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RESEARCH ARTICLE

THE STRENGTHENING MODEL OF INSTITUTIONAL CAPACITY OF MILK PRODUCER COOPERATIVES IN INDONESIA

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ABSTRACT

The institutional capacity of cooperatives is the main component that determines the ability of Milk Producers Cooperative (MPC) in adapting to the changes that occur. The objectives of the study are: (1) to analyze the priority of internal and external factors in strengthening the institutional capacity of MPC, (2) to formulate priority strategies for strengthening institutional capacity of MPC, and (3) to construct models of institutional capacity strengthening of MPC. The main data used are primary data collected through Focus Group Discussion (FGD) and indepth interview by using questionnaire. The analysis method used are descriptive analysis, SWOT analysis and Analytical Network Process (ANP). On the internal side, organizational management and cooperative business are a priority of strength; while capital, member participation and human resources become priority of weakness. On the external side, technological and policy developments are an opportunity priority; while the socio-economic condition of the region is a priority of threat. The Strategic priorities in strengthening the institutional of MPC are the development (diversification) to high value added products and the development of marketing networks through partnerships. The institutional strengthening model developed is The Strengthening Model of MPC that Oriented to Product Diversification and Partnership.

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INTRODUCTION

The Milk Producers Cooperation (MPC) is an economic organization that consists of dairy farmers and aims to increase the welfare of members. The existence of MPC is very influential on the development of dairy cattle business members. This is related to a number of services provided by MPC which include: provision of inputs, marketing of milk, financing, livestock health services, and milk processing. Asmara et al. (2017) concluded that there is a positive relationship between the performance of MPC services and the performance of the dairy farm of members. Utamiet al. (2014) stated that the role of cooperatives will affect the performance of cooperative members in producing quality milk. Meanwhile, Mazzarolet al. (2013) stated that small firms can use cooperative to secure access to resources and mitigate environmental. Yang and Liu (2012) stated that farmers have to pay higher transaction costs and encounter a huge trading risk if they engage in agricultural production only through the market transaction. Furthermore, Yang and Liu (2012) stated that the farmer cooperative economy organization formed by a series of contracts and on the principle of reciprocity can

reduce transaction costs, so it is the valid way to promote the development of agricultural specialization through the development of the farmer cooperative economy organization. With its strategic position, MPC becomes one of the important nodes in strengthening the household economy and regional economy. Phadi (2014) stated that the dairy cooperatives play an important role for rapid development of rural people. However, some empirical facts showed that some MPC face obstacles to grow and flourish in today's increasingly competitive conditions, even some MPC are out of operation (closed). Chaddad (2007) stated that it is important to cooperative leader to recognize and quickly adapt their organizations to the changing bussiness environment. The institutional are one of the main aspects that determine the ability of MPC to continue to grow and develop and adapt to changes that occur. The low institutional capacity of MPC and not yet based on good governance is the main factor causing the development of cooperative organizations. The institutionalis one of the main aspects that determine the ability of MPC to continue to grow and develop and adapt to changes that occur. The low institutional capacity of MPC and not yet based on good governance is the main factor causing was not developed of cooperative organizations. Purwono et al. (2013) with Balance Score Card method concluded that MPC performance is included in the less healthy category so was hat improvement of performance in every perspective

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both financial and nonfinancial is indispensable. Meanwhile, Nurfitriani and Husnah (2013) concluded that there is a positive correlation between governance and cooperative performance. Cooperatives with better governance are proven to produce better cooperative performance. Departing from the existing problem, the main question that will be answered in this study is: how the strengthening model is needed for MPC to strong and competitive. The objectives of the study are: (1) to analyze the priority of internal and external factors in strengthening the institutional capacity of MPC, (2) to formulate priority strategies for strengthening institutional capacity of MPC, and (3) to construct models of institutional capacity strengthening of MPC.

MATERIALS AND METHODS

Location and Time of Study

The research was conducted in two regions, namely West Java and East Java. The selection of the two regions is based on the consideration that both areas are the production centers of dairy farms in Indonesia and there are a number of MPC. The study was conducted during July to September 2017.

