The Relationship between Price Satisfaction, Non-financial and Financial Performance

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Abstract

The purpose of this study is to determine the magnitude of the effect of price satisfaction on financial and non-financial performance; weather price satisfaction practices have direct effect on the non-financial and financial performance of dairy cooperative or non-financial performance positively mediating or moderating the relationship between price satisfaction and financial performance of dairy cooperatives. The samples of research is 70 farmers and several dairy cooperative where the farmer is a member located at Pasuruan and Malang. Using Partial Least Square (PLS) with the aid of the SmartPLS software program, the result of hypothesis indicated that price satisfaction has significant positive effect on non-financial and financial performance. In this case, rather than have direct relationship, price satisfaction have positive significant effect on financial performance through non-financial performance. This research fail to prove that non-financial performance is moderating significantly the relationship between price satisfaction and financial performance.

Keywords
Dairy farmers, Financial performance, Non-financial performance, Price satisfaction, Pasuruan; Malang

1. Introduction

One of important factor for improving the performance of dairy supply chain in Indonesia is the good relationship between dairy cooperatives and dairy farmers. The dairy farmers are members of local dairy cooperatives. In this case, the farmers can use dairy cooperatives as a tool to improve their welfare (Sebayang, 2013), as the dairy cooperatives give several support to dairy farmers. Including in this support is collecting the milk from dairy farmers, helping dairy farmers to sell their milk to the industrial milk processing, providing feeds and credit for dairy farmers, and also some services (such as animal health advice and artificial insemination services, cooling facilities at collection centres and collection points) (Morey, 2011; Wright and Meylinah, 2014; Susanty et al, 2018).

As many other exchange relationship between two parties, the relationship between dairy farmers and cooperative also deals with the principal-agent problems. This problems are likely to give rise to member dissatisfaction because the purposes of the agent are usually different as those of the principal, and thus the agent may not always best represent the interests of the principal (Alchian and Demsetz, 1972; Royer, 1999; Sykuta and Chaddad, 1999).). The principal-agent problem becomes even more crucial in the dairy cooperative in Indonesia because, usually, there is no formal contract arrangement between dairy cooperatives and dairy farmers to prevent the dairy farmers or dairy cooperative from acting in their own interest or to prevent the opportunistic behaviours of dairy farmers and dairy cooperatives in a transaction. One of factor that has been considered to satisfy the parties involved in many exchange relationships is price.

Price satisfaction refers to several relationship studies that state that the economic outcome is important for the evaluation of the relationship (Jaervelin, 2001). The important of price for many exchange relationship can be seen in the previous study conducted by Zeuli and Bentancor (2005),, Schulze et al. (2006), and Boniface et al (2012). In Indonesian's dairy supply chain, the farmers are not able to get premium price from dairy cooperatives as they cannot deliver the quality and reliable of milk supply to the cooperatives. Moreover, the price offered by the cooperative to the farmers is totally depend on the interests of milk processing companies. The farmers and the cooperatives have no influence on decision making of the milk price. This condition led to less bargaining power for dairy farmers to dairy cooperatives and dairy cooperatives to milk processor companies on the milk price. In Indonesian's dairy supply chain, one of the consequences of the less bargaining power of farmers is that they are not consistent in providing milk to cooperatives which in turn has an impact on the cooperative's ability to adequately supply milk to the milk processing companies. As reported by Suara Indonesia in June 2016 (Wiyono, 2016), the low price of milk at farmer level (around IDR 4,500 to IDR 4,800) has made some dairy farmers divert the function of their cows, cattle that originally functioned as dairy cows to produce milk, now made into beef cattle. This condition led to a reduction in the ability of cooperatives to supply milk, and in the long run contributed to financial performance of the dairy cooperative and also the performance of national dairy milk supply chain. In 2014 there were 570 thousands of dairy cows and in 2016, the amount of dairy cow reduce significantly to 440 thousand. The low price of dairy milk is exacerbated by the high price of animal feed that must be spent by the farmers.

Given the above background and problem, the purpose of this study is to determine the magnitude of the effect of price satisfaction on financial and non-financial performance; weather price satisfaction practices have direct effect on the non-financial and financial performance of dairy cooperative or non-financial performance positively mediating or moderating the relationship between price satisfaction and financial performance of dairy cooperatives.

