

# Integration of the analytical hierarchy process (AHP) - balance score card (BSC) model in selection of broiler agribusiness partnership model to increase income of the breeders partner in South Sulawe

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## Integration of the analytical hierarchy process (AHP) - balance score card (BSC) model in selection of broiler agribusiness partnership model to increase income of the breeders partner in South Sulawesi

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**Abstract** The integration of the Analytical Hierarchy Process-Balance scorecard model in decision-making is not something new, but the application in selecting the broiler agribusiness partnership model is something new. Combining the two will further improve performance in decision-making, a balanced scorecard approach with perspective and strategic objectives will be very helpful as criteria and sub-criteria in the Analytical Hierarchy Process-based decision-making hierarchy. This study aims to identify the broiler agribusiness partnership model that has the best performance in efforts to increase income and empower breeders partner in the broiler agribusiness partnership system in South Sulawesi, located in selected cities based on population development and the characteristics of partners in South Sulawesi. The results of the study found that the cooperative-based partnership model showed better performance in efforts to increase partner farm income compared to the other two partnership models, namely the private partnership model based on production facilities producer companies, and the private partnership model based on non-production facilities producers, because the cooperative model allows income. So far, only partially owned by companies that do partnership can be channeled to breeders partner through a mechanism for sharing the remaining profits from the cooperative's business, whose members are all breeders partner as additional income other than income from the recapitulation of breeder maintenance, so that it will make the distribution of income more proportional.

### 1 Introduction

The development of the broiler agribusiness partnership model has become one of the sectors that drives the economy of South Sulawesi, the number of broiler agribusiness partnerships that spread to almost all districts in South Sulawesi, and the increase in the number and scale of farmer businesses is one of the indicators. This business activity has driven its upstream and downstream sub-streams from broiler agribusiness. The broiler agribusiness partnership in South Sulawesi, dominated by the price contract



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partnership model, the fee management partnership model and the profit sharing model is almost not developing in South Sulawesi this is based on the guaranteed market price of the broilers produced, which has been a concern for independent broiler breeders [1].

The partnership model developed so far with various forms and mechanisms which are generally coordinated vertically through a vertical integration pattern, theoretically is able to increase the income of breeders, partner and stakeholders [2]. In fact, in its implementation, it has become a business area for companies producing production facilities to benefit from the system. In fact, there are indications of monopoly and fostering cartel practices among the companies producing the means of production [3]. In fact, this is exacerbated by the re-entry of livestock production companies into the cultivation sector by managing their own farms, which makes Presidential Decree No. 50 of 1981 which forces seedlings out of cultivation to be violated and not operational, the simplest result is production companies producing means of production which so far are only becoming a manager, not being focused on fostering and developing breeders, partner and more focused on self-developed cultivation [4]. With a greater bargaining position in the aquaculture sector, as a result they will be more selective in choosing breeders, partner and only focus on maintaining breeders, partner on a larger scale with greater opportunities for efficiency and profit and less potential risks [3]. This indicates that the business focus has become a major concern and overriding the mandate to foster and develop small farmers through a partnership system [5] so that they can become independent breeders and able to develop their own business as the initial concept of developing this business partnership model was entrusted to large companies to collect and fostering small farmers who have limited capital, resources, technology and market access in a partnership system.

Based on these problems, the broiler agribusiness partnership concept that is currently developing with all its forms and mechanisms have not been able to show the performance as expected, it is necessary to have an alternative partnership model that is able to facilitate breeders, partner to get out of the convoluted problems so far and return to the initial concept of developing the model this partnership is the creation of a win-win solution, the realization of resource sharing and risk sharing based on the principle of mutual need, mutual strengthening and mutual benefit, to create a partnership system that serves and improves the welfare of the farmer community who is members of the partnership (breeders, partner) through coaching and empowerment. In other words, a business partnership is a cooperative relationship between businesses which is based on the principle of mutual support and mutual support based on the principles of kinship and togetherness [6]. The concept of cooperative-based partnerships is one of the solutions that the author has offered in previous writings. In the cooperative-based broiler agribusiness partnership model, the role of the core company, which has been controlled by a partnership company based on producers of livestock production facilities, is played by a cooperative whose members are all breeders, partner who are members of the partnership system, with supervision by the partnership authority agency [7]. The development scenario in the short term is the cooperative only becomes a partnership manager and the production facility producer company remains the main partner in the procurement of livestock production facilities, but in the long-term scenario, the broiler agribusiness cooperative is expected to form production units for livestock production in the form of seeds, feed, As well as drugs, vaccines and own chemicals [8]. With these conditions, they can take the added value and income in the upstream sector which has been controlled by a partnership company based on production facilities so that it will automatically be felt by the breeders who are members of the cooperative through the distribution of the remaining business income, so that in general the potential increasing income is increasingly widespread.

