

# MSMEs Mitigation Risk: Purchase Decision of Natural Disaster Insurance at MSMEs

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The aim of this study was to examine the relationship model in service quality, insurance premium and promotion with the purchase decision using respondents of 101 MSMEs of insurance policy holders who were willing to buy natural disaster insurance policies without the assistance of subsidies from the government. The data obtained from the respondents was analysed using multiple linear regression analysis. Surprisingly, this study found that although the premium insurance price variable had the greatest effect, it turned out to only have a difference of 18 percent compared to the effect of the service quality variable. This proves that independent MSMEs are not merely calculating the affordability of premium prices, but they are aware of the benefit of insurance. This is one of the differences from other MSMEs that rely on government subsidies.

**Key words:** *Natural Disaster, Insurance, MSMEs, Purchase Decision.*

## Introduction

Over the past 15 years, Indonesia is one of the countries that has experienced a variety of terrible natural disasters, even causing human deaths and severe business and economic losses. Of those affected are Micro, Small and Medium Enterprises (MSMEs) (Jogjapolitan, 2019; Liputan6, 2016). MSMEs, as the main support of national economic resilience, is the most vulnerable business unit to the threat of natural disasters. Natural disasters in several places in Indonesia have caused MSMEs to suffer losses due to damaged business premises and production equipment (Liputan6, 2016). This was made worse because most MSME actors did not have the knowledge and ability to mitigate risks so that as a result many MSMEs go bankrupt and cannot rise again (Liputan6, 2016; Zhang & Qian, 2018). In 2016, there were three major natural disasters due to earthquakes in Garut Regency on September 16, 2016, Pidie Aceh Jaya Regency on December 7, 2016, and Bima City on December 21, 2016 with the value of losses to the MSMEs of US\$2.88 million (Liputan6, 2016). As for Sleman, Bantul

and Kulonprogo Regency the estimate losses reached US\$1.05 million in 2019. These regencies are in an area of Yogyakarta which in 2006 experienced a very severe earthquake (Jogjapolitan, 2019). Therefore, various efforts need to be made including research so that MSMEs have the ability to mitigate the risk of natural disasters so as to avoid bankruptcy and be able to survive (Ye et al., 2017; Asseldonk et al., 2018; Bera & Danek, 2017).

One risk mitigation currently being carried out is by using a risk transfer scheme to insurance companies (Asseldonk et al., 2018). Businesses transfer risks to insurance companies by purchasing natural disaster insurance policies (Ye et al., 2017). As a result, when an MSME loss occurs, the insured will receive a reimbursement of insurance money from the insurance company for his business recovery capital (Ye et al., 2017; Zhang & Qian, 2018). There have been many studies conducted in the context of risk mitigation by businesses using insurance schemes including the research of Zhang & Qian (2018) who conducted a research on household groups in China. The study used 536 respondents with the results that the household groups need to buy earthquake disaster insurance products involving government funding assistance. Then, Ye et al. (2017) conducted a research on the purchase of disaster insurance that resulted in crop failure in farmers associated with a Chinese government policy. Asseldonk et al. (2018) examined the purchase of disaster insurance policies with a focus on crop insurance that involved the Dutch government. All three studies emphasised the importance of purchasing natural disaster insurance policies involving government assistance. In addition, Ullah & Khan (2017) examined the purchase of natural disaster insurance policies by associating the financial capabilities of microfinance. Lyu & Barre (2017) examined the insurance purchase decision of crop insurance by associating the ability to pay insurance premiums by the farmers in China. These studies also related to the ability to pay premiums by MSMEs.

All the studies conducted show that MSMEs buy and get disaster insurance protection because there is an element of financial assistance from the government (Keskin et al., 2017; Lyu & Barre, 2017; Ye et al., 2017; Ullah & Khan, 2017). The studies examining the role of MSME independently in making decisions on purchasing natural disaster insurance are rarely found. In a research by Keskin et al. (2017), although the object is the risk of earthquake, the object is not the focus of MSMEs. For this reason, this research examined a different viewpoint from previous studies where the MSMEs made the decisions to purchase natural disaster insurance independently. This study used the variables of service quality, insurance premium prices and promotion as the predictors of the decision to purchase natural disaster insurance policies independently by MSMEs. The respondents of this study were the MSMEs who bought an earthquake disaster insurance policy independently in Central Java Province, Indonesia.

