

The Empowerment of The Forest-Village Community Institution through Angelica-Plant Development Partnership in Organic Farming Program

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Abstract—Angelica (*Angelica keiskei* Koidzumi) is the medical plant that effective to healing the sick. One of the companies that carry on its in organic farming in Indonesia is PT. Ambitious Trading Coy, Ltd. In the developing, this company partnered with Forest Village Community Institutions (in Indonesia=LMDH). Be expected both of them can fulfill Angelica export demand, forest communities more be autonomous, prosperous and the forest conservation awake. In reality, Angelica export for market demand is fluctuation. LMDH thing troubling when Angelica production from LMDH high, PT. Ambitious Trading Coy, Ltd does not take out all, of course of it appear the problem on their partnership. Therefore, need the study to know, (1) Partnership pattern between PT Ambitious Trading Coy Ltd. with LMDH, (2) Level satisfaction LMDH partnering PT Ambitious Trading Coy, Ltd, (3) Important attributes that should be prioritized to be implemented in order to LMDH satisfied, and (4) Partnership impact for LMDH and conservation of forest land. The method to see satisfaction level used Customer Satisfaction Index and Importance-Performance Analysis. The result of researching showed, (1) Partnership pattern PT Ambitious Trading Coy, Ltd with LMDH is plasma core pattern (2) Category level satisfaction LMDH partnership with PT Ambitious Trading Coy, Ltd is satisfied, (3) The important attributes that should be prioritized to be implemented in order to LMDH satisfied are road facilities, Angelica buying, Angelica price fixing, information, response to LMDH complaints, and honesty, and (4) Angelica business partnership impact between LMDH and PT Ambitious Trading Coy, Ltd is positive. LMDH to become stronger in business, capital and number of member. Partnership would inhibit erosion and soil fertility saves naturally.

Keywords—Empowerment, Forest Village Institutions, Angelica Plant, Partnership, Organic Farming.

I. INTRODUCTION

THIS recent condition or marginal agriculture area, inadequate job employment and, limited skills of the

forest-surrounding community leads to their low economic level thus, encourage them to expand deeper into the forest irresponsibly which triggers illegal logging. This situation has caused erosion and substantial damage the forest. In order that the forest generates more social benefit to the surrounding community, as well as encourages development of the forest areas, Indonesian Forest Company facilitates the initiation of Forest Village Community Institutions [1]. Forest Village Community Institutions hereinafter referred to as LMDH is a body which is set up by the community who reside in or surrounding the forest to manage and fulfill their needs by interacting with the forest in the context of social, economic, political, and cultural background [2].

One of the economic activities involving LMDH which is closely related to the organic agriculture is the development of the herbal plant of Angelica. Known as herbal plant, Angelica (*Angelica Keiskei* K family Umbelliferae) is a sheltered plant which grows at the height of 700-1500 m above sea. This plant is renowned as the angelical plant for its efficacy in healing sick people [3]. The company involves in this area is PT. Ambitious Trading Coy, Ltd. In running the business, the company sets partnership with LMDH. Partnership is the cooperation between two or more business bodies, based on the mutual needs of complementing each other.

The concept used by LMDH in developing Angelica is the conservation concept and organic planting concept. Angelica is growth in between the main trees on conservation land which are Non-GMO's/Genetically Modified Organisms, and are cultivated without pesticides, chemical substances, coloring or flavor preservatives. The fertilizer used in the cultivation derives from goat and chicken's feces. The organic planting program is designated to maintain soil balance.

A business must create a satisfaction for the customer [4]. A satisfaction is a happy or disappointed someone came from the comparison between image to the perform of product or service and their hopes. If the perform smaller from the consumer's hope it will create unsatisfaction. If the perform equal with consumer's hope it will created a satisfaction. If

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the perform exceeding consumer hope, it will get a satisfaction feeling. If the consumer feel unsatisfaction, they will not using the company service again. They will look for another company that shows good perform which offer a satisfaction as their hope [5]. Based on the disconfirmation paradigm [6], that the satisfaction customer is defined as post-purchase evaluation. If the perception of the performance is not able to meet the expectations, there will be dissatisfaction.

According to academic experts, customer satisfaction is an independent construct and is affected by the quality of service. Quality of service encourages customers to commit themselves to certain products and services of a company and leads to the increase on their market share. Hence, Quality of service plays a crucial role in maintaining the customer's loyalty for a long time.

