Strategies to Strengthen Dairy Cooperatives Performance through Cooperative Financial Performance Approach

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Abstract. Dairy cooperatives plays an important role in building people's dairy farming business in Indonesia. It needs the right strategy to strengthen the performance of dairy cooperatives. This research applied survey method and stratified proportional random sampling to determine respondents. The observed variables were financial performance and trends in cooperative financial. The results revealed that 30% of dairy cooperatives had effective financial performance. Average trends of dairy cooperative financial which based on liquidity ratios, solvency ratios, and profitability ratios tend to decrease each year. Based on the SWOT analysis, there are several strategies that can be applied to improve financial performance of dairy cooperatives, namely 1) increasing the productivity of business units on an economic scale by utilizing government loans and GKSI support, 2) raising awareness of the importance of the role of members through fostering skills and strengthening the roles and functions of livestock group. The strengthening strategies for cooperatives with ineffective financial performance are 1) efficiency of production operational costs and adding equity by utilizing government assistance to reduce the burden of cooperative debt, 2) optimizing productive business units.

1. Introduction
Cooperatives play an important role in the development of a country's socio-economic development. Remarkable cooperatives (showing the best performance) can contribute significantly to poverty alleviation and become a driver of economic diversification in the country [1]. The development of dairy farming sub-sector in Indonesia is inseparable from the role of dairy cooperatives. Dairy cooperatives have been building and saving people's dairy farming businesses by providing guarantees for marketing milk and production inputs as well as delivering guidance and consulting services regarding business development [2]. Cooperative is a group of people forming an organization voluntarily to meet their economic, social, and cultural needs together through business entities that are jointly owned and democratically managed [3]. The basic concept of cooperatives is voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education, training and information, cooperation between cooperatives, and care for members [4].

Dairy cooperative and the social economy can make substantial, if not unique, contributions to achievement of economic dimensions of sustainable development goals. Therefore, there is need to harness the potential of dairy cooperative in achieving sustainable development goals, for which Dairy cooperative should focus on implementation, financing, and partnership to achieve a few targets with greatest cooperative potential such as eradicating extreme poverty, facilitate access to assets, resources and services, progressively achieve and sustain income growth of very poor, and empower women, for which robust dairy cooperative policies, laws and institutions are highly desirable [5].
Great benefits offered by cooperatives have a positive impact on the development of dairy cooperatives. Since the establishment of the legal entity GKSI (Union of Indonesian Dairy Cooperative) unit in 1997, up to now, the growth of dairy cooperatives in Central Java region is growing rapidly [6]. Nearly 90 percent of dairy farmers in Indonesia join cooperatives [6]. This data is strengthened by the research results stating that the marketing of milk from farmers in Indonesia has largely been coordinated by the dairy cooperatives/GKSI. It shows the optimum role of cooperatives in supporting the sustainability of dairy cow farming business in Indonesia [2]. The cooperative business model provides people with little or no capital a pool of resources that helps in generating employment and economic development. With more than one billion members across the world, cooperative organizations help in contributing livelihoods of around 3 billion people i.e. three times to its member associated and creating jobs for more than hundred million [7]. Cooperatives to become competitive in the markets do not adopt sheer profiteering but, run on values that make it competitive and strong enough to beat the market peculiarities and to sustain for a longer period [8].

Many studies have been made on firm-level uncertainty or aggregate uncertainty concerning the financial performance of the firms. In this paper using financial analysis that is ROA [9]. The impact of growth and capita intensity is also reflected in the return on asset (ROA). In this study, we considered ROA as a proxy for firm performance [10]. Cooperative milk in developing countries must have specific strategies for dealing with challenges and market competition. Because such cooperation will determine the sustainability [11]. To find out the performance of dairy cooperatives in managing businesses and utilizing resources effectively and efficiently, it is necessary to analyze the cooperative’s financial statements which include analysis of liquidity, solvency, and profitability. Measurement of cooperative performance can provide an overview of the development of dairy cooperatives as well as provide information about the cooperative condition to those who need it, such as cooperative members and management.

