MSME risk management strategies in West Pasaman Regency and to examine the impact of financial risk tolerance on these strategies. By addressing these objectives, the study is expected to provide theoretical contributions to the literature on MSME financial behavior and offer practical implications for regional policies, MSME capacity-building training, and interventions aimed at fostering a risk management mindset.

## **2. Literature Review**

### **2.1. Financial Risk Attitude (FRA)**

Financial risk attitude refers to individual tendencies in responding to situations involving uncertain financial outcomes (J. Grable & Lytton, 1999). Individuals with risk-averse attitudes tend to avoid risks, while those who are risk-seeking tend to accept or even seek risks. In the MSME context, FRA can influence how business operators make decisions when facing market uncertainty (Weber & Milliman, 1997).

### **2.2. Financial Risk Tolerance (FRT)**

FRT is the ability and comfort of individuals to accept potential losses from financial decisions (Hallahan et al., 2004). FRT differs from FRA because it is more directed toward objective and psychological capacity to bear risks. MSMEs with high risk tolerance tend to have bolder strategic maneuvers when facing market fluctuations.

### **2.3. Risk Management Strategy**

Risk management strategy refers to the systematic approach used by organizations in identifying, analyzing, and responding to business risks (COSO, 2017). In the MSME context, this strategy is important for ensuring business continuity, especially amid uncertainty and resource limitations.

### **2.4. Previous Research**

Research by J. E. Grable & Joo (2004) shows that FRA and FRT influence household and small business financial behavior. A study by Dew & Xiao (2011) also found that FRA and FRT affect preferences in credit use and business financial management.

## **3. Methodology**

### **3.1. Type and Research Approach**

This research is quantitative research with an explanatory approach. Its purpose is to explain the influence between independent variables, namely Financial Risk Attitude (FRA) and Financial Risk Tolerance (FRT), on the dependent variable, namely Risk Management Strategy (RMS) in MSME operators in West Pasaman Regency.

### **3.2. Population and Sample**

The population in this study consists of all active Micro, Small, and Medium Enterprise (MSME) operators spread throughout West Pasaman Regency. Based on data from the Department of Cooperatives, SMEs and Industry of West Pasaman Regency in 2024, there are approximately 5,200 actively registered MSME operators. Sampling was conducted using purposive sampling technique, with criteria:

- a) MSMEs have operated for at least 2 years.
- b) MSME operators serve as the main financial decision-makers in their businesses.
- c) Willing to complete the questionnaire fully.

The number of samples used in this study is 120 respondents, in accordance with minimum SEM-PLS analysis guidelines referring to Hair et al. (2019), which is a minimum of 10 times the largest number of indicators in one construct.

### 3.3. Data Collection Technique

Primary data was collected using closed questionnaires with a 5-point Likert scale, from 1 = strongly disagree to 5 = strongly agree. Questionnaires were distributed directly and online to MSME operators.

### 3.4. Operational Definitions and Variable Indicators

#### 3.4.1. Financial Risk Attitude (FRA)

The psychological attitude of MSME operators toward risk in financial or business decision-making, whether they tend to avoid risk, be neutral, or accept risk as part of opportunities.

**Table 1. Financial Risk Attitude (FRA) Indicators**

| No   | Indicator                           | Statement                                                                   |
|------|-------------------------------------|-----------------------------------------------------------------------------|
| FRA1 | Risk preference                     | I am willing to take financial risks to achieve greater results             |
| FRA2 | Confidence in facing uncertainty    | I feel comfortable with decisions that have possibilities of profit or loss |
| FRA3 | Attitude toward risk opportunities  | I see risk as an opportunity to grow                                        |
| FRA4 | Willingness to make risky decisions | I often make important decisions even when there is no certainty of results |

Source: Grable & Joo (2004), Weber & Milliman (1997)

#### 3.4.2. Financial Risk Tolerance (FRT)

Individual ability to accept financial risk or tolerance for losses under uncertain conditions without experiencing excessive pressure or drastically changing behavior.

