Kesoram Industries Ltd. Managing a Sustainable Supply Chain: A Case Study of Birla Tyres

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It has been approved the formation of an internal Sustainable Supply Chain to “develop the strategies and tools necessary to accomplish Birla Tyres vision of sustainable sourcing.” As described in its latest Report and internal documents, Birla Tyres envisioned a sustainable supply chain “we continue to operate in certain sectors where our customers trust our strategic vision. Cement and tyres, the two significant business of Kesoram have seen a mixed year. To meet the challenges of these dynamic markets and to continue on our journey of success, we have necessary foresight, strategy and preparedness.” They believed that Birla Tyres’ existing sustainable supply chain efforts led the tyre industry; however, it also identified many issues Birla Tyres still needed to address in order to achieve its vision.

The supply chain management focuses the system of managing and controlling the entire logistic movement, starting from suppliers’ point to receiving of goods/raw materials and dispatch of finished goods after final production, through different channels, into the hands of the customers. The supply chain management constitutes a very pivotal role for the effective functioning of the organization. For different flow, like (i) physical flow of material (ii) document flow (iii) information flow etc. different channels come into play. Selection of channel depends upon the nature of the product, target customers, supplier base etc. The channel should always be selected carefully based on the strategy the company wants to follow and the risks it wants to take. Operation control of these channels may be executed by Company’s own staff or by hiring professionals.

Birla Tyres had successfully influenced many of its suppliers to improve their social, environmental, and economical impacts. In particular, the company hoped that by understanding the relevant challenges and opportunities, Birla Tyres could build on that success in the years ahead will be determined by the readiness to anticipate and be proactive to the fast changing business and regulatory environment while remaining fully committed to their corporate and social responsibility. This will ensure a beneficial experience for all their stakeholders, customers, employees, bankers’ dealers and suppliers. So that Birla Tyres has built a solid reputation for quality and is now recognized as one of the best tyre manufacturers around. In the process, Basant Kumar Birla CEO, and his worldwide supply chain management team would have to answer some difficult questions:

- How should Birla Tyre prioritize sustainability relative to other supply chain goals (e.g. providing the right thing at right time and minimizing cost)?
- How should Birla Tyre reconcile different sustainability expectations and priorities around the world with the understanding that TPM, Japanese formula based upon zero accident, zero break done and zero down time so that the optimum production can be achieved with minimum cost which impact the global brand?
- How should Birla Tyre selected lot of kaizen like (i) reduction of transit time of the vehicles (ii) reduction of inspection time have been selected and steps are being taken to reach the goal by bench marking in its sustainable supply chain efforts?
Birla Tyres’ Supply Chain

History

Kesoram Industries Ltd. Is a Public Limited Company promoted by Late G.D. Birla in the year 1928 having its Corporate Office at Kolkata. Under the Company’s Banner first a textile business (manufacturing of textiles ) was started. Thereafter in course of time different units were developed and inducted. Presently, the company is controlling the business of cement, tyres, rayon, chemical, paper etc. with an annual turnover exceeding Rs.7000.00 crores.

Birla Tyres, under the Kesoram’s umbrella was born in the year 1988 at Chhanpur, Balasore, Odisha. After the demise of Late G.D. Birla, Syd. B.K. Birla took over the charge of the company and under his initiation Birla Tyre was established.

Originally, the unit was started for manufacturing of automobile tyres, tubes and flaps with installed capacity of 120 M.T. per day. Commercial production was started in the year 1992. Since then the unit has increased its capacity by adding machines at different times. Presently, the installed capacity has been increased to 272.5 M.T.

In the year 2008, a second tyre plant was established by the same promoter at Laksar, Uttarakhand, Haridwar with installed capacity 320 M.T. per day to manufacture automobile tyres, tubes and flaps. In the year 2010 the 3rd unit was set up for the manufacture of truck radial tyre with capacity 150 M.T. Subsequently, a 4th unit has also started simultaneously for two wheeler/three wheelers with capacity of 80 M.T. In the year 2011 passenger car radial was under construction at Balasore with installed capacity 70 M.T. per day. At present the same is under project stage and likely to be completed by 2013. Birla Tyres has an annual turnover Rs.3800.00 crores from all units. It spends about Rs.34.00 crores towards inbound logistic and Rs.74.00 crores for out bound logistic. For different channel function and operation Birla Tyre is spending about Rs.58.00 crores. These are the annual expenditure under the entire channel and supply chain system.

