

# THE EFFECT OF FARMERS CHARACTERISTICS AND FIELD EXTENSION OFFICERS ON FARMERS SATISFACTION IN EAST JAVA

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## ABSTRACT

**Purpose:** *This research will discuss farmer satisfaction determinants, which include the farmers' nation culture, financial rewards of field extension officers, and the role of the field extension officers' leader*

**Design/Method:** *This research was conducted in East Java since it plays a role in the majority of Indonesia's rice production. The total sample was 155 sub-districts, where every sub-district send one farmer and one field extension officer as the respondents. Data analysis was performed in two ways, namely (1) descriptive analysis and (2) Structural Equation Modeling (SEM) analysis.*

**Finding:** *Farmer satisfaction can be improved by increasing the farmer nation culture and the role of the field extension officers' leader. Also, the courage of field extension officer independently is known to affect satisfaction directly.*

**Originality:** *This study will be using farmers' nation culture, financial rewards of field extension officers, and the role of the field extension officers' leader as determinant of farmer satisfaction.*

**Keywords:** Nation Culture, Financial Rewards, The Role Of Leader, Farmer Satisfaction.

## INTRODUCTION

Indonesia is an agricultural country with a majority of people working in the horticultural sector. The staple of Indonesian is rice, so this plant plays a vital role in Indonesia. The highest rice production in Indonesia is in East Java. According to the data from the Central Statistics Agency (2018), agricultural land in East Java reached up to 1.8 million hectares with a productivity of 57.63 quintal per hectare. In a year, East Java is able to produce more than 10.5 million tons of rice.

Regarding rice production facilities, one of the main problems for Indonesian farmers is the high price of fertilizer. Some farmers in East Java complained about the high price of fertilizer due to the scarcity at the market (Aminah, 2018). As a form of follow-up to the current problem, the government adopted a subsidized fertilizer policy.

This fertilizer subsidy helps relieve farmers in terms of reducing the costs of the agricultural production process. Having been considered from the market concept, subsidized fertilizer can be categorized into captive markets, which are conditions when consumers face a minimal number of suppliers. In providing subsidized fertilizer assistance, the government involves several parties: producers, distributors, food stalls, field extension officers, the Ministry of Agriculture, and the farmers themselves.

Farmers who buy fertilizer from kiosks are expected to be satisfied because the price is relatively low. But on the other hand, the availability of subsidized fertilizer is minimal. The number of farmers' need for subsidized fertilizer is more than 3 million tons compared to the government's amount of subsidized fertilizer. Thus, this study aims to examine the factors affecting farmer satisfaction related to subsidized fertilizer, both directly and through mediating variables.

One of the essential factors in determining farmer satisfaction is the courage of field extension officers in promoting the allocation of subsidized fertilizer approved by the government. Farmers are expected to contribute to the development of agriculture. Therefore, socialization is needed to grow intrinsic and extrinsic motivation of farmers in agricultural development (Harijati, 2014).

Furthermore, based on the results of previous studies, several things can affect courage: nation culture (Swensen & Saetren, 2014; Qiu et al., 2016), financial rewards (Lardner, 2015; Mainelli, 2004; Olsen, 2015; Schlechter et al., 2015), and the role of leader (Xu et al., 2017; Mencl et al., 2016; Engelbrecht et al., 2017; Sharma & Bhatnagar, 2017). So far, there has been no research that comprehensively discusses farmer satisfaction determinants, which include the farmers' nation culture, financial rewards of field extension officers, and the role of the field extension officers' leader. For that matter, this can be seen as the originality of the research. This research's theoretical benefit is the development of concepts/theories of marketing management and consumer behavior, specifically customer satisfaction.

## LITERATURE REVIEW

Most of the Indonesian work in the agricultural sector so that Indonesia is well-known as agrarian country. The most crucial element in the agriculture sector is a farmer. Farmer can be defined as people who farm in the fields of food, horticulture, plantations, and livestock. In this research, variables related to farmer's behavior are the nation culture (X1) and satisfaction (Y2).

