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The Effect of Marketing Mix and Agricultural Incentives on Farmers' Participation in Organic Rice Cultivation in Bakti Village, Ponrang Selatan District, Luwu Regency

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Abstract

This study examines the effect of the marketing mix and agricultural incentives on farmer participation in organic rice cultivation. This research method uses descriptive quantitative research through survey techniques. The data collection uses observation and interview methods. The data were analyzed using structural equation modeling (SEM) with the help of the Smart PLS application. The results showed that the marketing mix affected farmer participation of -0.082 units with a T arithmetic value of 0.441 < 1.697 or a p-value of 0.660 > 0.005. Agricultural incentives affect farmer participation by 0.923 units with a t-count value of 3.491 > 1.697 or a p-value of 0.001 <0.05. The combined effect of the marketing mix and agricultural incentives on farmer participation is 57.2%, while 42.8% is influenced by other variables not observed in this study.

Keywords: marketing mix; farmer incentives; farmer participation.

1. Introduction

Incentive/disincentive policies are not just rewards or punishments but involve positive or negative changes in outcomes which, in the individual's view, will result from an action taken based on specific rules or regulations in both physical and social contexts (Zulkarnain & Mangiring, 2017). The growth of the organic market is getting faster both in the international and domestic markets. Based on statistical data and Organic Trends 2015, the world organic product market is increasing by 20 percent per year. The growth of the Indonesian organic product market is also relatively rapid, marked by the increasing number of farmers who manage organic farming yearly. As of 2015, the number of *poktan* or rice farming groups that have received organic certification is 100 *poktan* or *gapoktan.* It spread across 16 provinces: North Sumatra, West Sumatra, South Sumatra, Jambi, Lampung, Banten, West Java, Central Java, DIY, and East Java, Bali, NTT, NTB, South Kalimantan, South Sulawesi, and Central Sulawesi (Akmalia & Barlan, 2020).

The food security program cannot be separated from rice as a strategic base commodity. It is stated in the formulation of agricultural development that the indicative target of production of the primary food crop commodities and the government's food reserves is still based on rice. However, with the decreasing number of arable land per farmer, the limited supply of irrigation water, the high price of inputs, and the relatively low cost of the product can become limiting factors/obstacles for the program to increase the welfare and independence of farmers based on local resources. A technology with great potential to increase national rice production is the rice cultivation system of rice intensification (SRI which emphasizes the management of soil, plant, and water processing through group empowerment and local wisdom based on environmentally friendly activities (Juanda, 2012). Value added value is

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the economic value obtained from the advanced processing activities of a processing business, which can increase farmers' income and welfare through the acceleration of farmer participation empowerment in its implementation.

A structured questionnaire helps to obtain data and information from several types of respondents, such as farmers and staff in related agencies, which were reviewed with the help of the value-added analysis method (Hayami) and the analysis of the characteristics of the typology of participation. To enrich the insight and scope of writing, this paper reviews the results of various studies, reports, and related literature presented with qualitative descriptive methods to achieve the writing objectives (Elizabeth, 2019). The concept of participation explains how community forest farmers are involved in community forest management. , how high the involvement and the factors that influence it.

