The effect of competence and entrepreneurial capability of farmers on the growth of Bali Cattle farming business

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Abstract. One of the emphasis on the performance of the Bali cattle business is to improve the competence and entrepreneurial skills of farmers, which until now are still considered low. The purpose of this study was to determine the effect of the competence and entrepreneurial ability of farmers on the growth of Bali cattle farming in Tanete Riaja District, Barru Regency, South Sulawesi Province. This type of research is explanatory research. Research based on livestock farmer groups with a population of Bali cattle farmers as many as 140 farmers. Determination of the number of samples using the Slovin formula and stratified random sampling method as many as 58 people with details of the Livestock Farmer Group Lempangeng 12 people, Makkawaru 22 people, Sipurennue 12 people and Lempang 12 people. Collecting data through interviews with the help of questionnaires measured using a Likert scale, that is a score of 1 to 3 with category 1 = not good; 2 = moderate; and 3 = good. The data collected were analyzed using multiple linear regression. The results showed that the competence of farmers and the entrepreneurial ability of farmers had a significant effect on the growth of the Bali cattle business.

1. Introduction

Business actors are required to have aspirations, be creative, innovative, able to make profitable decisions, and be strong in agribusiness, no longer relying on protection and subsidies from the government. So, small farmers in the current economic development are not only required to have technical competence, but also managerial and entrepreneurial competence [1].

The development of livestock business aims to increase food security and increase people's purchasing power through improving income. In order to achieve this goal, the strategy used is to increase active community participation, encourage investment in livestock businesses in rural areas and empower livestock-farming communities. To overcome the problem of capital for farming communities, the government has implemented a model of community empowerment for livestock farmers through the Community Direct Loan Assistance Program.

Livestock is an agricultural sub-sector that plays an important role in the provision of food, especially in the fulfillment of animal protein for the community. Beef is one of the strategic foods
from livestock which is the target of self-sufficiency. However, its production is still unable to meet domestic needs, thus causing a very high level of dependence on imports.

The two main principles of the beef self-sufficiency program in MoA No.19/Permentan/OT.140/2/2010 emphasize the performance of domestic livestock businesses and the competence of farmers who are considered low. Therefore, the competence and entrepreneurial abilities of breeders are interesting to study. The purpose of this study was to determine the effect of the competence and entrepreneurial ability of farmers on the growth of Bali cattle farming business.

2. Research methods
This research was conducted in Tanete Riaja District, Barru Regency, South Sulawesi Province. This location was chosen deliberately because it still maintains the purification of Bali Cattle.

This type of research is an explanatory research. Research based on livestock farmer groups with a population of Bali cattle breeders as many as 140 farmers. Determination of the number of samples using the Slovin formula and the stratified random sampling method [2], that is:

\[
 n = \frac{N}{1+\frac{N\cdot e^2}{1}}
\]

Where:
\( n \) = number of samples
\( N \) = total population
\( e \) = precision (set leeway rate of 10%)

\[
 = \frac{140}{1+140 (0.1)^2} = \frac{140}{1+140 (0.01)} = \frac{140}{2.4} = 58.3 \text{ atau } 58 \text{ person.}
\]

So the sample of this study were 58 Bali cattle farmers. The number of samples of each livestock farmer group taken randomly are:

- **Lempangeng Group**: \( \frac{28}{140} \times 58 = 11.6 \approx 12 \text{ person} 
- **Makkawaru Group**: \( \frac{52}{140} \times 58 = 21.5 \approx 22 \text{ person} 
- **Sipurennue Group**: \( \frac{30}{140} \times 58 = 12.4 \approx 12 \text{ person} 
- **Lempang Group**: \( \frac{30}{140} \times 58 = 12.4 \approx 12 \text{ person} 

Collecting data through interviews with the help of questionnaires measured using a Likert scale, namely a score of 1 to 3 with category 1 = not good; 2 = moderate; and 3 = good. The data collected were analyzed using multiple linear regression with the following equation:

\[
 Y = a + b_1X_1 + b_2X_2 + e
\]

Where:
\( Y \) = Bali Cattle Farming Business Growth
\( a \) = Constant
\( b_1, b_2 \) = Regression coefficient of variables \( X_1 \) and \( X_2 \)
\( X_1 \) = Farmer competence
\( X_2 \) = Farmer entrepreneurial skills
\( e \) = Standard error
The close relationship between the independent variable and the dependent variable is known through multiple correlation coefficients, the magnitude of the influence of the independent variable on the dependent variable is known through the determinant coefficient.