2. Literature Review

Price for the product or service is something people will pay for it. In neo-classical market models, the price is considered to be the important coordination mechanism of exchange relationships in a situation of a free market characterized by full competition, complete market transparency and homogenous goods (Arndt, 1983; Hobbs, 1996). Most price formula considers factors such as quality, quantity supplied, geographical location, length of relationship and the nature of contracts (Schroeder et al.1998). Suppliers are more likely to be satisfied if they are provided with information on how buyers determine the price that will be paid for their product (Boniface et al, 2012). Price satisfaction refers to the psychological result of a difference between price expectations and price perceptions (Gyau et al., 2011; Matzler et al., 2006). Price satisfaction is the significant factor which effects the relationship between buyer and seller (Somogyi and Gyau, 2009). In this case, many previous studies recognize the significant effect of price satisfaction on the performance achieved, such as Schulze et al (2006), Gyau et al (2011), and Boniface et al (2012), and Viergutz and Schulze (2018).

Schulze et al (2006) try to determine the important factors (including price satisfaction) to the quality of relationship in the German Pork and Dairy Sector. Schulze et al. (2006) introduced the distinction of short-term and long-term price satisfaction, as well as comparative price satisfaction, finding that current (short-term) prices did not have an impact on farmers' perceived relationship quality, whereas long-term and comparative prices (compared with competitors) did have a significant impact. Gyau et al (2011) try to determine the relative importance of actual price and behavioural factors for the quality of the business relationship between German dairies and their milk suppliers. The result of their research indicated that relationship management practices and price satisfaction have a positive influence on the quality of the business relationship between the farmers and the dairies. Boniface et al (2012) try to determine which dimensions of price satisfaction affect relationship performance between Malaysian dairy producers and the dairy processors who purchase their milk. The result of their research indicated that relative price, price-

quality ratio and price fairness influence producers' loyalty and improved business relationship performance. Viergutz and Schulze (2018) investigates the factors actually influencing dairy farmers' switching decisions. The results of the analysis indicate the importance of several contextual factors on switching intentions and one of them is the monetary indicators. So, given the above previous study about the relationship between price satisfaction and the performance and also to further explore the relationship between price satisfaction, financial, and non-financial performance, this study propose several hypothesis as follow.

Hypothesis 1   Price satisfaction is positively associated with financial performance and non-financial performance.

Hypothesis 2   Price satisfaction is positively associated with non-financial performance.

Hypothesis 3   Non-financial performance is positively mediating the relationship between price satisfaction and financial performance

Hypothesis 4   Non-financial performance is positively moderating the relationship between price satisfaction and financial performance.

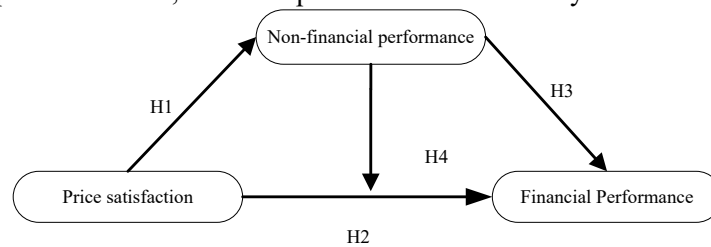Based on the three hypotheses above, the conceptual model of this study can be seen in Figure 1.

Figure 1. Conceptual model between price satisfaction, non-financial, and financial performance

3. Method of the Research

3.1 Object of the Research

The study was conducted in East Java Province, as Indonesia's largest dairy production. This condition is reflected in the number of dairy cows populations in East Java which reached 256,178 or nearly 50 percent of the total national dairy cows population. This population of dairy cows contributes 1,300 tons of fresh milk per day or 55 percent of the total national fresh milk production (Christiyaningsih, 2016). For selected location in East Java Province was Pasuruan and Malang Regency. In 2016, the population of dairy cows in Pasuruan Regency reached 86,847. Most of farmers are located in Tutur, Puspo, Grati and Lekok Sub-districts. In addition, the dairy cattle population also has Purwosari and Purwodadi Sub-districts. Although the population of national dairy cows drastically reduced in 2015 compared to 2014, this did not occur in Pasuruan Regency. The population of dairy cows in Pasuruan Regency continues to increase. The number of dairy cows in 2014 reached 80,551, in 2015 reached 84,424 dairy cows and in 2016 reached 86,847 dairy cows. In 2016, the milk production from Pasuruan Regency reached 169, 584,921 kg. In 2016, the population of dairy cows in Malang Regency reached 81,150 and the milk production in reached 136,332,000 kg (Arifin, 2017; East Java Central Bureau of Statistics, 2016)

