Effectiveness of Distribution Channel in a Co-operative Dairy Plant: A Marketing Perspective

C. Magesh Kumar
Research Scholar, Department of Business Administration
Annamalai University, Chidambaram, Tamil Nadu, India
https://orcid.org/0000-0002-9876-4898

G. Agalya
Assistant Professor, Department of Management Studies
Manakula Vinayagar Institute of Technology, Pondicherry, India
https://orcid.org/0000-0003-0808-5777

Abstract
The present study investigates the effectiveness of distribution channels in the marketing perspective of a co-operative dairy plant. The study was conducted to improve the effectiveness of the distribution channel by identifying the pitfalls in the present system. The descriptive type of research is employed, and the questionnaire method was used to collect the agents’ data. Analyzing the collected data, it is understood that the distribution channel is satisfied with the service in the organization, and it is also insisted that the need for further improving the delivery service of the distribution channel would certainly lead to a better outcome.

Keywords: Effectiveness, Distribution channel, Marketing perspective, Co-operative dairy plant

Introduction
Dairying plays a significant role in strengthening the national rural economy. Indian dairy sector has rapid growth in the last three decades by the contribution of dairy co-operatives under the Operation Flood (OF) Project. This played an important role in facilitating the participation of small stakeholders in this growing sector. Dairy co-operatives play a vital role in the marketing of milk and milk products for domestic dairy development. Numerous studies were conducted in the consumer perspective towards dairy products. The present study is an attempt to examine the effectiveness of distribution channels in a dairy co-operative plant.

Review of Literature
Distribution channel is the method by which product must be moved within the right amount at the proper time to a specific place to be delivered most effectively to the end-user. The effectiveness of the distribution channel depends upon the factors like delivery, availability, price, schemes, and satisfaction level of retailers. Weitz et al. stated that the coordination of manufacturers’ and retailers’ perspectives in the distribution channel would improve the efficiency and maximize the profits of the firm. Rangasamy et al. suggested the co-operative dairy plants improve the distribution level of milk and milk products to attain marketing efficiently. Previous studies of dairy products related to the marketing area are consumer behavior, customer perception, and branding.
The consumer behavior towards the Aavin milk in different places of Tamil Nadu resulted in price and quality are the major factors for purchasing the milk. Ananda Kumar et al. analyzed the factors influencing consumer behavior of dairy products in Pondicherry and finds that Ponlait is the most preferred brand by consumers. The customer perception towards the various milk and milk products in different locations of Tamil Nadu resulted in advertisement and level of satisfaction are the main factors for preferring the dairy products. However, household consumption patterns and branding of milk and milk products also lead to the preference of consumers and helps in developing a market position. To improve the market share of Milma milk, Sharath et al. studied the satisfaction level of customers and dealers.

**Objectives of the study**

1. To understand the existing distribution channel system of PONLAIT.  
2. To find out the various strategies adopted by PONLAIT for marketing its products.  
3. To determine the agent’s satisfaction level towards the present distribution channel.  
4. To identify the pitfalls in the present distribution channel based on the agent’s opinion and provide valuable suggestions to overcome them.

**Research Methodology**

**Study Design:** The type of research design employed in this study is descriptive research.

**Study Location:** The fieldwork was carried out at the distribution channel of Pondicherry Co-operative Milk Producers Union Limited (PONLAIT), Pondicherry.

**Duration:** June 2018 to July 2018

**Collection of Data:** Both the primary and secondary data were collected from its sources. The primary data was collected from the agents of PONLAIT in Pondicherry by means of questionnaires. The secondary data was collected from the various published articles and journals.

**Sample Size:** 115 agents

**Sampling Method:** Complete enumeration method

**Research Instrument:** Data was collected by the survey method. The survey made for the research is of Questionnaire method. The questionaire was structured and close-ended.