2. Research Method
This research was a descriptive study that targets dairy cooperatives in Central Java Province. The population of dairy cooperatives as part of the analysis unit was drawn from a limited number of 5 regencies/cities which are the main centers of milk marketing in Central Java, namely Boyolali Regency, Semarang Regency, Semarang City, Klaten Regency, and Banyumas Regency. The sampling technique used was the probability sampling method by means of stratified proportional random sampling. This method is grouping population of dairy cooperatives on the basis of several strata according to the number of population of cows in lactation period. Determination of sample for the regency/city of the cooperative was taken based on the proportion of population in the strata and chooses number of sample cooperatives for 70% with an error level of 1% of the total population in each strata.

The financial performance of dairy cooperatives was determined by the analysis of the financial statements. The database used in measuring financial performance was the annual balance sheet of the sample cooperatives for the past 5 years. The cooperative's financial performance indicators used are:

a. Rasio Likuiditas
   1) Current Ratio = \( \frac{Aktiva \text{ Lancar}}{Hutang \text{ Lancar}} \times 100\% \)
   2) Quick Ratio = \( \frac{Aktiva \text{ Lancar} - \text{Persediaan}}{Hutang \text{ Lancar}} \times 100\% \)
   3) Cash Ratio = \( \frac{Kas + \text{Bank}}{Hutang \text{ Lancar}} \times 100\% \)

b. Rasio Solvabilitas
   1) Debt to Asset Ratio = \( \frac{Total \text{ Hutang}}{Total \text{ Aktiva}} \times 100\% \)
2) **Debt to Equity Ratio** = \( \frac{\text{Total Hutang}}{\text{Total Ekuitas}} \times 100\% \)

c. **Rasio Profitabilitas**
   
1) **Net Profit Margin Ratio** = \( \frac{\text{Laba Kotor}}{\text{Penjualan}} \times 100\% \)

2) **Gross Profit Margin Ratio** = \( \frac{\text{Laba Bersih}}{\text{Penjualan}} \times 100\% \)

3) **Return on Total Asset** = \( \frac{\text{Laba Bersih}}{\text{Total Aktiva}} \times 100\% \)

4) **Return on Total Equity** = \( \frac{\text{Laba Bersih}}{\text{Total Ekuitas}} \times 100\% \)

The observed variables in this study were financial performance and financial trends of dairy cooperatives. Financial performance variables was measured by the calculation of liquidity ratios, solvency ratios, and profitability ratios [12]. The data analysis method used was a qualitative and quantitative descriptive analysis technique followed by a SWOT analysis. The strategy formulation was discussed with experts in animal husbandry agro-industry or dairy cooperatives to obtain recommendations for a strategy to strengthen the financial performance of cooperatives sharply. Thus, the formulated strategy can be applied to improve the cooperatives financial performance better. The following is a SWOT matrix form [13].

![SWOT Analysis Diagram](image)

**Figure 1. The Framework.**
3. Result And Discussion

3.1. Financial Performance Analysis

a. Liquidity Ratio
The magnitude of the current ratio shows how many times current assets can finance a company's current debt, which means the higher the current ratio, the better the company's financial performance [14], [15] explains that the ideal current ratio standard is maintained at a ratio of current assets and current debt of 2:1 or 200 percent. The average current ratio of dairy cooperatives in Central Java is 2.45. This ratio is quite ideal, meaning that the cooperative's ability is strong enough to guarantee current debt with its current assets. However, most dairy cooperatives in Central Java are still below the average, indicating that their liquidity conditions are not good yet. The analysis shows there are only two cooperatives with a ratio close to the ideal ratio standard, namely Pesat cooperative and Banyumanik Cooperative. Both cooperatives also have a fairly consistent rate of ratio development in the range of ideal ratio every year.