A model using concept to know how far the different between reality and customer's hope on partnership service is service quality model (SERVQUAL). The analysis method to know customer satisfaction level is Customer Satisfaction Index (CSI) and to know important attribute based on the perform is Importance-Performance Analysis (IPA) [7].

Budi's research using those models showed that the essential attributes that must be considered in satisfaction of cane farmer to the cane farmer institution service are tekcnology, office facilities, meeting schedule, capability to give a credit, delivery order, sanction, information honesty, response to the complaint of member, skill, friendliness, patience [8].

The agricultural partnership system guarantees both farmers and investors. Farmers may secure the warranty of capital investment and market, while investors may gain the favored commodities, both in quality and quantity. Thus, investors will perform regular monitoring and counseling to the farmers. There are several factors to influence the success of the partnership, namely: mutual willingness, respect, mutual interest, integrity (no intention to lie) or honesty, openness, as well as take-and-give attitude. The success level of the partnership depends on how both parties run the relationship by carefully respecting and implementing the mutually-agreed contract. The concept of agreement fit the characteristic institution of partnership. The contents of agreement will reflect partnership pattern.

By partnering with LMDH, PT. Ambitious Trading Coy, Ltd. expects to fulfill the export demand of the Angelica plant, while at the same time manage to help the surrounding community live more independently and prosperously. Forest conservation also serves as the expected side effect. However, the demand of Angelica is relatively unstable. What makes LMDH anxious more is the fact that PT. Ambitious Trading Coy, Ltd. does not accept the entire product of Angelica. It is even said that at certain point of time in the past, there was a temporary discontinue of the Angelica purchase. This condition surely creates certain problems to their partnership.

Refer to the context, the objective of this research is to find out (1) the partnership pattern between PT. Ambitious Coy Trading, Ltd. and LMDH, (2) the level of satisfaction of LMDH in partnering with PT. Ambitious Coy Trading, Ltd, (3) The important factors to put as the top priority in fulfilling the satisfaction of LMDH and, (4) The effect of the partnership on LMDH and forest conservation.

II. RESEARCH FRAMEWORK

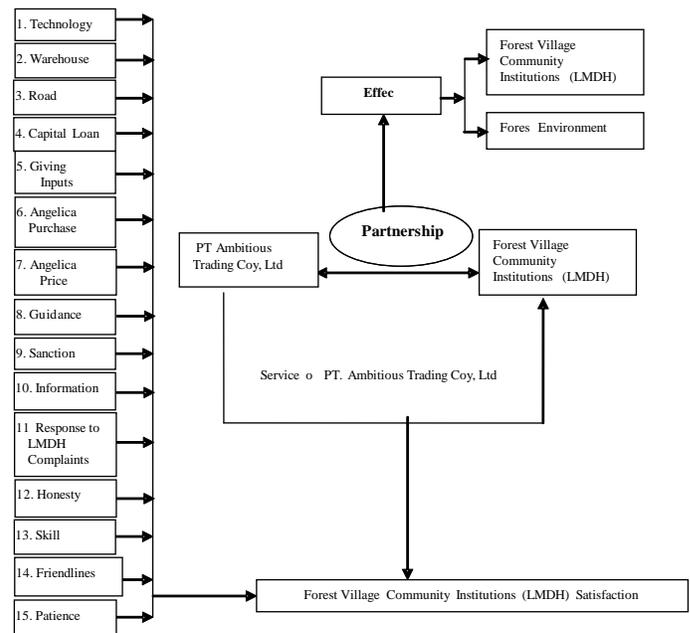


Figure 1. Research Frame Work

Fig.1 Research Framework

III. RESEARCH METHODOLOGY

This research was done purposively at LMDH Margo Mulyo at Ketapanpare Village, Trawas Sub-District, Mojokerto Regency, East Java, Indonesia. This research employs descriptive and analytical methods. The population of this research was the members of LMDH Margo Mulyo. As many as 20 respondents (54%) of 37 individuals were taken as the sample of this research by using random sampling technique. Data was taken through direct interview with the respondents. The data analysis used to find out the satisfactory level of LMDH was Customer Satisfactory Index (CSI), while Importance and Performance Analysis (IPA) method was used to find out the important factors to put as the priority. The formula of them are:

1. Customer Satisfaction Index (CSI)

Four steps to do [9] and [10]:

a) Determining Mean Importance Score (MIS) and Mean Satisfaction Score (MSS).

