



Comparative Study of Supply Chain Management Parag Dairy & Amul Dairy

¹Ritul Tripathi, ²Dr. Asheesh Trivedi

¹Management Scholar, ²Associate Professor

¹STEP-HBTI, Kanpur, India

Abstract : Supply chain management aims to enable an efficient flow of right products to the right places at the right time so as to create value to the customers while making sure to minimize costs for the company. Dairy product means reduced time between the production and the delivery process. Products reach the stores faster from the producer's table. But, brands in dairy product retail network like Amul Dairy, Parag dairy and others dairy often face challenges which include short product life cycle, reduction in lead times for retail inventory, distribution of products within short intervals of time. This research paper focuses on how these major dairy product brands mainly Amul Dairy and Parag dairy overcome the major challenges by adopting supply chain management strategy. Supply chain management of Parag dairy and Amul Dairy is a proof to that which is globally recognized as a successful and extensive retail giant. Parag dairy ranks number three on Gartner's Supply chain. And it also provides a comparative analysis of their inventory management techniques.

IndexTerms - Dairy, delivery, lifecycle, production, supply chain management.

I. INTRODUCTION

The Indian dairy industry has been through an advancement right from the British period until today. The nation is the world's biggest milk maker, representing more than 13% of world's aggregate milk creation. Milk creation contributes 22 % to agricultural GDP. It has made some amazing progress throughout the years from a milk generation volume of 23 million tons in 1973 to 198.4 million tons in 2020. Today, the Indian Dairy industry is at a mammoth size of US\$ 70 billion. Presently, just 20% of the milk creation originates from the sorted out segment (organized) including co-agents and private dairies. The extent of Indian dairy industry in both organized and un-organized areas is expected to double by 2020, because of growing demand and rising disposable income. According to NDDB, the Indian dairy industry is good to go to experience high development rates with demand to reach 208 million tons by 2022.

Regardless of the increment in dairy creation, a demand supply crevice has ended up basic in the dairy business because of the changing utilization patterns, different demography, and the quick urbanization of rural India. With this quite a bit of quick changes in the area, supply chain network assumes an essential part in getting the outcomes productively.

Supply chain network has ventures to get a good or service from the supplier to the client. Supply chain network management is an essential part for organizations, and numerous organizations endeavor to have the most enhanced supply chain network on the grounds that it normally means lower expenses for the organization. Supply chain network incorporates various organizations, for example, suppliers, makers, and the retailers.

Amul & Parag Dairy is the market leader of dairy based food products in Lucknow City. Amul is the major competitors in the market against Parag Dairy. It is important to get an idea regarding Amul's & Parag Dairy position in Lucknow City. It would not help Amul to capitalize on existing potential but also to formulate strategies and to fill the look holes and gaps to fight the competitive situation.

II. OBJECTIVES

The overall purpose of this study is to do a comparative analysis of the supply chain management used by dairy product retail brands mainly Amul Dairy and Parag dairy to overcome the challenges faced by them in dairy product retail network.

III. RESEARCH METHODOLOGY

The research conducted is qualitative in nature. Secondary research was carried out with the help of literature, which, included books that generally discuss Supply Chain Management topics and also referring to dairy industries. Still, in order to gain a deeper insight into the particular branch in question, namely Dairy product, a number of articles had to be collected. Company cases that have been derived from secondary research present large businesses, specifically Amul Dairy and Parag Dairy.

3.1 Amul's Supply Chain Management Practices

AMUL is a dairy cooperative in the western India that has been primarily responsible, through its innovative practices, for India to become the world's largest milk producer. The distinctive features of this paradigm involves managing a large decentralized network of suppliers and producers, simultaneous development of markets and suppliers, lean and efficient supply chain, and breakthrough leadership.

Every day Amul collects 447,000 litres of milk from 2.12 million farmers, converts the milk into branded, packaged products, and delivers goods worth Rs. 6 crore (Rs. 60 million) to over 500,000 retail outlets across the country.

To implement their vision while retaining their focus on farmers, a hierarchical network of cooperatives was developed, this today forms the robust supply chain behind GCMMF's endeavours. The vast and complex supply chain stretches from small suppliers to large fragmented markets.

Management of this network is made more complex by the fact that GCMMF is directly responsible only for a small part of the chain, with a number of third party players (distributors, retailers and logistics support providers) playing large roles. Managing this supply chain efficiently is critical as GCMMF's competitive position is driven by low consumer prices supported by a low cost system of providing milk at a basic, affordable price.

3.1.1. The distribution network

Amul products are available in over 500,000 retail outlets across India through its network of over 3,500 distributors. There are 47 depots with dry and cold warehouses to buffer inventory of the entire range of products.