Birla Tyres a unit of M/s. Kesoram Industries Ltd. Was set up to manufacture Automobile Tyres, Tubes and Flaps in the District of Balasore, Orissa started commercial production with effect from 01.03.1992. The plant was set up in Technical Collaboration with “M/s. Pirelli Ltd., U.K.” A subsidiary of International giant Pirelli group of Italy being one of the largest manufacturer of tyres in the world. Birla Tyres, part of Kesoram Industries Limited, was founded in 1991. Birla Tyres manufactures tyres for automobiles, trucks, buses, motorcycles, heavy machinery vehicles, tractors and other farm machinery. Birla Tyres set up its first tyre manufacturing plant in Balasore in the Indian state of Orissa in 1991 alongside Italian tyre manufacturer Pirelli.

In a span of two decades, Birla Tyres has become one of the most well-known tyre manufacturers in India. With its new manufacturing plant in Laksar-Haridwar, Uttarakhand, the company has surged ahead in the tyre business. Built within a record time of a mere 10 months, Birla Tyres plans to invest a total of approximately INR 2300 Crores in the state-of-the-art Haridwar factory which has a production capacity of 44,00,000 truck tyres per annum.

Birla Tyres exports to more than 50 countries and reported a turnover of over INR 350 Crores earned from exports alone between 2009 and 2011. On the domestic front, Birla Tyres has a 3200 strong network of dealers spread across the length and breadth of the country to cater for the Indian tyre market. Birla Tyres employs over 170 sales officers and engineers, stationed at strategic locations to offer round the clock Claim Settlements and unparalleled customer services. Birla Tyres has earned various national and international accreditations including the ISO 14001 certification. It has a broad product range, with the Victus series for truck and bus radials and Road Maxx series for motorcycles being the latest offerings from the company.

Birla Tyres had to face difficulties as well such as the increase in natural rubber prices or labour unrest in the manufacturing plant in Balasore. The profits too have taken a severe toll in 2011. Compared to a profit of about INR 237 Crores in 2010, Birla Tyres has suffered losses to the amount
of 210 Crores in 2011. In a move to correct the situation, the company is in the process of revamping and reorganizing its management operations. With a new management strategy that intends to focus on better usage of the capacity of manufacturing plants together with aggressive marketing and an altered product mix with a shift towards the more profitable passenger car and two-wheeler tyres products, Birla Tyres hopes to recover from the losses in the near future.

The Indian tyre market for truck and bus radials is set to grow at a tremendous rate owing to the infrastructure development in India. In a bid to enter and win the Indian radial tyre market segment, Birla Tyres is set to increase the production of truck and bus radials by a whopping 85 tonnes per day in the manufacturing plant at Haridwar in a move that would require an investment of INR 350 Crores. The tyre manufacturing plant in Balasore is slated to receive an investment of INR 450 Crores to increase the output of passenger car radials by a figure of 80 tonnes a day.

The plant is equipped with best and sophisticated advanced machineries from world leaders of tyres machinery manufacturers such as Berstorff, (Germany) C.A. Litzler, (U.S.A.), Comerio (Italy), Pirelli (Italy), Mitsubishi (Japan), Spadone (U.S.A.) along with indigenous machineries from L&T McNeil, Farrel Anand and Alfred Herbert etc.

The Company has been awarded the ISO 9001 Certificate in December, 1994 in recognition of its Quality Management System. It is the first tyre Company in the history to be awarded ISO 14001 Certificate in recognition of its Environment Management System in the year February, 1998. The Company has also won QS 9001 Certification in March, 1999. The Company has started Total Productive Maintenance (TPM) activities for further strengthening the quality of product and personnel increasing efficiency and controlling cost and awarded the Certificate in October, 2001.

The Plant was initially established with 120 M.T. production capacity concentrating upon production of Truck and Bus Tyres, Tubes and Flaps. Subsequently the production capacity was increased to 149 M.T. during the year 1999-2000. The Unit also simultaneously established Radial Tyre Plant which started production since November, 2000 with production capacity about 5 M.T. per day to produce only passenger car tyres. Presently, our installed capacity is 272.5 M.T. and plant is running with full capacity in both the cases.