The quick ratio of dairy cooperatives in Central Java shows considerable value with an average of 2.24. [15] states that it shows good performance. [15] assessed that a cooperative has good performance if the quick ratio is more than 1.50. Several dairy cooperatives in Central Java are able to maintain their liquidity in a good quick ratio every year. Quick ratio trends show a significant decrease. Similar to the current ratio, the negative growth of quick ratio is also due to the higher amount of current debt compared to the current assets. Current debt tends to increase higher than its current assets. Movement of the milk cooperative cash ratio in Central Java tends to fluctuate. A downward trend indicates an increase in current debt each year, while an increase in cash and banks is no greater than current debt. Most of the dairy cooperatives in Central Java experience a similar condition, which is the decrease in the amount of cash each year due to the decrease in sales volume while operating expenses tend to increase.

b. Solvency Ratio
The average debt ratio of dairy cooperatives in Central Java is 0.48 or 48 percent. It is quite high because according to [16] the standard debt ratio that interprets good financial performance is less than 40 percent. This ratio certainly puts the performance of most dairy cooperatives in Central Java in the poor category. Cooperatives with an ideal average debt ratio are shown by the cooperatives of Pesat, KUD Mojosongo, and KUD Kota. Those cooperative are able to maintain their debt ratio on balance with their capital.

Debt to equity ratio (DER) is a ratio comparing cooperative debt to total equity. The high value of DER has a bad impact on cooperative performance. The higher the DER, the higher the debt level and the greater the burden of interest, thereby reducing cooperative profits [16] [17]. Conversely, a low DER rate indicates a better performance because it causes higher returns. [16] assesses that at least the cooperative has to try to maintain their ratio under normal conditions or by a DER standard of 66 percent. The average DER of 10 dairy cooperatives in Central Java is 1.37 or 137 percent. This average explains in general that the condition of debt to equity of dairy cooperatives in Central Java is still very high. A key factor affecting the DER of dairy cooperatives is uncontrolled high debt burden. Debt policy which is intended to encourage business activities apparently does not affect much on increasing cooperative profits. It can be seen from the growth of the average profit of cooperatives in Central Java which tends to decrease by 5.3 percent per year. Although it is able to increase the average sales figure to 23.7 percent per year, the benefits are actually reduced because it is used to pay debt interest expenses. This condition has an impact on the declining cooperative equity and certainly will further reduce the DER in the following year.

c. Profitability Ratio
The analysis shows the average value of gross profit margin ratio is 0.153. The gross profit margin obtained from this ratio is only 15.3 percent of total sales, which means from every Rp1,000,000.00 sales can only generate gross profit of Rp153,000.00. This ratio is relatively small since at least a
business should be able to generate a 30 percent gross profit margin ratio [15]. The low gross profit margin ratio shown by dairy cooperatives in Central Java indicates high cost of goods sold. This indicates that the effectiveness of the dairy cooperative business in Central Java is also still low.

The net profit margin ratio of dairy cooperatives is minuscule. Most of the net profit generated is still below 2 percent of gross profit received, and some even lose and had minus 2.3 percent. It shows that in addition to the high cost of goods sold, gross profit generated should also cut by high operating expenses. The average net profit margin ratio of 10 dairy cooperatives in Central Java is 0.006 or 0.6 percent of the gross profit. This ratio is very unprofitable because in every Rp 1,000,000.00 of sales is only able to produce a SHU (the remaining business result) of Rp 6,000.00. It means the net profit margin from sales is only 0.6 percent, while the rest is the cost of goods sold and operating costs. When it compares to the ratio standard, the average net profit margin ratio of dairy cooperatives in Central Java is far below the effective ratio of 20 percent [15]. This low net profit margin ratio represents the less productive performance of cooperatives in generating profits.

Number of ROA (Return on Assets) of 10 milk cooperatives in Central Java showed the less optimal ability of cooperative asset management. This can be seen from the average ROA achieved in five years which only reached 1.1 percent due to the high operational burden of cooperatives that in turn affected the resulting profits. The high operating leverage was also confirmed by [19] as one of the factors significantly influence the decrease in ROA.