Type and Data Source

The main data used is primary data that obtained through indepth interview and Focus Froup Discussion (FGD). FGD was conducted twice in Bandung (West Java) and Pasuruan(East Java). FGD discussed the institutional issues of MPC. FGD are participated by relevant stakeholders: cooperative management, farmers, Agriculture/ Livestock Service Office, Cooperatives and SMEService Office, and cooperative experts. Primary data were also obtained through interviews using questionnaires with experts, practitioners, and regulators who have an understanding of the problems in strengthening the institutional capacity of Milk Producers Cooperation in Indonesia (Table 1). Therefore, the selection of respondents conducted by purposive sampling. A responding assessment is needed to determine the priorities of strengths, weaknesses, opportunities, threats and strategies as a foundation for constructing a model of institutional strengthening of MPC.

Table 1. The distribution of respondents in West Java and East Java

No.	Respondent	West Java (people)	East Java (people)
1	Cooperative management	5	5
2	Agriculture/ Livestock Service Office	1	3
3	Cooperatives and SMEService Office	2	1
4	Cooperative experts	1	-
	Total	9	9

The Analysis Method and Data Processing

Analysis and data processing in this research using Analytic Network Process (ANP) combined with SWOT analysis. SWOT analysis was used to identify strengths, weaknesses, opportunities and threats. Based on the identification of internal and external factors then formulated strategy formulation. David (2002) reveals that the SWOT (Strengths, Weaknesses, Opportunities, Threats) matrix is a tool for developing strategies based on adjustments to the external environment (opportunities and threats) and internal (strengths

and weaknesses). Meanwhile, ANP is used in solving a problem by adjusting to the complexity of the problem through the decomposition of synthesis along with the priority scale to obtain the priority scale (Saaty, 2005). Research with ANP method consists of three phases, namely: model construction, model quantification, and synthesis and yield analysis (Ascarya, 2005). In the study conducted, the three stages are as follows:

Model Construction: The construction of the ANP model is based on several previous research results conducted by the researcher, the literature review and in-depth discussion with the cooperative management to review the information more deeply to obtain the real problem.

Quantification of the Model: The model quantification stage is performed using an ANN questionnaire which is pairwise comparison (pairing of pairs) related to a number of aspects of internal factors (strengths and weaknesses) and external (opportunities and threats). The numerical scale used is a scale of 1-9 (Table 2). The result data is inputted through Super decision software to be processed to produce output in the form of priority (Ascarya, 2005).

Table 2. The comparison of verbal scales and numerical scales

Verbal Scale	Numeric Scale
Very, very big influence	9
	8
Very big influence	7
	6
Greater influence	5
	4
Slightly greater influence	3
	2
Same great influence	1

Source: Ascarya (2005)

Synthesis and Analysis

Geometric Mean

To find out the results of individual assessment of the respondents and determine the results of opinion on one group, an assessment is done by calculating the geometric mean (Saaty and Vargas, 2006). In this research, geometric mean was not used because the result obtained did not indicate any difference of priority. Therefore, it was decided to use average calculations to get priority values of strengths, weaknesses, opportunities, threats, and strategies.

Rater Agreement

Rater agreement is a measure that shows the level of agreement of the respondents (R1-Rn) to a problem in one cluster. The tool used to measure the rater agreement is Kendall's Coefficient of Concordance (W : $0 < W \leq 1$). $W = 1$ indicates perfect conformity (Ascarya, 2005). If the test value of W is 1 ($W = 1$), it can be concluded that the assessment or opinion of the respondents has a perfect agreement whereas when the value of W is 0 or closer to 0, it indicates a non-convex between respondents' answers or varied answers (Ascarya, 2005).

RESULTS AND DISCUSSION

The construction of institutional strengthening model of MPC was done by SWOT and ANP anilysis approach. By

combining the two analyzes would get the result of identifying internal and external factors priorities that considered in the preparation of MPC strengthening model. The identification of internal and external factors is based on previous studies conducted by researchers, literature review and Focus Group Discussion (FGD) forum.

Identification of the Internal Environment

Based on the results of the identification of the internal environment, it is known that there are 7 internal aspects (strengths and weaknesses) considered in the construction of the MPC strengthening model, namely: (1) human resources; (2) organizational management; (3) cooperative capital; (4) cooperative business; (5) working partnerships; (6) cooperative services; and (7) member participation. The identification of the internal environment (strengths and weaknesses) of the seven aspects is presented in Table 3.

