

Value Chain Model in Dairy Industry to Improve Business Competitiveness

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Abstract—Ministry of Agriculture and the Ministry of Industry said that the dairy industry is one industry that occupies a strategic position based on the potential development and strategic role in the national economy. Nevertheless, the results of scoping study conducted by the Agency for Agricultural Research and Development, Ministry of Agriculture in 2012 showed some problems in implementing the current partnership patterns. Based on the above, it takes an effort to carry out the evaluation as well as efforts to improve the performance of the partnership based on the principles of business sustainability to generate an institutional model of partnership that is effective, efficient and participatory indispensable for the growth of the dairy industry in one of the centers of milk in Indonesia. The objectives of research are: obtain a description of the value chain partnerships in the dairy industry, identify the factors what are the factors driving and inhibiting factors / bottlenecks in the value chain partnerships in the dairy industry, and identify strategy to upgrading value chain performance in the dairy industry in West Bandung regency. This study is a preliminary study to develop a model of empowerment in the dairy industry.

Keywords—*dairy industry; the value chain model*

I. INTRODUCTION

Results scoping study showed some problems in implementing a partnership today, namely: which are: (1) There is transparency in the measurement of the quality of milk, (2) Lack of diversification of fresh dairy products, (3) The dairy cooperative performance is not optimal, and (4) limited access to obtain business financing [1]. Based on the above phenomenon, it is necessary strategic stages to evaluate and improve the performance of the partnership, and developing a partnership model that is effective, efficient, and participatory. The first stages, did a description of the current partnership (existing condition).

The second stage, to do appraisal / assessment of the performance of the partnership. The third stage, identify factors driving and inhibiting / performance bottleneck in the development of partnerships and formulate the development strategy of partnership that can be done. The fourth stage, the macro context, the development of partnership model that is effective, efficient, and participatory. This partnership model is determined by the role of the Quadruple Helix include: scholars (intellectuals), business (business), government

(government) and the community (community). The fourth stage is carried out in a study conducted in three years. The first and second phase is done in the first year of the study.

II. LITERATURE REVIEW

The value chain model has been extensively used by researchers to map the linkages and the networks at the firm and industry level and to analyse where value resides at these two levels [2,3]. The analysis of the value chain within the firm try to identify every activities in the internal chain where the value chain be more successfully created. In developing-country, producers struggle to strengthen their bargaining position in this value chain by horizontal collaboration between producers and vertical collaboration [4]. Value chain activities can be categorized into two types-primary activities (operations, logistics, marketing, and service) and support activities (infra-structure, human resources management, and technology development) [5].

The value chain includes all activities and services to bring a product or service from the planning stage to finally selling on the market. The value chain includes raw material suppliers, producers, processors, and buyers. They are supported by various providers of technical, business and financial services [6]. The value chain in the dairy industry consists of: specific input sellers, dairy farmers, cooperatives, milk processing industries (IPS), traders, and end consumers. This is the value chain carried out by most industry players. One approach that can be used in program evaluation is an approach that is focused on decision making. The basic concept of the decision focused approach is that each stage of evaluation is a decision making that can be used to improve the next program. This means that the output of each stage of the evaluation will be strategic.

The value chain model in dairy industry known as partnership model. Partnership model in dairy industry value chain is cooperation in the business relationship, directly or indirectly, on the basis of the principle of mutual need, trust, strengthen, and favorable involving perpetrators of micro, small, and medium to large enterprises [7]. Pattern partnerships to date developing the dairy industry there are three, namely:

- partnership between dairy farmers and cooperatives

- partnership between the cooperative and milk processing industry
- partnership between farmers dairy and milk processing industry

One model that is included in the decision focused approach is the CIPP model (context, input, process, and product.). The basic concept of the decision focused approach is that each stage of the evaluation is a decision that can be used to further program improvements. It means that the output of each stage of evaluation will be strategic. One of the models included in the decision focused approach is the model CIPP

The CIPP model for evaluation is a comprehensive framework for guiding formative and summative evaluations of programs, projects, personnel, products, institutions, and systems. CIPP model defines evaluation as: evaluation is the process of delineating, obtaining, and providing useful information for judging decisions alternatives [8]. Evaluation is the process of obtaining and providing useful information to assess several alternative decisions. The CIPP model assesses that each stage of the evaluation activity is not just a judgment but is related to decision making so that each stage of the evaluation is of strategic value. Evaluation of decision-making driven, systematic and continuing process, and made-up of 3 major steps: delineating, obtaining, and providing [8].

The CIPP model describes the evaluation process as follows:

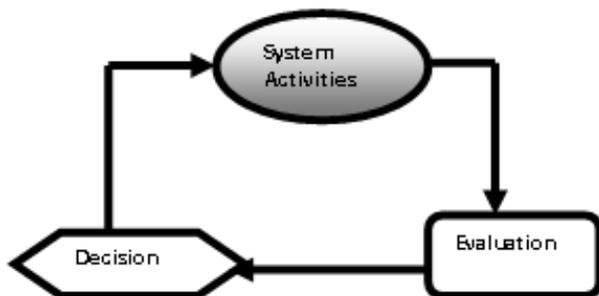


Fig. 1. The CIPP model for evaluation.

Source: Stufflebeam, Daniel, www.scribd.com, 2012

III. METHOD

The method used is a survey method. Survey method using a questionnaire as a data collection tool. Observations using time coverage "one shoot" / cross sectional. The data were analyzed descriptively. Sampling was done by purposive sampling method. In this study sample size are farmers, two dairy cooperatives in West Bandung regency, and one milk processing industry (IPS).