The level of farmer participation can be reflected in various stages of community forest management activities. Management stages consist of planning, implementation, and utilization stages. Farmers' participation in community forest management can be in the form of ideas/ideas/thoughts, costs, and energy (Sagita et al., 2019). Based on the description above, the formulation of the problem in this research is as follows "How is the transaction cost structure in agricultural institutions Gapoktan recipients of the PUAP program in East Lampung Regency." The objectives of this research are: "Analyze and study the structure of transaction costs at agricultural institutions Gapoktan recipients of the PUAP program in Rama Aji Village, North Raman District, East Lampung Regency" (Zulkarnain & Mangiring, 2017). The efforts to accelerate community plantation development in the plantation sector revitalization program, which is carried out through expansion, rejuvenation, and rehabilitation of plantation crops and has the aim of increasing competitiveness in the commodities of the plantation sector by increasing productivity and developing downstream industries, thereby supporting regional development and improving people's income. Plantation revitalization is also supported by various government regulations, including Minister of Agriculture Regulation (PMP) Number: 33/Permentan/OT.140/7/2006 concerning Plantation Development through the Plantation Revitalization Program. The area of smallholder plantations for oil palm commodities in 2010 reached 3,314 663 Ha, an increase from the previous year, which was 3,013,973 Ha (Directorate General of Plantations, 2013). The area of oil palm plantations in Jambi Province, according to BPS data in 2012, reached 532,293 Ha, with immature plantations reaching 110,259 Ha, producing plants 417,304 Ha, and the number of old plants reaching 4,730 Ha. Along with the increasing development of oil palm, many oil palm plants are over 25 years old, which is marked by a decrease in productivity to 12 tons/ha/year, so it is necessary to replant (rejuvenation) so that production can return to normal (Anggreany et al., 2016).

2. Literature Review

2.1. Type, Time, and Location of Research

This type of research is quantitative and qualitative descriptive research, while the method used in this research is a survey and summative approach (Singarimbun & Effendi, 1987). The survey, observation, and interview methods were chosen because the target population for this type of activity was too large and spread over several sub-districts. This formative evaluation was selected based on consideration of the large area covered. This research was carried out in 2021 and was carried out in Luwu Regency using Cluster Random Sampling, which included Bakti Village, South Ponrang District, with the number of samples in the sub-district also being randomly selected by as many as 30 people. The consideration is that in the area, an organic farming system has been launched since 2018. however, it has not been justified by law.

2.2. Data collection technique

Primary data collection techniques combined several complementary methods, including FGD and In-depth interviews. The secondary data mining, which includes the District Agricultural Mantri, BPP-PPL, Farmers Groups, and the Luwu Regency Agriculture Service, is carried out proportionally according to research needs. Furthermore, the population of this study includes Gapoktan administrators, farmer group administrators, and members of farmer groups who cultivate organic rice. At the same time, the population of non-farmer groups scattered in the sample

locations is farmers who cultivate conventional rice as a control. As for the two types of population groups, the number of research samples was determined by random sampling with the Cluster Random Sampling technique (Singarimbun & Effendi, 1987).

3. Result and Discussions

3.1. Descriptive Analysis

Table 1. Distribution of respondents based on the Marketing Mix (X1)

Category	Frequency	Percent
Low	6	20,0
Medium	11	36,7
High	13	43,3
Total	30	100,0
Average	2,23	

Based on table 1, most of the marketing mix is in the high category, namely 43.3 percent, medium at 36.7 percent, and low at 20.0 percent. Overall, the average marketing mix is 2.23 on a scale of 1 to 3.

Table 2 Distribution of respondents based on Agricultural Incentives (X2)

Category	Frequency	Percent
Low	19	63,3
Medium	6	20,0
High	5	16,7
Total	30	100,0
Average	1,53	

Based on table 2, the majority of Agricultural Incentives are in the high category, namely 16.7 percent, moderate at 20.0 percent, and low at 63.3 percent. Overall, the average marketing mix is 1.53 on a scale of 1 to 3.

Table 3 Distribution of respondents based on Farmer Participation (Y)

Category	Frequency	Percent
Low	3	10,0
Medium	0	0
High	27	90,0
Total	30	100,0
Average	2,80	

Based on table 3, most Farmer Participation is in the high category of 90.0 percent, medium 0 percent, and low 10.0

percent. Overall, the average marketing mix is 2.80 on a scale of 1 to 3.

