Jurnal Lahan Suboptimal : Journal of Suboptimal Lands
ISSN: 2252-6188 (Print), ISSN: 2302-3015 (Online, www.jlsuboptimal.unsri.ac.id)
Vol. 11, No.1: 67−75 April 2022
DOI: 10.36706/JLSO.11.1.2022.558

Factors Affecting Broiler Breeders Following the Partnership Pattern in Gelumbang Subdistrict, Muara Enim District

Faktor - Faktor yang Mempengaruhi Peternak Ayam Broiler Mengikuti Pola Kemitraan di Kecamatan Gelumbang Kabupaten Muara Enim

Acip Rakhmat[1,3*)], Sriati Sriati[2], M Yamin[2]

[1]Agribusiness Program, Agriculture Faculty, University of South Sumatra, Palembang 30967, South Sumatra, Indonesia
[2]Agribusiness Program, Agriculture Faculty, Sriwijaya University, Indralaya 30662, South Sumatra, Indonesia
[3]Student of Doctoral Program of Agriculture Sciences, Graduate Program, Sriwijaya University, Palembang 30139, South Sumatra, Indonesia
[*)]Corresponding author: aciprakhmat@uss.ac.id

(Received: 25 September 2021, Accepted: 22 March 2022)

Citation: Rakhmat A, Sriati S, Yamin M. 2022. Factors affecting broiler breeders following the partnership pattern in Gelumbang Subdistrict, Muara Enim District. *Jurnal Lahan Suboptimal : Journal of Suboptimal Lands.* 11 (1): 67−75. DOI: 10.36706/JLSO.11.1.2022.558.

ABSTRAK

Pola Kemitraan merupakan salah satu pilihan pola usaha yang dihadapi oleh peternak ayam broiler. Penelitian ini bertujuan untuk mendeskripsikan dan menganalisis faktor-faktor yang mempengaruhi peternak memutuskan untuk mengikuti pola kemitraan, menghitung dan membandingkan pendapatan usaha peternakan ayam broiler melalui pola kemitraan dan pola mandiri, dan menganalisis persepsi peternak mitra ayam broiler terhadap pola yang akan diikuti selanjutnya, apakah akan tetap menjalankan usahanya melalui pola kemitraan atau menjadi peternak mandiri. Metode yang digunakan dalam penelitian ini adalah metode survey dan pengambilan sampel dilakukan secara acak berlapis. Hasil penelitian menunjukkan bahwa dari faktor modal usaha, keterampilan, pemasaran hasil dan risiko kerugian, faktor pemasaran hasil merupakan faktor yang paling berpengaruh secara signifikan terhadap keputusan peternak mengikuti pola kemitraan Hasil penelitian menemukan bahwa pola kemitraan memberikan keuntungan rata-rata Rp. 40.138.384,88 lebih besar dibandingkan dengan pola usaha mandiri yang hanya Rp. 33.029.505,00 dalam satu kali periode produksi. Jika dilihat dari sisi *Return Cost Ratio (R/C*), usaha peternakan melalui pola kemitraan adalah 1,19, lebih rendah dibandingkan dengan *R/C* usaha peternakan mandiri dengan nilai 1,20. Sementara untuk *Food Conversion Ratio* (FCR), baik usaha peternakan pola kemitraan maupun mandiri memiliki nilai yang sama yaitu 1,26 jika dilihat dari indeks prestasi (*performance index*), usaha peternakan melalui pola kemitraan memiliki IP 4,25 lebih besar nilainya jika dibandingkan dengan pola usaha mandiri yang hanya 4,19. Peternak yang sudah mengikuti pola kemitraan cenderung memutuskan untuk tetap mengikuti pola kemitraan meskipun modal dapat disediakan secara mandiri, memiliki keterampilan yang cukup, mampu memasarkan hasil secara mandiri dan risiko ditanggung sendiri.