Nation culture (X1) is a set of values, perceptions, preferences, and specific behaviors obtained from family, religion, nationality, race, and geographical environment. Culture in certain societies (farmers) shapes consumer behavior. Marketed fertilizer products must also meet expectations about norms in the farming community, such as soil types and agricultural systems. Kotler (2000) explains that the concept of satisfaction (Y2) incorporates elements of performance in it, so it can be said that customer satisfaction is the level of one's feelings after comparing the perceived performance with expectations. In this research concept, farmer satisfaction (Y2) is related to the expectation of getting subsidized fertilizer with its level of availability.

Besides farmers, another essential element in the agriculture sector is the field extension officers. They are assigned to disseminate new knowledge related to farming methods. They are responsible for encouraging farmers to change their way of thinking, ways of working, and ways of living to the development of more advanced agricultural technology. Accordingly, in carrying out his duties, the field extension officer has three roles, i.e., as educators, leaders, and advisers. Thus, it is expected that the field extension officers can grow farmer's intrinsic and extrinsic motivation.

Research variables related to the field extension officers are financial rewards (X2), the role of leader (X3), and courage (Y1). Financial rewards (X2) are rewards given to people for their work. In this case, the employee in question is the field extension officers. According to

Suryana (2013), financial rewards can be measured by five indicators: salary (X2.1), bonus (X2.2), farmer insurance (X2.3), farmer social assistance (X2.4), and health benefits (X2.5)

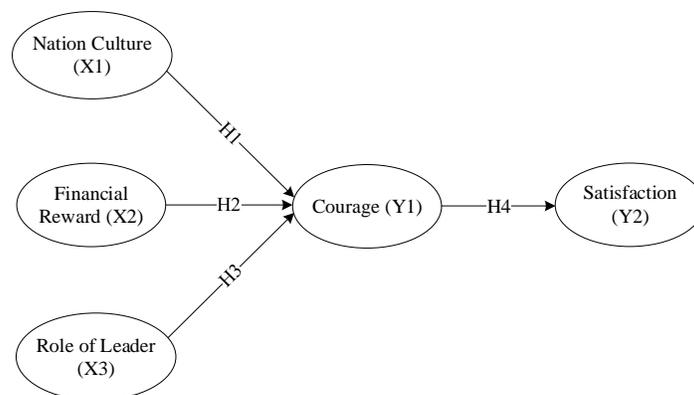
The role of the leader (X3) in the field extension officers is crucial. This is needed in the empowerment process because it has a strong influence on achieving common goals. Andrew & Dubrin (2006) also revealed that leadership is defined as a dynamic force in motivating and coordinating group members. For this reason, leadership support is needed by both farmer groups and members of farmer groups in achieving its objectives. Referring to Andrew & Dubrin (2006), the role of leaders can be measured through five indicators: instruction function (X3.1), consultation function (X3.2), participation function (X3.3), delegation function (X3.4) and control functions (X3.5).

In this study, what is meant by courage (Y1) is the bravery possessed by the field extension officers to submit the fertilizer subsidy allocation approved by the government. Every year, there is a difference between farmers' needs and fertilizer availability. Therefore, it takes courage to convey that information so that it can be well received.

This study will discuss the relationship between the five research variables based on the background and the literature review above:

- a. Based on research conducted by Gruber, 2012; Kirch, 2007; Swensen & Sætren, 2014; Qiu et al., 2016, the hypothesis is as follows.*
- H<sub>1</sub>:** *Farmer's nation culture has a positive influence on the courage of field extension officers*
- b. The next hypothesis is formulated based on the research done by Ibrar and Khan, 2015; Roberts, 2005; Rynes, et al, 2004; Lardner, 2015; Mainelli, 2004; Olsen, 2015; Schlechter et al., 2015.*
- H<sub>2</sub>:** *The financial rewards of field extension officers have a positive effect on the courage of field extension officers*
- c. The later hypothesis is formulated based on the research conducted by Xu et al., 2017; Mencl et al., 2016; Engelbrecht et al., 2017; Sharma & Bhatnagar, 2017.*
- H<sub>3</sub>:** *The field extension officers' leader has a positive influence on the courage of field extension officers.*

