Commerce

E-ISSN No : 2581-6195 | Volume : 7 | Issue : 8 | August 2024

A STUDY ON FINANCIAL PERFORMANCE METRICS OF SELECTED CO-OPERATIVE DAIRIES IN GUJARAT

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ABSTRACT

Cooperative dairies in Gujarat are pivotal players in the state's dairy industry, renowned globally for its milk production and dairy products. These dairies operate under a cooperative model where farmers pool resources and collectively manage production, processing, and marketing activities. This cooperative structure not only empowers farmers by providing them with better bargaining power and access to resources but also ensures equitable distribution of profits and benefits. This study investigates the financial performance metrics of selected cooperative dairies in Gujarat, focusing on Madhur Dairy, Sursagar Dairy, and Panchamrut Dairy over the period from 2018-19 to 2022-23. Cooperative dairies play a crucial role in Gujarat's dairy industry, characterized by collective ownership and operation aimed at enhancing farmer livelihoods and ensuring sustainable milk production. The financial analysis includes key metrics such as Current Ratio, Operating Profit Margin, and Return on Assets to assess liquidity, profitability, and asset management efficiency across these dairies. The study aims to provide insights into their financial health and comparative performance within the cooperative sector.

KEYWORDS: Cooperative Dairies, Gujarat, Financial Performance, Comparative Analysis

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HOW TO CITE THIS ARTICLE:
Chauhan Bhaviniben Manojbhai, Dr. H. M. Korant, Principal (2024). A Study on Financial Performance Metrics of Selected Co-Operative Dairies in Gujarat, International Educational Journal of Science and Engineering (IEJSE), Vol: 7, Issue: 8, 01-05

1. INTRODUCTION

Co-operative dairies in Gujarat play a pivotal role in the state's dairy industry, which is renowned globally for its milk production and dairy products. These dairies operate under the cooperative model, where farmers pool resources to collectively manage production, processing, and marketing of dairy products. This cooperative structure empowers farmers by providing them with better bargaining power, access to modern technology, and fair returns on their produce.

Gujarat Cooperative Milk Marketing Federation (GCMMF), popularly known for its brand Amul, is a prime example of the success of cooperative dairying in Gujarat. Established in 1946, Amul has grown into a cooperative juggernaut, integrating millions of dairy farmers into its supply chain and ensuring a steady income stream for them through fair pricing mechanisms. It serves as a model for other cooperative dairies in Gujarat, inspiring them to adopt efficient practices and sustainable growth strategies.

The financial performance of cooperative dairies in Gujarat is multifaceted, involving key metrics such as profitability, liquidity, operational efficiency, and sustainability. These dairies often face challenges related to fluctuating milk prices, input costs, market competition, and infrastructure development. However, cooperative principles such as democratic control, member participation, and solidarity enable them to navigate these challenges effectively.

Financially, cooperative dairies in Gujarat typically report on metrics like revenue growth, profit margins, return on assets (ROA), and debt-to-equity ratios. These indicators reflect the dairies' ability to generate income, manage expenses, and leverage capital for expansion and modernization. Moreover, cooperative dairies often invest in community development projects, farmer education, and infrastructure enhancements to ensure long-term sustainability and socio-economic upliftment of their members.

Government policies and support also play a crucial role in shaping the financial landscape of cooperative dairies in Gujarat. Subsidies, incentives for technology adoption, and market interventions are designed to bolster the sector's growth and competitiveness. Additionally, initiatives promoting dairy cooperative networking, knowledge sharing, and best practices exchange contribute to the overall resilience and adaptability of these dairies in the face of economic and environmental uncertainties.

Overall, cooperative dairies in Gujarat represent a robust economic model that not only supports rural livelihoods but also contributes significantly to the state's economy. Their financial

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performance is closely intertwined with cooperative principles, innovative strategies, and supportive policies, making them pivotal players in India's dairy sector and global agricultural landscape.

2. LITERATURE REVIEW

Kumar and Singh (2018) examined the financial performance of co-operative dairies in Punjab. They found that effective financial management practices are critical for the sustainability of co-operative dairies. Their study indicated that dairies with better liquidity and higher profitability ratios tend to perform better in terms of market share and farmer satisfaction. They also highlighted the importance of managing operating expenses efficiently to enhance profitability.

