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Submission date: 19-Mar-2020 11:05AM (UTC+0700)

Submission ID: 1277961506

File name: Interrelationship_development_model.pdf (237.8K)

Word count: 3726

Character count: 20693

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To cite this article: Susanti S Irma *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **247** 012010

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Interrelationship development model of farmers with small scale feed mill

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Abstract. The general relationship between farmers and small scale feed mills need to be carried out continuously and improved for the sustainability of the chicken layer business, analysing the influence of economic, social, and feed quality on satisfaction, trust, and commitmen. This research was aimed to examine the general purpose of this constructing interrelationship development model of farmers with small scale feed mill. The research was designed using interview and observation interrelationship development. Descriptive and statistical analysis (path analysis with Tetrad IV) were analyzed. The results showed interrelationship development model between farmer and smalla scale feed mill was taken social factor determined significantly to trust, feed quality factor determined significantly commitment, both trust and commitment determined significantly to interrelationship between farmer and small scale feed mill.

1. Introduction

Company must have a reciprocal relationship with customers to achieve high profitability. Realizing this, many companies are currently implementing strategies to get customer *relationships* by trying to improve competitive advantage. Trust, satisfaction, and commitment are intermediate variables that can lead to the desire of customers to establish long term relationships with the company (*relationship intention*) [1].

Effort poultry of layer chicken very prospektif, giving expectation for fullfiling of requirement of society chicken's egg of race. Its meaning, poultry of layer require to get the serious attention because will give the very big benefit for reaching of development target. Feed take possession of the strategic position in the world of farm, contribution of expense feed about 70-80% from total cost produce the livestock [2].

Since 2007, government have developed the industry of small scale feed mill whats gone the round of location is the inclusive of central production the raw material. the mini feed mill own the capacities produce about 3-5 ton of the day, and also invesment of equal to Rp 250 million per unit. Its existence support the local sufficiency feed poultry. Accomplishment of raw material taken away from by a farmer maize which not yet been permeated by a national industry. Small scale feed mill represent the industry with the capacities produce less than 5 ton of the day, owning labour amount among 5 - 19



people. Feed industry in Sidenreng Rappang Regency use the local raw material with the industrial technological support, non meaning to fail to vie with the permanent feed material import and surely from facet of accepted earnings and marketing, evaluated from compared to by lower local price feed facet of permanent price feed the import material. activity of small Promotion pakan scale do not need the big expense and time, earn easier recognized by farming because besides bunching up with the consumer also very watering down of service to consumer, so that can stimulate the feed local purchasing. small scale feed mill factory have to try to give the better expectation for farmers of through accomplishment of farmers requirement. Feed mill have to give the satisfaction to farmers so that farmers trust and commitment to use the feed on continuously. Satisfaction, trust and commitment farmer to conduct the interrelationship industrially is small scale feed mill layer chicken very required for the shake of continuity of feed mill in the future. use feed produce the small scale factory perhaps influenced by a lot of factor among other things economic factor, social factor, and quality feed will influence the trust, satisfaction, commitment of farmer interrelationship between industrially small scale feed mill.

This study the general interrelationship between farmers and small scale feed mills need to be carried out continuously and improved for the sustainability of the chicken layer business, analysing the influence factors of economic, social, and feed quality on satisfaction, trust, and commitmen. This research was aimed to examine the general purpose of this constructing interrelationship development model of farmers with small scale feed mill.

2. Method

The study concern to measure the causal relationship of economic factors, social factors and feed quality factors to the satisfaction, trust, commitment and relationship of farmers with small scale feed mill industry in Sidenreng Rappang Regency, South Sulawesi. The type of research use disnon-experimental, because the factors that will be observed have occurred in the field. The influence of all the factors under study uses a quantitative approach to measure the interrelation of all research variables. The conceptual frame work illustrates the pict effect of direct and indirect between variables of economic factors (X1), social factors (X2), and the quality of feed (X3), with farmer satisfaction (X4), trust (X5), and commitment (X6) that affect the interrelationship of farmers (Y).

Relations between variables are made without intervention, but are carried out based on the relationship between exogenous and endogenous variables from the events that occur. The relationship of research variables is an interconnected relationship, then reflected in several measurable indicators (Ghozali, 2006). The study is expected to find a model for the development to interrelationships farmers and small scale feed mill industry factories of the influence of social, economic and feed quality factors on the satisfaction, trust, commitment and interrelations of farmers.