3.2. Outer Model Test Results

Model evaluation is a measurement model that aims to assess the validity (valid) and reliability (reliability) of a model (Ghozali & Latan, 2015). The outer model test consists of:

3.2.1. Model Validity Test Outer Image of SEM Model 1

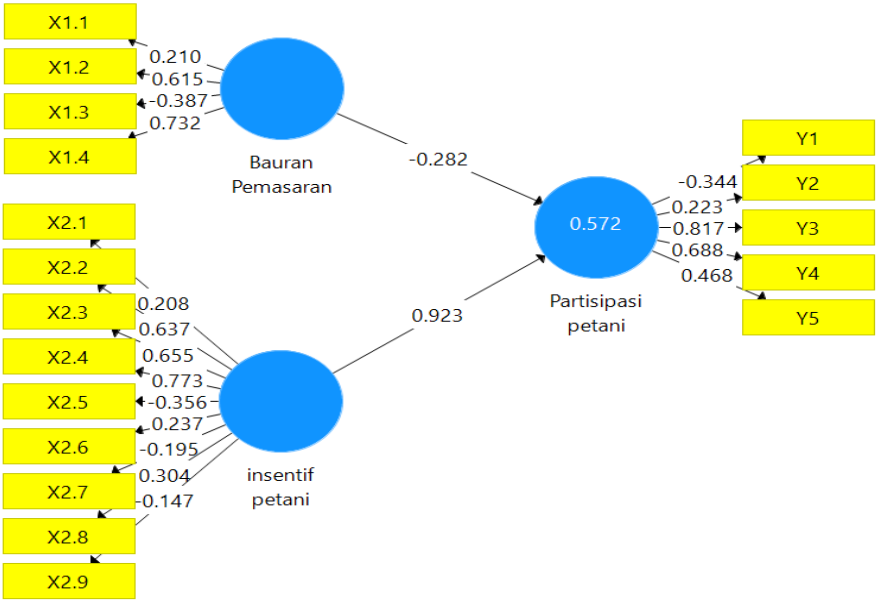

Figure 1. Model Validity Test Outer Image of SEM Model 1

3.2.2. Convergent Validity (Loading Factor)

A validity test with convergent validity is used to determine the value of the loading factor on the latent variable with its indicators, as shown in the table 4.

The level of validity of the variable indicators as in the table 4 shows that several indicators have an outer loading value of <0.7 (the minimum value for the specified indicator validity level) and are declared invalid, namely: X1.1, X1.2, X1. 3, X2.1, X2.2, X2.3, X2.5, Y1, Y2, Y4, Y5, therefore the invalid indicators are excluded from the model. Furthermore, after the invalid indicators are removed from the model, an analysis is carried out on indicators that have met convergent validity based on the outer loading value > 0.7, as listed in the table above.

3.2.3. Discriminant Validity.

Discriminant validity was assessed from cross-loading measurements with constructs. The latent construction loading values of other construction indicators are listed in the table 5.

Discriminant validity is not met by looking at the results from the table 5, with the AVE root value on the main diagonal smaller than the expected significance value of 0.05.

3.2.4. Model Reliability

This type of reliability determines the internal reliability level of the variable indicators listed in table 6.

Table. 4. Outer Loading (Convergent Validity)

Indicator	Marketing Mix	Agricultural Incentives	Farmers Participation
X1.1	0.210		
X1.2	0.615		
X1.3	0.387		
X1.4	0.732		
X2.1		0.208	
X2.2		0.637	
X2.3		0.655	
X2.4		0.773	
X2.5		0.356	
X2.6		0.237	
X2.7		0.195	
X2.8		0.304	
X.2.9		0.147	
Y1			0.344
Y2			0.233
Y3			0.817
Y4			0.688
Y5			0.468

Table. 5 Average Variance Extracted (AVE) Values on SEM. model variables

Variable	**Average Variance Extracted (AVE)**
Marketing Mix (X1)	0.277
Agricultural Incentives (X2)	0.305
Farmers Participation (Y)	0.201

The standard Cronbach's Alpha value of a variable can be declared reliable if > 0.6, while the standard value for Composite Reliability is > 0.7. Therefore, based on the table above, it is known that all variables do not have a Cronbach's Alpha value > 0.6 and a Composite Reliability value > 0.7, so it can be stated that the SEM model analyzed is not reliable.