Table 3. Identify the internal environment of MPC institutions

Aspect	Strength (S)	Weakness (W)
Human Resources (S1/W1)	Large number of members are incorporated in farmer groups (S11) Experienced and educated human resource managers (S12)	Misunderstanding orientation of the board regarding the purpose of the cooperative (W11) Weak commitment of the board in the welfare of members (W12)
Organizational Management (S2/W2)	Has legal institutional aspects (S21) The organizational structure is well established (S22) RAT implemented annually (S23)	Conventional in organizational governance (W21) Accountability and transparency have not been fully implemented (W22) Routine and lack of initiative (W23)
Cooperative Capital (S3/W3)	Capital source from members (S31)	Limited capital owned (W31) Less able to access capital resources (W32)
Cooperative Business (S4/W4)	Operate for a long time (S41) The cooperative business is related to the member's business (S42) Conducting milk processing into high value-added products (S43)	Enterprises tend to be stagnant and underdeveloped (W41) The scale of business has not reached economies of scale (W42) Less innovative in developing products/produced services (W43)
Working Partnerships (S5/W5)	Having a partnership network with various agencies (S51) Having a network with similar cooperatives (S52) Having milk marketing network with milk processing industry (S53)	Ability limited in network development (W51) Weak bargaining position (W52)
Cooperative Services (S6/W6)	The services provided by the cooperative are needed by the members (S61) Members requirements and procedures are relatively easy (S62)	Cooperative profits oriented (W61) The effectiveness and efficiency of service is not optimal (W62) Training and education for members is relatively low (W63)
Member Participation (S7/W7)	Members participation rate in milk sales is relatively high (S71) The participation rate of members in principal savings and mandatory savings is relatively high (S72)	The low level of member participation relate to voluntary savings (W71) Lack of interaction between the board and the cooperative members (W72) Lack of understanding of members towards cooperative objectives (W73)

Table 4. Identify the external environment of MPC institutions

Aspect	Opportunity (O)	Threat (T)
The socio-economic condition of the region (O1/T1)	Great potential breeders to become members (O11)	Decreasing of public interest for dairy farm business (T11)
	Increasing Public Revenues (O12)	Lower price of imported milk (T12)
	Increasing awareness of healthy life (Drinking milk) (O13)	The fluctuation of raw feed material price is relatively high (T13)
	Increasing milk processing industry growth (O14) Has potential in agro-edu tourism (O15)	Increased business competition (T14) The market structure of material feed raw input and market monopolist output (T15) Limited land for farming (T16) Milk import policy (T21)
Policy (O2/T2)	Increasing national milk production policy (O21) Promotion/Policy on drinking milk (O22)	
	Government programs that support cattle business (financing, farming techniques, marketing, and infrastructure) (O23)	
Technology (O3)	Farming and processing technology growth (O31) Technology and information growth (O32)	-
Climate (T3)	-	Threatness of global warming (T31) The frequent of natural disasters (T32)

Identification of the External Environment

Based on the identification results to the external environment it is known that there are 3 external aspects considered in the construction of MPC strengthening model, namely: (1) the socio-economic condition of the region; (2) policies; and (3) technology/climate; The identification of opportunities and threats from these three aspects is presented in Table 4.

The Mapping of Priority Internal Factors

Based on the result of ANP model synthesis, it is obtained internal priority factor which include strength and weakness (Figure 1). Based on the assessment using pairwise comparison, it is known that the organizational management aspect (S2) and cooperative business (S4) is the most important strength factor with the priority weight of 0.196 and 0.191.

The value of Kendall's Coefficient of Concordance (W) on the assessment is 0.2, which means that respondents have a considerable diversity of opinions.



Figure 1. Internal Aspects Priority (Strengths and Weaknesses)

Meanwhile, the capital aspect of the cooperative (W3), the participation of members (W7) and human resource (W1) were rated as the most important weakness factor with the priority weight of 0.225; 0.145; and 0.141. The value of Kendall's Coefficient of Concordance (W) on the assessment of the weakness aspect is 0.2. These results indicate that the assessment of respondents are relatively diverse. Furthermore, based on the mapping of internal factors, it is known that for organizational management variables that are considered to be a priority of strengths are RAT implemented annually (S23), followed by legal institutional aspect (S21) (Figure 2). Meanwhile, for the cooperative business variables that become the priority is the cooperative business related to the member business (S42) and the cooperative has been processing milk into high value added products (S43). In the aspect of cooperative capital, the variable of limited capital (W31) is considered to be the main weakness, followed by the less able variable in accessing capital sources (W32). For participation aspect of cooperative member which become the main weakness is the low level of member participation especially related to voluntary saving (W71). Meanwhile, the weakness of the committee's commitment to member welfare (W12) is

considered to be the main weakness faced by MPC from the human resources aspect (Figure 3).