Patel et al. (2019) focused on the financial health of co-operative dairies in Gujarat using ratio analysis. They found that while many co-operative dairies exhibited strong liquidity positions, issues such as high debt levels and low profit margins were prevalent. The study suggested that improving debt management and increasing operational efficiency could significantly enhance the financial stability of these co-operatives. They also recommended adopting advanced financial management techniques to optimize resources.

Rao and Desai (2020) conducted a comparative study on the financial performance of co-operative dairies in Karnataka. Their findings revealed that dairies with diversified product lines and better marketing strategies tend to achieve higher profitability and market penetration. They emphasized the role of strategic financial planning and robust governance structures in driving the financial success of co-operative dairies. The study also pointed out that external factors such as market demand and competition significantly influence financial outcomes.

Sharma and Mehta (2020) analysed the impact of government policies on the financial performance of co-operative dairies in Maharashtra. Their study indicated that government subsidies and financial support play a vital role in enhancing the financial performance of co-operative dairies, especially in rural areas. However, they also noted that over-reliance on government support could lead to inefficiencies and lack of innovation. They recommended a balanced approach that combines government support with self-sustaining financial strategies.

Gupta and Verma (2021) investigated the financial performance metrics of co-operative dairies in Uttar Pradesh. Their research highlighted the significance of profitability ratios such as net profit margin and return on assets as key indicators of financial health. They found that dairies with higher profitability ratios were more likely to reinvest in technology and infrastructure, leading to better operational efficiency and growth. The study also stressed the importance of regular financial audits and transparency in financial reporting.

Basu and Chatterjee (2022) explored the role of financial performance metrics in decision-making processes of co-operative dairies in West Bengal. They found that metrics such as debt-to-equity ratio, current ratio, and inventory turnover ratio are critical in assessing the financial health and operational efficiency of co-operative dairies. Their study suggested that using these metrics effectively can help dairy management make informed decisions regarding resource allocation, investment, and risk management.

Nair and Menon (2023) conducted a study on the financial performance of co-operative dairies in Kerala, focusing on the impact of digital financial management tools. Their findings indicated that the adoption of digital tools for financial management significantly improved financial reporting accuracy, reduced costs, and enhanced decision-making processes. They recommended that co-operative dairies invest in digital infrastructure and training for staff to leverage these tools effectively and improve overall financial performance.

3. RESEARCH METHODOLOGY

3.1 Research Objectives

1. To analyse the financial performance of selected co-operative dairies of Gujarat.
2. To compare financial health of selected co-operative dairies of Gujarat

3.2 Sample Size

In this study below mentioned 3 co-operative dairies of Gujarat have been targeted.

1. Madhur Dairy
2. Sursagar Dairy
3. Panchamrut Dairy

3.3 Period Of Data Coverage

Financial data for the year 2018-19 to 2022-23 have been analysed in this study.

4. DATA ANALYSIS

1. Current Ratio

CURRENT RATIO			
YEAR	Madhur Dairy	Sursagar Dairy	Panchamrut Dairy
2018-19	0.762	3.922	1.117
2019-20	0.700	1.601	0.923
2020-21	0.783	2.359	1.067
2021-22	0.771	2.408	1.038
2022-23	0.716	1.264	1.069

Madhur Dairy's current ratio shows fluctuating trends over the five-year period. Starting at 0.762 in 2018-19, it decreased slightly to 0.700 in 2019-20 before rebounding to 0.783 in 2020-21. However, the ratio then declined to 0.771 in 2021-22 and further to 0.716 in 2022-23. This indicates that Madhur Dairy has generally maintained a current ratio below 1, implying a potential challenge in meeting short-term obligations with its current assets alone. The decrease in the current ratio over the years suggests a possible increase in short-term liabilities relative to current assets, which could necessitate careful management of liquidity and financial resources.

Sursagar Dairy, on the other hand, exhibits a notably higher current ratio throughout the period under review. Starting at a high 3.922 in 2018-19, the ratio decreased gradually to 1.264 by 2022-23. Despite this decline, Sursagar Dairy consistently maintained a current ratio well above 1 in all years, indicating a strong ability to cover short-term liabilities with current assets. The initial exceptionally high ratio in 2018-19 may suggest a temporary surplus of current assets relative to liabilities, which then normalized over subsequent years. This stability suggests effective management of liquidity and financial health over the years.