There are three exogenous variables and four endogenous variables. These influence very complex because the variables arranged are generally still latent variables that are reflected by various indicators and variable relationships with several other variables. For this purpose a Path analysis tool is used with the software Tetrad IV [3]. Path allows researchers to test the validity and reliability of each research instrument, to confirm the accuracy of the model while testing the effect of a variable on other variables. This analytical tool has several advantages, including the ability to test as well as the relationship model between independent constructs and dependent and measurement models, namely the relationship between indicators (value of loading factor) and construct (latent variable).

This research is a formulation model for the development interrelations between layer farmers and small scale feed mill in Sidenreng Rappang Regency. Quantitative data analysis carried out relates to the problem of influence and causal relationships between research variables. The problem being test the network of various variables that have a causal relationship, to detection the relationship between these variables, path analysis will used. The advantage of this path analysis that it can explain the direct and indirect effects or positive and negative effects of the independent variables or exogenous variables causes on the dependent variable or endogenous variable effect. The other plus point is results of the analysis can show the level of influence of each variable causes and causal variables, as

well as showing the structure between variables causes and causal variables, which can be known variables antecedent, the intervening variables, and variable consequences. Path analysis is a test analysis of regression equations involving several exogenous and endogenous variables while allowing testing of mediating /intervening variables [4] .

Model formulation that shows the influence between social factors (SF), and feed quality factors (FquP) on trust (T), commitment (Comt), and interrelationships (RR) issued path analysis. Path analysis issued to test hypotheses based on existing theories. After removing the variables that have properties multicollinearity, the measurement of latent variables can be continued with the model fit tests using the one-step approach. Path analysis steps: (1) Test the normality of each data; (2) Write down the form of structural relationships between variables; (3) Calculate the path coefficient; (4) Test the significance of the path coefficient.

3. Results And discussion

Based on the results of model improvements with path analysis processing using the Tetrad IV program, social factors, feed quality, commitment and trust influence the interrelationship of farmers with small scale feed mill industry. Models of measurement and structural models that made for this study evaluation fit model with data, a suitable level of suitability is produced so that the model built is feasible. The results of the analysis of the interrelationship between farmers and small scale feed mill can be seen in table 1.

Table 1. Interrelationship between farmers and small scale feed mill analysis

No.	Variable	Value	Standar Error	T	Probabilitas
1.	Fqu → Comt	0,2422	0,0843	2,8710	0,0047*
2.	Fqu → ItR	0,0196	0,0707	0,2774	0,7819
3.	SF → T	0,5398	0,0976	5,5301	0,0000*
4.	SF → ItR	-0,0293	0,0124	-0,8619	0,0466*
5.	T → ItR	0,3556	0,0823	4,3179	0,0000*
6.	T → Comt	0,3974	0,988	4,0233	0,0001*
7.	Comt → ItR	0,3159	0,0624	5,0648	0,0000*

Table 1 showed that feed quality factors directly have a significant effect on farmer commitment is indicated by the value of P = 0.0047 and t statistic value = 2.87. The experience of consumers using small scale factory feed products provides results for farmers in running their business, including post purchase evaluations so that they will continue to buy the feed in the future. That after the product purchased, the consumer will evaluate the performance of the product [5]. The experience of using a product is not always positive, but it can also be negative. Consumer experience in using products increases the ability of consumers to anticipate product performance.

Social factors directly have a significant effect on trust characterized by a value of P = 0.00 and a statistic value of t = 5.53. Farmers believe in small scale feed factories because according to their perception, feed mills are able to interactive well with farmers. The interaction felt by farmers from communication activities and continuous family treatment by small scale feed mills is very meaningful. Social factors also have a direct influence on the interrelationship with the value of P = 0.04 and that value of statistics 0.86. Communication is very instrumental in providing an understanding of the desires and abilities of partnerships so that relationships are established continuously. Socialization between parties involved in a relationship has the effect of sharing values and culture and establishing norms of long term relationships [6]. Continuous communication during interaction will overcome disputes and rectify perceptions according to customer expectations which ultimately encourage the formation of trust. The pressure and influence of social groups on one's drive to buy is quite high [5]. Influential family attitudes face consumer encouragement to buy a product.