Table. 6. Composite Reliability and Cronbach Alpha values for each variable

Variable	Cronbach's Alpha	Composite Reliability
Marketing Mix (X1)	0.056	0.321
Agricultural Incentives (X2)	0.342	0.497
Farmers Participation (Y)	0.259	0.384

3.2.5. T Statistical Analysis

T Statistical analysis aims to determine the magnitude of the influence between variables. The calculated T value is greater than the T table value.

Table. 7 Values of the independent variable on the dependent variable

Variable	T Statistics	T Tabel	P Values	Cut off P Value
Marketing mix ~ Farmer Participation	0,441	1,697	0.660	0,05
Farmer incentive ~ Farmer Participation	3,491	1,697	0.001	0,05

Based on the results of the T-Statistics analysis, as shown in Table 4 above, the hypothesis test on the dependent variable can be stated as follows:

a) Hypothesis 1: It is assumed that the marketing mix significantly affects farmer participation. The results of the statistical T analysis obtained the value of t count = 0.441 < t table = 1.697 with a P-Value of 0.660 or greater than the Cut off Value of 0.05. It means that the first hypothesis in this study is rejected.

b) Hypothesis 2: It is assumed that agricultural incentives significantly affect farmer participation. The results of the statistical T analysis obtained the value of t count = 3.491> t table = 1.697 with a P-Value of 0.001 or less than the Cut off Value of 0.05. It means that hypothesis 2 is accepted.

The determinant analysis aims to see the magnitude of the influence of the independent variables simultaneously influencing the dependent variable. The results of the determinant analysis on the SEM model are presented in the table 8.

Table. 8 the results of the determinant analysis of the dependent variable

Dependent Variable	*R Square*	*R Square Adjusted*
Farmer Participation	0.572	0.540

Based on the table 8, it is known that the variables (X1) and (X2) together affect the variable (Y) by 57.2%, while 42.8% percent is influenced by other variables not observed in this study.

3.3. Discussion

3.3.1. Effect of Marketing Mix on Farmer Participation

The results of the T statistic analysis obtained t count: 0.441 < t table 1.697 with a P-value of 0.660 or smaller than the Cut off Value of 0.05. Based on the analysis results, the Marketing Mix has a significant effect on Farmer Participation. It means that competence has a very significant impact on audit quality.

The results of this study are in line with the results of research (Rachmawati, 2011), (Utami & Firdaus, 2018), which says that the marketing mix plays a significant role in increasing farmer participation.

This study's results align with the theory (Tengku Firli Musfar, 2020), which says the marketing mix is essential. The company positions and distributes products in easily accessible places, increasing farmer participation; the marketing mix has a very strategic position.

3.3.2. Effect of Agricultural Incentives on Farmer Participation

The results of the T statistic analysis obtained t count: 3,491 > t table 1,697 with a P-value of 0.001 or smaller than the Cut off Value of 0.05. Based on the analysis results, Agricultural Incentives have a significant effect on Farmer Participation. It means that agricultural incentives have a very significant impact on farmer participation.

This study's results align with the results of research (Zakaria & Rachman, 2013), (Juanda, 2012), which says that agricultural incentives can increase farmer participation in farming.

The results of this study are in line with the theory, (Diniyati, 2010), (Suryawati et al., 2020), (Ismani, 2020).Work with optimal abilities, which is extra income beyond the salary or wages that have been determined.

4. Conclusions

Based on the results of research and discussion, it is concluded that:

(a) the marketing mix has a significant effect on farmer participation, it means that competence has a very significant impact on audit quality;

(b) the agricultural incentives have a significant effect on farmer participation, it means that agricultural incentives have a very significant impact on farmer participation;

(c) the marketing mix has no effect on farmer participation and agricultural incentives have an impact on farmer participation.

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