Panchamrut Dairy showcases a stable and healthy liquidity positions. Starting at 1.117 in 2018-19, it decreased to 0.923 in 2019-20, then increased to 1.067 in 2020-21, and further to 1.038 in 2021-22 before reaching 1.069 in 2022-23. Similar to Madhur Dairy, Panchamrut Dairy also tends to operate with a current ratio consistently below 1, implying a potential need for careful management of liquidity and short-term financial obligations. The increasing trend from 2019-20 onwards indicates efforts to strengthen liquidity, though it remains below optimal levels.

Anova: Single Factor						
CURRENT RATIO						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Madhur Dairy	5	3.732	0.7464	0.001316		
Sursagar Dairy	5	11.554	2.3108	1.051836		
Panchamrut Dairy	5	5.214	1.0428	0.005288		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	6.905041	2	3.45252	9.785683	0.003015	3.885294
Within Groups	4.233761	12	0.352813			
Total	11.1388	14				

From above table for 2 and 12 degree of freedom
Fcal is 9.7856 and Ftab is 3.88

Thus, Fcal>Ftab and p-value is 0.001186, which is smaller than specified α of 0.05

So, null hypothesis is rejected and it is concluded that there is significant difference in Current Ratio between selected co-operative dairies of Gujarat.

2. Operating Profit Margin

OPERATING PROFIT MARGIN			
YEAR	Madhur Dairy	Sursagar Dairy	Panchamrut Dairy
2018-19	0.969	0.597	1.627
2019-20	0.900	0.954	1.786
2020-21	0.942	0.517	1.378
2021-22	0.940	0.533	0.720
2022-23	0.885	0.818	0.988

Madhur Dairy’s net profit margin shows relatively stable performance over the years, ranging from 0.885% in 2022-23 to a peak of 0.969% in 2018-19. This indicates that Madhur Dairy generally retains a small percentage of its revenue as profit after covering all expenses. The slight decline in net profit margin over the years suggests potential challenges in managing costs and maintaining profitability amidst varying market conditions. However, the margins remain consistent, reflecting disciplined financial management practices.

Sursagar Dairy exhibits varying net profit margins throughout the period. Starting at 0.597% in 2018-19, the margin increased to 0.954% in 2019-20, declined to 0.517% in 2020-21, and then recovered to 0.533% in 2021-22, before reaching 0.818% in 2022-23. This variability indicates fluctuations in profitability, possibly influenced by factors such as operational efficiency, market dynamics, and cost management strategies. Despite fluctuations, Sursagar Dairy generally maintains a moderate net profit margin, indicating efficient management of expenses relative to revenue.

Panchamrut Dairy shows a consistently higher net profit margin compared to Madhur Dairy and Sursagar Dairy. Starting at 1.627% in 2018-19, the margin increased to 1.786% in 2019-20, decreased to 1.378% in 2020-21, and then declined further to 0.720% in 2021-22, before settling at 0.988% in 2022-23. These margins indicate that Panchamrut Dairy generates a relatively higher profit percentage from its revenue, suggesting effective cost management and operational efficiency. The decreasing trend in recent years suggests potential challenges in maintaining earlier levels of profitability.

Anova: Single Factor						
OPERATING PROFIT MARGIN						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Madhur Dairy	5	4.636	0.9272	0.001163		
Sursagar Dairy	5	3.419	0.6838	0.037279		
Panchamrut Dairy	5	6.499	1.2998	0.195738		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.962551	2	0.481275	6.165464	0.014392	3.885294
Within Groups	0.936718	12	0.07806			
Total	1.899269	14				

From above table for 2 and 12 degree of freedom
Fcal is 6.165464 and Ftab is 3.88

Thus, Fcal>Ftab and p-value is 0.014892, which is smaller than specified α of 0.05

So, null hypothesis is rejected and it is concluded that there is significant difference in Operating Profit Margin between selected co-operative dairies of Gujarat.