Those hypotheses can be contained in the conceptual framework as follows



**FIGURE 1**  
**CONCEPTUAL FRAMEWORK**

## METHODOLOGY

This study was survey research methods; it is a primary data collection method using questionnaires that revolved around the scope of the social environment, activities, opinions, and attitudes. Also, this study includes explanatory research generally aimed to explain the position of the variables studied as well as the relationship and influence between one variable with another one.

This research was conducted in East Java since it plays a role in the majority of Indonesia's rice production. The sample unit and analysis unit in this study are the sub-districts. The sampling technique used was two-stage sampling. Two areas chose were district and sub-district. The total sample was 155 sub-districts, where every sub-district send one farmer and one field extension officer as the respondents. The explanation of respondents and research variables is as follows.

- a. Farmers assess the nation culture (X1) and satisfaction (Y2) variable.
- b. Field extension officers assess financial reward (X2), the role of leaders (X3), and courage (Y1) variable

Definition of operational of each variable can be explained as follows.

- a. According to Wolf (1985), farmer's nation culture (X1) can be explained through four indicators: race (X1.1), religion (X1.2), social relations (X1.3), and production purpose (X1.4).
- b. According to Suryana (2013), financial rewards (X2) can be measured through five indicators: salary (X2.1), bonus (X2.2), farmer insurance (X2.3), farmer social assistance (X2.4), and health benefit (X2.5).
- c. Referring to Andrew & Dubrin (2006), the role of leader (X3) can be measured through five indicators: instruction function (X3.1), consultation function (X3.2), participation function (X3.3), delegation function (X3.4), and control function (X3.5).
- d. Based on Khelil et al. (2016), courage (Y1) can be measured through five indicators: moral agency (Y1.1), multiple value (Y1.2), endurance of threat (Y1.3), going beyond compliance (Y1.4), and moral goals (Y1.5).
- e. Based on Kotler (2000), there are five indicators of farmer satisfaction (Y2): product quality (Y2.1), product price (Y2.2), service quality (Y2.3), emotional factor (Y2.4), and ease of obtaining operational materials (Y2.5).

The instrument of this research was a questionnaire with a measurement scale in the form of a Likert Scale Model. Data analysis was performed in two ways, namely (1) descriptive analysis and (2) Structural Equation Modeling (SEM) analysis. Descriptive analysis is carried out to determine the characteristics of farmers and field extension officers in general. Meanwhile, SEM analysis was conducted to test the research hypothesis, which tested whether there was a significant relationship between variables.

## RESULTS AND DISCUSSION

### Descriptive and Outer Model

This study used five variables: nation culture (X1), financial rewards (X2), the role of leader (X3), courage (Y1), and satisfaction (Y2). Descriptive analysis is done by calculating the average response of respondents. Figure 2 to figure 2 indicate a descriptive analysis for each research variable. The criteria for assessing indicators and research variables are based on Solimun et al.(2017): worst (1.00-1.50), bad (1.51-2.50), average (2.51-3.50), good (3.51 - 4.50), and excellent (4,51-5.00). Meanwhile, the external model contains the loading factors obtained

from the SEM analysis. Loading factors are used to determine the contribution of each indicator in reflecting the research variables.

