

# Success Metrics of the Ridho Illahi Breeders' Cooperative in Enhancing Welfare in Wanasaba

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## Abstract

This study aims to examine the factors that determine the success of breeder cooperatives, particularly in enhancing business competitiveness and the welfare of the breeder community. The research employs a descriptive-qualitative method with Interpretive Structural Modelling (ISM) analysis. Data were collected through interviews and focus group discussions (FGD) with members of the Ridho Illahi Breeders Cooperative in Wanasaba subdistrict, West Nusa Tenggara. The results indicate that several factors contribute to the success of breeder cooperatives, with the technical skills of breeders having the most significant impact. The ISM model highlights that the critical areas of focus for breeder cooperatives should be the operation of upstream and downstream business systems and the marketing strategies for livestock products. The contribution of this research provides valuable insights for breeder cooperative management to enhance business competitiveness. The originality of this study lies in its model used to identify key factors for the success of breeders in improving competitiveness and welfare.

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## Introduction

Livestock businesses, which were previously carried out individually and traditionally, began to transform into business-oriented groups under one management and in one area. This transformation process is realized in the form of breeder cooperatives, a combination of breeders formed based on similar interests, social and economic conditions, resources, and location to

improve and develop members' businesses (Kementarian Pertanian, 2019). Cooperatives can be a forum for breeders to increase competitiveness add value and overcome various problems often faced by small-scale breeders. According to Zikri et al. (2018), these problems include a lack of management quality, inadequate business facilities, and low access to capital. The implementation of breeder cooperatives has been attempted by farmer groups in several categories, namely beef cattle cooperatives, dairy cattle cooperatives, poultry farming cooperatives, chicken farming cooperatives, goat farming cooperatives, bee cooperatives, and others. This business is accompanied and fostered by related agencies to achieve the goals of breeder cooperatives. Elizabeth et al. (2022) state that to achieve success in a cooperative, member participation is needed to be able to participate in every cooperative activity and decision-making.

Based on data from the Central Bureau of Statistics (2022), it is known that the total population of beef cattle in 2021 will increase by 29 percent, from 17.44 million to 18.05 million. Meat production has also increased, reaching a total of 436.70 thousand tons in 2022. Likewise, beef consumption has increased to 695.39 thousand tons in 2022. The increase in various indicators indicates several efforts that farmers have taken to increase productivity and competitiveness. One of these efforts is the formation of breeder cooperatives, which can also play a role in increasing competitiveness and adding value by optimizing all the resources they have. Data from the Central Statistics Agency shows that the need for national beef cattle products is very high, not yet matched by domestic production capabilities. This is evident from the volume of beef imports in 2022 which increased by 6.7 percent compared to 2021 and became the highest record in the last five years (Central Bureau of Statistics, 2022). The gap between beef production and consumption is still high, indicating that the development of beef cattle farming is still very prospective. However, the fact is that some beef cattle breeders in Indonesia are small-scale breeders with traditional management, Subekti (2008), Cattle farming businesses in Indonesia are carried out by various types and forms of business ranging from individual small-scale livestock farming businesses to privately managed livestock farms with large business scales, (Asmara et al., 2016) and the dairy cattle industry continues to be predominantly managed by small and medium-sized enterprises, (Nurdiyansah et al., 2020).

The cooperative model, which integrates both upstream and downstream aspects of the business, is deemed suitable as it caters to the needs of breeders. However, cooperatives encounter significant hurdles in operating the upstream and downstream segments necessary to empower their members. Upstream, cooperatives are restricted by farmers' capacity to enhance their production. Conversely, downstream, cooperatives struggle with marketing and cannot boost

value addition through product processing. These challenges stem largely from limited resources and an ecosystem that fails to support them adequately. Consequently, breeders encounter obstacles in managing their enterprises due to their small-scale operations and simplistic management approaches, leading to diminished productivity and product quality. Therefore, the government directs breeders to group together in a cooperative that runs a business-oriented upstream and downstream business system. This effort needs to be supported in efforts to increase the competitiveness of breeders. To meet domestic beef needs and reduce self-sufficiency, it is necessary to strengthen meat supplies through domestic production. This can be realized by strengthening breeder cooperatives which can support business scale and increase business competitiveness. Therefore, the focus of this research is to examine the determining factors for the success of breeder cooperatives to optimize the role of cooperatives to increase business competitiveness.