This score is derived from the average interest level and performance of each respondent:

$$MIS = \frac{\sum_{i=1}^n Y_i}{n} \dots\dots\dots 1)$$

$$MSS = \frac{\sum_{i=1}^n X_i}{n} \dots\dots\dots 2)$$

Explanation:

n = number of respondent

Y_i = score of importance of the ith attribute

X_i = score of performance of the ith attribute

b) Counting the Weight Factors (WF)

This weight is the percentage of the MIS score per attribute towards the total MIS of the entire MIS

$$WFi = \frac{MIS_i}{\sum_i^p MIS_i} \times 100\% \dots\dots\dots 3)$$

Explanation:

p = number of importance attribute

i = the ith attribute

c) Counting the Weight Score (WS)

This weight is the multiplication between the Weight Factor (WF) and the average satisfaction level (Mean Satisfaction Score = MSS).

$$Wsi = WFi \times MSS_i \dots\dots\dots 4)$$

Explanation:

i = the ith attribute

The measurement on the analysis is performed using the Likert scale as shown in Table I below:

TABLE I
THE LIKERT SCALE USED FOR THE ATTRIBUTE OF IMPORTANCE AND SATISFACTION

Level of Importance (Y)	Score	Level of Satisfaction (X)
Highly Important	5	Highly Satisfied
Important	4	Satisfied
Moderate	3	Moderate
Not Important	2	Not Satisfied
Not Important at all	1	Not Satisfied at all

d) determining Customer Satisfaction Index (CSI)

$$CSI = \frac{\sum_{i=1}^p Wsi}{5} \times 100\% \dots\dots\dots 5)$$

The decision making which is based on the obtained CSI scores is done using the following Customer Satisfaction Index (CSI) criteria like on Table II:

TABLE II
THE CRITERIA OF CUSTOMER SATISFACTION INDEX

Index score (%)	Criteria of Customer Satisfaction Index (CSI)
81,00 – 100,00	Very High
66,00 – 80,99	High
51,00 – 65,99	Moderate
35,00 – 50,99	Low
0,00 – 34,99	Very Low

2. Importance and Performance Analysis (IPA)

This analysis helps to find out the importance level of customer and the performance of the partner towards the attributes in partnership [11]. This analysis will generate a cartecius diagram that maps the attributes which affect satisfactory. The steps in measuring the Importance and Performance Analysis (IPA) are as follows:

a) in determining the average score of the attribute score of the importance and performance, the following equations are

$$\bar{X}_i = \frac{\sum X_i}{n} \dots\dots\dots (6)$$

$$\bar{Y}_i = \frac{\sum Y_i}{n} \dots\dots\dots (7)$$

Explanation:

X_i : the score of average score of the performance level of the ith attribute

Y_i : the score of average score of the importance level of the ith attribute

X_i : the number of the score of the performance level of the ith attribute

Y_i : the number of score of the importance level of the ith attribute

n : number of respondents

b) in determining the average score of the entire attributes of the importance and performance level as the limit of the intersection line of the cartecius diagram. The formulas used are as follows:

$$\bar{X} = \frac{\sum X_i}{k} \dots\dots\dots (8)$$

$$\bar{Y} = \frac{\sum Y_i}{k} \dots\dots\dots (9)$$

Explanation:

X[∞] = the limit of axis x (performance level)

Y[∞] = the limit of axis y (importance level)

k = the number of the service attribute (15)

c) Attribute mapping

At this stage, the average of each attribute is mapped into the cartecius diagram with 4 possible quadrant positions. Each attribute's position depends on the average score of the respective attribute. Fig. 2 below elaborates the positions of the four quadrants in IPA method:

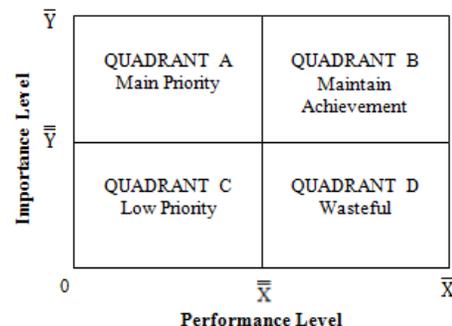


Fig. 2 The Cartecius Diagram of Performance-Satisfaction

Explanation:

a. Quadrant A (The Main Priority)