Kata kunci: peternak ayam broiler, faktor penentu pengambil keputusan, pola kemitraan

ABSTRACT

The partnership pattern is one of the choices of business patterns faced by boiler breeders. This study aimed to describe and analyze the factors influencing the breeders to decide to follow the partnership pattern, calculate and compare the income of broiler farming business through partnership and independent patterns and analyze the perceptions of broiler breeders on the pattern to be applied to the next business cycle. The method used in this research was a survey method and stratified random sampling. The results of the study showed that the factors of venture capital, skills, result marketing and risk of loss, the marketing factor of the results were the most significant factors affecting the decision of farmers to follow the partnership pattern. It was found that the partnership pattern provided an average profit of 40,138,384.88 IDR higher than the independent business pattern which was only 33,029,505.00 IDR in one production period. When viewed in terms of *Return Cost Ratio* (R/C), livestock business through a partnership pattern was 1.19, lower than the R/C independent livestock business with a value of 1.20. Meanwhile, for the *Food Conversion Ratio* (FCR), both partnership and independent livestock businesses had the same value, namely 1.26 when viewed from the performance index, the livestock business through the partnership pattern had an IP of 4.25 greater in value when compared to the independent business pattern which was only 4.19. The breeders following the partnership pattern tended to decide to continue to follow the partnership pattern even though they had sufficient capital and skills, afforded to market their products independently and faced their own risks.

Keywords: breeders perception, determinants of decision makers, partnership pattern

INTRODUCTION

The partnership pattern in livestock business activity is an alternative mechanism to improve the lives of small-scale breeders. They face obstacles related to the ability to develop their businesses (Suryanti et al., 2019). To avoid these obstacles, some of them change their business pattern from an independent pattern to a partnership pattern (Azmi et al., 2018) and other (Suwarta & Hanafie, 2021). Through this mechanism, large companies cooperate with small-scale breeders to meet the needs of breeders to improve their business development (Suparto, 2021) and other (Santoso et al., 2018). The large companies act as the core and the partner breeders act as plasma (Kalangi et al., 2021) and other (Wantasen et al., 2021). As the core, the company provides several facilities needed by partner breeders in terms of meeting the provision of chicks (DOC-*Day Old Chicken*), feed, vitamins/vaccines, technical and market guidance. Meanwhile, the partner breeders provide facilities such as land/cages, labor, heating, feed equipment and other equipment needed for the maintenance of broiler chicken farming (Wantasen et al., 2021) and other (Kusumastuti et al., 2019). It is hoped that through this partnership contract, the obstacles that have been faced by the partner breeders can be overcome and on the other hand the partner company will still benefit (Padangaran et al., 2017) and other (Haryuni, 2017). This partnership pattern not only solves the problem of limitations faced by the breeders, but also increases the partner breeders income (Rohani et al., 2019) and other (Ridwan & Sudirman, 2021). In other words, the partnership pattern has to be a business relationship based on the principle of mutual support and benefit for both parties, and the support is based on kinship and togetherness (Ridwan & Kasim, 2020), (Nurtini et al., 2017) and other (Azizah & Febrianto, 2019).

However, this does not mean that small-scale farmers will automatically follow the partnership pattern (Wulandari et al., 2019).

There are breeders who do not follow the partnership pattern and they manage all the business activities including in terms of capital procurement, procurement of production facilities, independent marketing of products and mastery of business skills (Dahlan et al., 2020) and other (Mappigau, 2012). Decision making which includes when to start and harvest time, the profits and losses incurred are entirely borne by the farmer himself (Amam et al., 2019).

The income of independent broiler breeders and partnership patterns is strongly influenced by the combination of the use of production factors, namely DOC, feed, medicine, vitamins and vaccines, labor, electricity, fuel costs, and equipment (Amam et al., 2019) and other (Rondhi et al., 2020). Therefore, the risky attitude of the breeders and the use of risk management instruments play an important role in running a broiler farming business participating in the partnership system which can generate income because of the large working capital costs provided by the core company (Utami et al., 2018). Another factor that determines the success of broiler breeders is the skills that farmers have in broiler business and their understanding of the yield market (Sugiarto et al., 2021) and other (Unang, 2003). For this reason, this study aimed to describe and analyze the factors that influence the breeders to follow the partnership pattern, calculate and compare the income of broiler farming businesses through partnership and independent patterns and analyze the perceptions of broiler breeders on the pattern that would be applied to the next business cycle.

MATERIALS AND METHODS

Research Method

The study was conducted in Gelumbang Subdistrict, Muara Enim District, South Sumatra Province from April to September 2015. The data collected in this study were primary and secondary data. The primary data were obtained directly in the field by means of direct observation and interviews with respondents (broiler breeders) using a list of questions that had been prepared. The sampling technique used *Proportionate Stratified Random Sampling* (Singh et al., 2014). From the total number of 113 breeders, 84 of them were obtained as the samples.

