



Risk handling strategy for vegetable business in P2L Ngongak Tanduran

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Abstract - Sustainable Food Yard is a program from the Madiun Government to improve the post-pandemic community economy. In 2023 P2L will fund their business using its own capital. In the management of a business certainly cannot be separated from the risk. The method to define the strategy was Analytical Hierarchy Process (AHP). Identified risks are caused by five things, namely man, machine, money, material, and method. The highest risk experienced by P2L Ngongak Tanduran is that they do not have contracts with workers, lack of the capital, and unskilled workers. The strategy to minimize the risks are minimizing the risks that occur at P2L Ngongak Tanduran include training for workers, establishing communication with third parties, scheduling, and establishing Standard Operational Processes

Keywords: Analytical Hierarchy Process, business, entrepreneurship, risk, strategy

1 Introduction

Sustainable Food Yard or namely Pekarangan Pangan Lestari (P2L) was one of the work programs of the Madiun City Food Security and Agriculture Service. This P2L work program aims to utilize unproductive yard land, idle land, and empty land as food producers to fulfill household food and as a means of increasing household income [1]. One of the P2L groups in Madiun City that is still surviving and running today is P2L Ngongak Tanduran.

P2L Ngongak Tanduran is located in Bantaran Park, Madiun City. P2L Ngongak Tanduran received funding from the Madiun City government for five years amounting to IDR 50,000,000.00. In 2023, P2L Ngongak Tanduran will be running independently without assistance from government. The risk in the vegetable business occurred when there was no funding from government. This was because P2L Ngongak Tanduran only focused on caring and growing its vegetable plants, not marketing them, because even though there are losses, there is still funding from government. This no longer happens when they are no longer funded, the vegetables that they produce must be marketed well, so that the business continues to run smoothly.

Risk is a condition of uncertainty. Risk must be managed well because this will relate to business sustainability [2]. Risk management is a comprehensive and systematic way to identify, analyze, and overcome risks to achieve organizational goals [3]. Risk management consists of three stages, namely risk identification, risk assessment, and risk handling management [4].

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The risk that most often occurs is in the agricultural sector. This is due to the properties of the agricultural material itself. Agricultural materials are easily damaged and do not have a long shelf life. According to [5], the main sources of business in the agricultural sector include technical or production risks, market or price risks, social or legal risks, technological risks, and risks resulting from human error.

Risks at P2L Ngongak Tanduran have been identified from preliminary research using fishbone analysis. The risk that collected from preliminary research obtained three risks on measurement variables, five on material variables, six on man variables, four on methods variables, and two on machines variables. These risks that occur in P2L Ngongak Tanduran are not having a labor contract, lack of business capital, unskilled labor, no standard price for vegetables, poor quality of vegetables, not having standards, difficult selection methods, not having a storage warehouse, difficult harvesting methods, shortages labor, sales methods are not appropriate, vegetables rot easily, land is exposed to the sun too often, harvests exceed the amount sold, vegetables are attacked by pests, there are no standar operation process for labor, there are no consumers, the available labor is inconsistent, and there are no standar operation process for planting. These emerging risks must be handled properly so as not to cause losses. Based on research conducted by [6], risk management has a positive effect on company performance and business sustainability.

Therefore, this research was conducted to provide a strategy formulation that can be used by P2L Ngongak Tanduran to minimize the risks that occur. The right preventive steps will make the business last long and sustainable.

2 Materials and methods

2.1 Time and Place

This research was conducted at the Ngongak Tanduran Sustainable Food Farm which is located in Bantaran Park, Madiun City. This research was conducted from May 2023 to July 2023. The research results will be processed at the Integrated Laboratory of the Muhammadiyah University of Madiun, Madiun City.

2.2 Procedure

Procedure of study contains stages in doing the research. Procedure study need to define in order of research directed. Procedure of study can be seen in Figure 1.

2.3 Data Collection Methods

The primary data was collected by conducting interviewers and questionnaire to respondents. The respondents used for interviews and filled out questionnaires included of the chairman of P2L Ngongak Tanduran, three P2L Ngongak Tanduran employees, and one business risk expert lecturer. P2L Ngongak Tanduran employess in data collected function to provide strategy formulation and assess the most appropriate strategies for dealing with risks. Lecturer was to weight the value of the strategies that have been formulated. The secondary data was obtained from books, journals, or scientific writing related to business strategy.

2.4 Data Analysis

Analytical Hierarchy Process (AHP) was a decision making method by considering existing variables or circumstances. The existing variables are created in a hierarchical form to assess their pairwise

comparison scores. The software that used for data processing was design expert. The CR value of each comparison must be less than 0.1 to be considered consistent. The CR value is more than 0.1, then the data collection process must be carried out again.