GCMMF transacts on an advance demand draft basis from its wholesale dealers instead of the cheque system adopted by other major FMCG companies. This practice is consistent with GCMMF's philosophy of maintaining cash transactions throughout the supply chain and it also minimizes dumping. Wholesale dealers carry inventory that is just adequate to take care of the transit time from the branch warehouse to their premises. This just-in-time inventory strategy improves dealers' return on investment (ROI). All GCMMF branches engage in route scheduling and have dedicated vehicle operations.

3.1.2. Largest Cold Chain

AMUL has the largest cold chain network in India (i.e. 18000 refrigerators) as compared to any other company. The chemical components of milk are water, SNF and solids. Milk is very perishable product so it has to be consumed within 24 hours. In order to avoid wastage AMUL converts the milk in to SNF and milk solids by evaporating the water, which comprises up to 60- 70% of milk contents. This is possible only if the distribution channel right from the producer to the consumer is well organized. It will be surprising to know that AMUL makes even the 'Sarpanch' to eat pizza i.e. it supplies pizzas even to rural market.

3.1.3. The Business Model

From the very beginning, in the early 1950s, AMUL adopted the network as the basic model for long-term growth.

- The network explicitly includes secondary services to the farmer-suppliers.
- Several of the entities in the network are organized as cooperatives linked in a hierarchical fashion.

Customers: In comparison with developed economies, the market for dairy products in India is still in an evolutionary stage with tremendous potential for high value products such as ice cream, cheese etc. The distribution network, on the other hand, is quite reasonable with access to rural areas of the country. Traditional methods practiced in western economies are not adequate to realize the market potential and alternative approaches are necessary to tap this market.

Suppliers: A majority of the suppliers are small or marginal farmers who are often illiterate, poor, and with liquidity problems as they lack direct access to financial institutions. Again, traditional market mechanisms are not adequate to assure sustenance and growth of these suppliers.

Third Party Logistics Services: In addition to the weaknesses in the basic infrastructure, logistics and transportation services are typically not professionally managed, with little regard for quality and service. In addition to outbound logistics, GCMMF takes responsibility for coordinating with the distributors to assure adequate and timely supply of products. It also works with the Unions in determining product mix, product allocations and in developing production plans. The Unions, on the other hand, coordinate collection logistics and support services to the member-farmers. In what follows we elaborate on these aspects in more detail and provide a rationale for the model and strategies adopted by GCMMF.

Simultaneous Development of Suppliers and Customers: From the very early stages of the formation of AMUL, the cooperative realized that sustained growth for the long-term was contingent on matching supply and demand. The member-suppliers were typically small and marginal farmers with severe liquidity problems, illiterate and untrained. AMUL and other cooperative Unions adopted a number of strategies to develop the supply of milk and assure steady growth. First, for the short term, the procurement prices were set so as to provide fair and reasonable return. Second, aware of the liquidity problems, cash payments for the milk supply was made with minimum of delay. This practice continues today with many village societies

making payments upon the receipt of milk. For the long-term, the Unions followed a multi-pronged strategy of education and support. For example, only part of the surplus generated by the Unions is paid to the members in the form of dividends

3.1.4. Managing Third Party Service Providers

Unions focused efforts on these activities and related technology development. The marketing efforts were assumed by GCMMF. All other activities were entrusted to third parties. These include logistics of milk collection, distribution of dairy products, sale of products through dealers and retail stores, some veterinary services etc. It is worth noting that a number of these third parties are not in the organized sector, and many are not professionally managed. Hence, while third parties perform the activities, the Unions and GCMMF have developed a number of mechanisms to retain control and assure quality and timely deliveries. This is particularly critical for a perishable product such as liquid milk.

3.1.5. Coordination for Competitiveness

Coordination is one of the key reasons for the success of operations involving such an extensive network of producers and distributors at GCMMF. Some interesting mechanisms exist for coordinating the supply chain at GCMMF.

These mechanisms are:

Inter-locking Control

The objective for developing such an inter-locking control mechanism is to ensure that the interest of the farmer is always kept at the top of the agenda through its representatives who constitute the Boards of different entities that comprise the supply chain. This form of direct representation also ensures that professional managers and farmers work together as a team to strengthen the cooperative. This helps in coordinating decisions across different entities as well as speeding both the flow of information to the respective constituents and decisions.

Coordination Agency: Unique Role of Federation

Its objective is to ensure that all milk that the farmers produce gets sold in the market either as milk or as value added products and to ensure that milk is made available to an increasingly large section of the society at affordable prices.