The variables of farmer competence (X1) are: (1) technical competence possessed by farmers which consists of: a) selection of cattle breeds, b) cow housing system, c) feeding cows, d) handling of cow health/diseases, e) system cow marriage, and f) marketing of cattle products. (2) managerial competence possessed by farmers consisting of: a) business planning, b) coordinating, c) supervision, d) business evaluation, e) communicating, f) business partnerships, g) business constraints, and h) taking advantage of opportunities business.

The variables of farmer entrepreneurial ability (X2) are: (1) internal factors of farmers consisting of: a) farmer's age, b) education, c) livestock experience, d) self-confidence, e) dare to take risks, and f) innovative orientation. (2) external factors of farmers consisting of: a) family, b) livestock farmer groups, c) natural resources, d) Bali cattle business opportunities, e) government policies, and f) funding assistance.

The growth variable for Bali cattle farming (Y) is: the number of Bali cattle owned by the farmer at the time of starting the business until now when the research is carried out with units of tail

3. Result and discussion

The effect of the variable of breeder competence (X1) and the variable of farmer's entrepreneurial ability (X2) on the business growth of Bali cattle can be seen in the results of multiple linear regression analysis in Table 1 below.

| Independent Variable | Regression Coefficient (B) | Correlation Coefficient (r) | Tcount | Significant | Information |
|----------------------|----------------------------|----------------------------|--------|-------------|-------------|
| X1                   | 0.354                      | 0.309                      | 2.471  | 0.016       | Significant |
| X2                   | 0.330                      | 0.286                      | 2.271  | 0.027       | Significant |

Multiple R = 0.611; R Square = 0.374; Significant = 0.000; Fcount = 15.222
Constant = 0.537

Note: Significant at = 0.05.

Table 1 shows that the results of the regression coefficients of each variable and constant value can be formed an equation as follows:

\[ Y = 0.537 + 0.354X_1 + 0.330X_2 + e \] (4)

From this equation, it can be seen that the constant value of the influence of the independent variable consisting of the competence and entrepreneurial ability of the farmer on the growth of the Bali cattle farming business is 0.537. This shows that if the value of the independent variable is 0 or none, the growth of the Bali Cattle husbandry business will be worth 0.537. While the value of the regression coefficient of each independent variable that affects the growth of Bali cattle farming business is as follows:

a. The regression coefficient of the farmer competeny variable (X1) is 0.354, meaning that the farmer's competence has a unidirectional effect, which means that if the farmer's competence increases, the growth of the Bali cattle business will also increase by 0.354 assuming other variables are constant (ceteris paribus).

b. The regression coefficient of the entrepreneurial ability of farmers (X2) is 0.330, meaning that the entrepreneurial ability of farmers has a unidirectional effect, which means that if the
entrepreneurial ability of farmers increases, the growth of Bali cattle farming business will increase by 0.330 assuming other variables are constant (ceteris paribus).

To determine which variable has the most influence among all the independent variables on the dependent variable, an analytical method is used that compares the regression coefficients between each of the independent variables. From the results of the regression coefficients of each independent variable, the farmer's competence variable has the largest regression coefficient (B) of 0.354 compared to the variable of farmer's entrepreneurial ability of 0.330.

The strength of the influence and the magnitude of the independent variable's contribution to the dependent variable together can be seen in the value of the multiple correlation coefficient (R) and the coefficient of determination (R2). The value of the multiple correlation coefficient (R) is 0.611, this means that the influence of farmer competence (X1) and farmer's entrepreneurial ability (X2) has a strong and positive relationship to the growth of Bali cattle farming business. While the value of the coefficient of determination (R2) of 0.374 means that the influence or the percentage of the contribution of the independent variables together affects the ups and downs of the growth of the Bali Cattle husbandry business by 37.4%, while the remaining 62.6% is influenced by other factors outside the model described above. used in this study for example, internal and external environmental factors and family support from the farmer.