The aim of this study was as a recommendation to the management of insurance companies in making and formulating marketing strategies in improving the decision to purchase a natural disaster insurance policy (earthquake) with a special customer segment of MSME.

## Literature Review

Buying decision is a stage in decision making process carried out by consumers (Zhu et al., 2018; Gildea, 2001). Consumers make the decision to buy because it is driven by needs (Rezaei et al., 2018). Various motives become the basis for buying decision by consumers when buying a service (Kumar et al., 2018; Gildea, 2001). There are two main factors which are often taken into consideration by consumers in making a purchase, namely the attitude of other people in providing references and the supporting situation elements such as price, income factor and the benefits of the service (Zhu et al., 2018). When these two things are fulfilled, consumers will gladly decide to buy a product (Rezaei et al., 2018). In the field of services, consumer behaviour in deciding to buy services can be analysed by means of problem recognition, information seeking and buying decision (Rezaei et al., 2018; Kumar et al., 2018; Gildea, 2001). In the service sector, it also always emphasises the importance of feedback (Utomo et al., 2020). According to Ye et al. (2017) and Bera & Danek (2017), the introduction of the problem in the case of purchasing natural disaster insurance is closely related to the safety needs which are the priority of every human being. Buying insurance services for risk mitigation needs to be performed by businesses (Amron, 2017). In addition, the confidence in buying, needs, spontaneity and recommendations are very important dimensions in terms of consumers to decide on a purchase (Zhu et al., 2018). Natural disasters will be out of control, especially in terms of financial recovery, if not handled properly using certain mechanisms (Bera & Danek. 2017). According to Zhang and Qian (2018), MSMEs play a role in protecting the business against natural hazards although the government's role is also very important.

The government plays an important role in natural disaster recovery, but MSME players are also required to mitigate risks for business continuity through the purchase of natural disaster insurance products (Asseldonk et al., 2018; Zhang & Qian, 2018). The decision to buy disaster insurance products actually involves a large role from MSMEs. One strategy is to look for information on various schemes that might be carried out to obtain security from disasters (Lyu & Barre, 2017; Bera & Danek, 2017). MSMEs have many alternatives that can be done ranging from asking for government subsidies to transferring risk to insurance companies independently. According to Ullah & Khan (2017) and Lyu & Barre (2017) various insurance products that provide guarantees to MSMEs for losses due to disasters have been widely bought by MSMEs. Some of the purchases are subsidised by the government and the MSMEs. For example, the type of agricultural insurance that guarantees MSMEs for agricultural land losses due to natural disasters. In addition, there is also animal husbandry insurance, such as cattle and sheep that places MSMEs to decide to buy natural disaster insurance products. The

need for natural disaster insurance makes businesses, including MSMEs, decide whether to buy the product or not because, realised or not, it will be a solution to the financial problems that occur. Many studies placed the purchasing power factor as the main factor in conducting their studies (Kumar et al., 2018; Asseldonk et al., 2018; Zhang & Qian, 2018). Many MSME researchers place price factor as the main element although there are other important elements, such as service quality and promotion (Kumar et al., 2018; Zhu et al., 2018; Lyu & Barre, 2017; Fan et al., 2011).

### ***The Service Quality in Buying Decision for Disaster Insurance Services***

Quality is a dynamic condition related to products or services, people, processes and environment that matches or exceeds expectations (Parasuraman et al., 2005; Kumar et al., 2018; Buyukozkan & Cifci, 2012). Service quality is a measure to find out whether the service level is suitable for customers or not. Service quality is manifested in the ability to meet customer expectations (Han et al., 2018; Parasuraman et al., 2005).