**Table 2. Financial Risk Tolerance (FRT) Indicators**

| No   | Indicator                                       | Statement                                                    |
|------|-------------------------------------------------|--------------------------------------------------------------|
| FRT1 | Comfort level facing losses                     | I remain calm when my business experiences short-term losses |
| FRT2 | Reaction to uncertainty                         | I can accept uncertainty in the business world               |
| FRT3 | Firmness in making decisions during uncertainty | I don't easily panic when economic conditions are uncertain  |
| FRT4 | Resilience to business fluctuations             | I am ready to face fluctuations in my business income        |

Source: Hallahan et al. (2004), Pak & Mahmood (2015)

#### 3.4.3. MSME Risk Management Strategy (RMS)

Systematic efforts by MSME operators in identifying, assessing, and responding to risks that can hinder business continuity and growth.

**Table 3. Risk Management Strategy (RMS) Indicators**

| No   | Indicator                      | Statement                                                    |
|------|--------------------------------|--------------------------------------------------------------|
| RMS1 | Business risk identification   | I actively identify risks that could occur in my business    |
| RMS2 | Risk level assessment          | I assess how big the risk impact is before making decisions  |
| RMS3 | Risk mitigation planning       | I create specific strategies to reduce risk impact           |
| RMS4 | Risk evaluation and monitoring | I conduct periodic evaluations of risks faced by my business |

Source: ISO (2018), COSO (2004)

### 3.5. Data Analysis Technique

Data processing was conducted using Partial Least Square–Structural Equation Modeling (PLS-SEM) with SmartPLS 4 application assistance. Analysis stages include:

- a. Outer Model Testing a) Indicator validity test (Outer Loading > 0.7) b) Construct validity test (AVE > 0.5) c) Reliability test (Composite Reliability > 0.7 and Cronbach Alpha > 0.7)
- b. Inner Model Testing a) Path coefficients between constructs b) Relationship significance test (t-statistic and p-value) c) R<sup>2</sup> value to measure independent variables' contribution to dependent variables d) f<sup>2</sup> value to see effect size between variables
- c. Goodness of Fit Model a) SRMR < 0.08 b) Q<sup>2</sup> to measure model predictability

The entire analysis process was conducted iteratively to ensure the final model meets all statistical criteria required in SEM-based quantitative research.

## 4. Results and Discussion

### 4.1. Research Results

#### 4.1.1. Respondent Identity

A total of 120 questionnaires were collected from active MSME operators in West Pasaman. The general characteristics of the respondents indicate that 60% were female and 40% male, with the majority aged between 31 and 45 years. On average, respondents had been running their businesses for 5 to 10 years. In terms of business type, 38% were engaged in trade, 27% in culinary, 20% in services, and 15% in agriculture or plantation.

#### 4.1.2. Outer Model Evaluation

- 1) Convergent Validity Test (Outer Loading & AVE)

**Table 4. Convergent Validity Test Results**

| Indicator | Variable | Outer Loading |
|-----------|----------|---------------|
| FRA1      | FRA      | 0.782         |
| FRA2      | FRA      | 0.811         |
| FRA3      | FRA      | 0.790         |
| FRA4      | FRA      | 0.803         |
| FRT1      | FRT      | 0.771         |
| FRT2      | FRT      | 0.795         |
| FRT3      | FRT      | 0.823         |
| FRT4      | FRT      | 0.787         |
| RMS1      | RMS      | 0.825         |
| RMS2      | RMS      | 0.846         |
| RMS3      | RMS      | 0.864         |
| RMS4      | RMS      | 0.838         |

From Table 4 above, it can be concluded that all indicators meet convergent validity requirements (loading > 0.70).

- 2) Average Variance Extracted (AVE)

**Table 5. Average Variance Extracted (AVE) Results**

| Variable | AVE   |
|----------|-------|
| FRA      | 0.641 |
| FRT      | 0.637 |
| RMS      | 0.710 |

From Table 5 above, it can be concluded that with AVE from FRA, FRT, and RMS > 0.5, construct validity is good.

