



Financial Feasibility Analysis on SMEs of Tegal Laying-Duck Breeding Farm (Case Study at Ropiko's Farm)

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Abstract. This study aimed to decide whether a business was feasible or not to be developed. A quantitative descriptive with a case study was used in this study to describe the feasibility on SMEs of laying-duck breeder in Pesurungan Lor Village-Tegal City from the financial aspect. Ropiko's laying-duck breeder was chosen as the object in this study. We collected data in 2016–2020 by conducting in-depth interviews and observations. Collected data analysed using Break-Even Point (BEP) analysis and R/C Ratio. The results showed that the average selling price was IDR 1,833 per egg and the level of egg production produced was 308,250 eggs. The BEP value is RP. 1,235 per egg, and the BEP Volume is 202,188 eggs. The results achieved are higher than the BEP Price and BEP Volume so that the business is feasible. Based on the R/C Ratio method, a value of $1.55 > 1$ can be obtained, so it can be concluded that Ropiko's laying-duck breeder is feasible to develop.

Keywords: Business feasibility · Financial aspects · Laying-duck breeder

1 Introduction

Based on official data from the Ministry of Cooperatives and SMEs of the Republic of Indonesia in December 2021, MSMEs in Indonesia was 65,465,497, with a contribution to Gross Domestic Product of 60.51% or Rp. 9,580.76 trillion. MSMEs can absorb 96.92% of the total workforce and collect 60.03% of the total investment in Indonesia [1]. Therefore, a mature strategy is needed to develop MSMEs to become the economy's foundation and survive during difficult times [2]. One of the steps that needed to be taken was cultivating and developing a business that could avoid the risk of loss or bankruptcy [3].

The development of MSMEs requires investment to increase capital. However, the capital to be invested is expected to be analyzed first whether the invested capital can provide opportunities to develop a business. Financial analysis is needed to see whether the business that will be run will provide benefits or not. In other words, the business to be carried out is feasible or not from an economic point of view [4].

A business feasibility study is a study on a business plan that analyzes whether or not a business is feasible, but also routine operations to achieve maximum profit for an

indefinite period. So that it can be known whether the business has benefits and can avoid risks in the future [5]. This analysis can also be carried out on existing businesses. The analysis results are beneficial for making decisions before investing so that investors make the right decisions to invest. By conducting a business feasibility study, it is hoped that MSMEs will grow and develop and minimize the obstacles that may be faced [6].

Feasibility studies are carried out to avoid losses or bankruptcy, facilitate the implementation of work, facilitate company planning, facilitate supervision, and facilitate the control process. This business feasibility study has a considerable role in the success and survival of a business. There are four interested parties: investors, MSMEs, the community, and the government [7]. A good feasibility analysis will help uncover the strategies available to an entrepreneur [8]. Support the decision-making process [9].

The Central Statistics Agency (BPS) noted that poultry farming, especially laying ducks, is found in every province in Indonesia [10]. The most famous type of laying duck is the duck from Tegal. The laying duck business is a business that is widely cultivated by the community as an alternative source of income in Tegal City. Duck farming in Tegal City plays a vital role in supporting the economy because duck eggs are a typical local product of the City of Tegal and its surroundings as local wisdom that needs to be empowered [11]. However, the pandemic conditions resulted in the laying-duck farming business fluctuations. It is necessary for laying duck entrepreneurs to know whether the business carried out so far can be said to be feasible or not to be developed not to experience losses. On the other hand, investors also need to understand whether a business is worth investing in or not. Therefore, laying duck breeders and potential investors need to conduct business analysis studies [12].

The laying-duck farming business managed by Mrs. Ropiko is one of the duck breeding businesses used as the primary income. Mrs. Ropiko is the wife of a Duck Farmers Group “Berkah Abadi” member located in Pesurungan Lor Village, Margadana District, Tegal City. It was initiated in 1990 after her husband deceased. Currently, Mrs. Ropiko has 250 laying ducks, and she wants her business to be developed by increasing the number of laying ducks. For investors, the government, banks, and breeders themselves, it is essential to know whether the business is feasible to develop or invest in the duck farming business. This study aimed to decide whether a business was feasible or not to be developed.

2 Research Methods

This research used mix method with a case study approach [13] focusing on the specification of cases that includes individuals, cultural groups, or a portrait of life [14] This study is also used to explore a case from time to time through in-depth data collection and involves various sources of information. Case studies are mostly tied to a time, place, phenomenon, and activity or individual—data collection through in-depth interviews, documentation, and a literature study. Qualitative data includes data on the results of interviews and literature studies. Quantitative data of this study was the amount of income, total costs, selling prices, profits, or losses experienced. The object of this study was Ropiko’s laying-duck breeding farm.

We conducted a business feasibility analysis using BEP and R/C Ratio analysis from the financial aspect. This analysis was chosen because this formulation is the most

frequently used and can be accounted. The following is the formula used in the business feasibility analysis in this study.