Supplier Enhancement and Network servicing

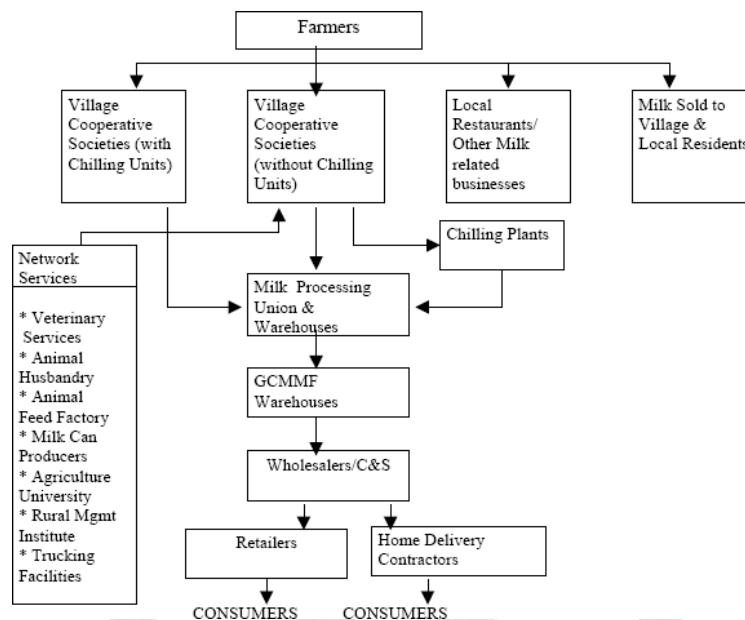
Their objective is to ensure that producers get maximum benefit and to resolve all their problems. They manage the procurement of milk that comes via trucks & tankers from the VSs. They negotiate annual contracts with truckers, ensure availability of trucks for procurement, establish truck routes, monitor truck movement and prevent stealing of milk while it is being transported.

3.1.6. Amul Yatra Programme

The Amul Yatra Programme ensures that every new distributor visits Anand before commencing business, thereby imbibing an appreciation of Federation philosophy and culture as well as operational systems and processes. All new distributors' salesmen are trained in the Federation's philosophy and methods as well as in selling skills.

Amul Yatra programme has been continuing to bring our channel partners to Amul to give them an exposure to our cooperative institutions. This year our emphasis was upon our newly appointed distributors and channel partners from various business segments like Organised Retail, Caterers etc.

3.1.7. Supply Chain



3.2 Parag Dairy Supply Chain Analyses

Parag Dairy – Delhi was set up in 1974 under the Operation Flood Programme. It is now a wholly owned company of the National Dairy Development Board (NDDB).

Parag Dairy markets & sells dairy products under the Parag Dairy brand (like Liquid Milk, Dahi(curd), Ice-creams, Cheese and Butter), Dhara range of edible oils and the Safal range of fresh fruits & vegetables, frozen vegetables and fruit juices at a national level through its sales and distribution networks for marketing food items.

Parag Dairy sources significant part of its requirement of liquid milk from dairy cooperatives. Similarly, Parag Dairy sources fruits and vegetables from farmers / growers associations. Parag Dairy also contributes to the cause of oilseeds grower cooperatives that manufacture/ pack the Dhara range of edible oils by undertaking to nationally market all Dhara products. It is Parag Dairy's constant endeavor to

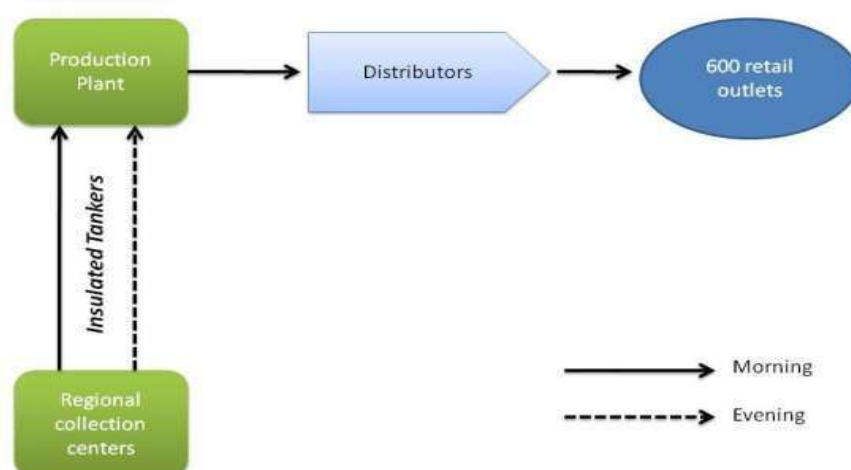
- Ensure that milk producers and farmers regularly and continually receive market prices by offering quality milk, milk products and other food products to consumers at competitive prices and;
- Uphold institutional structures that empower milk producers and farmers through processes that are equitable.