Data Analysis

There were 4 factors influencing the breeders in deciding to follow the partnership pattern, namely: 1) Business capital (Capital); 2) Skills; 3) Results Marketing (Market); and 4) Risk of loss (Risk). To describe and analyze the level of influence of these four factors used the logistic regression method/binomial logit model with the formula (Kilic, 2015):

$$\text{Log } (P/1 - p) = \beta_0 + \beta_1 C + \beta_2 S + \beta_3 M + \beta_4 R$$

Where :

P = Probability that Y = 1 (Partnering)
B = Regression coefficient
C = Business Capital (Capital)
S = Skill
M = Marketing (Market)
R = Risk of Loss (Risk)

To calculate and compare the income of broiler farms through the partnership and independent patterns, the following formula (Soekartawi, 1999) was used:

$$\pi = TR - TC$$

Where :

π = Revenue (profit)
TR = Total Revenue
TC = Total Cost

Total revenue in the partnership pattern consisted of:

a) The sale of live chickens obtained from the calculation of the total weight of fresh meat produced (kg) multiplied by the price per kilogram (IDR/kg)
b) Other revenue obtained from manure and sacks
c) Efficiency bonus provided by the core company (FCR) if any

Therefore, the formula to calculate the profit from each broiler farming business pattern became:

πK = (Hy1.Y+Hy2.Lr+ B) – (Hx1.BBT + Hx2.BPKN + Hx3.BOBT + Hx4.BALT + Hx5.BSWK + Hx6.BSKM + Hx7.BUBR + Hx8.BBKR)

Where:

πK	=	Profits for partnership pattern livestock business (IDR/period)
Hy1	=	Price of broiler chicken (IDR/kg)
Hy2	=	Price of manure (IDR/kg)
B	=	Efficiency bonus (if any)
Hx1…Hx8	=	Hx1…Hx8 = Unit price for each input (IDR)
Y	=	Total production of boiler chicken (kg)
Lr	=	Total manure produced (kg)
B	=	Efficiency bonus (IDR)
BBT	=	Number of chicks (heads)
BPKN	=	Feed (kg)
BOBT	=	Drugs, vitamins and vaccines (g)
BALT	=	Equipment (depreciation/period)
BSWK	=	Chicken coop rent (depreciation/period)
BSKM	=	Husk (kg/period)
BUBR	=	Labor (Person/period)
BBKR	=	Fuel (Liters/period)

To calculate the *Return Cost* (R/C) *Ratio*, it was conducted by comparing the total revenue with the total cost (Soekartawi, 2001):

$$R/C = \frac{Total\ Revenue}{Total\ Cost}$$

Feed Conversion Ratio (FCR) was carried out to measure the efficiency level of feed used (Adrizal et al., 2011):

$$FCR = \frac{Total\ Feed\ Amount}{Total\ Live\ Chicken\ Weight}$$

To calculate the Achievement Index (IP), the following formula was used:

$$IP = \frac{(\%\ of\ chickens\ sold\ x\ weight\ x\ 100)}{(FCR\ x\ Upkeep\ Time)}$$

The third objective regarding the perception of broiler breeders on the pattern to be followed (running their business through a partnership pattern or independent breeder) was answered with a descriptive explanation.

RESULTS AND DISCUSSION

Based on the results of data processing, the coefficient value was obtained to determine whether or not the influence of each independent variable (capital, skills, marketing results and risk) was strong on the dependent variable (decision to partner or not partner), then the regression model was obtained as follows:

Log (P/1 – p) = -6,238 + 0,484C – 2,120S + 1,791M–0,973R

For the venture capital variable (C), the result of the analysis obtained a Wald statistical value of 1.865 with a p-value (Sig.) of 0.172. The Wald value was smaller than the Chi-Square value (3.841) or the p-value was greater than (0.05). This showed that there was an insignificant effect of the venture capital variable on the partnership decision variable. The obtained coefficient was positive seen from the beta exponential value of 1.622 indicating the tendency of respondents to choose partnering (Y = 1) that was greater than choosing not to partner (Y = 0), but it was not yet definitive because the result was not significant.