<b>Variable</b>	<b>Indicator</b>	<b>Average Response</b>	<b>Loading Factor</b>
Nation Culture (X1)	Race (X1.1)	3.784	0.788
	Religion (X1.2)	3.777	0.773
	Social Relationships (X1.3)	3.755	0.763
	Production Purpose (X1.4)	3.800	0.717
Financial reward (X2)	Salary (X2.1)	3.852	0.705
	Bonus (X2.2)	3.802	0.595
	Farmer Insurance (X2.3)	3.798	0.784
	Farmer Social Assistance (X2.4)	3.755	0.609
	Health Benefits (X2.5)	3.785	0.744
The Role of Leaders (X3)	Instructions Function (X3.1)	3.744	0.772
	Consultation Function (X3.2)	3.877	0.676
	Participation Function (X3.3)	3.772	0.712
	Delegation Function (X3.4)	3.766	0.763
	Control Function (X3.5)	3.748	0.546
Courage (Y1)	Moral Agency (Y1.1)	3.798	0.669
	Multiple Values (Y1.2)	3.776	0.652
	Endurance of Threats (Y1.3)	3.738	0.733
	Going Beyond Compliance (Y1.4)	3.828	0.758
	Moral Goals (Y1.5)	3.748	0.730
Satisfaction (Y2)	Product Quality (Y2.1)	3.819	0.756
	Product Price (Y2.2)	3.841	0.640
	Quality of Service (Y2.3)	3.791	0.679
	Emotional Factor (Y2.4)	3.770	0.755
	Ease of Getting Operational Materials (Y2.5)	3.778	0.721

Table 1 Shows that the descriptive values for four indicators reflecting nation culture (X1) are in the range of 3.755 to 3.800. Thus, it can be concluded that the farmers consider that race (X1.1), religion (X1.2), social relations (X1.3), production purpose (X1.4), as indicators of the nation culture (X1), are in a proper category. Based on the value of the most significant loading factor, the most critical indicator in reflecting the nation culture (X1) is race (X1.1). The results of the respondents' assessment of this indicator are good.

Moreover, Table 1 Shows that the descriptive values of five indicators reflecting financial rewards (X2) are in the range of 3.852 to 3.785. Thus, it can be concluded that the field extension officers consider salary (X2.1), bonus (X2.2), farmer insurance (X2.3), farmer social assistance (X2.4), and health benefit (X2.5) as the financial reward indicator (X2) is in a good category. Based on the value of the most significant loading factor, the most critical indicator in reflecting financial rewards (X2) is farmer insurance (X2.3). The results of the respondents' assessment of this indicator are good.

Furthermore, Table 1 shows that the descriptive values for the five indicators that reflect the role of leaders (X3) are in the range of 3.744 to 3.877. Thus, it can be concluded that the field extension officers assess that the instruction function (X3.1), consultation function (X3.2), participation function (X3.3), delegation function (X3.4), and control function (X3.5) as an indicator of the role of the field extension officers' leaders (X3) are in a suitable category. Based

on the value of the most significant loading factor, the most critical indicator in reflecting the leader (X3) is the instruction function (X3.1). The results of the respondents' assessment of this indicator are good.

Table 1 show that the descriptive values for the five indicators reflecting courage (Y1) are in the range of 3.738 to 3.828. Therefore, it can be concluded that the field extension officers assess that the moral agency (Y1.1), various values (Y1.2), threat endurance (Y1.3), going beyond compliance (Y1.4), and moral purpose (Y1.5) as an indicator of courage (Y1) is in a proper category. Based on the value of the most significant loading factor, the most critical indicator in reflecting courage (Y1) is going beyond compliance (Y1.4). The results of the respondents' assessment of this indicator are good.

Beside, table 1 also shows that the descriptive values for the five indicators reflecting satisfaction (Y2) are in the range of 3.770 to 3.841. For that matter, it can be concluded that farmers assess product quality (Y2.1), product price (Y2.2), service quality (Y2.3), emotional factor (Y2.4), and ease of obtaining operational materials (Y2.5) as an indicator of satisfaction (Y2) is in a good condition. Based on the value of the most significant loading factor, the most critical indicator in reflecting satisfaction (Y2) is product quality (Y2.1). The results of the respondents' assessment of this indicator are good:

## Hypothesis Testing

The research hypothesis was tested using SEM with the help of WarpPLS 6.0 software. Testing this hypothesis explains not only the direct effect but also the indirect effect. Before explaining the hypothesis testing, the first goodness of fit is obtained from the following table's research model.

