

## Formulation of Family Scale Laying Duck Farming Strategies Using Strategic Position and Action Evaluation Matrix

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### Article Information

Submission date	2022-11-15
Revised date	2023-01-06
Accepted date	2023-01-08

### Abstract

**Research aim :** The purpose of this study was to formulate a laying duck farming strategy by identifying internal and external environmental factors.

**Design/Method/Approach :** The analysis was carried out through an analysis of strengths, weaknesses, opportunities and threats (SWOT) based on the results of interviews with the research object.

**Research Finding :** The results of the SWOT analysis are quantitatively stated in a space matrix so that a position strategy and evaluation of its action are obtained. The results of space matrix show that laying duck farming were in strengths and threats combination, where the organization must diversify its strategy to face a number of formidable challenges.

**Theoretical contribution/Originality :** -

**Practitioner/Policy implication :** -

**Research limitation :** -

**Keywords:** Laying Duck, SWOT, Position Strategy, Action Evaluation

## 1. Introduction

Laying duck farming is one of the economic activities that has long been practiced by the community in Surianen Village, Pandeglang Regency. As a community economic activity, laying duck farming has the potential to be a side income for families. Currently, there are 106 farmers actively practicing laying duck farming both as a main and side income source. The ecosystem of laying duck farming is very compatible with the potential of Pandeglang Regency as one of the centers of rice production, where waste from rice milling in the form of bran can be used as a source of feed for laying ducks. According to Mandalika et al (2018) with a rice field area of 54,540 ha consisting of 22,491 ha of irrigated rice fields and 32,049 ha of rain-fed rice fields, laying duck farmers in Pandeglang Regency will get a guarantee of sufficient feed supply in their farming activities.

Maulana (2013) states that ducks are a group of poultry that are easy to cultivate, this is because ducks can get food from the surrounding environment, besides that ducks are also protein-producing and can digest fiber well. Ducks are relatively resistant to stress and disease, and are adaptable, especially to aquatic environments. Although the farming of laying ducks is

relatively easy and very suitable for the culture of rural communities, there are several problems that are still found in most farmers in Surianen Village. These problems include an uneconomical scale of business, traditionally carried out with a non-sanitary cage system, feed supply that does not meet the adequacy of protein and calcium and an ineffective feed system.

Based on this background, it is important to identify internal and external factors inputs for the development strategy of laying duck farming in Surianen Village, so that it can be used as the main source of family income. Therefore, the purpose of this research is to formulate the right strategy as an alternative solution for the development of laying duck farming in Surianen Village, Pandeglang Regency. The Strategic Position and Action Evaluation (SPACE) matrix is one of the strategic management tools that can be used to formulate business development policy strategies. The SPACE matrix focuses on the condition of the organization according to its competitive position based on four areas, namely the advantages of financial strength, organizational competence, industrial strength and environmental stability. According to Rachmawati and Pratama (2017) the SPACE matrix identifies the strategic position of the organization which is divided into four quadrants namely aggressive, conservative, defensive or competitive. The results of identifying the organization's position then become the basis for the formulation of its evaluation action strategy.

## 2. Method

The research was conducted in Surianen Village, Patia Subdistrict, Pandeglang Regency. The research location is the center of laying duck farming with 106 active farmers. The research was conducted using an analytical descriptive method, where data collection techniques were carried out by interview, observation, and document searches in the form of archives or literature related to laying duck farms.

Data was analyzed using the SPACE Matrix, this analysis focused on the competitive position of the organization, which was based on four areas of analysis of financial strength and competitive advantage (internal strategic dimension); environmental stability and industrial strength (external strategic dimension). Strategies were formulated through three stages. First, the input stage uses the External Factor Evaluation matrix and the Internal Factor Evaluation matrix, second, the matching stage uses the SPACE Matrix and the third stage formulates an evaluation action strategy based on the description of the position of laying duck farming on the SPACE Matrix.

## 3. Results and Discussion

General characteristics and background of laying duck farmers in Surianen Village can be seen in Table 1, these characteristics are influenced by age, education level, population and experience of laying ducks farming.

**Table 1. Laying Duck Farmers Charateristion**

No	Characteristic	Average
1	Age (Year)	50
2	Education	SD
3	Number Laying Duck (Tails)	50
4	Experience (Years)	10

Source : Research (2022)

Table 1 shows the characteristics of laying duck farmers in Surianen Village, Patia Subdistrict, Pandeglang Regency. The average age of farmers is 50 years which means farmers in Surianen Village are categorized as productive age farmers. According to research by Suyono and Hermawan (2013) the age of labor categorize as productive age (15-60 years), it has a positive effect on productivity, this is because labor at productive age has high creativity, better knowledge and insight and has responsibility for the tasks or work given.

The average education level of farmers in Surianen Village is still relatively low (elementary school). The results of research by Hasanah and Widowati (2011), stated that the level of education provides knowledge to completing work, the level of education also affects productivity, the higher the level of education the higher the level of productivity. However, the low level of education of farmers is supported by experience in laying ducks. The average farmer experience is 10 years, where the longer a person's experience in doing work, the more skilled they will be and the impact on their productivity. Another characteristic of laying duck farmers in Surianen Village is the aspect of the population of laying ducks cultivated, the average farmer has 50 ducks, the category of small scale cultivation business.