Farmer trust has a significant effect on commitment marked with a value of $P = 0.00$ and statistic t value of 4.0233. Farmer trust factors have a significant effect on the interrelationship of farmers with small scale feed mills characterized by a value of $P = 0.00$ and a statistic value = 4.3179. Farmers trust in small scale feed mills has been good so that it affects the commitment to use feed products and purchases an on going basis, that trust is formed if a party has confidence in trusting others who have been believed [6]. Trust involves a person's willingness to be have in a certain way because of the belief that his partner will provide what he hopes and a hope that is generally owned by someone that the words, promises or statements of others can be trusted [7]. The trust created between farmers and feed mill owners influences commitment. The results of this study which suggests that trust influences customer commitment and customer trust and commitment influences the sustainability of relationships in the future.

Farmers' commitment has a significant effect on the interrelationship between farmers and the feed mill industry with a value of $P = 0.00$ and a static t value = 5.0648. Consumer commitment is a key factor in creating and maintaining interrelationships farmers and small scale feed mills. Commitment of a continuous desire to maintain a valued relationship [6].

Feed quality factors not significant effect on the interrelationship characterized by the value of $P = 0.7819$ and the statistic value of 0.2774. The insignificance of feed quality factors to the interrelationship of farmers is most likely due to the understanding or level of farmers knowledge of the quality of small scale factory production feed that is still low. The low level of knowledge of breeders about feed quality is because feed mill owners never obtain and provide information on the content of feed produced and how important the nutritional value of feed should be used in order to obtain maximum production results. The quality of a product must be in accordance with the intended use by consumers and maintain the consistency of product output at the level of quality desired and expected by consumers. Quality of products that can help consumers in making purchasing decisions, so that consumers may be interested and encourage consumer store purchase the product with the quality offered. That the better the quality of the product produced it will provide the opportunity for consumers to make purchasing decisions.

The criteria used to assess the feasibility of the model interns of *degrees of freedom*, *chi square*, and *P value* so that it can be said that the model can be accepted, which means that there is a match between the model and the data. Development model interrelationship farmer between small scale feed mill seed in figure 1.

Structural model is fit based on the *degrees of freedom*, *chi square*, and *p value* parameters. The variables of feed quality factors, social factors, farmer commitment, and trust have a causal relationship to the interrelationship farmers and small scale feed mill. Each variable of feed quality factors, social factors, farmer commitment, and trust has a direct influence on the interrelationship of farmers. Feed quality factors have an indirect influence on the interrelationship between farmers and small scale feed mill through commitment, while the indirect influence of social factors on the interrelationship of farmers is through trust.

Feed quality factors have a direct effect on the interrelationship between farmers and feed mill, but also have an indirect effect on the interrelationship through commitment. Social factors directly influence interrelationships, but also indirectly affect interrelationships through trust. Trust has a direct effect on interrelationships, but also indirectly influences reciprocity through farmer commitment. Association between social factors and correlational nature of feed quality factor. The magnitude of the direct and indirect influence coefficients is presented in table 2.

The indirect effect coefficient of feed quality on interrelationships is greater than the direct effect because the better the farmer's perception of feed quality will increase the farmer commitment to using small scale factory production feed. Social factors directly negatively affect interrelationships. An increase in the value of social factors causes a decline in farmer perception of the interrelationship with farmers. The indirect influence of social factors is more theoretically logical because the more closely the social relations of farmers, will increase trust which ultimately increases the interrelationship between farmers and feed mills. The indirect influence of the trust factor on the

interrelationship farmers and feed mill is greater than the direct influence because the stronger the farmer's trust will increase commitment and finally the farmers willing to make are interrelationship continuously.