To determine the effect of the independent variables on the dependent variable together, the F test is carried out in this analysis by comparing the F count value with the F table value at the 95% or 0.05 confidence level. If F count is greater than the value of F table, the independent variable (X) together has a very significant effect on the dependent variable (Y).

From the calculation results, the F count value is 15.222 while the F table value is 1.58, meaning that F count is greater than F table (15.222 > 1.58) or significant value (0.000) < confidence level value (0.05). This shows that the independent variable of farmer competence (X1) and farmer's entrepreneurial ability (X2) together has a significant effect on the growth of Bali cattle farming business.

After testing the effect of the independent variables together, then the next step is to test the effect of the independent variables on the dependent variable individually (partial). The testing is done by using the t test. This test is carried out by comparing the t count value of the independent variable X with t table or the significance value < = 0.05. To see the effect of each independent variable individually, it will be presented as follows:

### 3.1. The influence of the competency of farmers (X1) on the growth variables of Bali Cattle farming (Y).

The results showed that the variable of farmer competence measured based on the technical competence and managerial competence of the farmer. This is evidenced from the results of calculations with multiple linear regression analysis which shows that the value of the correlation coefficient (r) between the competency variable of farmers and the growth of the Bali cattle business is 0.309, which means that there is a positive relationship between the two variables, further evidenced by the significance value. (0.016) < (0.05) which can be concluded that the competency variable of farmers (X1) has a significant effect on the growth of the Bali Cattle husbandry business (Y) in other words that the contribution of the competency variable of the farmer to the growth of the Bali Cattle husbandry business is 2.471 (T count value). This means that the growth of the Bali Cattle husbandry business is influenced by the competence of the farmer, both technical competence and managerial competence that must be possessed by the farmer. Business success is determined by one's entrepreneurial competence [3,4].

Saleh (2018) argues that the entrepreneurial competence of a successful entrepreneur demands the courage to take risks and have an innovative attitude [5]. According to Muharasti et.al (2015) that high entrepreneurial competence creates a great desire for farmers to increase business capital so that their business is more advanced and developed [6]. Fauziyah et.al (2015) revealed that superior
farmers must have the most important technical competencies including input management, production, and marketing [7].

3.2. The influence of entrepreneurial capability of farmers ($X_2$) on Bali Cattle farming business growth variables ($Y$).
The results showed that the variable of farmer’s entrepreneurial ability was measured based on internal factors and external factors of farmers. This is evidenced from the results of calculations using multiple linear regression analysis which shows that the value of the correlation coefficient ($r$) between the variable of the entrepreneurial ability of farmers and the growth of the Bali cattle farming business is 0.286, which means that there is a positive relationship between the two variables, further evidenced by the value of significance (0.027) < (0.05) which can be concluded that the entrepreneurial ability of farmers ($X_2$) has a significant effect on the growth of the Bali cattle farming business ($Y$) in other words that the contribution of the entrepreneurial ability of farmers to the growth of the cattle farming business Bali is 2.271 ($T_{count}$ value). This means that the growth of the Bali Cattle husbandry business is influenced by the entrepreneurial ability of farmers both from internal farmers and from external farmers.

Turnover of cattle farming business tends to be slow, because harvesting can only be done in the range of 6-12 months, thus providing a challenge for farmers to meet the daily needs of their families. In line with Mukti et.al (2018), entrepreneurs have demands for life’s necessities that must always be met, providing motivation to always be creative and innovative in dealing with all the problems that exist in their lives that entrepreneurial ability is driven by a commitment to entrepreneurship to improve business performance through creativity and innovation in finding something new that is different from something (idea) that has existed before [8]. In line with Rohani et.al. (2018), the entrepreneurial ability of a farmer is largely determined by the creative and innovative management of existing opportunities [9].

4. Conclusion
Based on the results of this study, it can be concluded that the competence of the farmer and the entrepreneurial ability of the farmer have a significant effect on the growth of the Bali cattle business.

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