According to David (2009), the strategy formulation technique consists of three stages, namely the input stage, the matching stage and the decision stage. The input stage is the stage of identification and analysis of internal and external factors of laying duck farming. The evaluation matrix of internal factors of laying duck farming is presented in Table 2 below:

**Tabel 2. Internal Factor Matrix**

<b>Strength</b>	<b>Weight</b>	<b>Rate</b>	<b>Score (Weight x Rate)</b>
Experience	0.2	4	0.8
Salesa Revenue and Profit	0.2	4	0.8
Eggs Quality	0.1	3	0.3
Family Member Worker	0.1	2	0.2
Feed Source Supply	0.2	4	0.8
Loyal Customer	0.1	2	0.2
DOD Avilability	0.1	3	0.3
<b>Total Strength Score</b>	<b>1.0</b>		<b>3.4</b>

  

<b>Weakness</b>	<b>Weight</b>	<b>Rate</b>	<b>Score (Weihtgt x Rate)</b>
Uneconomic Scale Business	0.2	3	0.6
Unsaniter Cage System	0.2	3	0.6
Unnutrition Feed	0.3	4	1.2
Uneffective Feed System	0.2	3	0.6
Low Education	0.1	2	0.2
<b>Total Weakness Score</b>	<b>1.0</b>		<b>3.2</b>

Source : Research (2022)

The results of internal factors analysis and evaluation can be seen in Table 2. The Table 2 show that the strengths are greater than the weaknesses, meaning that laying duck farming

in Surianen Village has the potential to be developed in the competitive poultry business market. In addition, Table 2 also shows there are three main strengths of laying duck farming in Surianen Village, namely farming experience, income and profit from sales and supply of feed sources, while the main weakness lies in feed intake that lacks nutrition. The identification and analysis of laying duck farming external factors are presented in Table 3 below.

**Tabel 3. External Factor Matrix**

<b>Opportunities</b>	<b>Weight</b>	<b>Rate</b>	<b>Score (Weight x Rate)</b>
Bran as Feed Source	0.3	4	1.2
Village Fund Availability	0.25	4	1
Eggs and Meat Market Demand	0.3	3	0.9
Public Concern to Protein Intake	0.15	2	0.3
<b>Total Opportunities Score</b>	<b>1.0</b>		<b>3.4</b>

  

<b>Threats</b>	<b>Weight</b>	<b>Rate</b>	<b>Score (Weight x Rate)</b>
Feed Fluctuation Price	0.3	4	1.2
Land Conversion	0.2	4	1
DAD Cilemer Flood	0.25	2	0.5
Drought	0.25	3	0.75
<b>Total Threats Score</b>	<b>1.0</b>		<b>3.45</b>

Source : Research (2022)

Based on the external factors of opportunities and threats, it can be seen that the threats are greater than the opportunities available, it means that the development of laying duck farming in Surianen Village will face a number of severe challenges and will have difficulty continuing the business if it relies on existing strategies. The biggest threats to the development of layer duck farming are fluctuating feed prices and conversion of agricultural land. Conversion of agricultural land leads to a reduced supply of bran as a source of feed for laying ducks.

The next stage is matching, in this stage analysis used SPACE Matrix. According to Bismala (2020) SPACE Matrix analysis is carried out by calculating the strength score reduced by the weakness and the opportunity score reduced the threat, the final score of the reduction shows the combination of the position of laying duck farming. The resulting of SPACE Matrix show a combination of strengths and threats. According to Abbasi et al (2019), the organizational position strategy that has a combination of strengths and threats is a conservative strategy, this means that layer duck farming in Surianen Village has sufficient financial strength and a relatively stable environment. According to David (2009) the strategic steps that can be taken in this conservative position are market penetration, market development, product development and diversification. In the case of layer duck farming in Surianen Village, the strategy taken is diversification.

As an evaluation action based on the results of SPACE Matrix are: 1) increase the number of laying ducks farming; 2) implement a dry cage system and 3) initiate a community or individual-based feed business. Slat is one form of dry cage system that can be implemented in layer duck farming. According to Agus (2002), the slat cage system has high health value because it can reduce high humidity. Dry cage implementation followed by feed business

initiating is a strategic step in providing a good and systematic supply of feed for laying ducks. According to Ranto (2005), the successfully key to raising laying duck farming lies in the number of laying duck and method of ration feeding. The ration must be highly in nutritious and support growth. Protein is one of the ingredients in the ration that is very important to laying duck growth.

#### 4. Conclusion

The SPACE matrix can be used as one tools to laying ducks farming strategy formulation and also can used to determine the strategic position. After identifying the strengths, weaknesses, opportunities and threats faced by laying duck farmers in Surianen Village, it is concluded that the position of laying duck farming is in a conservative strategy. This means that layer duck farming still has potential strengths supported by a relatively stable environment. Diversification strategies can be carried out by laying duck farmers in Surianen Village, there are increasing the number of laying ducks, implementing a dry cage system and initiating a communal feed business.

The formulation of strategies for the development of layer duck farming using the SPACE Matrix tool has not been widely studied, in general, research on the formulation of strategies for the development of layer duck farming is more dominant in feasibility study and SWOT analysis. Therefore, the results of this research can be used as an alternative solution to the development of laying duck farming.

The drawback of this research is has not reached yet to other areas in Pandeglang Regency, so the SPACE Matrix formulation can not be applied to outside areas of Surianen Village.

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