## 3) Reliability Test

**Table 6. Reliability Test Results**

| Variable | Composite Reliability (CR) | Cronbach's Alpha |
|----------|----------------------------|------------------|
| FRA      | 0.867                      | 0.775            |
| FRT      | 0.864                      | 0.770            |
| RMS      | 0.901                      | 0.845            |

From Table 6 above, it can be concluded that all constructs have high reliability (CR and Alpha > 0.7).

## 4) Inner Model Evaluation

**Table 7. R-Square (R<sup>2</sup>) Results**

| Dependent Variable             | R <sup>2</sup> |
|--------------------------------|----------------|
| Risk Management Strategy (RMS) | 0.562          |

From Table 7 above, it can be seen that FRA and FRT can explain 56.2% of variation in MSME risk management strategies, meaning the model is quite strong.

**Table 8. Hypothesis Test Results**

| Hypothesis     | Path Coefficient ( $\beta$ ) | t-statistic | p-value | Conclusion             |
|----------------|------------------------------|-------------|---------|------------------------|
| FRA → RMS (H1) | 0.421                        | 5.603       | 0.000   | Significant (Accepted) |
| FRT → RMS (H2) | 0.361                        | 4.982       | 0.000   | Significant (Accepted) |

## 5) SEM Model Visualization

The path diagram illustrates the direction and strength of the relationships between the constructs. Financial risk attitude (FRA) has a positive effect on MSME risk management strategies (RMS) with a path coefficient of 0.421, while financial risk tolerance (FRT) also positively influences RMS with a coefficient of 0.361. The R<sup>2</sup> value for RMS is 0.562, indicating that 56.2% of the variance in MSME risk management strategies is explained by FRA and FRT.

## 6) Results Interpretation

- Financial Risk Attitude (FRA) significantly influences risk management strategy. This means MSME operators who have positive attitudes toward risk are more likely to develop strategies to anticipate and manage business risks.
- Financial Risk Tolerance (FRT) also significantly influences risk management strategy. This shows that MSME operators who have high tolerance for financial uncertainty have better capabilities in managing risks.
- The contribution of FRA and FRT to risk management strategies reaches 56.2%, indicating that psychological and financial behavioral factors are very important in MSME risk management practices in West Pasaman.

**4.2. Discussion**

The data processing results using Partial Least Square-based Structural Equation Modeling (SEM-PLS) show that both Financial Risk Attitude (FRA) and Financial Risk Tolerance (FRT) have significant influences on Risk Management Strategy (RMS) in MSME operators in West Pasaman Regency.

**4.2.1. Influence of Financial Risk Attitude on Risk Management Strategy**

Research results show that Financial Risk Attitude (FRA) has a positive and significant influence on Risk Management Strategy (RMS) with coefficient value  $\beta = 0.421$ , t-statistic = 5.603, and p-value = 0.000. This indicates that the more positive MSME operators' attitudes toward financial risk, the higher their tendency to develop and implement risk management strategies actively.

This finding aligns with behavioral finance theory, which states that risk attitudes influence behavior in financial decision-making (Grable & Joo, 2004). MSMEs with open attitudes toward risk do not view risk merely as threats, but as opportunities for growth, provided risks are managed properly.

This condition is relevant to the local context of West Pasaman, where MSMEs face various challenges such as raw material price fluctuations, market uncertainty, and limited financing access. MSME operators with good FRA will be more aware of the importance of risk mitigation through identification, analysis, and planning.

This result strengthens previous studies by Hallahan et al. (2004), which stated that individuals with positive risk attitudes will be more active in managing portfolios and financial strategies, including in entrepreneurship contexts.

#### **4.2.2. Influence of Financial Risk Tolerance on Risk Management Strategy**

The Financial Risk Tolerance (FRT) variable also proves to have a positive and significant influence on risk management strategy, with  $\beta$  value = 0.361, t-statistic = 4.982, and p-value = 0.000. This shows that MSME operators' tolerance toward risk, namely their ability to accept financial consequences, contributes greatly to risk mitigation strategy adoption.

