

# Strategy analysis of extension of performance in transfer of livestock technology innovation for farmer empowerment

*by A Asnawi*

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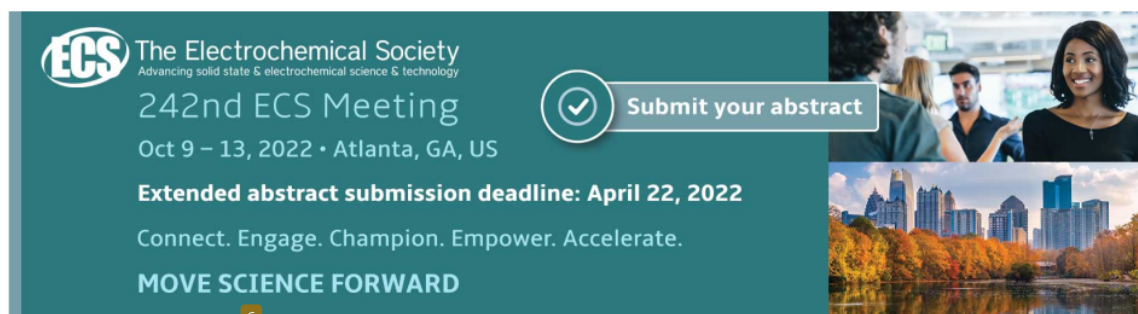
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## Strategy analysis of extension of performance in transfer of livestock technology innovation for farmer empowerment

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**Abstract.** The impact of the Covid-19 pandemic is still widespread and needs to be watched out for. In government policies that implement the new normal in several places, agricultural extension workers play a very important strategic role in responding to the pandemic, especially in rural areas. This study aims to analyze the performance strategy of extension workers in assisting farmers during the pandemic in disseminating information on livestock technology innovations. The research was conducted in Barru Regency, with the sub-district location being the sample. Sources of data in this study were collected using surveys/interviews with extension workers, farmers, stakeholders, and in-depth interviews with informants. The results show that the performance strategy that can be taken in improving the performance of the extension worker in the transfer of livestock technology innovation is by increasing the competence of the instructor in the guidance carried out to overcome various problems during the implementation of the extension program and improve innovation, communication and extension methods according to the needs of farmers and support from government agencies. Therefore, it is expected to improve the performance of agricultural extension workers by increasing the extension budget and improving extension facilities and infrastructure so that farmers can adopt agricultural/livestock technology innovations provided by extension workers to increase livestock productivity, increase farmer income and welfare.

### 1. Introduction

Agricultural extension workers have a strategic role in agricultural development, especially in the transfer of technology to farmers. The importance of the role of the extension worker, the performance of the extension worker also needs our attention. Extension workers can be categorized as performing well if they have carried out their main duties and functions as extension workers by the standard indicators that have been set. Agricultural instructors in communicating agricultural development innovations and carrying out their main tasks and functions by the mandate of the Act are certainly influenced by various factors, both internal and external factors, which is external. According to Suprpto (2009), internal factors in the form of personal factors and external in the form of environmental conditions and conditions as well as support for facilities and infrastructure affect the performance of the extension workers [1].

Decree Presidential Number 12 of 2020 concerning the Determination of Non-Natural Disasters Spreading Covid-19 as a National Disaster [2]. The health protocol orders include instructing the public to maintain *social distance* by avoiding crowds or gatherings of many people in a certain place



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(Task Force for the Acceleration of Handling Covid-19, 2020). The local government then translates the protocol as a prohibition so that people do not hold meetings or gather in large numbers. With the government's recommendations and prohibitions and with the fear that the community will be infected by the Covid-19 virus, there has also been a refusal from the community, including the farming community, to hold group meetings. This resistance becomes a problem for agricultural extension workers in carrying out their main tasks and functions because meetings and communication are essential means for extension workers to transfer innovation to farmers. Based on this problem, the question arises, how is the performance strategy of extension workers in transferring technological innovations during the covid-19 pandemic in Barru Regency, South Sulawesi.