3. RETURN ON ASSETS

RETURN ON ASSETS			
YEAR	Madhur Dairy	Sursagar Dairy	Panchamrut Dairy
2018-19	2.336	1.215	0.742
2019-20	1.932	1.488	0.918
2020-21	2.124	1.128	0.929
2021-22	2.155	1.111	0.911
2022-23	2.263	1.265	0.961

Madhur Dairy shows a consistent and relatively high Return on Assets (ROA) throughout the period. Starting at 2.336% in 2018-19, the ROA declined slightly to 1.932% in 2019-20, and then gradually increased to 2.263% by 2022-23. This indicates that Madhur Dairy generates a consistent level of profit relative to its total assets, suggesting efficient asset utilization and effective management practices. The upward trend in recent years suggests improvements in profitability and asset efficiency.

Sursagar Dairy also demonstrates a stable Return on Assets over the years, albeit at a lower level compared to Madhur Dairy. Starting at 1.215% in 2018-19, the ROA increased to 1.488% in 2019-20, then declined slightly to around 1.1%-1.3% in subsequent years, reaching 1.265% by 2022-23. This indicates that Sursagar Dairy generates a moderate level of profit relative to its total assets, reflecting effective but possibly more conservative asset management strategies compared to Madhur Dairy.

Panchamrut Dairy shows a lower Return on Assets compared to both Madhur Dairy and Sursagar Dairy, indicating relatively lower profitability relative to its asset base. Starting at 0.742% in 2018-19, the ROA increased gradually to 0.961% by 2022-23. This suggests that Panchamrut Dairy faces challenges in generating higher profits from its total assets, possibly due to factors such as lower revenue margins or higher asset base relative to income generation. The increasing trend in ROA indicates efforts to enhance profitability through improved asset management.

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Madhur Dairy	5	10.8098	2.16196	0.023707		
Sursagar Dairy	5	6.2073	1.24146	0.022986		
Pancham-rut Dairy	5	4.461279	0.892256	0.007416		

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4.302355	2	2.151177	119.2681	1.21E-08	3.885294
Within Groups	0.216438	12	0.018036			
Total	4.518793	14				

From above table for 2 and 12 degree of freedom
Fcal is 119.268 and Ftab is 3.88

Thus, Fcal>Ftab and p-value is 1.21E-08, which is smaller than specified α of 0.05

So, null hypothesis is rejected and it is concluded that there is significant difference in Return on Assets between selected co-operative dairies of Gujarat.

5. CONCLUSION

Based on the data analysis it is concluded that there is a significant difference in Current Ratio between the selected cooperative dairies of Gujarat. Sursagar Dairy consistently maintains a notably higher Current Ratio compared to Madhur Dairy and Panchamrut Dairy. This indicates that Sursagar Dairy has a stronger liquidity position and better ability to meet short-term obligations using its current assets alone. Panchamrut Dairy showcases a stable and healthy liquidity positions. In contrast, Madhur Dairy operate with lower and fluctuating Current Ratios, suggesting varying levels of liquidity management challenges and the need for effective cash flow and working capital management strategies.

Similarly, there is a significant difference in Operating Profit Margin between the selected cooperative dairies of Gujarat. Panchamrut Dairy consistently demonstrates higher Operating Profit Margins compared to Madhur Dairy and Sursagar Dairy, indicating stronger profitability relative to revenue generated. This suggests that Panchamrut Dairy has effective cost management practices and operational efficiencies that contribute to its profitability. In contrast, Madhur Dairy and Sursagar Dairy show lower and more variable Operating Profit Margins, reflecting potential challenges in sustaining profitability amidst market dynamics and operational costs.

The analysis also reveals a significant difference in Return on Assets between the cooperative dairies of Gujarat. Madhur Dairy consistently maintains higher ROA compared to Sursagar Dairy and Panchamrut Dairy, indicating more efficient asset utilization and stronger profitability relative to its asset base. Sursagar Dairy follows with moderate ROA, suggesting effective but possibly more conservative asset management strategies. Panchamrut Dairy, while showing improvements in ROA over the years, still trails behind in generating higher returns from its assets, indicating ongoing efforts to optimize asset productivity and profitability.

Overall, Madhur Dairy, Sursagar Dairy, and Panchamrut Dairy exhibit distinct financial performance profiles in Gujarat's cooperative dairy sector. Madhur Dairy stands out with higher Return on Assets and relatively stable Current Ratios, indicating efficient asset management and solid liquidity management practices. Sursagar Dairy maintains a strong liquidity position but shows moderate profitability and Return on Assets. Panchamrut Dairy, while demonstrating higher profitability, faces challenges in maintaining liquidity and optimizing asset efficiency.

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