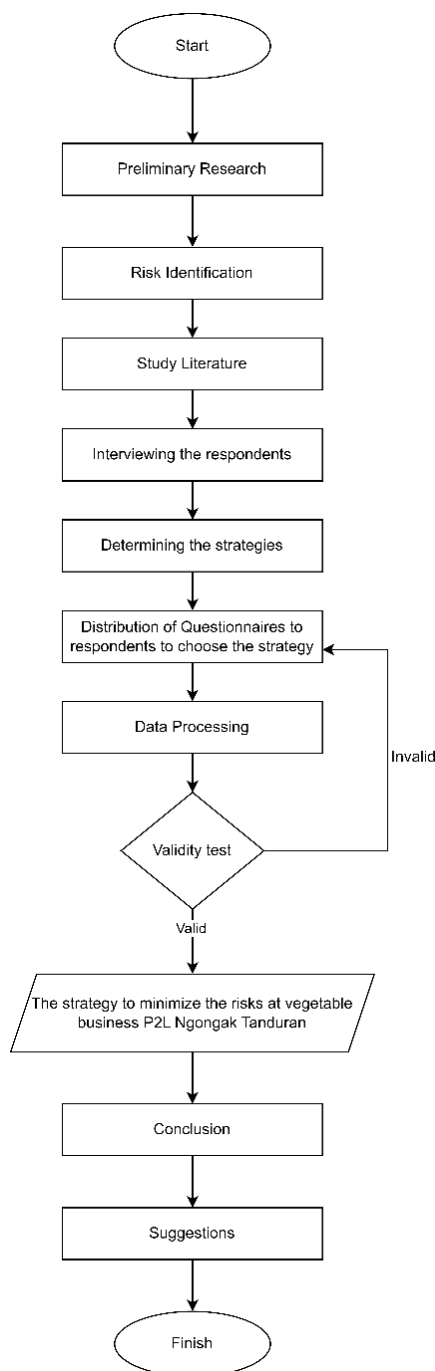


Fig. 1. The Procedure study.

3 Results and discussion

3.1 P2L Ngongak Tanduran

Pekarangan Pangan Lestari (P2L) Ngongak Tanduran is a community effort that was previously initiated by Madiun city government. P2L Ngongak Tanduran is located in Traffic Park, Bantaran,

Madiun City. P2L Ngongak Tanduran is the P2L with the best performance out of 49 other P2L's in Madiun City. The plants planted by P2L Ngongak Tanduran include mustard greens, kale, chilies, tomatoes, passion fruit and eggplant. P2L Ngongak Tanduran is currently managed by around 10 members, of which 1 is the P2L chairman, 3 are active managers, and the others are passive.

3.2 Risk Handling Strategy

The risks in P2L Ngongak Tanduran was identified from preliminary research. The risks that occurred in P2L Ngongak Tanduram were having a labor contract, lack of business capital, unskilled labor, no standard price for vegetables, poor quality of vegetables, not having standards, difficult selection methods, not having a storage warehouse, difficult harvesting methods, shortages labor, sales methods are not appropriate, vegetables rot easily, land is exposed to the sun too often, harvests exceed the amount sold, vegetables are attacked by pests, there are no standar operation process for labor, there are no consumers, the available labor is inconsistent, and there are no standar operation process for planting. Those risks are divided into five variables.

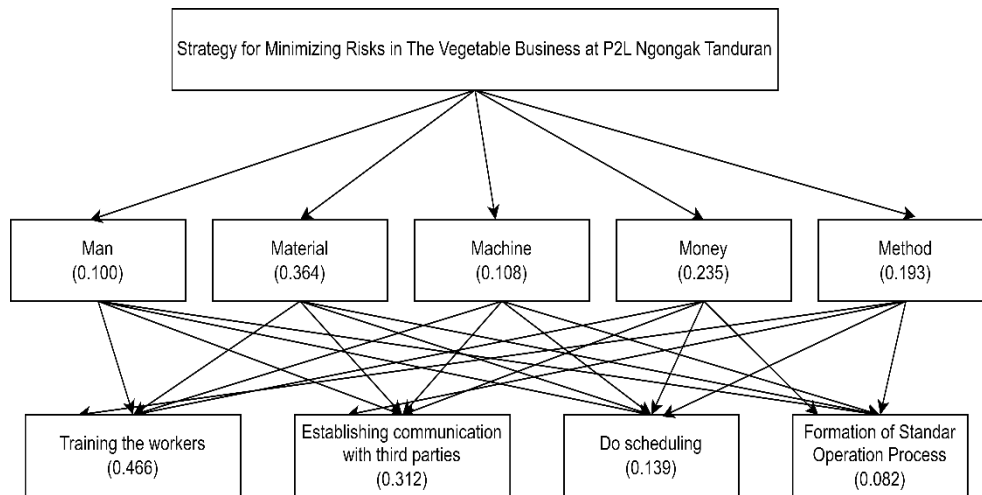


Fig. 2. Structure Hierarchy of Minimization Strategies Risks of the P2L Ngongak Vegetable Business Tanduran