The cooperative-based partnership model as a concept needs to be tested for the effectiveness of its performance in a system, therefore the author through this paper describes a comparison of the performance appraisal of the cooperative-based agribusiness partnership model with the partnership model that has developed so far which the authors group in a private company-based partnership model that produces facilities, Production and a private company-based partnership model for non-production means producers

## 2 Research methods

### 2.1 Research design

The approach used in this research is expert survey and field observation. Data was collected from expert respondents (expert judgment) and other informants in responding to items related to the performance of the broiler agribusiness partnership system in South Sulawesi, compiling with the stages of previously published research results based on expert views on each component of the partnership business actor (breeders and associations) society including academics and the related bureaucracy.

### 2.2 Research scope

This research includes a performance study of the broiler agribusiness partnership system, which is grouped into a group of partnerships based on private companies producing means of production and partnerships based on private companies that are not producers of production facilities in several districts / cities which are the operational areas of the broiler agribusiness partnership selected based on the development of the chicken population, broiler and the characteristics of the companies doing the partnership in South Sulawesi province.

### 2.3 Data types and sources

The types of data collected are sourced from primary data and secondary data.

- 1 Primary data obtained from the results of in-depth interviews with a number of informants/ participants as well as direct observation of the object under study relating to the performance of the broiler agribusiness partnership system in South Sulawesi
- 2 Secondary data for supporting data are obtained from various source documents of research studies and previous publications, books on partnership implementation reports, as well as reports from various related agencies

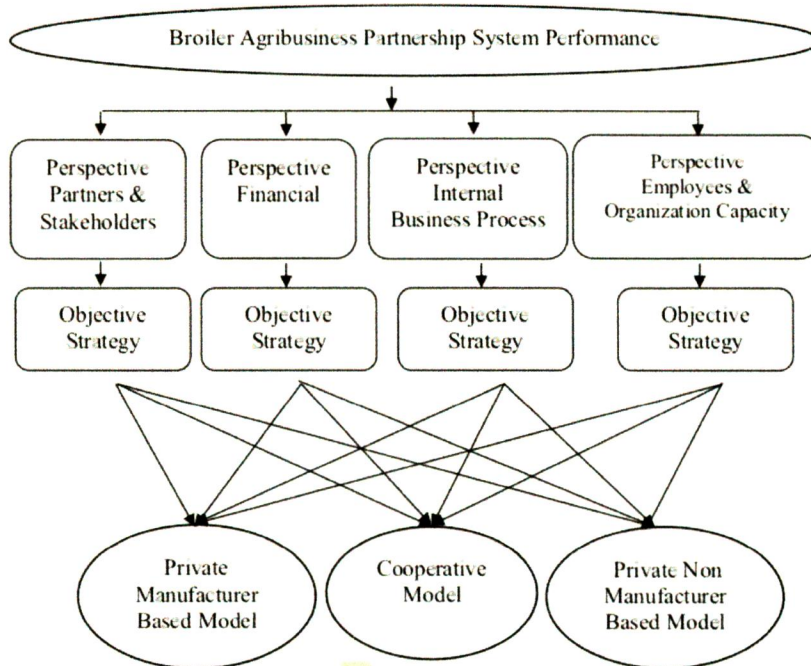
### 2.4 Data collection technique

The data collection techniques used in this study were tailored to the data needs in the field, namely primary data and secondary data. In-depth interviews were conducted with a number of experts/expert informants consisting of elements from breeders (1 person), government (1 person), academics (1 person), private partners (4 people) and associations (1 person). The author plays a direct role as well as a facilitator in all of these series of activities.

The determination of experts who are used as informants follows the criteria, namely having in-depth knowledge of the study of broiler agribusiness partnerships in South Sulawesi, having extensive experience in the field of broiler agribusiness partnerships, having experience that is not only related to one resource factor but also for the sector, other related. Apart from these characteristics, experts are also selected because they have worked or are currently working for government and private organizations and are involved in operational and academic activities, especially animal husbandry.