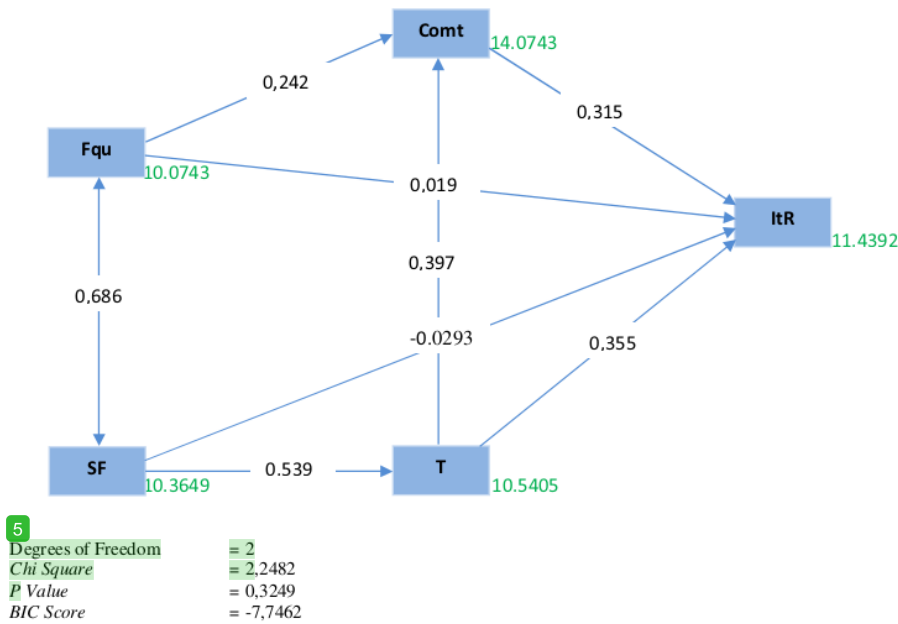


Figure 1. Model The Path Analysis by Tetrad IV of Interrelationship Farmers Between Small Scale Feed Mill

Factors that influence the establishment of interrelationships between farmers and feed mill are social factors and feed quality. Two factor to have indirect impact on interrelationship but through trust and commitment. The customer's trust and commitment is important in establishing and maintaining mutual relations in the long term [6] [8]. Mount the high satisfaction strengthen the desire of costumers to own the komitmen to company [10].

Trust, commitment, and satisfaction is a very important element for affectional relation construct between companies and consumers. Organizational trust is divided into two: (1) trust the credibility that is the believe that rational and practical emergedas proven when in use, (2) good faith, namely subjective and emotional believes related to consumer expectation the company. The proposal of a business philosophy which states that satisfying consumer needs is an economic and social requirement for the survival of the company [9] [11]. That in a interrelationship, trust of vital importance because trust can lessen the consumer perception to risk (perceived risk) an purchasing [12].

Table 2. Result of Causality Examination

Relation variable		Estimate relation Variable	Total
Quality of feed factor → interrelationship	direct	0,0196	0,2078
	indirect	$(0,2422)(0,3159) = 0,0765$ $(0,6869)(-0,0293) = -0,0201$ $(0,6869)(0,5398) (0,3556) = 0,1318$	
Social factor → interrelationship	direct	$(0,5398)(0,3556) = 0,1919$	0,2287
	indirect	$(0,6869)(0,0196) = 0,0135$ $(0,6869)(0,2422) (0,3159) = 0,0526$ $0,3556$ $(0,3974)(0,3159) = 0,1255$	
Trust → interrelationship	direct	0,3159	0,0961
	indirect		
Commitmen → interrelationship	direct		0,3159

That what needs to be considered in efforts to empower small industries are:1) it is necessary to build the belief that small industries have the potential to grow and develop, 2) understand and recognize well what are the advantages, disadvantages, and obstacles that are often faced by small industries, 3) do not just improve production skills or administrative skills, because small industry problems usually stem from their lack of access to suppliers, markets and sources of information. Small industry development faces serious difficulties and this must be over comes that small industries can play a role in the economy. The formulation of the model for the development to interrelationship farmer and small scale feed mill is necessary to improve the productivity and profitability of laying hens. Based on the results of the study, the model for the development interrelationship farmers and small scale feed mill is as follows:

1. Social factors need to be developed more intensely to maintain the relationship that has been formed at this time so that a sense of mutual need is getting tighter.
2. Feed quality factors need to be adjusted to the Indonesian National Standard on layer feed to increase livestock production and productivity which is ultimately expected to increase business profitability.
3. Farmers' trust is strived to increase to build long-term relationships with small-scale feed mills continuously. Trust in a company will encourage farmers to trust the products produced by feed mills.
4. Farmers' commitment needs to be maintained and improved to continue to use feed continuously and maintain relationships as long as the products are consistently obtained.
5. Collaboration between farmers and feed mills with relevant agencies is needed in order to make good rations (sufficient nutrition and low prices).

4. Conclusion

The results obtained from this research is interrelationship development model between farmer and small scale feed mill was taken social factor determined significantly to trust, feed quality factor

determined significantly commitment, both trust and commitment determined significantly to interrelationship between farmer and small scale feed mill.

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