3.2. Identification of External and Internal Strategic Factors

Based on the analysis of external environment, there are external strategic factors influence the dairy cooperative business in Central Java. Factors of opportunities and threats of milk cooperatives in Central Java are summarized in Table 1.

| Table 1. External Environmental Factors of Dairy Cooperatives |
|-------------------------------------------------------------|
| **Factor** | **Opportunity** | **Threats** |
| Economy | 1. Increased rate of economic growth | 1. The development of fluctuating exchange rates and it tends to increase |
| | 2. Stability of inflation rate and reduction in lending rates | 2. World milk prices tend to decrease |
| | 3. The price of production inputs tends to increase | |
| Socio-cultural | 3. Increased population growth rate and milk consumption rate | |
| Politics, Government, and Law | 4. Support for restructuring the cooperatives from government | 4. Government policy to revoke the ratio of imported milk and proof (certificate) of milk absorption (BUSEP) and exemption of milk imports |
| Technology | 5. Advances in technological development of dairy cows and processed products | |
| Business competition environment | 6. The development of downstream industries for processing milk-based products | 5. The existence of a milk broker |
| | | 6. Competing with financial institutions |

*Source: Secondary data, processed.*

The analysis of internal environment results in internal strategic factors of the strengths and weaknesses of the milk cooperatives in Central Java, which are summarized in Table 2.
Table 2. Internal Environmental Factors of Dairy Cooperatives

| Factor        | Strengths                                      | Weaknesses                                                                 |
|---------------|-----------------------------------------------|-----------------------------------------------------------------------------|
| Human Resource Management | 1. It is under the auspices of GKSI          | 1. It has a lot of members but low participation                             |
| Production    | 2. Milk quality assurance from the application of strict quality control | Animal productivity is low; the amount of milk produced by cooperatives is small |
| Marketing     | 3. It has a variety of business units          |                                                                            |
| Finance       | 4. Strategic location of cooperatives          |                                                                            |
|               | 5. Revenue contribution from high business units | Operating expenses tend to increase every year                              |
|               | 6. Capable of maintaining liquidity in an ideal ratio | The debt burden is not on balance with assets owned                        |
|               | 7. A government loan with a long repayment period | Net income (SHU) tends to decrease every year                               |
|               |                                               | 6. Non-performing loan tends to increase, members lack discipline in loan payments |
|               |                                               | 7. The ability to return the capital (rentability) is still low             |

Source: Secondary data, processed.

3.3. Strategies for Strengthening Business Performance

Strategy Formulation of the Best Performance Cooperative Group

Based on the strengths and weaknesses as results of internal analysis, as well as the opportunity and threat as results of external analysis, several alternative strategies that can be applied to the cooperatives of Pesat Cooperative, KUD Mojosongo, and KUD Musuk are as follows:

a. Strategy of S-O (Strengths-Opportunities)

S-O strategy (Aggressive Strategy) is to develop strategies by using the internal strengths of cooperatives to take advantage of existing opportunities. Strategies that can be applied are as follows:

1) Increasing business unit productivity on an economical scale to fulfill market needs by utilizing capital loans from the government ($S_{1,2,3,4} - O_{1,3,5,6}$).

2) Taking advantage of the high demand for milk by increasing production volumes and developing product diversification that increases the added value ($S_{1,2,3,4,5} - O_{1,2,3,6}$).

b. Strategy of W-O (Weaknesses - Opportunities)

W-O strategy (Turn-around Strategy) is to develop strategy aiming at overcoming weaknesses by exploiting external opportunities. W-O strategies that can be applied are as follows:

1) Utilizing the high demand for milk and the advancement of dairy cow development technology to overcome the low milk production by fostering the skills of members in managing the business, improving business management, and strengthening the role and function of livestock groups ($W_{1,2,3,4,6} - O_{1,2,4,5,6}$).

2) Handling the crisis of member participation by building awareness of the importance of the role of members in cooperatives through the cooperative member participation program (PPAK) then fostering member loyalty by providing excellent service ($W_{1,2,4,5} - O_{3}$).

c. Strategy of S-T (Strengths - Threats)

S-T strategy (Diversification Strategy) is to develop strategies by using organizational strength to avoid or reduce the impact of external threats. Some S-T strategies that can be implemented by milk cooperatives in Central Java are as follows:
1) Reducing the impact of exemption from import duties and the increase in exchange rates through strengthening business units, cooperation with GKSI, and implementing quality control to maintain milk quality (S_{2,3,4,6} - T_{1,2,3}).