<b>Model Fit</b>	<b>Criteria</b>	<b>Result</b>	<b>Conclusion</b>
Average path coefficient	significant if p value $\leq 0.05$	APC = 0.281 p value < 0.001	significant
Average R-squared	significant if p value $\leq 0.05$	ARS = 0.230 p value < 0.001	significant
Average adjusted R-squared	significant if p value $\leq 0.05$	AARS = 0.221 p value < 0.001	significant
Average block VIF	acceptable if AVIF $\leq 5$ ideally AVIF $\leq 3.3$	AVIF = 1.371	ideal
Average full collinearity VIF	acceptable if AFVIF $\leq 5$ ideally AFVIF $\leq 3.3$	AFVIF = 1.357	ideal

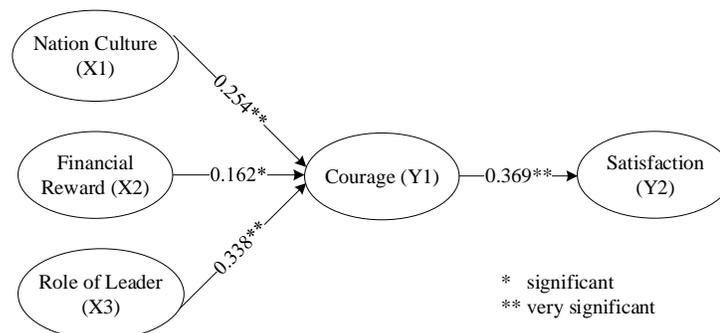
Table 2 shows that this research model is perfect. In this model, significant APC, ARS, and AARS are obtained. Besides, VIF and AFVIF values are known to be ideal.

<b>Relationship</b>	<b>Coefficient</b>	<b>p value</b>
<b>Direct Effect</b>		
Nation Culture (X1) → Courage (Y1)	0.254	<0.001
Financial reward (X2) → Courage (Y1)	0.162	0.019
The Role of Leaders (X3) → Courage (Y1)	0.338	<0.001

<b>Relationship</b>	<b>Coefficient</b>	<b>p value</b>
Courage (Y1) → Satisfaction (Y2)	0.369	<0.001
<b>Indirect Effect</b>		
Nation Culture (X1) → Courage (Y1) → Satisfaction (Y2)	0.094	0.047
Financial reward (X2) → Courage (Y1) → Satisfaction (Y2)	0.060	0.144
The Role of Leaders (X3) → Courage (Y1) → Satisfaction (Y2)	0.125	0.013

### Direct Effect

The direct effects in Table 3 can also be presented in the form of a figure as follows.



**FIGURE 2**  
**DIRECT EFFECT**

Table 3 and Figure 2, with a significance level of 5%, indicates that the nation culture (X1), financial rewards (X2), and the role of leader (X3) significantly influence the courage (Y1). Besides, there is also a significant relationship between the courage (Y1) and satisfaction (Y2). All these relationships are known to have positive signs. This can be interpreted that improving the farmer's nation culture (X1), financial rewards (X2) field extension officers, and the role of field extension officers (X3) can influence the increasing courage (Y1) of field extension officers. The size of the path coefficient shows that the role of the field extension officers (X3) has the most significant influence on the courage (Y1) of the field extension officers with a path coefficient of 0.338. In addition, the courage (Y1) increase of the field extension officers can also boost farmer satisfaction (Y2).

According to the testing of the measurement model (loading factor), farmer's nation culture is significantly reflected by four indicators, namely ethnic or racial, religious, social relationship closeness, and production purpose. Meanwhile, the courage of the field extension officers is significantly reflected by five indicators, namely moral agency, multiple value, endurance of threat, going beyond compliance, and moral goal. If related to the results of hypothesis testing, it can be said that the better the conditions of the farmer's ethnic or race, religion, social relationship closeness, and production purpose, the better the state of the field extension officers' moral agency, multiple values, endurance of threat, going beyond compliance, and moral goals. The results of this study are in line with several previous studies, such as Gruber (2012); Kirch (2007); Swensen & Sætren (2014); Qiu et al. (2016).