For the technical and management skills variable (S), the results of the analysis obtained a Wald statistical value of 2,782 with a p-value (Sig.) of 0.095.

Table 1. Calculation of average income (IDR), R/C ratio, food conversion ratio (FCR) and performance index (*IP*) for one production period

Description	Breeder Types	
	Partnership	Independent
I. Revenue		
1.1 Main Product		
Live Chickens (heads)	8.794	7.290
Weight/Head (kg/heads)	1,68	1.64
Price per kg (IDR/kg)	17,050.00	17,040.00
Sub Total Revenue of Main Product	252,216,712.26	202,683,505.00
1.2 Secondary Product		
1.2.1 Used Sack		
Number (sheet)	473	480
Price/Sheet (IDR/sheet)	2,000.00	2,000.00
Sub Total Revenue	946,119.05	960,000.00
1.2.2 Chicken Manure		
Number (sacks)	280	158
Price/Sack (IDR)	7,000.00	7,000.00
Sub Total Revenue	1,962,833.33	1,106,000.00
Total Revenue	255,125,664.64	204,749,505.00
II. Expenditure		
1. Chicken coop*)	5,325,595.24	4,347,000.00
2. Chicken Eating and Drinking Utensils*)	1,157,738.10	945,000.00
3. Electricity	1,852,380.95	1,512,000.00
4. Husk	1,963,467.26	1,620,000.00
5. Gas Fuel for Heating	5,788,690.48	4,725,000.00
6. Labor	6,020,238.10	4,914,000.00
7. DOC	55,571,428,57	42,336,000.00
8. Feed		
Starter (BR I)	66,222,619.50	53,676,000.00
Finisher (BR II)	65,296,428.57	52,920,000.00
9. Vitamin/Drugs/Vaccine	5,788,690.48	4,725,000.00
Total Expenditure	214,987,276.79	171,720,000.00
III. Revenue (Profit) = I - II	40,138,387.85	33,029,505.00
R/C *Ratio*	1,19	1,20
Food Convertion Ratio (*FCR*)	1,26	1,26
Performance Index (*IP*)	4,25	4,19

Note : *) depreciation value for 1 production period, Data Source: Research Results (Processed Data)

The Wald value was smaller than the Chi-Square value (3.841) or the p-value was greater than α (0.05) indicating that there was an insignificant effect of the skill variable on the partnership decision variable. The obtained coefficient was negative seen from the beta exponential value of 0.120 indicating that the tendency of respondents to choose not to partner (Y = 0) was greater than choosing to partner (Y = 1), but it was not definitive because the result was not significant. Furthermore, for the results marketing variable (M), the results of the analysis obtained a Wald statistical value of 4.448 with a p-value (Sig.) of 0.035. The Wald value was greater than the Chi-Square value (3.841) or the p-value was smaller than (0.05) indicating that there was a significant influence of the marketing variable on the decision to partner variables. The coefficient obtained was positive seen from the beta exponential value of 5.994 indicating that the tendency of respondents to choose partnering (Y = 1) was greater than choosing not to partner (Y = 0) with certainty because the results showed it was significant.

The fourth variable, namely the risk of loss variable (R), obtained the Wald statistical value of 1,015 with a p-value (Sig.) of 0.314. The Wald value was smaller than the Chi-Square value (3.841) or the p-value was greater than (0.05) indicating that there was an insignificant effect of the risk

variable on the partnership decision variable. The coefficient obtained was negative seen from the beta exponential value of 0.378 indicating that the tendency of respondents to choose not to partner (Y = 0) was greater than choosing to partner (Y = 1), but it was not yet definitive because the result was not significant.

The results of the research on business income were showed in Table 1 where the income of the partnership pattern of stock breeding business had an income of 40,138,387.85, IDR bigger than that of the independent pattern of 33,029,505.00 IDR (Table 1). Based on the business scale, table 2 showed that there were 3 types of business scale based on the number of chickens kept, namely ≤ 7,999 chickens, 8,000−11,900 heads and ≥ 12,000 chickens. The results showed that breeders with a business scale of more than 12,000 chickens provide the most profit compared to the other two business scales. This means that from the results of this study the increase in business scale provided additional benefits for farmers (Table 2).