### **Literature Review**

Some previous studies related to cooperatives include research by Malau (2021) which examines the role of dairy cooperatives in the production efficiency of dairy farming businesses. The results show that optimizing the role of cooperatives and member participation will be a solution to increasing national milk production. Another research by Dian et al. (2021) examines the role of milk storage cooperatives in improving the economy of dairy farmers. The results of his research show that shelter cooperatives play a role in providing facilities and easy access to capital, savings, and loans, credit for livestock goods, seeds, feed, and livestock health services, as well as assistance and technical maintenance. Research by Rusdiana et al. (2016) on the economic analysis of agroecosystem-based beef cattle business states that livestock businesses can develop agroecosystems by converting land into a place to provide quality forage, breeding and fattening efforts, and good management. Supriyadi (2023) emphasized that the dependence of small-scale farmers on cooperatives is very large. They are unable to run their own business without help from the cooperative. Becoming a member of a cooperative is important for small farmers so that their businesses can survive. As for research related to analytical tools, namely Interpretive Structural Modeling, among others, has been reviewed by Arsiwi & Adi (2020). This research has succeeded in identifying eight variables that are key to the success of SME supply chain competitiveness and stating that the ISM Model can be a guide for SME owners to decide the strategies that must be used to maximize achievement on the most important variables. Other research from Dubey, et al. (2017) and

Jayant & Azhar (2014) who use ISM to examine the relationship between variables in sustainable supply chain management.

## Method

This study used primary data obtained through observation, interviews and focus group discussions (FGDs). Interviews were conducted with 20 farmers in Ridho Illahi beef cattle cooperative. FGD resource persons consisted of 5 people, including farmers, livestock cooperative administrators, academics, representatives of the Livestock and Animal Health Service Office of West Nusa Tenggara Province, and representatives from the Directorate General of Livestock and Animal Health, Ministry of Agriculture. The selection of this resource person is based on sample representativeness requirements, where there must consist of business actors, government, and academics, while 20 people are the number of members of the farmer cooperatives who are members. The method used in this research is Interpretive Structural Modeling (ISM). There are several stages in the ISM method, beginning with formulating and analyzing factors related to the success of breeder cooperatives in improving competitiveness. These factors are obtained through a process of discussion and interviews with breeders. Furthermore, discussions were held with experts to discuss the formation of contextual relationships between factors. The data became input for further processing based on ISM theory. The data processing finally produced a digraph model that describes the relationship between factors and shows the level of role of each factor.

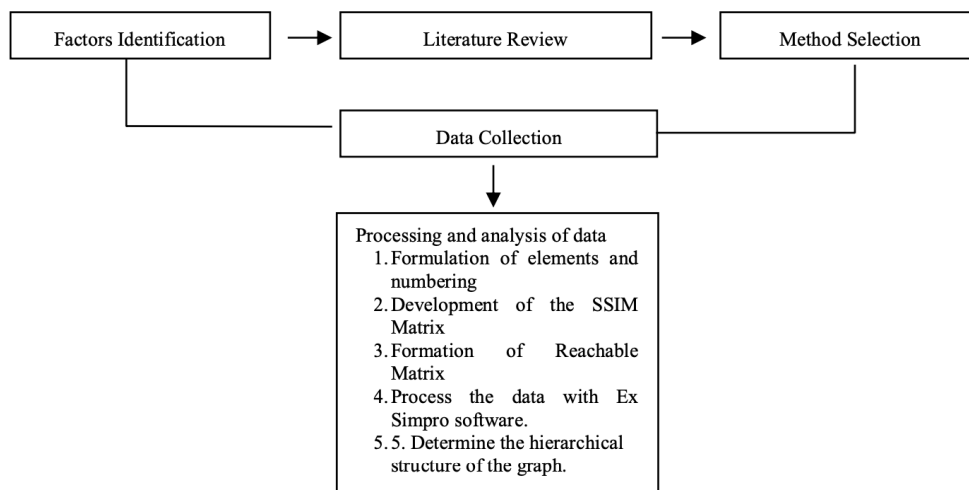


Fig. 1. Research Flows

Figure 1 shows the research flows in this study. Then, Interpretive Structural Modelling is a

system analysis to understand the complex relationships between various elements in a system. This model was first introduced by (Warfield, 1974) to understand the relationship between complex elements. Research related to ISM to assess the improvement of competitiveness has been carried out by several previous researchers, Rifaldi et al. (2021), Arsiwi & Adi (2020), Dubey et al. (2017), Jayant & Azhar (2014), Thakkar et al. (2008). The following is a research flow that illustrates the stages of data processing

### **Result and Discussion**

The first step is to identify the factors that determine the success of breeder cooperatives. The identification results found twelve elements which were then divided into seven sub-elements, namely as follows:

- e1      Quantity and quality of livestock products
- e2      Technical abilities (skills) of breeders
- e3      Access to financing and capital
- e4      Use of Technology, Infrastructure, Facilities
- e5      Implementation of Good Breeding Practices
- e6      Running upstream and downstream business systems
- e7      Marketing or sales strategy for livestock products

The elements above have been arranged sequentially based on priorities agreed upon through discussion. element e1 is the most priority factor which is considered the most important, then the next elements are arranged sequentially until element e7. To see the relationship between elements, the next step is to develop a Structural Self Interaction Matrix (SSIM) by converting the elements into a VAXO matrix with the following conditions.