In the MSME context, FRT reflects the extent to which business operators can face potential losses without causing reactions that hinder business continuity. Those with high tolerance tend to be more rational and stable when facing market changes or financial pressure.

This finding supports the theory proposed by Weber and Milliman (1997), which states that the level of risk tolerance influences how individuals react to uncertain situations. MSMEs with high FRT are not only ready to accept risks but are also more aware of the importance of strategies to control them.

In the context of West Pasaman, where business resilience is heavily influenced by external uncertainties such as weather, inflation, and local policies, business operators with high risk tolerance will be better prepared to develop layered strategies to face these risks, for example through product diversification, cash reserve establishment, or collaboration with other MSMEs.

#### **4.2.3. Contextual Implications in West Pasaman**

Both independent variables (FRA and FRT) together can explain 56.2% of variation in MSME risk management strategies ( $R^2 = 0.562$ ), meaning that financial behavioral dimensions (attitude and tolerance) have crucial roles in forming and implementing risk mitigation strategies in local MSME contexts.

This provides important insights for regional governments and MSME supporting institutions that improving risk management competence is not sufficient only in technical aspects, but must be accompanied by strengthening attitudes and mentalities toward financial risks.

West Pasaman Regency is an area with fairly rapid MSME growth, especially in trade and processed agriculture sectors. However, most MSMEs still rely on intuition and experience when facing business risks, not through systematic approaches.

This research results show that improving risk attitudes and tolerance will directly impact the quality of applied risk management strategies. Thus, regional governments and business supporting institutions in West Pasaman need to promote financial risk literacy, business management training, and utilization of technology-based risk management tools.

#### **4.2.4. Comparison with Previous Research**

This finding aligns with previous research. Pak and Mahmood (2015) demonstrated that risk tolerance significantly determines the effectiveness of financial risk mitigation strategies among small business operators. Further, risk perception and an individual's readiness to face risks strongly influence the success of small and medium business management (Mardikaningsih, 2023). Therefore, the results of this study confirm that effective risk management strategies are not merely procedure-based but are also heavily influenced by the psychological characteristics of business operators.

## 5. Conclusion

Based on SEM-PLS analysis of 120 Micro, Small, and Medium Enterprises (MSME) respondents, this research concludes that Financial Risk Attitude (FRA) has a positive and significant influence on risk management strategy, indicating that the more positive MSME operators' attitudes toward financial risk, the better the strategies they implement to identify, assess, and control their business risks. Additionally, Financial Risk Tolerance (FRT) is also proven to have a positive and significant influence on risk management strategy, where the higher a business operator's risk tolerance, the greater their ability to design adaptive strategies that can reduce potential losses and optimize business opportunities. Both variables jointly contribute to better risk management strategy formation among MSME operators in West Pasaman Regency, thus confirming that psychological aspects and financial behavior of business operators are important factors in determining their ability to manage business risks.

The practical implications of this research demonstrate the importance of enhancing financial risk awareness for MSME operators who have positive attitudes and high tolerance toward risk, strengthening financial education and literacy through educational interventions that can be designed by financial institutions, universities, and cooperative and MSME departments based on real cases about decision-making under risk conditions, and designing contextual risk management strategies that are adapted to local risk characteristics such as dependence on seasonal markets, agricultural raw material fluctuations, and limited capital access. The recommendations that can be provided include the need for regional government and related institutions to develop periodic risk management training programs for MSMEs with modules that include risk attitude and tolerance measurement and provide access to digital-based business risk information systems, MSME operators are advised to improve their abilities in recognizing and measuring business risks through periodic evaluation and good financial record-keeping and form business groups or cooperatives to share information and best practices in risk management, while for future researchers it is recommended to develop this research by considering mediation variables such as financial literacy or third-party roles and use mixed methods to gain deeper understanding of MSME operators' attitudes and behaviors toward financial risks.

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