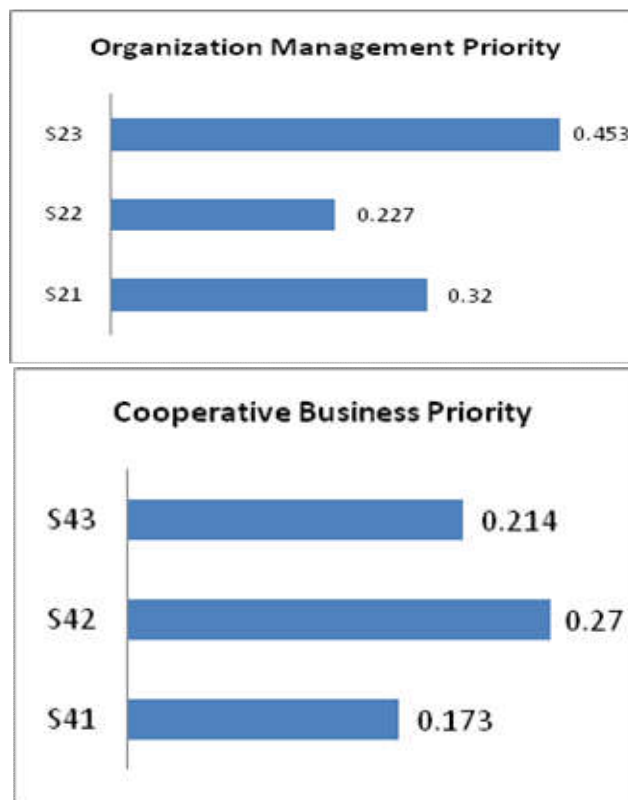


Figure 2. Variables Strengths Priority (Organization Management and Cooperative Business)

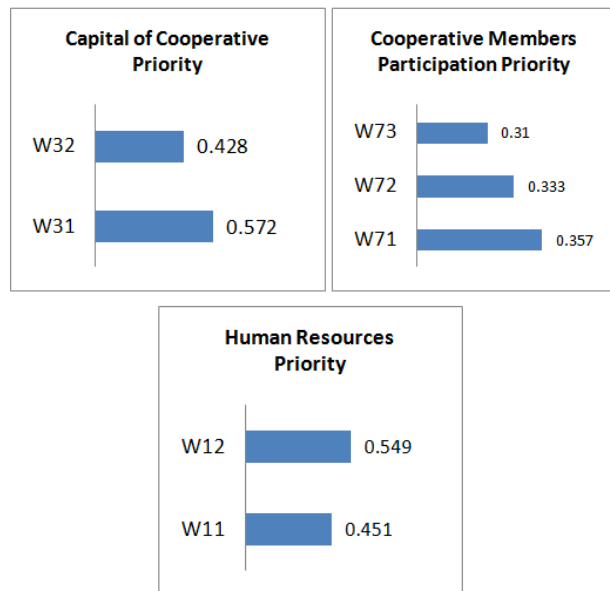


Figure 3. Variables Weaknesses Priority (Capital, Member Participation and Human Resources)

The Mapping of Priority External Factors

The external factors priorities covering opportunities and threats are presented in Figure 4. Based on the figure it is known that the technological (O3) aspect, followed by the policy aspect (O2) is considered the most important opportunity factor with the value of Kendall's Coefficient of Concordance (W) of 0.03. Meanwhile, the socio-economic condition of the region (T1) was rated as the most important

threat factor with Kendall's Coefficient (W) of 0.3. This result indicates that respondent appraiser to external factor priority tends to vary.