**Statistical Tools**

1. **Percentage Analysis:** Percentage analysis is used to find the percentage value of respondent choices.

   \[
   \text{Percentage of Respondent} = \frac{\text{Number of Respondent}}{\text{Total Number of Respondents}} \times 100
   \]

2. **Weighted Average Method:** Weighted average method is used to analyze ranking in factors and level of satisfaction of the respondents.

   \[
   \frac{W_1 + X_2W_2 + X_3W_3}{(W_1 + W_2 + W_3)} = \sum_{i=1}^{n} \left( X_iW_i \right) 
   \]

   Where,  
   \( W \) is the weight of the respondent value 
   \( X \) is the factor

3. **Pearson’s Correlation Analysis:** Pearson’s Correlation analysis is used to evaluate the linear relationship between two variables.

   \[
   r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}}
   \]

   Where, 
   \( r \) is the correlation coefficient 
   \( x_i \) is the values of the x – variable in a sample 
   \( \bar{x} \) is the mean of the values of the x – variable 
   \( y_i \) is the values of the y – variable in a sample 
   \( \bar{y} \) is the mean of the values of the y – variable

**Data Analysis and Interpretation**

**Requirement of Respondents**

It is found that 52.5% of the respondents reveal that the requirement of PONLAIT dairy products is based on the sales, 39% of the respondents reveal that the requirement is based on the customer’s demand for PONLAIT dairy products, and 5.5% of the respondents reveal that the requirement is based on the replacement of the other products.

**Table 1: Source of Information**

| S. No. | Factors         | No. of Respondents | Percentage (%) |
|-------|----------------|--------------------|---------------|
| 1     | Internet       | 22                 | 19            |
| 2     | Advertisement  | 35                 | 30.5          |
| 3     | Branches       | 18                 | 15.5          |
Table 2: Strategy for Promotion

| S. No | Factors           | No. of Respondents | Percentage (%) |
|-------|-------------------|--------------------|----------------|
| 1     | Advertisement     | 35                 | 30.5           |
| 2     | Sales promotion   | 8                  | 6.5            |
| 3     | Personal selling  | 29                 | 25             |
| 4     | Publicity         | 42                 | 38             |
|       | Total             | 115                | 100            |

Table 3: Quality of the PONLAIT Distribution Channel

| S. No | Factors   | No. of Respondents | Percentage (%) |
|-------|-----------|--------------------|----------------|
| 1     | Excellent | 45                 | 39.5           |
| 2     | Very good | 25                 | 21.5           |
| 3     | Good      | 30                 | 26.5           |
| 4     | Average   | 12                 | 10.5           |
| 5     | Poor      | 3                  | 2              |
|       | Total     | 115                | 100            |

Table 4: Supply Norms of the PONLAIT

| S. No | Factors           | No. of Respondents | Percentage (%) |
|-------|-------------------|--------------------|----------------|
| 1     | Highly satisfied  | 20                 | 17.5           |
| 2     | Satisfied         | 32                 | 27             |
| 3     | Moderate          | 30                 | 26             |
| 4     | Dissatisfied      | 27                 | 23             |
| 5     | Highly dissatisfied | 6               | 4.5            |
|       | Total             | 115                | 100            |

Table 5: Timely Delivery

| S. No | Factors    | No. of Respondents | Percentage (%) |
|-------|------------|--------------------|----------------|
| 1     | Always     | 19                 | 16             |
| 2     | Often      | 12                 | 11.5           |
| 3     | Sometimes  | 46                 | 40             |
| 4     | Rarely     | 10                 | 8.5            |
| 5     | Never      | 28                 | 24             |
|       | Total      | 115                | 100            |

Table 6: Margin Provided to the Respondents

| S. No | Factors          | No. of Respondents | Percentage (%) |
|-------|------------------|--------------------|----------------|
| 1     | Highly satisfied | 21                 | 19             |
| 2     | Satisfied        | 43                 | 38             |
| 3     | Moderate         | 28                 | 24             |
| 4     | Dissatisfied     | 14                 | 12             |
| 5     | Highly dissatisfied | 9               | 7              |
|       | Total            | 115                | 100            |

Table 7: Quality of PONLAIT

| S. No | Factors       | No. of Respondents | Percentage (%) |
|-------|---------------|--------------------|----------------|
| 1     | Highly satisfied | 55                 | 47.5           |
| 2     | Satisfied     | 41                 | 36.5           |
| 3     | Moderate      | 12                 | 10.5           |
| Factors                  | Highly satisfied | Satisfied | Moderate | Dissatisfied | Highly dissatisfied | Total |
|-------------------------|------------------|-----------|----------|--------------|---------------------|-------|
| Quality                 | 28               | 17        | 21       | 32           | 17                  | 115   |
| Taste                   | 25               | 20        | 32       | 17           | 21                  | 115   |
| Packing                 | 20               | 14        | 18       | 35           | 28                  | 115   |
| Date of manufacturing & expiry | 19           | 28        | 32       | 21           | 15                  | 115   |

**Insufficient Delivery Problem**

It is found that 54% of the respondents reveal that there is an insufficient delivery problem and 46% of the respondents reveal that there is no such problem.