The indigenous sale is built up through OEM, DGS&D and replacement market. TELCO, Ashok Leyland, Mahindra & Mahindra & TAFE, are the regular OEM customers. The company has seventy two distribution points spread all over India for direct sales to the replacement market. The export is made to various Countries like, U.S.A., U.K., Canada, Brazil, Sweden, Singapore, Ireland, Norway, Spain, Germany, Bahrain, Algeria, Nigeria, Peru, Philippines, Malaysia, Bangladesh, Nepal & Vietnam.

The prevailing market situation has compelled the Company to concentrate on TPM norms which have helped immensely in cutting down all the hidden losses thereby drastically reducing the cost of production. This has helped to withstand the tough competition and company is constantly striving to sustain the present status.

**Success Point**

Birla Tyre has been established with an overall market share of about 16% of the total tyres sold in the Country. Out of total sales made, 50% sale is in replacement market, 30% sale in export market and rest 20% in OE Market.

Birla Tyre has been awarded the “Best Company of the year” many a times in its life span from the state of Orissa. It has been awarded “The Tyre Company of the Year” from ATMA. It has received the Chief Minister Award, “Golden Peacock Shield” twice in the year 2001 and 2006. CII, Odisha Chapter also awarded trophy and shield in different occasions. For quality performance also Birla Tyre has been awarded innumerable prizes from different circle. For the highest export from the State it has received trophy twice in its life span.
Capacity Building

All incoming materials from different vendors to each receiving point of all units are being transported by trucks/tankers. 100% road transportation has been formulated all over the Country. Very few cases where full truck load is not required, materials are brought through courier services or part consignment load basis. A full truck load can be Ex work basis or FOR at site basis and for Birla Tyre both cases are applicable. Birla Tyre’s incoming sources are multi sources basis so different registered have different agreement protocol. For plant & machinery/capital goods are transportation, both the parties, Birla Tyres & transporters have to follow some other terms including general as above.

Normally, entire automobile tyres have been divided in two segment, i) Truck & Bus, ii) Passenger & LCV. So entire gamut of marketing, like sales channel, logistic, networking, advertising and selling also depends upon which category of tyres are being produced. Birla Tyres has focused on producing of 95% on trucks & bus including LCV category and rest on passenger category as mentioned in its Vision & Mission statement. The company has promoted its distribution channel through C&F as well as selling agents on commission basis. There are 212 RDC Points throughout the Country where depots have been facilitated. Each Depot has been assigned to specific agency, who is working as C&F Agent after accepting a token security deposit. This security deposit also depends upon the volume of transaction and location advantage. Besides this, company has 20 number major mother go downs, which is being controlled by company centrally deploying its own staff. Every day as per marketing plan, finish goods are being dispatched from all the four plants located in two places and first stored in twenty mother depots. Under each mother depot one C&F agent office & go downs have been attached in such a way that finish goods can be easily transferred at minimum time. From all these C&F points, actual sale to dealers is made. Company has direct control up to C&F points.

Leadership

The company has been always looking to the quality aspect. In order to achieve this, it has been concentrated and focuses on the truck tyres segment. To standardize and maintain the quality company is following ISO standard for different activity. It has also adopted TPM, Total Productive Maintenance, being the formula/concept for zero break down, Zero maintenance and zero accident. Implementing all these theories in daily life has culminated in an decrease in the loss and wastage ratio and increased the productivity level. This could certainly promote the quality parameters and emphasizes the leadership.

Sustainable Supply Chain

Birla Tyres adopted automatic replenishment process of procuring Raw Materials. Generally, 80% of Raw Material requirement is procured through open order basis. When stock reaches the reorder/critical level, its SAP system automatically give reminders and intimation is sent to suppliers. In case where there are multi suppliers, which lot from which supplier at what time should be received is being calculated. For this specific software TORA system is adopted. Through SIMPLEX formula logistic arrangement is done for the raw material supply, i.e. from which supplier, which ware house have material will be sent to which unit of Birla Tyres.

