

The Effect of Risk Perception on Customer Decisions

Muhammad Zabir Zainuddin¹, Hartini², Juharsah³

¹*Department of Management, Faculty of Economics and Business, Sulawesi Tenggara University, Kendari, Southeast Sulawesi, Indonesia*

²*Department of Anthropology, Faculty of Cultural Sciences, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia.*

³*Department of Management, Faculty of Business and Economics, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia.*

Corresponding Author: Muhammad ZabirZainuddin

Abstract: *This study aims to determine and analyze the effect of risk perceptions on customer decisions. The population in this study were all rice farming insurance customers in Konawe District, with a total sample of 100 respondents, which was determined using the Slovin formula for 10% precision. Respondents were obtained by convenience sampling method. Data for analysis needs were obtained by distributing questionnaires using a 5-point Likert scale for customer decisions, and the Guttman scale with a score of 1 for the Yes answer, and a score of 2 for the no answer. The data that has been collected is then analyzed by structural equation modeling method using AMOS software version 24. The results of the analysis show that the perception of risk has a positive and significant effect on customer decisions.*

Keywords: *insurance, rice farmers, risk perception, customer decision*

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I. Introduction

The business of wetland rice in Konawe Regency is inseparable from natural and pest constraints, and the most dominant natural constraint is the occurrence of crop failure due to flooding. This condition can be detrimental to the economic conditions in Konawe Regency, this is because the agricultural sector along with the forestry and fisheries sector still dominates its contribution to gross regional domestic products in 2017, which is 30.47%. Although the contribution and potential is quite large, the agricultural sector, especially rice, is a sector that is very vulnerable to various problems. Problems related to rice farming according to Suryana et al (2009) in Suharyanto et al (2015), among others, are the high incidence of pests and various diseases between regions and between planting seasons such as brown planthopper, stem borer, tungro and rat. Climate behavior changes also pose a risk to the agricultural sector, such as a statement from (McCarl et al. 2001 and Yohe&Tol, 2002), that agriculture is one of the economic sectors most vulnerable to the negative impacts of climate change behavior. Possible risks of crop failure can be considered by rice farmers in deciding to become rice harvest insurance customers. Crop failure is a heavy burden for farmers as a result of a lack of ability to adapt to pest and natural disaster constraints. Limitations adapted due to limited capital, mastery of technology, and market access from farmers. The conventional approach through the application of one or a combination of production, marketing, financial, and utilization of informal credit strategies is estimated to be less effective. Therefore it is necessary to have a systemic and systematic formal protection system, through the development of an agricultural insurance system (Sumaryanto&Nurmanaf, 2007). To protect the risk of losing farmers as a result of crop failures, the government created an insurance program for rice crops, namely rice farming insurance.

The government program has not been fully responded by farmers in Konawe District, this is partly due to the presence of different perceptions of the possibility of crop failure. This can be seen from the results of Zainuddin's (2018) study, which shows that risk perception besides being a moderator variable can also be an independent variable. Therefore, this study examines the direct effect of risk perception as an independent variable on customer decisions.

II. Literature Review

Customer decisions

Schiffman&Kanuk (2010) defines purchasing decisions as a selection of two or more alternative choices. This understanding shows that a purchasing decision by a consumer occurs when there are two or more alternative choices. Furthermore, according to Swastha&Irawan (2008), purchasing decisions are consumers' understanding of the desires and needs of a product by assessing existing sources by setting purchase goals and

identifying alternatives so that decision makers to buy are accompanied by behavior after making a purchase. While Dharmmesta&Handoko (2010) are more specific in interpreting purchasing decisions. Purchasing decisions include decisions about the type and benefits of the product, decisions about the shape of the product, decisions about the brand, decisions about the number of products, decisions about the seller and decisions about the time of purchase and how to pay. The purchase decision consists of five stages, namely: problem recognition, information search, alternative evaluation, purchase decision, and behavior after purchase (Kotler& Keller, 2016). Purchasing decisions in this study are measured by the indicators used by Zainuddin et al (2017), namely; time required in purchasing decisions, stability using products, repurchasing, and recommending to others.

Risk perception

Robbins & Judge (2012: 175) explains that risk perception is considered a process by which individuals regulate and interpret sensory impressions to give meaning to the environment. This definition can be interpreted that someone's perception with others about risk can be different, depending on how to interpret sensory impressions that exist in an environment. This is in accordance with the explanation from Cho & Lee (2006), that the perception of risk is highly dependent on the psychological characteristics and condition of the person. Every action or decision will always contain risks, except that every possible risk arises that cannot be ascertained as high or low. Therefore everyone must try to anticipate all possible risks that can occur. Salim (2012: 3) explains that risk is one way to avoid risk by delegating it to other parties, namely to insurance companies.