This quadrant covers the attributes that are extremely important to the members of LMDH, but are yet well-performed by the company as expected by the LMDH members, thus lead to disappointment and dissatisfaction. The suggested steps for PT Ambico are performing continuous improvement so as to increase the performance of the attributes in this quadrant.

b. Quadrant B (Maintain Achievement)

This quadrant covers the attributes that are important to the members of LMDH and have been well-performed by the company. As the LMDH members are satisfied, the company's duty is to maintain its performance since all of the attributes help the product/service be considered excellent by the LMDH.

c. Quadrant C (Low Priority)

This quadrant covers the attributes which are regarded less important by the LMDH members and, at the same time, are not well-performed by the company. The performance improvement on the attributes in this quadrant is to be re-considered since the effect on the benefits expected by the LMDH members is low.

d. Quadrant D (Wasteful)

This quadrant covers the attributes which are regarded less important by the LMDH members, but are performed perfectly by the company with satisfactory result. The attributes in this quadrant are to be downsized to help the company save the financial expenses, and turn the same amount of budget into more beneficial attributes for the members of LMDH.

IV. RESULTS OF THE RESEARCH

1. The Partnership Pattern between LMDH and PT. Ambitious Trading Coy, Ltd

The partnership pattern which is set up by LMDH and PT. Ambitious Trading Coy, Ltd is the Core Plasma Pattern. The firm receives the entire parts of the Angelica plants i.e.: leaves, latex, and root. The firm does not provide all facilities which needed by LMDH. Among the mutually-agreed duties and rights by both parties are:

a. The duties and rights of PT. Ambitious Trading Coy, Ltd

Duties:

- Purchase the yield (Angelica) generated by LMDH
- Facilitates non-interest capital loan for the Angelica farming business
- Provides the production facilities like seeds and mechanical tools, as well as fixes the paths and provides the storage house for keeping the mechanical tools
- Provides guidance and counseling regarding the Angelica farming business and organic farming

Rights:

- Receives the entire product (Angelica) of export standard
- Sets the price level of the leaves and latex of Angelica

- Terminates contract when LMDH violates the agreed contract

b. The duties and Rights of LMDH

Duties:

- Sells the entire product of Angelica to the company
- Generates product that meets the organic farming standard
- Grow the Angelica plant according to the Japanese organic farming standard

Rights:

- Receives production supports in the form of seeds, as well as facilities like road pavement and storage house
- Receives guidance and counseling
- Receives market guarantee
- Receives capital loan facilitation

2. The Satisfaction level of LMDH in Partnering with PT. Ambitious Trading Coy, Ltd.

The result of the measurement of the satisfaction index of LMDH in partnering with PT. Ambitious Trading Coy, Ltd (Table III) reveals the CSI score of 74.40%. This score represents the satisfaction level of LMDH in partnering with PT. Ambitious Trading Coy, Ltd at the point of 'satisfied'.

TABLE III
RESULT OF THE ANALYSIS ON THE INDEX OF SATISFACTION SCORE OF LMDH TO PT. AMBITIOUS TRADING COY, LTD

N u m	Attribute	Weight		MIS	WF	MSS	WS
		Y	X				
1	Technology	60	72	3.00	4.96	3.60	17.87
2	Storage House	72	91	3.60	5.96	4.55	27.10
3	Road facility	92	73	4.60	7.61	3.65	27.78
4	Capital Loan	92	85	4.60	7.61	4.25	32.34
5	Facilitation of means of production	78	82	3.90	6.45	4.10	26.45
6	Angelica purchase	96	51	4.80	7.94	2.55	20.25
7	Angelica price setting	96	52	4.80	7.94	2.60	20.65
8	Guidance	92	91	4.60	7.61	4.55	34.62
9	Sanction	60	68	3.00	4.96	3.40	16.87
10	Information	80	68	4.00	6.62	3.40	22.50
11	Responsiveness over complaints from LMDH	89	58	4.45	7.36	2.90	21.35
12	Honesty	93	70	4.65	7.69	3.50	26.92
13	Skill	65	77	3.25	5.38	3.85	20.70
14	Hospitality	84	87	4.20	6.95	4.35	30.22
15	Patience	75	85	3.65	6.20	4.25	26.36
Amount		1224	1110	61.2	101.24	55.50	371.98
Score of Customer Satisfaction Index (CSI) = 74.40%							
Category : Satisfied							

Source: processed primary data (2014)

3. The important factors to improve in implementation

The measurement result of the average score of the importance and performance attribute of partnership between

PT Ambitious and LMDH which has been analyzed using the IPA method is seen at Table IV

TABLE IV
SCORES OF AVERAGE ATTRIBUTE OF IMPORTANCE AND PERFORMANCE.