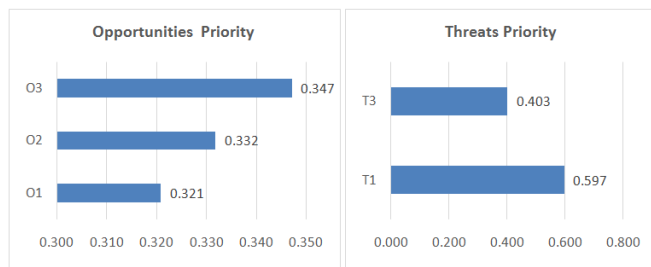


Figure 4. External Aspects Priority (Opportunities and Threats)

Furthermore, based on the mapping of external factors, it is known that for technological variables considered to be the priority of opportunity is the development of information technology (O31), followed by the development of farming and processing technology (O32). The policy variable that is considered to be a priority opportunity is a government program that supports the development of dairy cattle business (O23).

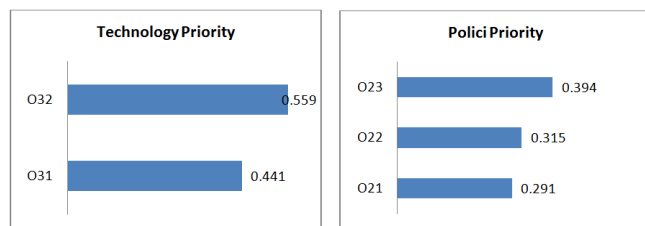


Figure 5. Variables Opportunities Priority (Technology and Policy)

Meanwhile, the variable of regional socio-economic condition that was considered to be the most important threat is the decreasing of the interest of the society, especially the younger generation to the dairy farm (T11), followed by the limited land for agriculture and livestock (T16).

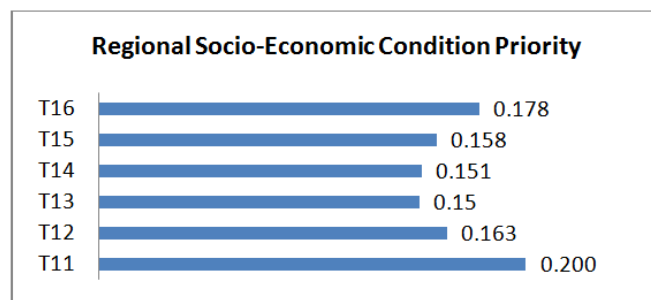


Figure 6. Variables Threat Priority (Regional Socio-Economic Condition)

Priority Strategy Formulation

Strategy formulation is done by mapping internal and external factors in the SWOT matrix. Based on the mapping is obtained alternative strategy as in Table 5. Assessment of respondents to a number of alternative strategies that generate priority strategies in the strengthening of MPC. The development of products (diversified) to high value added products (SO1) becomes the main strategy (priority) chosen by respondents, followed by the development of marketing network through strengthening partnership (SO2).

Table 5. MPC institutional strengthening strategy

Strategies	Code	Ranking
SO Strategy		
1. Products development (diversification) to products with high added value	SO1	1
2. Development of marketing network through strengthening partnership	SO2	2
ST Strategy		
1. Development and strengthening of farmer groups	ST1	4
2. Strengthening the role of GKSI	ST2	9
WO Strategy		
1. Utilization of technology to increase efficiency and scale of cooperative business to meet the increasing demand for milk	WO1	3
2. Focus on cooperative business based on member needs	WO2	8
3. Utilizing government support/programs to improve cooperative services and member participation	WO3	7
4. Utilizing government support/programs and technological developments for capacity building (HRM, finance) and cooperative business	WO4	5
WT Strategy		
1. Improve organizational governance to cope with the development of the external environment (market, climate, regulation)	WT1	6

Construction of MPC Strengthening Model

Based on the priority of internal and external factors as well as the strategic priorities obtained, the institutional strengthening model of MPC developed is "The Institutional Strengthening Model of MPC that Oriented Diversification Product and Partnership" (Figure 7). To achieve a strong and competitive MPC, institutionalization steps are as follows: (1) The Stage of institutional pillars strengthening ; (2) The Stage of Structure and Service Strengthening ; and (3) The Stage of Cooperative Business Strengthening. In the stage of strengthening the institutional pillars, strengthening the organization's management and increasing the competence of human resources is the main agenda that needs to be done by MPC. Implementation of good governance in management, adoption of information technology in the management system and implementation of risk management is a form of program/activity in strengthening management of MPC. To strengthen the competence of cooperative human resources, the form of program/activity that needs to be developed are: socialization, training and technical guidance. In the stage of strengthening the structure and services, the strengthening of cooperative capital and member participation is the main agenda that needs to be done by MPC. Intensification of internal capital resources in the form of mandatory and voluntary savings and extensification of capital sources from outside cooperatives is a form of program in strengthening MPC capital. For the strengthening of MPC services, the form of programs/activities that need to be developed is improvement of services provided by MPC.