The risk perception in this study is not the risk perception of rice farming insurance products, but the risk perception of rice farmers will occur crop failure, so the farmer must make a decision to become a rice farming insurance customer in order to minimize the losses that may occur. This means that if a farmer feels unable to bear the risk of his own loss, the farmer will transfer it to other parties in this case rice farming insurance, and this is what ultimately encourages the farmer concerned to decide to become a rice farm insurance customer. An individual who has a high risk perception, the individual understands what risks and risky possibilities are that will lead to losses if not properly addressed (Nurhayati& Lestari, 2018). The risk perception indicator in this study uses an indicator used by Zainuddin (2017) that adapts risk perception indicators from Pavlou (2013), which is that there is risk and sure there is a risk.

Based on the results of toeri studies and empirical studies it is known that there is a positive relationship between perceptions of the risk of crop failure and consumer decisions. The relationship is shown in the following picture:

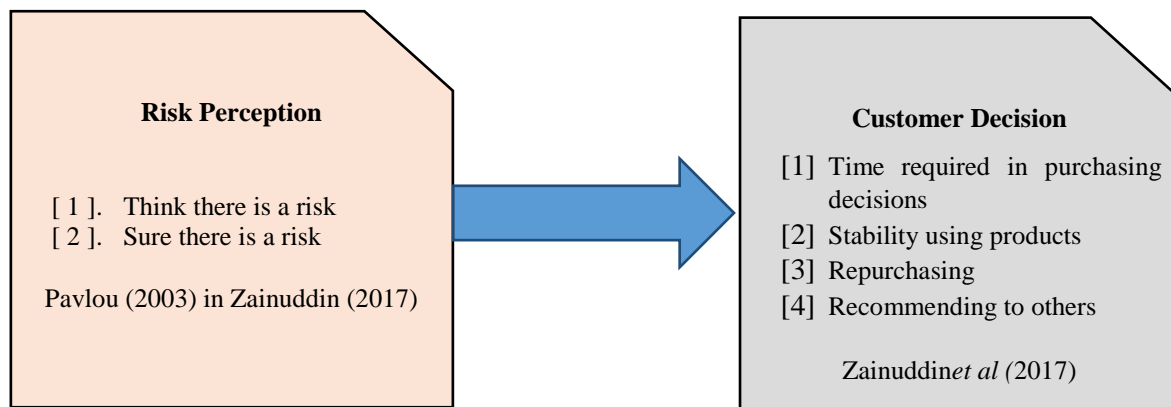


Figure 1. Conceptual Framework and Research Hypothesis

The relationship between risk perception and customer decisions

The results of Zabir's research (2018) show that the perception of risk of crop failure in the relationship between product knowledge and purchasing decisions of this study acts as a quasi moderator, meaning that the perception of risk of crop failure can be located as a moderator variable and can also be a predictor variable. The results of the analysis show that most of the respondents have thought or estimate the risk of crop failure will occur, and are accompanied by the belief that crop failure will occur. Based on the study, the hypothesis proposed is as follows: Risk perception has a significant effect on the customer's decision to become a rice insurance customer.

III. Research Methode

This research is an explanatory research, which explains the relationship between perceived risk and the decision to become a customer of rice farming insurance. The population in this study were all rice farming insurance customers in Konawe district in 2017 which amounted to 6,253 people. The sample size was determined by the Slovin method at a level of 10% precision, so that a sample of 98 people was obtained. The number of respondents was then rounded up to 100 people, to fulfill the requirements of structural equation modeling analysis using AMOS software version 24.0.

Furthermore, respondents were obtained by convenience sampling method. Data was collected using a questionnaire instrument to obtain primary data. Data measurement for consumer decision variables using a Likert scale with a 5-point scale. As for the risk perception variable harvest failure using the Guttman scale which is arranged in the dichotomous response category, with a score of 1 for the answer Yes, and the score 2 for the answer no. Testing the validity and reliability of the customer decision instrument was carried out on 30 people before distributing the questionnaire. This is because all instrument items have a correlation coefficient of 30 0.30 and Cronbach's alpha coefficient above ≥ 0.60 .

IV. Data Analysis and Results

The age of the respondents in this study was dominated by 36 to 45 years (48%), the final level of education was dominated by high school education (45%), the total area of rice fields owned was mostly (45%) between 1 and 3 hectares. In the last five years the majority (58%) between three and five times. The area of land failed to harvest between 50 percent to 74 percent by 60%.