Various studies on service quality have been carried out by associating various aspects, including buying decision, in the service sector (Han et al., 2018; Kumar et al., 2018). The research of Kumar et al. (2018) examined buying decision in the field of digital market services. The results in the field of digital market services show that the decisions are influenced by service quality. Rahman et al. (2018) examined the effect of service quality on buying decision involving 200 respondents using healthcare services. The result is that service quality can be a predictor of buying decision in the field of healthcare services. The research by Han et al. (2018) examined the service quality of Koreans using online media. The result is that service quality can influence the buying decision of online media users in Korea. For this reason, it is concluded that service quality and natural disaster insurance purchase decisions have a positive relationship.

**H<sub>1</sub>:** Service quality has a positive effect on purchase decisions of natural disaster insurance services in MSMEs.

### ***The Prices in Buying Decision for Disaster Insurance Services***

Price is in general measured by the amount of money that can be exchanged for goods or services. Price is one of the variables that can be controlled by a company (Devlin & Gerrard, 2004; Kim, 2018; Devlin & Gerrard, 2004). Producers can determine the reasonable and acceptable prices to consumers (Chen et al., 2017; Fan et al., 2011). The price of services offered will reflect the profit expected by the company (Chabacib et al, 2019). Companies prioritise fair prices because prices will reflect the ability of consumers to buy services (Devlin & Gerrard, 2004). The buyer will consider buying an item after knowing the price feasibility

(Chen et al., 2017). Prices help buyers to measure the level of benefits they will receive (Fan et al., 2011). Consumer perceptions often justify that high prices will be in accordance with the quality of goods and vice versa (Devlin & Gerrard, 2004). The price of natural disaster insurance is called the price of insurance premium, which is the amount of money paid to get insurance benefits (Amron, 2018). The price of insurance premiums paid must be in accordance with the insurance benefits obtained.

According to the research of Chen et al. (2017), prices play a role in measuring consumer purchases. The study was conducted by associating prices with discount items given to consumers with the group buying category. Next, Kim (2018) examined prices in terms of buyer segment and at the same time confirms that prices affect buying decision. The research conducted by Vyas et al. (2017) examined the characteristics of competing prices, and the results found that prices have an influence on buying decision in the banking industry. For this reason, this study claims that the price of insurance premiums has a relationship with the decision to purchase natural disaster insurance at MSMEs.

**H2:** Competitive insurance premiums have a positive effect on buying decision for natural disaster insurance.

### ***Promotion's Role in Buying Decision on Disaster Insurance Services***

Promotion is a form of incentive that can move consumers to be interested in buying products (Akram et al., 2017; Blattberg et al., 1990). Promotion is an attempt to persuade consumers to buy good products now and in the future (Blattberg et al., 1990). Promotion is a marketing activity through the act of persuading and spreading positive information so that consumers are willing to buy and be loyal to a company. Promotions introduce products, persuasion to buy, and shape consumer behaviour to be loyal (Zhu et al., 2018; Codini et al., 2018; Blattberg et al., 1990).

Many studies have been conducted by associating promotion variable with consumer decisions. Some studies in line with MSME objects are the studies using a special segment in examining the effect of promotion on buying decision. For example, Zhu et al. (2018) examined the online purchase decisions of retail special segments involving 224 respondents. The retail purchases are in line with MSME objects as the buyers of natural disaster insurance of special segments. Rezaei et al. (2018) also examined the buying decision in special segments (retail purchases) by including brand indicators as one of the elements of building promotions that influence buying decision. Akram et al. (2017) conducted a study in China with the results confirming that promotion has an effect on consumer buying decision. Codini et al. (2018) examined the effect of promotion on the buying decision of car sharing services by

incorporating the elements of green service in which promotion played a role in deciding consumer purchases. For this reason, the research hypothesis is:

**H3:** Promotion has a positive effect on buying decision for natural disaster insurance.

### ***Research Method***

The respondents in this study were the MSMEs who had held a natural disaster insurance policy (earthquake) for at least one year; a minimum of 3 years in running a business; bought the policy independently without government subsidies, and; were located in Central Java, Indonesia. The instrument in the form of questions was measured using a Likert scale from 1 to 5. The respondents were asked to provide opinions on each item ranging from strongly disagree of scale 1 to strongly agree of scale 5 by circling or crossing the answers to be chosen by the respondents on the questionnaire sheets. This study used multiple linear regression analysis with SPSS program process.