IV. RESULTS AND DISCUSSION

A. Profile of Dairy Cattle Breeders

Most dairy farmers are in the productive age is the age of 30-50 years by 80%. The level of elementary education, and most have been running this business 11-20 years. Age becomes an indicator breeders have the ability to manage the

cattle business activities are largely a physical activity. Productive age also allows of the farmer to be able to accept and implement new innovations in business management optimally. Based on the profile of business status, it can be concluded that it is entirely their own business / household. Household enterprises are characterized by the implementation of managerial functions that do not have a clear structure. This business is a family business handed down from one generation to the next. Since childhood, the child is prepared to continue the business by helping the parents that education is often occupy the second priority. Transfer of knowledge and skill / skills related to business such as production, maintenance, and quality of milk obtained only on an informal basis. Low level of education makes the process of transfer of knowledge goes informally through learning by doing and coaching from parents to their children. The competence to manage the business is also determined by experience rather than by the level of formal education. All cattle ranchers run their own businesses owned. Traditionally implemented business management, labor force only from family members only, does not have any paid employees.

An examination of the economic scale enterprises, the majority (80%) were on a scale not economical because it has a cow under 5 tail. Dairy cattle business is said to be profitable and sustainable if the ownership of at least 5.23. The outcome was in average production capacity per day / cow only 10-15 liters. Still far below other beef centers namely East Java Province, where production per day / cow can reach 20-30 days.

Need the government's role to develop business scale up the business scale economically. Awarding grants, soft loans, and the policy of rotating cow is an alternative solution that can be done. During this time to add many cattle ranchers rely on credit from the bank following a lack of support from local governments as well as from the IPS itself. Based on experience training and coaching, the survey results showed that most (75%) never received guidance in the form of training.

B. Value Chain Analysis

First stage in value chain analysis is production process. In general, production performance can be measured by several indicators, namely: the stages of the production process are fixed, own and implement product quality standards, have the availability and the ease to obtain support materials such as feed from suppliers, and has a skilled workforce. The majority of dairy farmers are members of cooperatives. Cooperatives provide service facilities to its members, in the form of: training or coaching that is given with the aim to increase the knowledge and ability of farmers in maintaining good cow knowledge of how to produce high quality milk, provide health services such as periodic check is done to cattle ranchers to maintain the condition and health of the cows capital loan. The main products are pure fresh milk. Breeders do not do further processing in the form of semi-finished or finished products such as curd, yogurt, and other processed products. Some of the factors that cause are lack of knowledge and skills in the processing of milk, and most of the farmers are members of cooperatives. There is a commitment that members

may only pure fresh milk supply only while the dairy processing into refined products made by the cooperative.

Second stage is capital structure. There are two sources of capital, i.e. equity and outside capital. Outside capital loans can be obtained from the cooperative, private agro company, and banking. The majority of respondents (85.7%) stated that access to obtain loans from cooperatives and private agro company is relatively easy. In the context of business development, of course it is advisable to have the capital resources from the outside (a loan from a bank or cooperative). Needs to be disseminated related schemes soft loan scheme that can be used at once necessary assistance in business management. It has become very important for the development of business, sustainability efforts, as well as venture capital lent security [9,10].

Competence Enhancement / Development of Human Resources is the next analysis. Increased competence of farmers obtained in two ways: formal and informal. Increased competence formally acquired through training conducted by outside parties such as cooperatives or Department of Animal Husbandry. Increased competence informally acquired through the process of learning by doing is often characterized by trial and error. Another way is the breeder exchanging ideas with other farmers about improving the quality of milk produced. Experienced workforce would be very important but other indicators that the availability of technical training is still considered inadequate [11]. Competencies are extremely dependent on work experience are often correlated with trial and error. Of course her competence must be backed by a clear technical ability, which can be acquired through training.

Distribution is the last analysis. In the aspect of the distribution of the positive indicators, namely where cattle farmers already have enough power facilities that support the business, has the indirect distribution channels (through intermediaries) and already there is a way that supports the distribution is through the cooperative. These firms effectively perform the wholesaler function [12]. In the process of determining the selling price of milk produced by dairy farmers that the selling price is determined by the cooperative or the agribusiness. The price of milk is determined examination through laboratory testing.

C. Upgrading Strategy

Value Chain Upgrading Strategy is based on the obstacles faced. In detail can be seen in Table 1.

TABLE I. VALUE CHAIN UPGRADING STRATEGY IN DAIRY INDUSTRY IN WEST BANDUNG REGENCY

Obstacles	Development area
Market access	Improve partnerships with IPS, retailers, and participation in promotions
Technology	Processing technology innovation Applied technology Training and development
Capital	Increased access to capital sources in the form of soft credit schemes
Quality management	Introduction of quality standards Training of quality assurance of milk and its dairy products

Improvement of business performance of farmers such as production capacity, product quality, and innovation and application of processing technology. This can be done by increasing the role of cooperatives in guidance and assistance to breeders, increasing access to capital resources, improving the quality of partnerships with the government and the private sector to guarantee the quality of milk.

Other research related to the mapping of breeder's potential and clustering needs to be done so as to obtain the formulation of strategy that match with result of mapping and clustering.

V. CONCLUSION

Based on the results of studies conducted on Dairy Industry in West Bandung regency, it can be concluded: There are two important terms in the value chain, namely: operators of the value chain and value chain functions. Driving and inhibiting factors in the development of the dairy industry can be seen from market access, technology, capital, and quality management.

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