Respondents' perceptions shown below are only for customer decision variable indicators, while for risk perception variable indicators are not done because they use the Guttman measurement scale. Respondents' perceptions of customer decision variable indicators are listed in the following table:

Table 1. Perception of respondents

Variable Indicators	Average
Time required in purchasing decisions	3.76
Stability using products	3.84
Repurchasing	3.86
Recommending to others	3.74

Source: Primary data

Respondents' responses to overall customer decision indicators have an average of above 3.5. These results indicate that there is a tendency to agree from respondents to indicators of customer decisions

Testing the assumption that structural equation modeling analysis consists of sample size. The sample in this study amounted to 100 respondents and fulfilled the requirements for structural equation modeling analysis with the maximum likelihood estimation method (Hair et al, 2010). Data normality testing is done univariate and multivariate, but the most important assumptions related to SEM in the analysis of covariance structures and mean are data must be continuous scale and normally distributed multivariate (Ghozali, 2008: 313). The univariate criterion shows there are still indicators that are greater than the cut off of 1.96, which are for indicators of Time required in purchasing decisions (Y1.1). The critical value of the kurtosis ratio is 4.884, greater than the cut off of 1.96. However, the resulting kurtosis critical ratio is still below the moderately non-normal category, as categorized by Curran et al (1996) that the value of the critical ratio skewness of 7 (seven) is included in the moderately non-normal category, and is still in the normally distributed tolerance zone.

The resulting z-score value is greater than the cut-off of 3.0, meaning that there are no univariate outlier data problems. The results of multivariate outlier tests based on Mahalanobis distance, indicate the chi-square value of 8 degrees of freedom and a probability of 0.001 is 26.12. The results of the analysis show that there is no Mahalanobis distance value greater than the value of $\chi^2 = 26.12$. This means that the data used in this study does not contain outliers in a multivariate manner so that the data meets the requirements in the structural model. The complete model of the analysis results is in Figure 2.

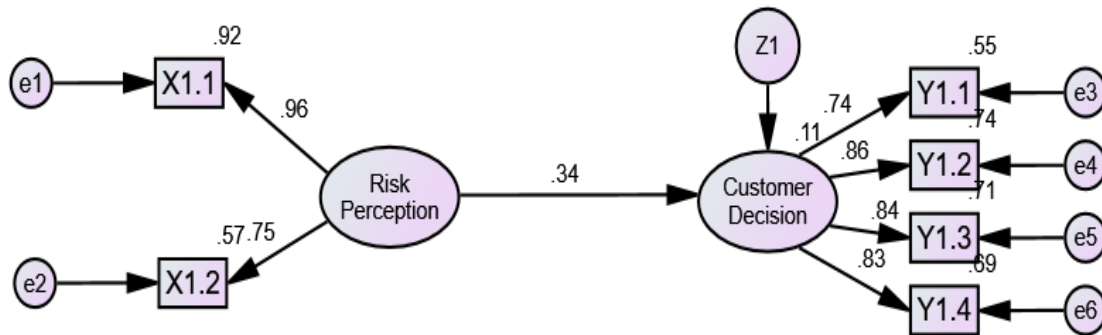


Figure 2. Analysis results
Source: Primary data

The model in this study was tested using Chi-square, CMIN / DF, Probability, GFI, AGFI, CFI, and TLI criteria. The test results in table 1.

Table 2. Goodness of fit test results.

Goodness of fit index	Cut of value	Model Results	Description
Chi Square Statistic	The value is expected to be small	Chi Square =12.976	Fit
CMIN/DF	≤ 2.00	1.622	Fit
Probability	≥ 0.05	0.133	Fit
GFI	≥ 0.90	0,962	Fit
AGFI	≥ 0.90	0,900	Fit
CFI	≥ 0.95	0,984	Fit
TLI	≥ 0.95	0,997	Fit

Source: Primary data

The results of the evaluation of the criteria for goodness of fit indicate that of the seven feasibility criteria models used in this study, all were fit. Thus, it can be concluded that the model is acceptable and can be used to estimate and analyze research results.

To find out how much each variable indicator in forming the variable under study, can be seen from the value of the loading factor. The loading factors of each variable research indicator are listed in table 2.

Table 3. Loading Factor

Variable Indicators	Loading Factor
Think there is a risk	0.957
Sure there is a risk	0.752
Time required in purchasing decisions	0.743
Stability using products	0.861
Repurchasing	0.843
Recommending to others	0.832

Source: Primary data

Based on the results of confirmatory factor analysis for risk perception variables (with indicators; think there is a risk, and sure there is a risk), and the decision to be a customer (with indicators of time required in purchasing decisions, stability using products, repurchasing, and recommending to others), obtained by loading factor (λ) above 0.50 for each indicator. Therefore, all indicators can reflect the perception of risk and the decision to become a customer. The thought of the risk of failure makes the biggest contribution to the risk perception of the respondents. Of the four indicators of consumer decisions, the decision to continue using the product provides the biggest contribution in shaping the decision to become a customer, but the decision to return to purchase is perceived to be the highest by the respondents.