Based on the testing of the measurement model (loading factor), financial reward is significantly reflected by five indicators, namely salary or wage, bonus, insurance, social

assistance, and health benefit. Meanwhile, the courage of the field extension officers is significantly reflected by five indicators, namely moral agency, multiple values, endurance of threat, going beyond compliance, and moral goals. If related to the results of hypothesis testing, it can be said that the better the field extension officers' salary or wages, bonus, insurance, social assistance, and health benefit, the better their moral agencies, multiple values, endurance of threat, going beyond compliance, and moral goals. The results of this study are in line with several previous studies, such as Ibrar and Khan (2015); Roberts (2005); Rynes, et al. (2004); Lardner (2015); Mainelli (2004); Olsen (2015); Schlechter et al. (2015).

Based on the measurement testing of the model (loading factor), the leader role is significantly reflected by five indicators, namely the instruction function, consultation function, participation function, delegation function, and control function. Meanwhile, the courage of the field extension officers is significantly reflected by five indicators, namely moral agency, multiple values, endurance of threat, going beyond compliance, and moral goal. When connected with the results of hypothesis testing, it can be said that the better the instruction function, the consultation function, the participation function, the delegation function, and the control function of the agriculture service to the the field extension officer, the better the moral agencies, multiple values, endurance of threat, going beyond compliance, and moral goals of the field extension officer. The results of this study are in line with several previous studies, such as Xu et al. (2017), Mencl et al. (2016); Engelbrecht et al. (2017); Sharma & Bhatnagar (2017).

Based on the testing of the measurement model (loading factor), the courage of the field extension officers is significantly reflected by five indicators, namely moral agency, multiple values, endurance of threat, going beyond compliance, and moral goals. Meanwhile, farmer satisfaction is significantly reflected by five indicators, namely product quality, product prices, service quality, emotional factor, and ease of getting operational materials. If linked to the results of hypothesis testing, it can be said that the better the condition of the moral agency, multiple values, endurance of threat, going beyond compliance, and moral goals of the field extension officer, the better the farmer's assessment of product quality, product prices, service quality, emotional factors, and the ease of getting operational materials. The results of this study are in line with several previous studies, namely Meutia et al. (2017), Komariah and Kurniady (2017); Ghosh et al. (2011); Sang et al. (2009); and Hinck & Ahmed (2015).

### **Indirect Effect**

Table 2 indicates that there was an indirect effect between nation culture (X1), financial rewards (X2), and the role of leader (X3) on the satisfaction (Y2) and courage (Y1). A significance level of 5% shows that the relationship between nation culture (X1) and satisfaction (Y2) on the courage (Y1) and the role of leader (X3) and satisfaction (Y2) on the courage (Y1) is significant. On the other hand, the relationship between financial rewards (X2) and satisfaction (Y2) on the courage (Y1) is not significant. Accordingly, it can be concluded that the satisfaction (Y2) is not only directly influenced by courage (Y1), but also by the nation culture (X1) and the role of field extension officers' leader (X3).

### **CONCLUSION**

Based on the results of the analysis, farmer satisfaction (Y2) can be improved by increasing the nation culture (X1) and the role of leader (X3). These variables are known to significantly and positively have an indirect influence on satisfaction (Y2) through the courage

(Y1). Also, the courage (Y1) independently is known to affect satisfaction (Y2) directly.

### SUGGESTION

To increase farmer satisfaction, the government must encourage them to have a better nation culture, especially regarding race. Besides, the government also needs to provide excellent financial rewards for field extension officers. The results showed that field extension officers were more concerned with farmer insurance than other aspects such as salary, bonus, farmer social assistance, and health benefit. In addition, the department of agriculture must also carry out its role as the leader of the field extension officer well, primarily to provide instruction. By paying attention to these three things, it is expected that field extension officers will be more courageous in conducting the socialization of the realization of subsidized fertilizer. This will further affect farmer satisfaction positively, both directly and indirectly.

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