Distribution network

The distribution strength of Parag has improved over the years; it now has an established pan-India distribution network of 15 depots, 104 super stockists and over 3,000+ distributors which service its products to around 2,00,000+ retail outlets. Parag has a marketing team of 560 people based in their key distribution centres.

Milk Procurement

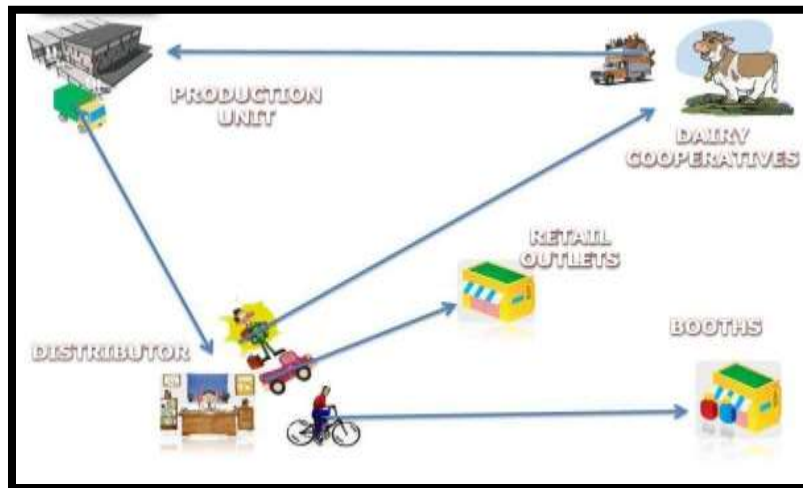
Mother Dairy sources its requirement of liquid milk from dairy co-operatives and producer institutions. Milk is received from farmer cooperatives through insulated tankers at 2°C temperature in order to retain its freshness.



1. Milk distribution: -Tankers in the morning and in the evening bring in milk from the regional collection centres. After collection the same tankers are utilized for the delivery of the processed milk to the distributors. To coordinate its operations all the tankers are equipped with HAM radios.

2. Distribution Channels:

- a) Token Distribution: Also, termed as “*Lohekihains*” (metal buffalo), is an automated milk vending machine.
- b) Distributors: The packaged milk is distributed via the distributor network throughout the city.



IV. DISCUSSION

An important shared belief of the companies is the deep understanding of their customers' needs and wants. Both have built structures for identifying their preferences. For Amul Dairy, reacting to customer's wishes is a core constituent of its competitive advantage, while Parag dairy is known for its emphasis on researching and forecasting upcoming trends.

The noteworthy thing about these brands is their innovative approach to fashion retail. Amul Dairy depends on its supply chain and cost leadership. It has an unconventional supply chain which allows it to deliver products in real time. Parag dairy's product cycles are longer than Amul Dairy but it still manages to respond to the altering trends.

Not only Parag dairy, Amul Dairy also focuses on consumer preferences to maintain their competitive edge. In addition to that, Amul Dairy also maintains close relationships with the suppliers that ensure lower prices and control costs.

Parag dairy values maintaining long lasting relationships with the suppliers. Trust, transparency and responsibility are vital in supplier relationships. Concentration is also on development and sustainability of suppliers. As Parag dairy has expanded globally it has generated new opportunities.

It uses long product development cycles and offers basics that allure a large consumer base. In comparison, Amul Dairy has built a supply chain that enables it to follow fashion trends and deliver goods in near real-time.

Parag dairy has an approach that is a combination of the Amul Dairy models and other brands. It merges a commitment to longevity and staying responsive to fashion trends at the same time.

V. CONCLUSION

The benefits of an efficient supply chain management included reduction in lead time faster inventory turnover accurate forecasting increased warehouse space reduction in safety stock and better working capital utilization. It also helped in reducing the dependency on distribution center management personnel resulting in minimization of training costs and errors. Stock outs were also completely eliminated. The distribution channel of Amul is much strong and the most important thing which I feel to improve is “the availability to retailers and consumers”.

The retailers and consumers both promote either Amul or Parag Dairy of their brands. This could be accounted to order processing, warehousing, inventory management & transportation; besides that shop covering, exit from the market by the salesmen glow shine board, schemes, incentives, prizes, gifts, discount, returning of defective goods, proper supply should be improved.

Quick response supply chains help retailers like Amul Dairy and Parag Dairy to move their goods from production to distribution over a short period of time. Such an effective and efficient quick response model enables these retailers to avoid stock outs and ensures continuous rotation of latest products for consumers and this would in turn increase store visits and full price. The main objective of dairy product retailers is to keep their goods continuously moving with the latest fashion or trends. A well-oiled quick response and inventory management process enables retailers to continuously get new stock into the stores

in small batches which prevents products stagnation and redundancy as wells as liquidation promotion and markdowns leading to better profit marginsand lesser unnecessary overstock.

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