## 2. Methods

This research method is qualitative exploratory [3], which explains the phenomenon of agricultural instructor performance and formulates it into an appropriate strategy. This research was carried out in Barru Regency, which is one of the centers for refining Bali cattle in South Sulawesi Province. This research was conducted from April-June 2020. The data collection technique was through in-depth interviews using questionnaires and field observations with 40 extension workers and stakeholders (Head of Agriculture Service, and Extension Coordinator) [3]. The second stage is to formulate strategic factors for the performance of extension workers using SWOT. The SWOT analysis is one alternative form suitable approach in the formulation of strategy performance extension that is based on logic to maximize power and opportunities and minimize your weaknesses and threats [4].

## 3. Results and discussion

### 3.1. Evaluation of internal and external factors

Analysis of internal and external factors is carried out by weighting and giving a rate and assigning a score as the product of the weight and rate. The weighting is carried out based on the results of the questionnaire tabulation, from each of the factors that have been identified, based on the scale [5], the researchers then carried out the weighting which was an accumulation of objective and subjective assessments. Objectively based on the results of the questionnaire tabulation and subjectively based on the results of in-depth interviews and review of supporting literature. The results of the weighting, ranking, and score of each internal factor (strengths and weaknesses) and external factors (opportunities and threats) can be seen in Table 1 and Table 2.

**Table 1.** Matrix of evaluation of internal factors (strengths and weaknesses) of extension worker's performance .in transfer of agricultural technology

Internal strategy factor	Score	Rating	Value
Strength			
Formulate extension programs	0.14	3.4	0.48
Preparing the RDK and RDKK	0.12	3.42	0.41
The communication used by extension workers is according to the needs of farmers/breeders	0.12	2.8	0.34
Accountability of the extensionist to the responsibilities at work	0.08	2.95	0.24
The motivation of extension workers in conducting farmer training is quite high	0.09	2.95	0.27
Subtotal	0.55		1.72
Weakness			
The lack of infrastructure in conducting outreach	0.07	2.47	0.17

activities			
The competence of the instructor in transferring up-to-date technology is minima	0.12	3.22	0.39
Lack of funding for outreach activitie	0.07	2.87	0.20
The method practiced by the extension worker is not following the needs of the farmer	0.06	3.57	0.21
Counseling for farmers who have not been able to access market information	0.08	2.5	0.20
Availability of information and mastery of technology is still lacking	0.05	3.75	0.19
Subtotal	0.45		1.36
Total	1.00		3.09

Table 1 shows the score of strength (*strength*) of 1.72 and the value of weakness (*weakness*) of 1.36 with a total internal value of 3.09 and the difference between strengths and weaknesses of 0.36. Thus, in internal factors, the strengths are still greater than the existing weaknesses. The factor in formulating the extension program, compiling the RDK and RDKK as well as the communication used by the extension worker according to the needs of the farmer is a component of strength with a high score. The high score on this indicator is due to the instructor's obligation to have a work program and annual work plan which are usually prepared together at the BPP office by the extension worker based on observations and situation analysis. The extension worker is required to prepare the work plan and must obtain an approval or be signed by the head of the UPTD and the extension coordinator, therefore, inevitably the extension worker must make both work plans. The results of incidental interviews with several farmers indicated that farmers were not involved in the preparation of the two work plans. According to [6] and [7] in the preparation of work programs and annual work plans for agricultural extension, extension workers must involve or involve farmers so that the extension materials that will be provided to farmers are following their needs. However, the Agricultural Instructor in preparing the work program and annual work plan is based more on the work plan and budget plan of the Department of Agriculture where the extension worker takes shelter. This happens because the extension workers must implement the policies and work programs of the Department of Agriculture related to the implementation of their duties and functions as agricultural extension workers. According to extension workers, they often make work programs based on the participation and needs of farmers, but the program cannot run because there is no budget support. Therefore, extension workers prefer plans that can be implemented and have clear budgets. Taking into account this fact, it is only natural that extension workers do not make many breakthroughs or innovations other than carrying out their main tasks and routine tasks in carrying out extension functions.