- V : variable i affects variable j
- A : variable j affects variable i
- X : variables i and j influence each other
- O : variables i and j are not related

Thus, the ISSM matrix is obtained as follows:

Table 1. Structural Self-Interaction Matrix (SSIM)

<b>i,j</b>	<b>e1</b>	<b>e2</b>	<b>e3</b>	<b>e4</b>	<b>e5</b>	<b>e6</b>	<b>e7</b>
e1	X	A	X	X	V	V	V
e2		X	V	V	V	V	V
e3			X	V	X	V	V
e4				X	V	V	V
e5					X	V	X
e6						X	X
e7							X

The next step is to change the SSIM matrix to a Reachable matrix where the VAXO symbol is converted into binary numbers 1 and 0 for each relationship with the following conditions.

- If the relationship (i,j) in SSIM is V, then the relationship (i,j) in the Reachable matrix is 1 and (j,i) is 0
- If the relationship (i,j) in SSIM is A, then the relationship (i,j) in the Reachable matrix is 0 and (j,i) is 1
- If the relationship (i,j) in SSIM is X, then the relationship (i,j) in the Reachable matrix is 1 and (j,i) is 1
- If the relationship (i,j) in SSIM is O, then the relationship (i,j) in the Reachable matrix is 0 and (j,i) is 0

Following these rules, the reachable matrix for determining factors of competitiveness can be expressed in Table 2. After that, driver power and dependency can be calculated, which is the number of binary numbers 1 in each element based on the order of rows and columns. Driver power describes the strength of variable i in influencing variable j, while dependency describes how strongly variable j is influenced by i.

Table 2. Reachable Matrix (RM)

<b>i,j</b>	<b>E1</b>	<b>E2</b>	<b>E3</b>	<b>E4</b>	<b>E5</b>	<b>E6</b>	<b>E7</b>	<b>Driver Power</b>
E1	1	0	1	1	1	1	1	6
E2	1	1	1	1	1	1	1	7
E3	1	0	1	1	1	1	1	6
E4	1	0	0	1	1	1	1	5
E5	0	0	1	0	1	1	1	4
E6	0	0	0	0	0	1	1	2
E7	0	0	0	0	0	1	1	2
Dependency	4	1	4	4	5	7	7	

The results of the ISM-VAXO model show a hierarchical structure of relationships between sub-elements consisting of three levels, as in Figure 2. This structure is based on the assumption that sub-element relationships show relationships that support each other and influence other sub-elements below them.

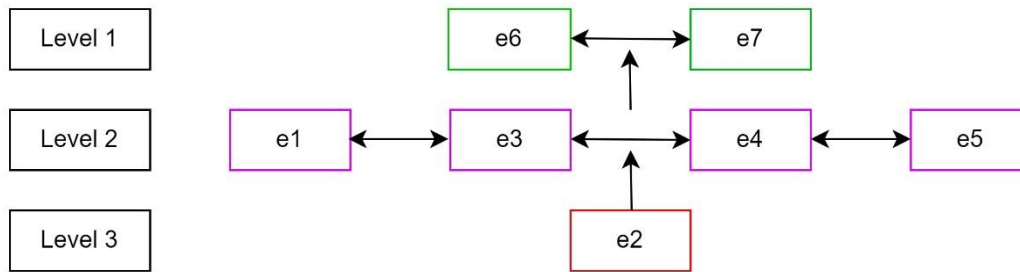


Fig. 2. Hierarchical Structure Model of Determining Factors of Competitiveness

Based on the hierarchical structure image, the results show that sub-element e2, namely the technical ability of breeders, is a key element in determining the competitiveness of breeder cooperatives because it is at the highest level based on the largest Driver Power value. All sub-elements are then classified according to the level of Driver Power (DP) and the level of Dependency (D) in 4 quadrants, where quadrant I (Autonomous), quadrant II (Dependent), quadrant III (Linkage), quadrant IV (Independent) as in figure 3.