### **Research Results**

#### ***Description of Respondents***

A total of 113 questionnaires were distributed to the respondents (MSMEs), but 101 questionnaires were returned and eligible for the process. 25 percent of them had run the businesses no longer than 5 years, and 55 percent had run their businesses from 6 to 10 years. The remaining 20 percent had run their businesses for more than 10 years. The respondents who had been the holders of basic earthquake disaster insurance policies for 2 to 3 years reached 67 percent, and the remaining 33 percent had been policy holders for more than 3 years. In terms of annual sales turnover, the data obtained show that 51 percent of the turnover was lower than US\$150 thousand, while the remaining 49 percent had turnover that was higher than US\$150 thousand.

#### **Data Analysis Results**

##### ***Validity and Reliability Tests***

The validity test shows that the KMO was higher than 0.50. Besides, all loading factors of each indicator per variable have fulfilled the criteria, which is  $> 0.40$  (Denis, 2018). Meanwhile, the reliability measurement using Cronbach Alpha indicates that all variables can be accepted ( $\alpha > 0.70$ ) according to the following Table 1.

**Table 1:** Reliability Test

Variables	Cronbach Alpha			Description
	Results	><	Criteria	
Service quality	0.792	>	0.70	Reliable
Insurance premium	0.778	>	0.70	Reliable
Promotion	0.850	>	0.70	Reliable
Buying Decision	0.759	>	0,70	Reliable

**Source:** Processed Data, 2019

Then, the results of the multiple regression analysis are presented in Table 2 below:

**Table 2:** Analysis of Multiple Linear Regression Coefficients<sup>a</sup>

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant),	.882	.627		1.409	.163
	Service quality	.301	.088	.319	3.464	.001
	Insurance Premium	.368	.089	.378	4.167	.000
	Promotion	.245	.087	.258	2.857	.004
Dependent Variable: Buying Decision						

**Source:** Process data 2019

The classic assumption test conducted found that the normality test is normally distributed with reference to the Kolmogorof-Sminov value of  $0.987 > 0.05$ . The heteroscedasticity test used a Scatterplot chart in which the results indicated that heteroscedasticity does not occur because the points spread below the number 0 on the Y axis do not forming a clear pattern. On other hand, the multicollinearity test found that the VIF value is lower than 10 and the tolerance value is more than 0.1 indicating that there is no multicollinearity (Denis, 2018). Besides, the coefficient of determination test found the Adjusted R Square value of 0.805 indicating that the independent variable is able to explain the dependent variable in this study by 80.5 percent.

## Discussion

The main finding of this study is that insurance premiums play a very significant role in influencing the buying decision of natural disaster insurance. This is indicated by the significance level of 0.000 with an influence of 0.378. The study also found that compared to the service quality and promotion variables, the element of insurance premium has the greatest and most significant effect on the MSME's decision to buy natural disaster insurance products. This result also validates that the variable cost of affordable insurance premiums is a major

factor for MSMEs in deciding to buy natural disaster insurance services. The MSMEs are generally synonymous with efficient operational costs and revenues that tend to be less stable, so the expenditure element is a major concern for the MSMEs (Asseldonk et al., 2018; Zhang & Qian, 2018; Ye et al., 2017; Chen et al., 2017). This research is also in line with Lyu & Barre (2017) which suggests that insurance premiums are very sensitive to MSMEs so that the role of government is needed to help overcome them. The results of this study also reinforce the research of Asseldonk et al. (2018) that MSMEs need to be subsidised given the limitations in insurance premium payments. In addition, this study also validates the findings of Kim (2018) that MSMEs are a special market segment.

However, this study differs from previous studies because the respondents argued that competitive insurance premiums must be in accordance with the nature of disaster risk in the region. This means that competitive premiums must be followed by a clear explanation of the nature of natural disaster risk guaranteed by the policy. Payment of insurance premiums must be comparable to the items of natural disaster guaranteed by the policy. The other finding is that the MSMEs are willing to pay insurance premiums on a condition that the premiums must reflect the condition of the emergency level and the frequency of natural disasters that occur. Based on these findings, it is recommended to insurance companies to consider the potential of the MSME market, not only from their ability to pay for disaster insurance policies but also to consider the gravity of the location of natural disasters that may occur (Chen et al., 2017). Another strategy can also be carried out by giving several guarantees to MSMEs allegedly located in disaster prone areas to strictly comply with government procedures so that premium reductions can be given.