1. R/C Ratio (Revenue Cost Ratio) [15]

$$\text{R/C Ratio} = \frac{\text{Total Revenue}}{\text{Total cost}} \quad (1)$$

Criteria:

If the R/C Ratio is > 1 then the business is said to be feasible.

If the R/C Ratio is < 1 then the business is said to be unfeasible.

2. BEP (Break Even Point) [16]

a. BEP Price

$$= \frac{\text{Total Production Cost (TC)}}{\text{Total Production (Q)}} \quad (2)$$

b. BEP Volume

$$= \frac{\text{Total Production Cost (TC)}}{\text{Average Selling Price (Q)}} \quad (3)$$

3 Results and Discussions

3.1 Result

This study was conducted to examine the feasibility of Ropiko's business, namely, laying-duck breeding farms. This farm is a small enterprise and has a relatively small number of ducks. If this condition is not improved, it may cause losses to farmers. By conducting a business feasibility analysis, the entrepreneur could determine a strategy that needs to be taken to avoid the risk of bankruptcy.

This farm is an individual enterprise that Ropiko and her husband built-in 1990. However, the farm did not have a legal entity. This farm distributes duck eggs to various areas inside and outside Tegal City through collectors. The farm is located close to the raw materials and supporting equipment. From economic and social aspects, if the business is developed, it can increase income and provide job vacancies. Laying-duck breeding farms tend to produce waste in the form of duck droppings, causing inconvenience to the people who live or work around the farm (Table 1).

The table shows that the details of the capital fund for laying duck farming were IDR 380,720,000, where the source of business capital 100% came from own capital. The investment capital in Table 2 is as follows.

While working capital is described in detail in Table 3.

Table 1. Business capital details

No	Business Capital Details (IDR)	
1	Investment Capital	43,850,000
2	Working Capital	336,870,000
Total		380,720,000

Table 2. Details of investment capital

No	Information	Amount (IDR)
1	Cage with an economic life of 5 years	25,000,000
2	Equipment	1,350,000
3	Ducks (250 heads x @ IDR 75,000)	17,500,000
Total		43,850,000

Table 3. Details of working capital

No	Feed	Amount (IDR)
1	Bran	145,980,000
2	'Aking' rice (rice leftover being dried)	79,758,000
3	'Pirik' fish (Ponyfish)	111,132,000
Total		336,870,000

3.2 Discussions

3.2.1 Legal Aspect

Ropiko's laying-duck breeding farming is an individual enterprise, but the established business did not have a legal entity according to legal regulations in Indonesia. It is necessary to evaluate the business for business owners in this legal aspect. The existence of a valid legal form will benefit the business's survival in the future. In addition, a valid legal form will convince creditors and investors that the enterprise did not deviate from the applicable regulations.

3.2.2 Market and Marketing Aspects

The farm's location in Tegal city is quite strategic in marketing. Duck egg products are widely used for salted egg production in and outside Tegal City. The owners need to make observations in improving marketing strategy to determine how business actors deal with similar business competitors. By knowing the position of the same production

competitor, the right marketing strategy can be obtained by paying attention to Product, Price, Place, Promotion.

3.2.3 Technical/Operational Aspect

The farm location makes it easier for farmers to obtain raw materials such as laying duck seeds, feed, vitamins, drinking water, and farming support equipment. In addition, cooperation with collectors also helps reduce costs for using transportation to distribute eggs to buyers.

In looking at the need for business production, it is necessary to relate it to the desired size of the cage to accommodate the number of ducks that are ready for production. At the Ropiko's laying-duck farm, the number of ducks raised is about 250. Judging from the number of ducks, this business is included in the micro category. Based on the results of interviews with researchers regarding the place or land used for laying ducks, it can be said that it is not wide enough. The size of the cage to accommodate 250 laying ducks is $16 \text{ m} \times 5 \text{ m} = 80 \text{ cm}^2$.

The selection of technology in laying duck farming business, Ropiko prefers using traditional tools, such as the cage made of coconut wood 'glugu' wood and cement floor. The supporting equipment for the cage-like drinking utensils consists of water drums, water pumps, water pipes or water hoses, and feed containers. The laying duck were shepherds and ready to spawn. Mostly the ducks reached 6–12 months old and would be ready to spawn—the price of one productive duck approximately IDR 75,000. The ducks were fed using bran, 'aking' rice (rice leftover being dried), and 'pirik' fish (ponyfish). The everyday needs for duck feeding are about 30 kg of bran (@ IDR 2,500 and @ IDR 4,000 per kg); 15 kg of aking rice (@ IDR 3,000 per kg), and one (1) basket of 'pirik' fish or 30 kg (price per basket IDR 30,000) with the cost of grinding per basket IDR 3,000.

3.2.4 Management/Organizational Aspect

In the management aspect, the things that will be discussed are project development management and human resource management. At the beginning of business development, the business development was led and supervised directly by the owner, and the number of workers used was about four people in completing the construction of physical facilities in the form of cage construction and other supports to support the establishment of a laying duck farming business. Human resources management is relatively small in Ms. Ropiko's laying duck farming.