**Table 8: Respondents Values for Present Distribution Channel**

**Table 9: Weighted Average Values for the Satisfaction Level for Present Distribution Channel**

**Inference:** It is noted from the table that respondents rank first place to taste and respondents rank last place to packaging.

**Table 10: Respondents Values for the Factors of Distribution Channel**

**Table 11: Weighted Average Values for the Factors of Distribution Channel**
Inference: It is noted from the table that respondents rank first place in communication, and respondents rank last place to the quality of means and modes.

Analysis of Ranking given by the Respondents regarding the Level of Satisfaction towards the adopted Factors for Improving marketing of dairy products

Table 12: Respondents Value for the Satisfaction Level for Factors Improve Marketing

| Factors                        | Excellent | Very Good | Good | Average | Poor | Total |
|--------------------------------|-----------|-----------|------|---------|------|-------|
| Packing quality                | 23        | 26        | 14   | 25      | 29   | 115   |
| Cost                           | 20        | 29        | 25   | 20      | 23   | 115   |
| Product appearance             | 29        | 23        | 26   | 14      | 25   | 115   |
| Brand image                    | 28        | 17        | 21   | 32      | 17   | 115   |
| Delivery                       | 19        | 28        | 32   | 21      | 15   | 115   |

Inference: It is noted from the table that respondents rank first for the packaging, and respondents rank the last place to delivery.

Analysis of Opinion of Respondents regarding the Distribution Channel and the Quality of the Product

Hypothesis

H₀: There is no relationship between the distribution channel and the quality of the PONLAIT

H₁: There is a relationship between the distribution channel and the quality of the PONLAIT

Table 13: Weighted Average Values for Satisfaction Level for Factors Improve Marketing

| Factors               | Weight (W) | Excellent | Very Good | Good | Average | Poor | Total | Rank |
|-----------------------|------------|-----------|-----------|------|---------|------|-------|------|
| Packing quality       | X₁         | 23        | 26        | 14   | 25      | 29   | 115   | 1    |
| Product appearance    | X₂         | 20        | 29        | 25   | 20      | 23   | 115   | 3    |
| Brand image           | X₃         | 29        | 23        | 26   | 14      | 25   | 115   | 2    |
| Delivery              | X₄         | 19        | 28        | 32   | 21      | 15   | 115   | 5    |

Table 14: Feel about the Distribution Channel of PONLAIT

| S. No. | Factors       | No. of Respondents |
|--------|---------------|--------------------|
| 1      | Excellent     | 50                 |
| 2      | Very good     | 32                 |
| 3      | Good          | 25                 |
| 4      | Average       | 6                  |
| 5      | Poor          | 2                  |
| Total  |               | 115                |

Table 15: Quality of the PONLAIT

| S. No. | Factors       | No. of Respondents |
|--------|---------------|--------------------|
| 1      | Excellent     | 45                 |
| 2      | Very good     | 25                 |
### Table 16: Pearson’s Correlations

| Superior    | Performance | Superior Correlation | Performance Correlation | Sig. (2-tailed) | N   | Sig. (2-tailed) | N   |
|-------------|-------------|----------------------|-------------------------|-----------------|-----|-----------------|-----|
| Superior    |             | 1                    | .84**                   | .000            | 115 | .000            | 115 |
| Performance |             | .84**                | 1                       |                 |     |                 |     |

**Result:** From the SPSS output generated, the correlation value is 0.84, and the significant value is 0.000, which is less than 1, so the null hypothesis is rejected.

**Inference:** From the above table, it is found that the significant value is 0.000, which is less than 0.05. Hence null hypothesis is rejected. Thus there is a significant relationship between the quality of the PONLAIT and the feel about the distribution channel. From the above table, it is also clear that R=0.84 while is less than R=1. Hence the variables such as the quality of the PONLAIT and feel about the distribution channel are positively correlated.

### Suggestions and Recommendations

- The researcher suggests the organization have a market watch and to identify the changing needs and wants of the customers for positioning the products in the minds of the customers for everlasting period.