This study also found that service quality variables had a positive and significant effect on the buying decisions for natural disaster insurance. This finding is supported by a sig value of  $0.001 < 0.05$  with an effect value of 0.319. This indicates that the MSMEs have a perception that the better the quality of services provided, the higher the desire to buy natural disaster insurance services. Although this research is in line with the research by Kumar et al., (2018), Rahman et al. (2018), and Han et al. (2018), this study has differences with previous studies because the MSMEs did not only see premium prices as the only main variable that influences buying decisions. The results of the data processing show that the effect of the price variable is 18 percent higher than the effect of service quality, but the difference is not very significant. The difference indicates that MSMEs expect that any costs paid must be followed by good service, especially in the process of mitigating natural disaster risk. These results do not rule out the possibility of MSMEs that will not buy natural disaster insurance services when the insurance premium offered is not competitive. For this reason, this research recommends insurance companies to create quality service strategies while considering affordability. For example, insurance companies do not only focus on quick claims settlement, they are also

equipped with sympathetic information on natural disaster cycles that often occur in certain areas with standard risk mitigation education required by MSMEs.

Another finding of this study is that promotion can be a good predictor of MSMEs in deciding to buy a natural disaster insurance policy. This study found that promotion can influence buying decisions by 0.258 with a significance level of 0.004. Therefore, the results of this study reinforce the initial argument that a well-managed promotion will be able to increase MSMEs to decide on buying natural disaster insurance products. Although the results of this study are in line with previous studies (Akram et al., 2017; Codini et al., 2018), this study has differences in the types of promotions used by insurance companies to establish communication with MSMEs. Most MSMEs felt that the type of promotion used by insurance companies must have easily accessible criteria and that the MSMEs do not feel burdened with additional costs. The respondents stated that the promotions used by insurance companies should not be a burden for MSMEs to access this information (Zhu et al., 2018; Rezaei et al., 2018). For this reason, this research recommends insurance companies to choose the type of promotional media that is suitable with the ability to access MSMEs without having to reduce the effectiveness of the promotional contents, for example, by conducting outreach and promotion contracts involving formal groups / associations of MSMEs that exist in every MSME industry centre, MSMEs of batik clothing manufacturers, MSMEs of ceramic craftsmen, as well as a means of providing the latest information on natural disaster risk mitigation.

## **Conclusion**

This study examined in depth the model of the relationship of service quality, insurance premiums and promotion on the buying decisions of natural disaster insurance made by MSME independently without financial assistance from the government. This is different from previous studies which always associated the payment of disaster insurance risk mitigation premiums by MSMEs with government (non-independent) subsidies. The main finding of this research is that the cost of the insurance premium has the greatest effect compared to the other variables in influencing the decision to buy a natural disaster insurance policy made by MSMEs. This finding is in line with the results of previous studies which validate that MSMEs are very price sensitive. However, it is surprising that this study also found that; although the premium price variable had the greatest effect, it turned out to only have a difference of 18 percent compared to the effect of service quality variable. This proves that independent MSMEs are not merely calculating the affordability of premium prices, but it turns out that independent MSMEs also take into account the quality of insurance company services, especially when paying for disaster insurance claims. The MSMEs wanted to pay insurance premiums independently because they were actually aware of the benefits of the insurance services they buy. This is different from the MSMEs that rely on assistance from the government in paying insurance premiums and buying policies because they are required by



government programs. For this reason, this research recommends insurance companies to formulate a marketing strategy that is able to serve the MSME segment by providing affordable premium prices without reducing the quality of services provided.

### ***Limitations and Suggestions for Further Research***

This study found that the roles of insurance premiums, service quality and promotion are only able to explain the buying decisions of MSMEs at 80.5 percent and the remaining 19.5 percent is explained by other variables that did not exist in this study. For this reason, it is suggested that future studies be carried out by including other variables that can be a predictor of MSME's insurance buying decisions, especially those that focus on independent funding without government subsidies.

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