In the stage of strengthening cooperative business, the strengthening of core business cooperative becomes the main agenda that needs to be done by MPC. Diversification and product development to high added value, strengthening business partnerships with other cooperative institutions as well as non-cooperative institutions and the adoption of processing technology is a form of program/activity in strengthening MPC business.

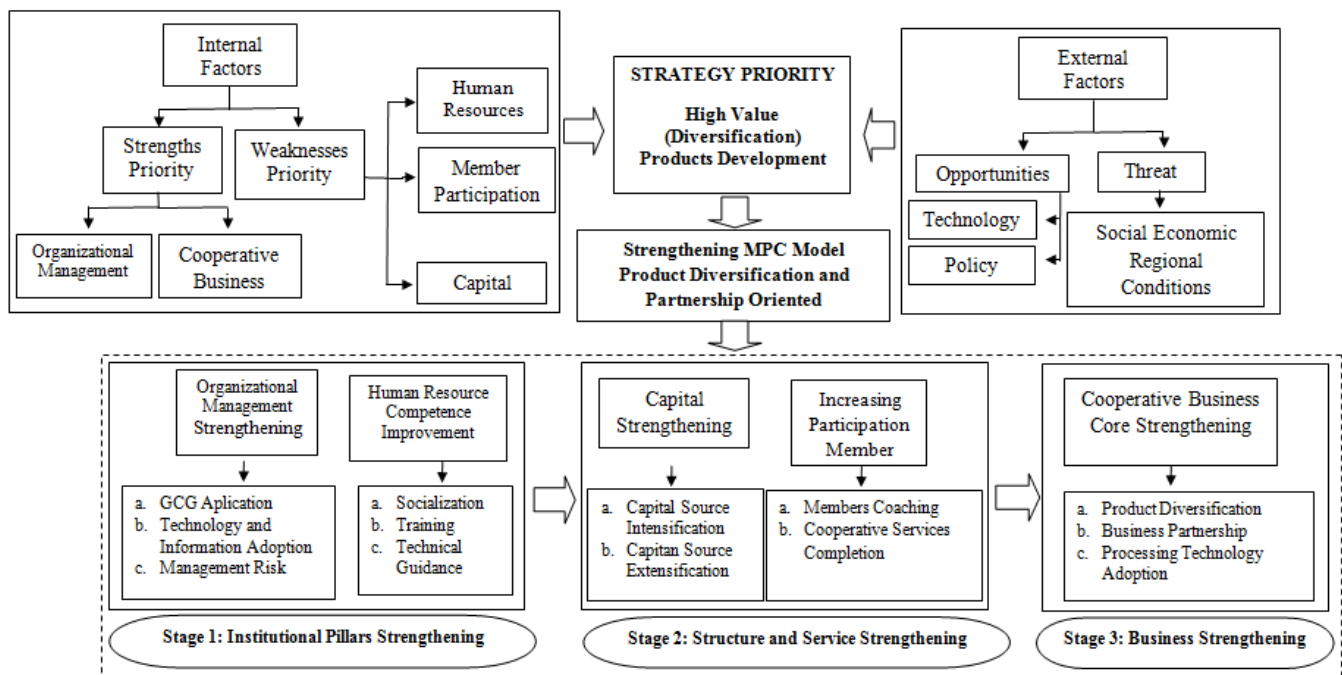


Figure 7. Strengthening MPC Institutional Model

Conclusions

The organizational management aspect and cooperative business are the main strengths owned by MPC. Meanwhile, the aspect of capital, participation of members and human resources became the main weakness of MPC. The analysis of the external environment showed that the technological aspects become the main opportunities, and the socio-economic conditions of the region are the main threat facing MPC. Product development (diversification) to high value-added products and strengthening partnerships in milk marketing become a priority strategy in strengthening of MPC. The recommended model of MPC institutional strengthening is: "The Institutional Strengthening Model of MPC that Oriented Diversification Product and Partnership". To implement the MPC strengthening model there are three stages: (1) The Stage of institutional pillars strengthening; (2) The Stage of Structure and Service Strengthening; and (3) The Stage of Cooperative Business Strengthening.

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