### Conclusion

As we know that PONLAIT is a big co-operative organization and a market leader in milk products in Pondicherry. It has a maximum market share in milk; with the help of research, a company can find out its weak points in milk products and can increase its market share through rectifying setbacks. Quality, price, packing style, varieties, quantity, and product availability all have a tremendous impact on the position of the brand in customer’s preference. The major drawback is not providing on-time delivery service. Hence the organization may consider these factors for expanding their territory.

### References

Abinaya, K., and A. Santhi. “A Study on Customer Preference on the Dairy Products in Madurai District, Tamil Nadu.” *International Journal for Advance Research and Development*, vol. 3, no. 8, 2018, pp. 142-146.

Balakrishnan, P., and S. Manimegalai. “A Study on Customer Preference towards Aavin Milk Products with Special Reference to Nilgiri District.” *International Journal of Trend in Scientific Research and Development*, vol. 3, no. 6, 2019, pp. 888-893.

Jeshurun, Subramania Bala. “An Empirical Study on Effectiveness of Retail Distribution channel in Visakha Dairy Dealing with Milk & Milk Products in Visakhapatnam.” *TRANS Asian Journal of Marketing & Management Research*, vol. 1, no. 3 & 4, 2012.

John, S. Franklin, et al. “Branding is the Solution for Product Differentiation in Indian Dairy Industry.” *IOSR Journal of Business and Management*, vol. 14, no. 3, 2013, pp. 93-99.

Joseph, Sharath, and A. Seema. “A Study on Improving the Market Share of Milma Milk - With Special Reference to Customer Satisfaction and Dealer Satisfaction, Kerala.” *International Journal of Business and...*
Kumar, A. Ananda, and S. Babu. “Factors Influencing Consumer Buying Behavior with Special Reference to Dairy Products in Pondicherry State.” *International Monthly Refereed Journal of Research in Management and Technology*, vol. 3, 2014, pp. 65-73.

Mary, C. Jothi. “A Study on Consumer Behaviour of Aavin Milk in BHEL Township: Trichy.” *International Journal of Advance Research in Computer Science and Management Studies*, vol. 1, no. 4, 2013, pp. 34-39.

Rajendran, K., and Samarendu Mohanty. “Dairy Co-operatives and Milk Marketing in India: Constraints and Opportunities.” *Journal of Food Distribution Research*, vol. 35, no. 2, 2004, pp. 34-41.

Rangasamy, N., and J.P. Dhaka. “Marketing Efficiency of Dairy Products for Co-operative and Private Dairy Plants in Tamil Nadu - A Comparative Analysis.” *Agricultural Economics Research Review*, vol. 21, 2008, pp. 235-242.

Saravanan, R., et al. “A Study on Households’ Consumption Pattern of Aavin Milk in Erode District.” *International Journal of Research in Commerce, Economics and Management*, vol. 3, no. 7, 2013, pp. 6-9.

Shamsudeen Ibrahim, S.A. “Milk Production and Marketing with Special Reference to Madurai District, Tamil Nadu.” *Shanlax International Journal of Commerce*, vol. 2, no. 1, 2014, pp. 56-61.

Singh, Bais Santosh, and Ramesh B. Agadi. “Marketing of Branded Diary Milk Products in Gulbarga District in Karnataka - A Survey of Consumers and Milk Vendors.” *Journal of Contemporary Research in Management*, 2008.

Sulthan, Mohideen A., et al. “A Study on Brand Image with Special Reference to Aavin Milk in Theni Town.” *International Journal of Research in Social Sciences*, vol. 6, no. 11, 2016, pp. 243-246.

Sumathi, S. “The Customer Perception towards Marketing of Different Brands of Packaged Milk.” *International Journal of Research in IT & Management*, vol. 5, no. 6, 2015, pp. 36-43.

Vinayagamoorthy, A., et al. “A Study on Consumer Satisfaction of Aavin Milk in Salem City.” *Indian Journal of Applied Research*, vol. 1, no. 9, 2012, pp. 31-33.

Weitz, Barton, and Qiong Wang. “Vertical Relationships in Distribution Channels: A Marketing Perspective.” *The Antitrust Bulletin*, vol. 49, no. 4, 2004, pp. 859-876.

Author Details

**C. Magesh Kumar,** Research Scholar, Department of Business Administration, Annamalai University
Chidambaram, Tamil Nadu, India, *Email ID:* magesh245@gmail.com

**G. Agalya,** Assistant Professor, Department of Management Studies, Manakula Vinayagar Institute of Technology, Pondicherry, India, *Email ID:* agalya.gss@gmail.com