### 2.5 Data analysis

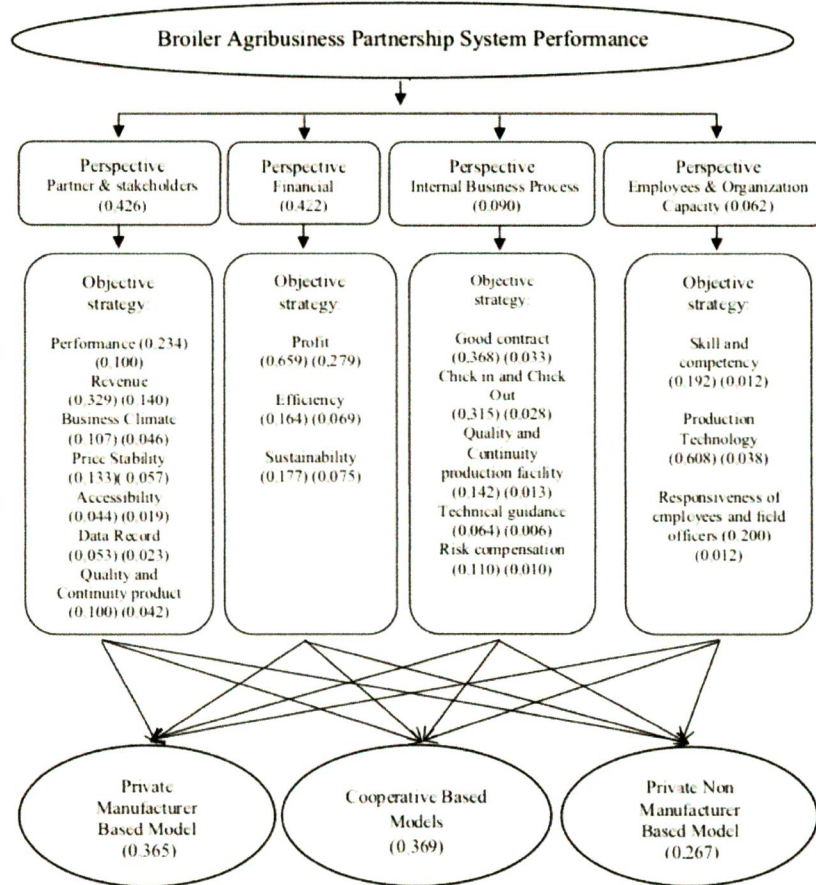
The data analysis technique is quantitative data analysis method. To improve the quality of the study, the assistance of the Analytical Hierarchy Process-Balance Scorecard model was used. Balanced scorecard approach with key performance indicators for each perspective and strategic objective as criteria and sub-criteria in the Analytical Hierarchy Process based decision making hierarchy [9-10]. The hierarchy of analysis using a combination of the Analytical Hierarchy Process model and the Balance Scorecard can be described as follows:



**Figure 1** Integration formulation of AHP and BSC models in performance analysis of broiler agribusiness partnership system

**3 Result and discussion**

Determining priorities in the performance appraisal study of the broiler agribusiness partnership model in South Sulawesi through weighting using the pairwise comparisons technique for all stages of the study in the balanced scorecard concept at the perspective level strategic objectives, and alternative partnership models. The concept of the Balance Scorecard in choosing an alternative model for the broiler agribusiness partnership model with a series of weighting stages pairwise comparisons using the Analytical Hierarchy Process approach based on an expert choice can be described hierarchically as follows



**Figure 2.** Assessment of the broiler agribusiness partnership model in South Sulawesi.

Figure 2 shows that in general the informants consider that the perspective of partners and stakeholders (0.426) and the financial perspective (0.422) are the two main perspectives that dominate the priority level of importance of the criteria. This is in line with the balanced scorecard perspective of the broiler agribusiness partnership system that has been formulated. In the previous study, the perspective of partners and stakeholders and the financial perspective is the ultimate goal of expected performance in this system because the broiler agribusiness partnership model is a semi-public organization, although the main actor of the partnership is a private organization, but by the government with the concept of partnerships is manipulated to develop a public mission [11] namely developing partnerships that are win-win solutions, sharing resources and sharing risks based on the principle of mutual need, mutual strengthening and mutual benefit, so that they can be creating a partnership system that serves and improves the welfare of breeders.

partner through coaching and empowerment, as well as other benefits for all relevant stakeholders, on the other hand it can increase production efficiency which in turn will increase profits for the companies that do partnerships [12].