3.2.5 Economic and Social Aspects

The development of the laying duck farm has shown a positive impact from an economic perspective. There is an increase in household income, an increase in worker income, on the social aspect. Its existence also establishes and creates job vacancies. The negative social impact was an unfavorable impact on the surrounding community, such as the outbreak of flies and the smell of sewage waste.

3.2.6 Aspects of Environmental Impact

The laying duck breeding farm produces duck manure waste, causing a pungent odor in the environment around the farm's location. Thus, it is necessary to strive for the impact of environmental pollution caused by these farms to be minimized.

3.2.7 Financial Aspect

Mrs. Rofiko spent IDR 43,850,000 for the business's investment and had to add a working capital of IDR 336,870,000. Based on the detailed calculation of the need for funds for business establishments where the farm has a cultivation scale of 250 ducks, the calculation can be done by calculating the investment capital and working capital costs. Details of Earning After Tax (EAT) for laying duck breeding farm Mrs. Ropiko are as follows.

Based on Table 4, it show that the total amount of EAT or profit after tax is IDR 206,606,000.

Table 4. Earning after tax (eat) for laying duck farming by Mrs. Ropiko

Calculation EAT per year (in IDR)			
Description	1 st year	2 nd year	3 rd year
Income	116,670,000	117,570,000	117,570,000
Cost	91,170,000	68,426,000	67,580,000
Earning Before Tax	25,500,000	49,144,000	49,990,000
Tax 1% and 0.5%	1,167,000	1,176,000	882,000
Earning After Tax	24,333,000	47,968,000	49,108,000
Calculation EAT per year (in IDR)			
Description	4 th year	5 th year	
Income	116,670,000	123,270,000	
Cost	69,638,000	83,906,000	
Earning Before Tax	47,032,000	39,364,000	
Tax 1% and 0.5%	583,000	616,000	
Turnover			
Earning After Tax	46,449,000	38,748,000	

The discussion of the analysis used based on the financial aspect in the case of the laying duck farming business, Mrs. Ropiko, Pesurungan Lor Village, Tegal City, is as follows:

a. BEP (Break Even Point)

1. Price of BEP (Break Even Point)

$$\begin{aligned} \text{BEP Price} &= \frac{\text{Total Production Cost}}{\text{Number of Egg Production}} \\ &= \frac{\text{IDR } 380,720,000}{308,250} \\ &= \text{IDR } 1,235 \text{ per item} \end{aligned}$$

It means that at the egg price level of IDR 1,235, Mrs. Ropiko's duck farming experienced a break-even point or a position where the business experienced neither profit nor loss. The selling price of duck eggs is around IDR 1,700 to IDR 2,100. From the calculation above, the BEP Price is IDR 1,235. It can be said that the selling price of laying ducks is above the BEP price. It means Mrs. Ropiko's laying duck farm can be developed. Also, the investor could invest in this farm.

2. Volume BEP (Break Even Points)

$$\begin{aligned} \text{Volume BEP} &= \frac{\text{Total Production Cost}}{\text{Average selling price}} \\ &= \frac{\text{IDR } 380,720,000}{\text{IDR } 1,883} \\ &= 202.188 \text{ items} \end{aligned}$$

Based on the calculation, egg production of as many as 202,188 eggs means that Mrs. Ropiko's farming experienced a break-even point or a position where the business experienced neither profit nor loss. The production of duck eggs is 308,250 eggs. Based on the calculation, the BEP Volume number is 202,188 points; it can be said that the number of duck egg production is above the BEP Volume. So it can be concluded that Mrs. Ropiko's laying duck farm can be developed, and this is worthy of investment.

b. R/C Ratio (Cost Income Ratio)

$$\begin{aligned} \text{R/C Ratio} &= \frac{\text{Revenue}}{\text{Cost}} \\ &= \frac{\text{Income}}{\text{Cost}} \\ &= \frac{\text{IDR } 591,750,000}{\text{IDR } 380,720,000} \\ &= \text{IDR } 1.55 \end{aligned}$$

The calculations using the R/C Ratio (Revenue Cost Ratio) method obtained a value of 1.55. It means that for every IDR 1, the costs incurred will generate an IDR 1.55. It can be concluded that Ropiko's laying duck farm is feasible to develop or worthy of investment.

Several previous studies that conducted an analysis using BEP and R/C ratio succeeded in finding the feasibility of the business he researched, including Suharda's study on the duck business in Deli Serdang [17] Asnidar's study on the opaque cracker home industry business in Muara Satu, North Aceh Regency [18], Lubis' study [19], Mulyati's study [15].

4 Conclusion

The selling price of duck eggs per egg is higher than the BEP Price, and the production level is higher than the BEP Volume. The results of the R/C ratio were obtained at 1.55. It means that the laying duck business owned by Mrs. Ropiko is feasible to be developed and can be considered for profitable investments.

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