3.2 Sample of the Research

The rule of thumb of Partial Least Square (PLS) method is used to calculate the number of dairy farmers needed as the samples for this research. According to Chin (1998), the minimum sample size should be ten times the largest number of structural paths directed at a particular latent construct in the structural model. As seen in Figure 1, the conceptual model used in this research has one path directed from price satisfaction to the dependent (latent) variable of non-financial performance, one path directed from price satisfaction to the dependent (latent) variable of financial performance, and one path directed from non-financial performance to the dependent (latent) variable of financial performance. Totally, the conceptual model

contained three paths directed to the dependent variable. Based on this condition, this minimum number of samples should be used in this research is 30. The minimum number of samples has been met since this research use data from 70 individual farmers located in Pasuruan and Malang Regencies. This individual farmers was selected through purposive sampling technique. It means, there were some characteristics should be met so that they can be chosen as the samples of this research. The dairy farmers should be member of one local dairy cooperative at least in three months. This is because, the effect of performance generated by the price satisfaction by the farmers will be asked to the cooperative (where the farmer becomes a member) as the party who feels the impact. For an example, due to perceived price satisfaction, farmers will be loyal to sell their milk to a particular cooperative in the desired quality and quantity so that cooperatives only need less capital to produce the same milk production which has an impact on increasing capital return and also profit in the long term. So, the questionnaire about price satisfaction will be filled by the dairy farmers and the questionnaire about non-financial and financial performance as the effect of price satisfaction will be addressed to dairy cooperative where the farmer becomes a member. As the number of dairy farmer who become respondent in this research is 70 person, the total questionnaire should be filled by all the dairy cooperatives also 70 pieces.

3.3 Measurement

There were 17 items used in this study (9 items are used to measure price satisfaction, 2 items are used to measure non-financial performance, and 4 items are used to measure financial performance). Items for measuring price satisfaction is developed from Matzler et al (2006); whereas items for measuring financial and non-financial performance are developed from Boniface (2010), Kohli and Jensen, (2010), and O'Toole and Donaldson (2000). This research used a 5-point Likert scale (1= strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, and 5= strongly agree) for measuring the current condition of all of those items. In detail, all of the items used in this research can be seen in Table 1

4. Result and Discussion

4.1. Characteristic of Respondent

Most of the respondents participated in this research were male (84% for Pasuruan and Malang Regencies). Respondent from Pasuruan Regency are member of four local dairy cooperatives, namely Suka Makmur, Dadi Jaya, Tunas Setia Baru, and Sembada; whereas, respondent from Malang Regency are member of three local dairy cooperatives, namely Karangploso, Dau, and Jabung. In Pasuruan Regency, most of respondent are 31-50 years old, followed by less than 30 years old, 51-60 years old, and more than 60 years old; whereas, in Malang Regency, most of respondent are 41-50 years old, followed by 51-60 years old, 31-40 years old, less than 30 years old, and more than 60 years old. Both in Pasuruan and Malang Regency, most respondent have 1-5 dairy cows, followed by 6-10 dairy cows, and 11-15 dairy cows. The large proportion of respondent from Pasuruan Regency had worked as dairy farmers less than 10 years, followed by 11-20 years, 21-30 years, and less than 30 years. Little bit different with Pasuran Regency, the large proportion of respondent from Malang Regency had worked as dairy farmers 11-20 years, followed by less than 10 years and 21-30 years, and more than 30 years.

4.2. Path Diagram

The path diagram of the conceptual model between price satisfaction, non-financial and financial performance can be seen in Figure 2
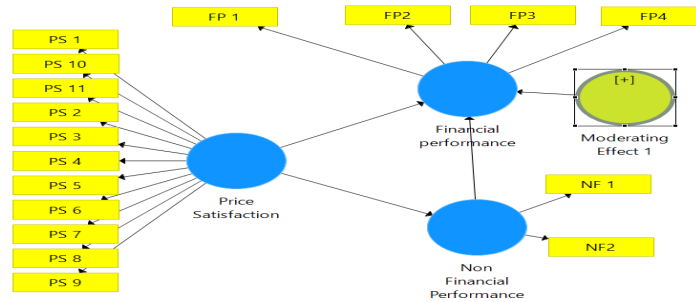
Figure 2. Path diagram of conceptual model between price satisfaction, non-financial, and financial performance