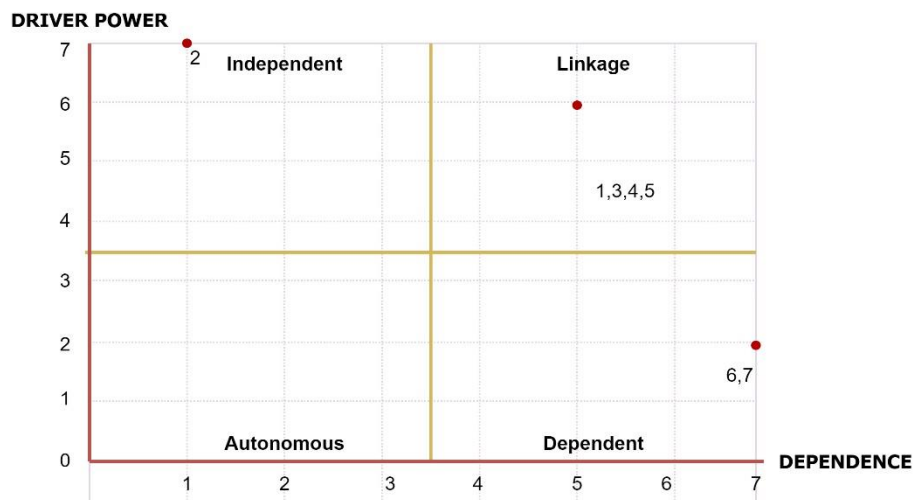


Fig. 3. Classification of Determinants of Competitiveness

The classification results in Figure 3 show that there are no sub-elements unrelated to the system indicated by quadrant 1 (autonomous). Sub-elements e1, e3, e4, and e5 are in quadrant III

(Linkage), so they need to be studied carefully because they have an unstable relationship but have a big impact on other variables, especially variables in quadrant II (Dependent). The classification also shows that in the Dependent quadrant, there are sub- elements e6 and e7 dependent variables that depend on input and corrective actions carried out in the independent quadrant system, namely sub- element e2.

The competitiveness of a breeder cooperative indicates the institution's performance compared to other competitors in terms of various interrelated factors. This research identified 7 factors determining the success of breeder cooperatives, which play the most role and significantly influence increasing the competitiveness of breeder cooperatives. The ISM model shows that the factor with the most significant influence is the farmer's technical ability (skill) because this factor is a key element in ISM. Meanwhile, two factors occupy the top level of the ISM model, namely the operation of the upstream-to-downstream business system and the marketing strategy for livestock products. This means that these two factors must be the focus of attention for breeder cooperative management in increasing competitiveness. The driver power dependence matrix illustrates that all factors are interrelated with the farmer's ability to become an independent factor.

The findings in this study imply several factors determining the success of breeder cooperatives, which have an impact on increasing competitiveness and business scale, one of which is breeder skill, if this key factor can be maximized, it will lead to an increase in the welfare of society. Particularly, this research provides direction that the key element that must be built and strengthened is the technical capability of breeders, especially in developing cooperatives. Strengthening breeders' capacity will be the key for other elements to progress and develop, such as upstream and downstream businesses and product marketing. This research also found that several elements are between the key elements and the final elements, namely the quantity and quality of livestock products, access to financing and capital, use of technology, infrastructure, facilities, and implementation of good livestock practices, which means that these elements are the second priority after key elements that can be encouraged and worked on together for the effectiveness of cooperative management.

## **Conclusion**

This study aims to identify the factors determining the success of breeder cooperatives, particularly in enhancing business competitiveness and the welfare of the breeder community. The research employs a descriptive-qualitative method with Interpretive Structural Modeling (ISM)



analysis. Data were obtained through interviews and focus group discussions (FGD) with members of the Ridho Illahi Breeders Cooperative in Wanasaba subdistrict, West Nusa Tenggara. The results indicate that the technical skills of breeders are the most significant factor influencing the success of breeder cooperatives. Other important factors include the quantity and quality of livestock, availability of infrastructure, access to capital, use of technology, livestock maintenance, marketing strategies, and ensuring the smooth operation of upstream and downstream business systems. This research contributes valuable insights for breeder cooperative management to enhance business competitiveness. The limitation of this study is the limited number of variables considered, which could be expanded in future research for more specificity. Future research could develop additional variables and employ different analytical tools. The implication is that cooperatives can serve as platforms for developing farmers' capacities to increase business competitiveness and scale, empower farmers, and advance both upstream and downstream businesses.

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