Based on those risks, the strategy can be formulated to minimizing risks that occurs in P2L Ngongak Tanduran. The strategies depicted using AHP diagram. The strategies can be seen in figure 2. The figure shows that hierarchy consist of three level. The first level is the purpose of this decision making. The purpose on the decision making is to minimize risk in vegetable business of P2L Ngongak Tanduran. Second level is the variable. The variable is using 5M namely man, material, machine, money, and method. The results of variable weighting can be seen in Table 1.

Table 1. The results of variables weighting

Variables	Weight
Man	0.100
Material	0.364
Machine	0.108
Money	0.235
Method	0.193

The highest score on the weighting variables is material (0.364). Raw materials are a key factor in P2L Ngongak Tanduran because raw materials are an input to the P2L Ngongak Tanduran Business. Input plays an important role in business sustainability, so it must be considered. The material that P2L Ngongak Tanduran needs to produce good quality of vegetables are vegetable seeds,

if the vegetable seeds are not available then the vegetables that will be sell by P2L Ngongak Tanduran will not available. P2L Ngongak Tanduran must to pay attention on their material availability and quality. According to previous research [7], that the quality of raw material has a positive effect on product quality.

The second variable is money (0.235). Money is the key for the successful business, so the P2L Ngongak Tanduran must be managed their money carefully. Money can be earned by sell their products. The amount the money that they earned must be greater that the money thar they spent. The capital has a positive and significat effect on successful business [8]. The business that has no money can close their business because of loss.

The third variable is method (0.193). The method will explain how the business cultivate their vegetable and how to sell them. Method can be important factors because of the right method can be increase the effectivity and efficiency of their performance. Based in [9], the right marketing strategy has positive effect on the selling quantity.

The fourth variable is machine (0.108). Machine in vegetable business is not as important the other business. The machine just need for cultivation the vegetables. The machine namely hoe, gloves, sickle, and scissors. The machine very easy to find.

The last variable is man (0.100). Man in the vegetable business are not that important because anyone can work to grow and sell vegetables. The labor needed is trained not educated, so the people who want to work in the vegetable business can be given training first before working.

Besides the weighting variable, the strategies must be weighted too. The priority strategy can be implemented first than the others. There are four strategies formulated, namely forming SOPs, training workers, scheduling, and establishing communication with third parties. AHP results for strategy weighting can be seen in Table 2.

Table 2. Results of Strategy Weighting

Strategy	Weight
Training the workers	0.466
Establishing communication with third parties	0.312
Do scheduling	0.139
Formation of Standar Opration Process	0.082

The strategy with the highest weight is training the workers with a value of 0.466. Workers training has the highest weight, which is very appropriate to the conditions at P2L Ngongak Tanduran. The workers in P2L Ngongak Tanduran was not trained well. They recruited based on relationship between the leaders and the workers. Good quality workers has positive effect on producing good quality product [10]. The training that suitable for the workers are plant and cultivation of vegetable, marketing management, and production management.

The second highest strategy is establishing communication with third parties with a value of 0.31235. Third parties can be suppliers, restaurants, and vegetable consumers. Having established communication can help P2L Ngongak Tanduran get access to seeds and fertilizer easily and cheaper prices of seeds, fertilizer, and pestiside. Access to restaurants and consumers will mean that the vegetables produced can be sold immediately. Establishing partnerships with third parties will increase farmers bargaining position, and resulting balanced profit and costs [11].

The third strategy is do scheduling with a value of 0.1393. Scheduling is important to get continuous vegetable to fullfill demand from the market. Vegetables need time to grow before they

are finally harvested, so by scheduling planting, vegetables stocks are always available. Apart from planting scheduling, labor scheduling also needs to be done to maintain the labour consistency. The fourth strategy is the formation of an SOP with a value of 0.08. SOP formation needs to work directed and standardized. This will help in sorting out which results are good and which are not so good.

4 Conclusions

The conclusion that can be take is the third important variables to minimizing the risks that occurs is P2L Ngongak Tanduran is material, money, and method. Material, money, and method has positive effect into business sustainability. The strategies that given to minimize risk in P2L Ngongak Tanduran are labor training, establishing communication with third parties, do scheduling, and standard optimization process establishing. From the four strategies, training the workers is the important strategy must be implemented in P2L Ngongak Tanduran to minimizing the risk that occurs in P2L Ngongak Tanduran.

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