N u m	Attribute	Score of average attribute		Quadrant
		Y	X	
1	Technology	4.00	4.80	C
2	Storage House	4.80	6.07	D
3	Road facility	6.13	4.87	A
4	Capital Loan	6.13	5.67	B
5	Facilitation of means of production	5.20	5.47	B
6	Angelica Purchase	6.40	3.40	A
7	Angelica Price Setting	6.40	3.47	A
8	Guidance	6.13	6.07	B
9	Sanction	4.00	4.53	C
1	Information	5.33	4.53	A
0				
1	Responsiveness over complaints from LMDH	5.93	3.87	A
1	Honesty	6.20	4.67	A
2				
1	Skills	4.33	5.13	C
3				
1	Hospitality	5.60	5.80	B
4				
1	Patience	5.00	5.67	B
5				
	Amount	81.60	74.00	
	Average	5.44	4.93	

Source : processed primary data (2014)

Table IV illustrates the average score of the performance at 5.44, while the importance scores average of 4.93. Both of the scores will determine the limit of the cartecius diagram. The spread of the satisfaction attributes in the cartecius diagram is presented in Fig. 2.

4. The Effect of Partnership on LMDH

The empowerment and participation of the Angelica farmers who join LMDH is an important aspect in the process of building an agriculture-based partnership, particularly in organic farming. The partnership between LMDH and PT. Ambitious Trading Coy, Ltd has generated positive atmosphere both to LMDH and forest environment. LMDH has gained more power in business and capital, while at the same time gained more members. Bargaining position of farmer that join with LMDH become stronger. If the cost in the level of the company low, so LMDH will sell in other companies. The capital of institution zero before, become USD 98.48 recently. The income of LMDH member before was partnership in the Angelica Plant cultivation is about USD 65.25 become USD 165.25. The number of LMDH member every year increase, from 6 farmers in the 2006 become 37 farmers in the 2014 year. In terms of forest conservation, the partnership may lower illegal logging, prevent erosion, while maintain soil fertility at the same time.

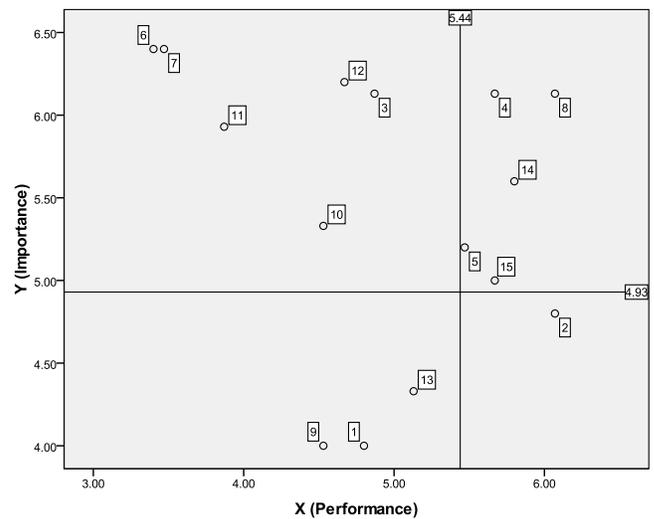


Fig. 2 The cartecius diagram of Importance-Performance in Partnership PT. Ambitious Trading Coy, Ltd with LMDH

V. CONCLUSION

Angelica plant is very important because it is useful for human being. All parts of the plant are can manufactured as dring tea, cosmetics, hair tonic, supplement etc. To develop it required a partnership between farmers and industry. The pattern of partnership that is successfully proven is core-plasma partnership between company and farmer groups that are organized in LMDH. The success of the partnership is proofed by the satisfaction of plasma (LMDH). The satisfaction will be increased if there is a priority attention to attributes of road, purchasing, price, information, complaints response and honesty. The partnership also gives a positive impact on the institutional, business and the environment.

VI. ACKNOWLEDMENT

We would like to deeply appreciate both the Research Instituion and Faculty of Agriculture, University of Jember who gave us a good opportunity to do this research. Head of Trawas Village who gave us permission to study, and my team research.

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