2) Reducing the threat of competitors by providing excellent service to members and developing alternative markets (S_{2,3,4} - T_{1,2,3,4}).

d. Strategy of W-T (Weaknesses - Threats)

W-T strategy (Defensive Strategy) is to develop strategies aiming at reducing internal weaknesses and avoiding external threats. The W-T strategies that can be implemented are as follows:

1) Reducing the threat of rising exchange rates and production input prices through operational cost efficiency to anticipate the cooperatives high operational burden of (W_{1,2,6} - T_{1,2,3,4,5}).

2) Anticipating the non-performing loans and high debt burden of cooperatives by analyzing members' loan applications according to their needs and abilities, then effectively collecting the loan payment (W_{2,5,6} - T_{2}).

**Strategy Formulation of the Poor Performance Cooperative Group**

Several alternative strategies that can be applied by KUD Jatinom, KUD Cepogo, KUD Banyumanik, KUD Kota, KUD Mekar, KUD Gotongroyong and KUD Ampel are as follows:

e. Strategy of S-O (Strengths - Opportunities)

S-O strategy (Aggressive Strategy) is to develop strategies by using the internal strengths of cooperatives to take advantage of existing opportunities. Strategies that can be applied to KUD are as follows:

1) Optimizing the productivity of business units on an economical scale to fulfill market needs by utilizing capital loans from the government and GKSI (S_{1,2,3,4} - O_{1,3,5,6}).

f. Strategy of W-O (Weaknesses - Opportunities)

W-O strategy (Turn-around Strategy) is to develop strategy aiming at overcoming weaknesses by exploiting external opportunities. W-O strategies that can be applied are as follows:

1) Increasing milk production by adding number of cows through utilizing the government’s dairy cattle breeding development program which is directly managed by the cooperative, fostering the skills of members, improving business management, and strengthening the role and function of the livestock group involved (W_{1,2,3,4,6} - O_{1,2,4,5,6}).

2) Reducing debt burden by adding equity (individually-owned capital) without reducing the amount of assets through government restructuring assistance or increasing the number of members' principal savings (W_{1,2,3,5,6} - O_{3}).

g. Strategy of S-T (Strengths - Threats)

S-T strategy (Diversification Strategy) is to develop strategies by using organizational strength to avoid or reduce the impact of external threats. Some S-T strategies that can be implemented by milk cooperatives in Central Java are as follows:

1) Reducing the impact of exemption from import duties and the increase in exchange rates through strengthening business units, cooperation with GKSI, and implementing quality control to maintain milk quality (S_{2,3,4,6} - T_{1,2,3}).

h. Strategy of W-T (Weaknesses - Threats)

W-T strategy (Defensive Strategy) is to develop strategies aiming at reducing internal weaknesses and avoiding external threats. The W-T strategies that can be implemented are as follows:

1) Anticipating the non-performing loans and high debt burden of cooperatives by debt restructuring through evaluating loan interest rates, analyzing members' loan applications according to their needs and abilities, and then effectively collecting loans payment (W_{2,5,6} - T_{2}).

2) Centralizing the strong financial controls, one of which is to maintain the balance of debt and capital (W_{1,2} - T_{5,6}).
4. Conclusion
30% of dairy cooperatives has an effective financial performance. The average of dairy cooperative financial trends based on liquidity ratios, solvency ratios, and profitability ratios tend to decrease each year. Based on the SWOT analysis, there are several strategies that can be applied to improve the financial performance of dairy cooperatives. For cooperatives with effective financial performance, the strategies are 1) increasing the productivity of business units on an economical scale by utilizing government loans and GKSI support, 2) raising awareness of the importance of the role of members through fostering skills and strengthening the roles and functions of livestock groups. Strategy for strengthening cooperatives with ineffective financial performance are 1) efficiency of production operating costs and increase equity by utilizing government’s restructuring assistance to reduce the burden of cooperative debt, 2) optimizing productive business units.