4.3. Result of Measurement Test

Convergent and discriminant validity is used to assess the measurement test. One item pass the convergent validity test if the item has loading factor higher than 0.5 and each construct has AVE value higher than 0.5 (Fornell & Larcker, 1981). The item with loading factor below than 0.5 should be excluded from its construct. According to this rule, three items in the construct price satisfaction should be eliminated, namely PS4, PS6, and PS 10. After we eliminated those three items, the loading for each item is re-calculated and the final loading factor can be seen in Table I. All of items have final loading factor higher than 0.5. Moreover, related with the value of Average Variance Extracted (AVE) which is used to determine validity of scale, this research accept the construct with AVE and values higher than 0.5 as recommended by Fornell and Larcker (1981). Then, for the value Composite Reliability (CR), this research accept the construct with CR value higher than 0.7 as recommended by Bagozzi and Yi (1988). Last, for Cronbach's alpha which is used to measures internal consistency reliability, this research accept the construct with values of Cronbach's Alpha higher than 0.6 as recommended by Akter et al, (2011). In current research, as seen in Table I, the AVE value of all construct are higher than 0.5, the CR value of all contract are higher than 0.7 and the Cronbach's Alpha of all construct also higher than 0.6. Therefore, it can be said that convergent validity of all the construct are adequate and the measurement model also indicated that each construct exhibited satisfactory reliability.

Table 1. Result of convergent validity test

Construct	Description	Loading Factors		AVE	CR	CA
		Initial	Final			
Price Satisfaction (PS)	Supplier (individual dairy farmer) certainty that the price offered is favourable (PS1)	0.834	0.833	0.918	0.586	0.898
	Supplier (individual dairy farmer) properly informed about the prices of the services (PS2)	0.766	0.766			
	Price information is understandable and comprehensible (PS3)	0.707	0.724			
	Supplier (individual dairy farmer) get a good price-quality ratio (PS4)	0.452				
	The prices that supplier (individual farmer) get from dairy cooperative are fair (equal with the quality of milk offered by individual farmer to the dairy cooperative) (PS5)	0.826	0.825			
	I am convinced that the prices and conditions of my dairy cooperative offered are profitable (PS6)	0.333				
	Terms and conditions of my dairy cooperative are better tailored to my needs than terms and conditions of other dairy cooperatives (PS7)	0.659	0.633			
	Prices and conditions offered by dairy cooperative do not change unexpectedly (PS8)	0.675	0.683			
	Price changes are communicated timely by dairy cooperative (PS9)	0.817	0.825			

Construct	Description	Loading Factors		AVE	CR	CA
		Initial	**Final**			
	Terms and conditions are affordable for every individual dairy farmer. independently of the duration of individual farmer become a member of dairy cooperative (PS10)	0.159				
	My dairy cooperative does not take advantage of my condition (PS11)	0.834	0.782			
Non-financial Performance (NF)	Flexibility of the dairy supply chain to meet the demand of milk processor (NF1)	0.957	0.957	0.918	0.957	0.932
	Agility of the of dairy supply chain to meet the demand of milk processor (NF2)	0.960	0.960			
Financial Performance (FP)	Better pricing (FP1)	0.857	0.857	0.832	0.952	0.911
	Increased sales to milk processor (FP2)	0.929	0.929			
	Increased of long term profitability (FP3)	0.908	0.908			
	Increased of return on investment (FP4)	0.952	0.952			

AVE= Average Variance Extracted; CR=Composite Reliability; CA= Cronbach's Alpha

According to Straub et al (2004), discriminant validity is the extent to which items reflect their suggested construct differently from the relation with all other items in the measurement model. This research use the cross-loadings to measure the discriminant validity. In this case, the loading of each indicator is estimated to be greater than all of its cross-loadings (Chin, 1998; Götz et.al., 2009). The result of discriminant validity test based on cross loading values generated from the final iteration can be seen in Table 2. The condition in Table 2 indicates the existence of discriminant validity between all the constructs.