Tabel 2. Calculation of average income (IDR), R/C ratio, food conversion ratio (FCR) and performance index (*IP*) for 1 production period based on the business scale

Description	Business Scale (Heads)		
	≤ 7.999	8.000 – 11.999	≥ 12.000
I. Revenue			
1.1 Main Product			
Live Chickens (heads)	4,662	8,238	13,833
Weight/Heads (kg/heads)	1,66	1,7	1,69
Price per kg (IDR/kg)	17,050.00	17,050.00	17,050
Sub Total	131,988,635.07	239,026,233.33	397,413,468.20
1.2 Secondary Product			
1.1.1 Used Sacks			
Number (sheet)	274	409	733
Price/Sheet (IDR/sheet)	2,000.00	2,000.00	2,000.00
Sub Total Revenue	548,216.22	818,666.67	1,465,937.50
1.1.2 Chicken Manure			
Number (sacks)	272	260	300
Price/Sack (IDR)	7,000.00	7,000.00	7,000.00
Sub Total Revenue	1,900,405.41	1,814,200.00	2,100,000.00
Total Revenue	134,437,256.69	241,699,090.00	400,979,156.00
II. Expenditure			
1. Chicken Coop*)	2,805,067.57	4,964,166.07	8,409,375.00
2. Chicken Eating and Drinking Utensils*)	609,797,30	1,079,166.67	1,828,125.00
3. Electricity	975,675,68	1,726,666.67	2,925,000.00
4. Husk	1,030,743.24	1,871,250.00	3,085,156.00
5. Gas Fuel for Heating	3,048,986.49	5,395,883.33	9,140,625.00
6. Labor	3,170,945.95	5,611,666.67	9,506,250.00
7. DOC	29,270,270,27	51,800,000.00	87,750,000.00
8. Feed			
Starter (BR I)	34,880,405.41	61,728,333.33	104,568,750.00
Finisher (BR II)	34,392,567.57	60,865,000.00	103,106,250.00
9. Vitamin/Drugs/Vaccine	3,048,986.49	5,395,833.33	9,140,625.00
Total Expenditure	113,233,445.98	200,437,916.67	339,460,156.00
III. Revenue (Profit) = I - II	21,203,810.71	41,231,173.33	61,519,249.70
R/C *Ratio*	1,19	1,21	1,18
Food Convertion Ratio (*FCR*)	1,26	1,23	1,25
Performance Index (*IP*)	4,21	4,10	3.97

Note : *) depreciation value for 1 production period, Data Source: Research Results (Processed Data)

Table 3. Results of odds ratio calculation

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Perception	0.944	0.334	7.995	1	0.005	2.570
	Constant	-24.286	9.028	7.237	1	0.007	0.000

a. Variable(s) entered on step 1: Perception.

Based on the results of these calculations, the partner breeders would continue to follow and continue their partnership pattern even though the breeders have sufficient capital and skills, marketing of the product could be done alone and all risks arising from the chicken farming business were borne by themselves, and they still do not change the perception of partner breeders to switch to become an independent farmer. Table 3 showed that the results of research on the perception of broiler breeders following the partnership pattern had a positive coefficient, seen from the beta exponential value of 2,570 indicating that the tendency of respondents to choose partnering (Y = 1) was greater than choosing not to partner (Y = 0) (Table 3).

CONCLUSION

Based on the results of the study, of the four variables that are partially tested, only the marketing variable had a strong influence on farmers to follow the partnership pattern, while the combined test shows that the four variables had a significant effect. Broiler chicken farming through a partnership pattern provided an average profit of 40,138,384.88 IDR which is higher than the independent business pattern which is only 33,029,505.00 IDR for one production period. If viewed from the Return Cost Ratio, the R/C of livestock business through a partnership pattern is 1.19 lower than the R/C of an independent livestock business with a value of 1.20. Meanwhile, for the Food Conversion Ratio (FCR), both partnership and independent farms had the same value, namely 1.26. When viewed from the performance index, the livestock business through the partnership pattern had an IP of 4.25 which is greater in value when compared to the independent business pattern which is only 4.19. The breeders who followed the partnership pattern tended to continue to follow the partnership pattern in carrying out the next business cycle.

ACKNOWLEDGEMENTS

We acknowledge for the support that has been received from the Faculty of Agriculture University of Sriwijaya, Livestock Office of Muara Enim District and all members of the farmer group in the Gelumbang sub-district who have provided data and information for the purpose of this research.

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