Meanwhile, the perspective of employees and organization capacity with the lowest priority weight (0.062) among all perspectives shows that this perspective is expected to be a strong foundation that must be owned by a partnership managing company, employees who have professionalism in their fields and are supported by high organizational capacity and reliable which is able to create a broiler agribusiness partnership process business in the next rank (0.090) so as to be able to create profits for the companies that do the partnership, so that with these advantages it can provide maximum service to its breeders partner and other stakeholders. Globally, the weight of the strategic priority increases the company's profit (0.279) from a financial perspective and a decent income strategic target for breeders' partner (0.140) and improves the performance of breeders' partner (0.10) from the perspective of partners and stakeholders, especially breeders partner stakeholders. This shows that globally these three perspectives are the main priority of strategic targets in improving the agribusiness performance of broiler chickens in South Sulawesi. This is in line with the initial concept of the balance scorecard model for semi-public organizations previously described where the main perspective that is the focus of the performance of the broiler agribusiness partnership model is the perspective of partners and stakeholders and a financial perspective, which also shows the interests of the two main actors of the broiler agribusiness partnership, namely partnership companies (nucleus) and breeders partner (plasma).

The results of the assessment of the broiler agribusiness partnership model in improving performance in increasing and distributing the income of all stakeholders in the broiler agribusiness partnership system based on the balanced scorecard perspective, can be seen in detail in Table 1 below.

**Table 1** Partnership model in improving broiler agribusiness performance in South Sulawesi

Alternative partnership models	Weight
Production facility based private company partnership	0.365 <sup>1)</sup>
Non production facility based private company partnership	0.267 <sup>3)</sup>
Cooperative based Partnership	0.369 <sup>1)</sup>

Note: <sup>1)-3)</sup> = Alternative ranking

Table 1 shows that of the three alternative management models for broiler agribusiness partnerships that have been or will be developed, the authors recommend the need for a partnership model that is more capable of increasing synergies and providing increased income for actors in the broiler agribusiness partnership system in South Sulawesi, with several changes and development of the models that have been developed so far to achieve the expected goals.

The results of the assessment show the high weight of the alternative cooperative-based partnership model, even though the broiler agribusiness partnership models that have existed and been developed by production facilities industry-based companies still receive a good weight, and only partnerships are developed by private non-producers of non-producers of production facilities which has less weight. The higher weighting of existing partnership models indicates a desire to look for alternative models outside of the currently developed models, which may be one of the reasons because the currently developed models have been unable to meet expectations as the initial concept was developed. The idea of such a partnership by the government, as evidenced by the many complaints of plasma farmers over problems that arise in the field in terms of managing partnerships based on private companies which still prioritize pursuing profits rather than taking sides in the development and empowerment of smallholder breeders.

The high weight for the cooperative-based partnership model shows that there is hope in efforts to develop partnerships that take sides in the development and empowerment of smallholder farmers, because cooperative partnerships are based on the principle of mutual cooperation, interdependence so that the effectiveness of cooperation and the value of partnerships increases and tends to focus more on partners. However, this model also has weaknesses due to the potential for reduced profit due to distribution and efficiency that is difficult to achieve due to smelting [13]. This is quite reasonable because it is realized that the basic principle of cooperatives is the welfare of the members, so that service to members is the main variable. In addition, the cooperative model is considered less effective in delivering policies, but with adequate power and resources these constraints can be overcome.

Based on these considerations, the authors concluded that the broiler agribusiness cooperative-based partnership model has the potential to be an alternative in improving the performance of broiler agribusiness partnerships in South Sulawesi, referring to the resources base view and social exchange as the basic theory, apart from human capital, organizational capital, and management capabilities. The quality of the partnership is a valuable asset in achieving high performance, that resources and capabilities are related to performance but the quality of the partnership has a partial mediating and moderate effect on the relationship, so that quality employees and organization capacity will have an effect good if mediated by the variable quality of a good partnership.

#### 4. Conclusion

Based on the results of this study, it can be seen that the cooperative-based agribusiness partnership model has a better performance appraisal weight than the other two models, because it is better able to increase synergy and income of the actors, so that the broiler agribusiness cooperative-based partnership model has to become the potential an alternative model in improving the performance of broiler agribusiness partnerships in South Sulawesi in an effort to increase income and empower breeders partner.

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