**Table 2.** External factor evaluation matrix (opportunities and threats) extension worker's performance in the transfer of agricultural technology

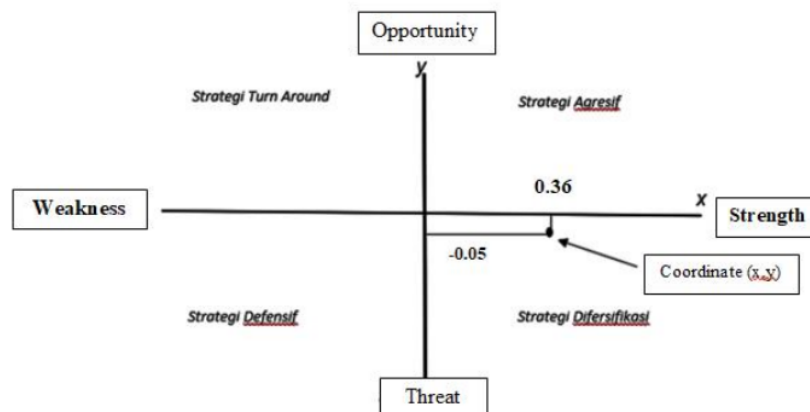
Internal Strategy Factor	Score	Rating	Value
Opportunity			
Government policy in improving livestock farming	0.04	2.1	0.08
The existence of technological development in agriculture	0.1	3.1	0.31
Cooperation between researchers, extension workers, and farmer/livestock contact farmers and other agribusiness actors	0.09	2.66	0.24
The existence of partnerships with other sources of information and agribusiness businesses	0.11	2.82	0.31
The existence of a training program to increase the capacity of extension workers	0.12	2.9	0.35
Guidance and supervision of extension human resources	0.06	2.17	0.13
Subtotal	0.52		1.42
Threat			
Institutional sustainability interacting with external parties	0.13	3.75	0.49
Changes in organizational policy decisions	0.13	2.25	0.29
Lack of farmer participation in extension activities	0.05	4.55	0.23
Administration changes	0.06	2.82	0.17
Less than optimal guidance and supervision of activities	0.11	2.7	0.30
Subtotal	0.48		1.47
Total	1.00		2.90

The condition of external factors (Table 2) shows the weighted score of 2.90. And a score odds of 1.42 while the value of existing threats on the score of 1.47 thus obtained a difference value of 0.05. The main threat in the performance of extension workers in technology transfer is the change in organizational policy provisions, the sustainability of interacting with outside parties (0.49). Meanwhile, the main opportunity is the existence of a training program to increase the capacity of extension workers (0.35) and the development of technology in the field of agriculture. Information technology can be well informed to be able to present new information that can be conveyed in extension activities [8]. Strategic factors internal and external that have been identified, further analysis using the SWOT matrix to find the formulation of the right strategy performance extension in the transfer of technology in Baru) (Table 3).

### 3.2. Strategy performance improvement extension

Based on the evaluation of internal and external factors that have been done on each component in the matrix of internal and external factors, then it can be seen the position or condition of the extension's performance at this time in the SWOT quadrant, which will then reflect the direction of strategy development that will be prepared. The position or condition of the instructor based on internal factors

is depicted on a flat line (x abscissa) while external factors are depicted on a vertical line (y ordinate). By the results in the SWOT chart (Figure 1), the main strategy in efforts to improve the performance of extension workers in animal husbandry technology transfer in Barru Regency is quadrant II, namely the diversification strategy, namely optimizing the performance of all existing strengths to reduce threats and take advantage of all existing opportunities and carrying capacity.