The results of testing the relationship between perceived risk and consumer decisions are listed in the following figure:

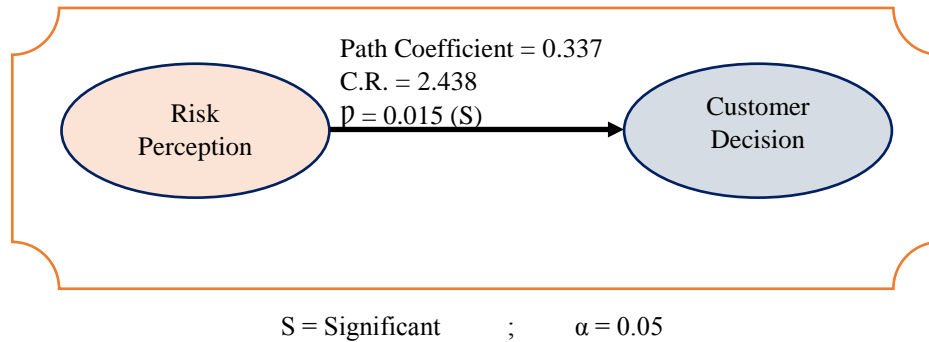


Figure 3. Results of Testing the Effect of risk perception on customer decision
Source: Primary data

The regression coefficient of the influence of the risk perception of harvest failure on the decision of the paddy rice farmers to become customers is 0.337, indicating a positive or unidirectional relationship between the variables of perceived risk of crop failure and the decision variable of being a customer. These results indicate that the increased risk perception of rice farmers that crop failure will occur on the decision to become a customer of rice farming insurance is increasing.

The value of the critical ratio produced is 2.438, which is greater than the cut-off set at the 95% confidence level, which is equal to 1.96 with a probability of 0.015, smaller than the significance level of 0.05. Based on these results, the hypothesis which states the risk perception has a significant effect on the decision to become a customer, is accepted. This means that the higher the risk perception of crop failure, the decision to become a customer of rice farming insurance is increasing, with a significant increase.

V. Discussion

Risk perception of harvest failure is known to have a significant effect on the decision to become a customer of rice farming insurance. This means that the higher the perception of the risk of crop failure, the more likely it is for farmers to decide to become rice farming insurance customers. Someone tends to define risky situations if they suffer losses due to the badness of a decision, especially if the loss has an impact on their financial situation (Rosyidah& Lestari, 2013).

Persepsi risk of crop failure due to the occurrence of several crop failures in several areas in Southeast Sulawesi Province including Konawe District, such as in 2015 there were crop failures due to puso, in 2016 and 2017 there were crop failures due to flooding. The occurrence of crop failure is a heavy burden for farmers due to limited capital, mastery of technology, and market access from farmers. Therefore, the perception of the risk of harvest failure can be considered by rice farmers to decide whether to become a rice farming insurance customer or not to be a customer of rice farming. Nurhayati& Lestari (2018) states that people who have a high perception of risk will fear losses that may arise, so insurance is an option to move the risk of losses they have, as well as the results of research from Jiang et al (2005) which explain that risk perceptions have a positive effect and significant to insurance product purchasing decisions.

The results of this study indicate that risk perceptions can directly influence customer decisions, and in accordance with suggestions from Zabir's research (2018) to place the perception of risk as an independent variable in influencing customer decisions, as well as a moderator variable on the relationship between product knowledge and customer decisions . The results of this study also support the results of research from Sa'id&Intan (2014), which shows that the risk of production due to natural disasters, the threat of pests and plant diseases, fires, and due to other factors that can be physically calculated and overcome by buying agricultural product insurance policy.

VI. Limitations and Further Research

In the process of conducting research, it is known that there are several farmers who have more than one location or one stretch of paddy fields. Although the provisions of rice farming insurance, the land that can be insured is only one stretch, but farmers can guarantee the paddy fields in the name of others. Farmers who have paddy fields with more than one location will have a higher risk of crop failure. This research does not distinguish between customers who have locations in one location and those who have more than one location. Therefore, further research can examine the effect of risk perceptions on customer decisions based on the number of locations of paddy fields owned.

VII. Conclusion

Risk perception is known to have a positive and significant effect on the farmer's decision to become a rice farm insurance customer. This means that farmers' perceptions of the type of rice farming plant are increasing, so it will further increase the farmers' decision to become customers. Based on these results, the farmers must continue to be provided with information about rice farming insurance products, and the possible risks will be faced in the types of rice paddy plants.

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