Table 2. Result of discriminant validity test

	Financial Performance	Non-financial Performance	Price Satisfaction
FP1	0,857	0,743	0,642
FP2	0,929	0,850	0,686
FP3	0,908	0,889	0,657
FP4	0,952	0,884	0,671
NF1	0,891	0,957	0,615
NF2	0,883	0,960	0,691
PS1	0,637	0,618	0,833
PS11	0,560	0,470	0,782
PS2	0,613	0,601	0,766
PS3	0,560	0,559	0,724
PS5	0,558	0,552	0,825
PS7	0,491	0,458	0,663
PS8	0,449	0,385	0,683
PS9	0,547	0,507	0,825

4.4. Structural Model Assessment

The validity of the structural model is assessed using the coefficient of determination (R^2), standardized root mean square residual (SRMR), and Goodness of Fit (GoF) index. The R^2 value indicated the extent of variance in the dependent variables that is described by the independent variables (Chin, 1998). The values of R^2 are 0.63 (substantial of determination), 0.33 (moderate of determination), and 0.19 (weak of determination). SRMR indicates the differences between the correlation of the observed model or null model with that of the prediction model (Hair et al., 2011). The value of SRMR ranges from 0 to 1. Hu and Bentler (1999) state that an SRMR value of under 0.08 indicates that the model is very good or the fit is good. GoF index is essential to evaluate the global validity of a PLS based complex model. The value of GoF are 0.36 (large of global validity), 0.25 (moderate of global validity), and 0.1 (small of global validity) (Tenenhaus et al., 2005). The R^2 value, SRMR, and GoF index for a hypothesized model can be seen in Table 3.

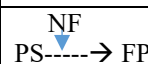Table 3. The R^2 value, SRMR, and GoF index for a hypothesized model

Relationship	R^2	GoF	Result
PS→ NF	0.873		Substantial determination
PS→NF	0.465		Substantial determination
SRMR	0.065		Model is fit
Complete (main effects) model	0.771		Large of global validity

4.5. Result of Hypothesis Testing

The result of hypothesis testing can be seen in Table 4. The relationship between independent variable and dependent variable is significant if its relationship has p-value less than 0.01

- Price satisfaction had a significant positive effect on financial performance (PS→FP; LF=0.188, p-value<0.01). So, hypothesis 1 was supported
- Price satisfaction had a significant positive effect on non-financial performance (PS→NF; LF=0.682, p-value<0.01). So, hypothesis 2 was supported
- Non-financial performance had a significant positive effect as mediating variable between price satisfaction and financial performance (PS→NF→FP; LF=0.553, p-value<0.01). So, hypothesis 3 was supported. In this case, the direct relationship between price satisfaction and financial performance is smaller (LD=0.188) than the indirect relationship between price satisfaction and financial performance (LD=0.533). Moreover, the result of calculation also indicated a significant positive effect of non-financial performance to financial performance (NF→FP; LF=0.810; p-value<0.01)
- Non-financial performance had positive effect as moderating variable between price satisfaction and financial performance but not significant (LF=0.011, p-value > 0.01). So, hypothesis 4 was rejected.

Table 4. Result of hypothesis testing

Hypothesis	Relationship	Loading Factor	t-value (p-val.)	Result
H1	PS→ FP	0.188	3.026 (0.003)	Accepted
H2	PS→ NF	0.682	5.966 (0.000)	Accepted
H3	PS→NF→FP	0.553	5.232 (0.000)	Accepted
H4	NF PS-----→ FP	0.011	0.192 (0.848)	Rejected

5. Conclusion

This research try to explore the role of price satisfaction on non-financial and financial performance. Using sample of 70 farmers and several dairy cooperative where the farmer is a member located at Pasuruan and Malang, this research can prove the significant positive effect of price satisfaction on non-financial and financial performance. In this case, rather than have direct relationship, price satisfaction have positive significant effect on financial performance through non-financial performance. The positive significant effect of price satisfaction on performance is supported by the other researchers, such as Schulze et al (2006), Gyau et al (2011), and Boniface et al (2012), and Viergutz and Schulze (2018).

The limitation of this research related with the number of sample. The sample of this research only dairy farmers from specific region. This condition make the result of this research may be cannot generalize to the other region or maybe to the other industries. So, in a future, research can be done in the other region or in the other industries in agribusiness sector, such as beef, sugar, or livestock industry that generally r farmer as a producer for raw material.

Acknowledgment

Refference

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