**Figure 1.** SWOT analysis diagram of the performance strategy of extension workers in technology transfer to farmers in Barru Regency

Several strategic steps that can be implemented based on the type of diversification strategy are presented in table 3. The results of the EFAS and IFES analysis that have been carried out show that the weighted score for internal conditions is 3.09 and the weighted score for external conditions is 2.9. The difference in the weighted score of internal factors between strength/S (1.72) and weakness/W (1.36) is 0.36 greater than strength/S. Meanwhile, the difference in the weighted score of external factors between opportunities/O (1.42) and threats/T (1.47) is 0.05 greater than threat/T. Therefore the chosen strategy is ST. ST strategy aims to reduce the impact of existing threats using existing strengths. This strategy also shows the performance of extension workers who have various work threats, but their strengths can still be used to minimize these threats [9]. Strengths and challenges strategies that can be used are Improving the competence of extension workers in the guidance carried out in overcoming various problems during the implementation of the extension program and Improving innovation, communication, and extension methods according to the needs of farmers. Thus, it is hoped that the implementation of the agricultural extension during the pandemic requires the delivery of messages and information with individual communication either through mobile media or with individual visits by adhering to the implementation of standard procedures for preventing the transmission of COVID-19 so that technological information can be conveyed to farmers and breeders. This is in accordance with Purwatiningih et. al. (2018), that the delivery of information and mastery of technology can make the agricultural extension process faster and more effective which can ultimately increase the productivity, welfare, and empowerment of rural farmers [10].

**Table 3.** Matriks SWOT

<p><i>Internal factors analysis summary (IFAS)</i></p>	<i>Strength</i>	<i>Weakness</i>
	<ol style="list-style-type: none"> <li>1. Formulate the extension program</li> <li>2. Compile the RDK and RDKK</li> <li>3. Communication according to the needs of farmer<sup>1</sup></li> <li>4. Accountability of extension workers</li> <li>5. The motivation of extension workers in conducting farmer development is quite high</li> </ol>	<ol style="list-style-type: none"> <li>1. Lack of infrastructure in conducting outreach activities</li> <li>2. The competence of extension workers is not based on the needs of farmers</li> <li>3. Lack of funds for extension activities</li> <li>4. The method used by the extension worker is not in accordance with the needs of the farmer</li> <li>5. Counseling to farmers who have not been able to access market information.</li> <li>6. Availability of information and mastery of technology is still lacking</li> </ol>
<p><i>External factors analysis summary (EFAS)</i></p>	<i>Opportunity</i>	<i>Threat</i>
<ol style="list-style-type: none"> <li>1. Government policy in improving agriculture/ animal husbandry</li> <li>2. Technology development</li> <li>3. Cooperation between researchers, extension workers, and farmer/livestock contact farmers and other agribusiness actors</li> <li>4. The existence of partnerships with other sources of information and agribusiness businesses</li> <li>5. There is a training program for the capacity of extension workers</li> <li>6. Development and supervision of human resources</li> </ol>	<i>Strategi SO</i>	<i>Strategi WO</i>
<ol style="list-style-type: none"> <li>1. Institutional sustainability interacting with external parties</li> <li>2. Changes in organizational policy provisions</li> <li>3. Lack of participation of farmers in extension activities</li> <li>4. Administration Change</li> <li>5. Guidance and supervision of less than optimal activities</li> </ol>	<i>Strategi ST</i>	<i>Strategi WT</i>
	<ol style="list-style-type: none"> <li>1. Utilizing government programs in capacity building for extension workers</li> <li>2. Improving extension programs in the development of agricultural technology</li> </ol>	<ol style="list-style-type: none"> <li>1. Conducting coaching in improving counseling services</li> <li>2. Improving the quality of human resources for extension workers in increasing farmer participation</li> </ol>
	<ol style="list-style-type: none"> <li>1. Improve the competence of extension workers in the guidance carried out according to the needs of farmers</li> <li>2. Improving innovation, communication, and extension methods according to the needs of farmers</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve farming technology</li> <li>2. Increase the number of extension workers in improving the development of extension activities for farmers</li> </ol>

#### 4. Conclusion

1. Following the SWOT analysis diagram of the main strategy to be developed to increase the performance of extension is the diversification strategy (diversification strategy).
2. Strategic steps that can be taken in improving the performance of extension workers in the transfer of animal husbandry technology are by increasing the competence of extension workers in the guidance carried out in overcoming various problems during the implementation of the extension program and increasing innovation, communication and extension methods according to the needs of farmers and support from government agencies.

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