REFERENCES
[1] Sathyamoorthi C.R., Christian J. Mbekomize, Ishmael Radikoko & Lillian Wally-Dima. 2016 An Analysis of the Financial Performance of Selected Savings and Credit Co-Operative Societies in Botswana. International Journal of Economics and Finance; Vol. 8, No. 8.
[2] Rahmah UIL. 2019. Financial Performance Of Diary Cooperatives. Journal Agrivet. Vol. 7. No. 2.
[3] Henรย, H. 2012. Guidelines for Cooperative Legislation (3rd ed.). International Labour Office. Geneva: ILO
[4] Smith, S. 2004. Promoting Cooperatives: A guide to ILO Recommendation 193. Co-operative College, Manchester, UK.
[5] Sudan FK. 2019. Role of Dairy Cooperatives in Achieving the Economic Dimension of the SDGs. Proceeding. Implementing the Sustainable Development Goals: What Role for Social and Solidarity Economy. UNTFSSE Call for Papers 2018
[6] GKSI Jawa Tengah. 2017. Profil GKSI Daerah Jawa Tengah. Gabungan Koperasi Susu Indonesia, Boyolali.
[7] International Labor Organization (2014). The cooperative way of doing business. Sustainable enterprise programme, (pp.3-4). ILO.
[8] Sisay, D. T., Verhees, F. J., & Van Trijp, H. C. (2017). The influence of market orientation on firm performance and members’ livelihood in Ethiopian seed producer cooperatives. Agrekon, 56(4)
[9] Liu, L., & Zhang, T. (2015): Economic policy uncertainty and stock market volatility. Finance Research Letters, 15.
[10] Singh K., Misra M., Kumar M, Tiwari V., 2019. A Study On The Determinants Of Financial Performance Of U.S. Agricultural Cooperatives. Journal Of Business Economics And Management, 20(4).
[11] Haddad NO., Ton G., Sraиri MT., Bijman J., 2017. Organisational Challenges of Moroccan Dairy Cooperatives and the Institutional Environment. Int. J. Food System Dynamics 8 (3).
[12] Suratiningnish, 2019 Analisis Kinerja Keuangan Pada Kpri Kokelam Berdasarkan Analisis Rasio Keuangan Tahun 2013 – 2017. Journal Perilaku dan Strategi Bisnis. Vol. 7 No. 1.
[13] Rangkuti, F. 2000. Analisis SWOT Teknik Membedah Kasus Bisnis. PT Gramedia Pustaka Utama, Jakarta.
[14] Syamsudin, L. 2000. Manajemen Keuangan Perusahaan. Cetakan Ke-5. PT Raja Grafindo Persada, Jakarta.
[15] Kasimir. 2008. Manajemen Perbankan. Rajawali Pers, Jakarta.
[16] Fahmi, I. 2011. Analisis Kinerja Keuangan. Cetakan Ke-1. Alfabeta, Jakarta
[17] Indra, A.Z. 2006. Faktor-Faktor Fundamental Keuangan yang Mempengaruhi Resiko Saham. Jurnal Bisnis dan Manajemen. 2 (3): 239-256.
[18] Marbery, N.P.E. dan A. Suaryana. 2009. Pengaruh Pemoderasi Pertumbuhan Laba terhadap Hubungan Antara UKuran Perusahaan, Debt to Equity Ratio dengan Profitabilitas pada
Perusahaan Perbankan yang Terdaftar di PT Bursa Efek Jakarta. *Jurnal Ilmiah Akuntansi dan Bisnis*. 4 (1): 1-16.

[19] Van Horne, J.C. dan J.M. Wachowicz Jr. *Prinsip-Prinsip Manajemen Keuangan* (Fundamental of Financial Management). Edisi ke-12. Terjemahan oleh H. Sutojo. 2009. Salemba Empat, Jakarta.