For consumable Birla Tyre has system to procure material on JIT procedure. Very common and ordinary items where requirement is very large local vendors have been developed to supply immediately without disturbing the production. In this process, lot of shortage space is saved. For other group of consumable automatic trigger are being sent by SAP when stock reaches to reorder.
level. For third category regular requirement but quantity are not very high monthly and quarterly plan has been formulated. Orders are placed upon supplier for the whole year specifying to supply as per time schedule the required quantity. In formulating the Natural Rubber, daily requirement method the solution through SIMPLEX method which is done through SAP is as follows.

Presently, Birla Tyre is bringing Natural Rubber from ten different supplies including import of item. This Natural Rubber is available in two form sheet and block/cake form. All cake form and one sheet form (RSS-III) are imported from Country like Indonesia, malesiya & Thailand. Sheet rubber in the form RSS-IV is bought out from Kerala & Tripura where more than ten suppliers are involved. For procuring Natural Rubber advance booking system is invoke. Birla Tyres production process has been defined the mix of block & sheet rubber. Again, all suppliers’ capacity to supply within the month is being planned out as per the monthly production/requirement plan considering the import substitute availability shipment when it is likely to be received. Mostly, imports are done again liquidating the Advance License free of duty. For this the import price is always lower then indigenous price. Seeing the stiff competition and cost constraint along with availability, sheet rubber & block rubber mix is also changed.

Per day requirement as per plant full capacity:

- **Plant I** - Daily 110 MT x 30 = 3300
- **Plant II** - Daily 125 MT x 30 = 3750
- **Plant III** - Daily 60 MT x 30 = 1800
- **Plant IV** - Daily 35 MT x 30 = 1050

Days dispatch to be made are also worked out through SIMPEX method and delivery schedule along with delivery date within the month is informed to each supplier considering the transit time to reach in each plant.

Like this other materials are also being channelized through this evaluation process where RM requirement is huge and supply source is many.

**Social, economic & Environmental**

With the establishment of the BT in the state of Orissa, mainly in Balasore town, the social and economic position of the inhabitants of the district has been drastically changed. Once upon a time prior to 1990 the district which was declared backward districts has now been considered as forward district. More than 1/10th population of the district is engaged to earn their livelihood by engaging them in Birla Tyres. Various jobs, direct and indirect were allotted in priority. Many peoples have been employed in the service. Company has also directly offered employment to many people like land looser, inhabitants of Balasore, passed out from local colleges. Accumulated incomes of all these, indirectly increase the purchasing capacity of people of the region.

Moreover, due to demand of trucks for incoming and outgoing purposes, local people have established the partnership transport business after a tie up with giant transporters doing business at national and international level. This also helps the growth potential of the people and helped to engage a section of people who can earn their livelihood indirectly.

**Global Initiatives**

The company is also engaged to export tyres to different countries like East Asea, Middle East. Some European Countries and U.S.A. Export is done directly from different ports of India like Mumbai, Chennai, Tuticorin, Haldia and Kolkata. Besides this, export is also being made to Nepal, Bhutan, and Bangladesh. The annual export turnover is about Rs.600.00 crore. Finished goods are sent to these ports through inland road transport by fleet of trucks. Also export is done through channelizing agents, who held the export licenses and negotiated with foreign buyers to send the tyres.
But process of sending to the ports is same as it is done in case of exporting goods directly. Clearing Agents have been authorized to execute export procedure at the ports.

**Birla Tyre’s Response**

The company’s supply chain has been very effective because it has promised to its customer that right thing in right time and in right place has to be delivered. This has been recorded as vision statement. All employees are motivated by the vision statement and vowed to achieve goal. Moreover due to induction of SAP the process becomes more easy and transparent to achieve the goal.

**Outcomes**

Our customers are very much complacent with the product of Birla Tyres. This resulted in dealers/sub-dealers to use our product, priority. Dealer commission, sub dealer commission is paid in time. Company also hold the dealer/sub-dealer meet once in a year and recognized the best dealer’s achievement. The company is very much keen in providing free services to that customer whose tyre failed within guarantee period. There are system to allow the customer benefit whose tyre failed, depending upon the percentage of failure and expiry of tyre life.

**Achieving the Vision (Goal)**

In the vision statement the company has committed to serve its customer by providing the right thing at right time with minimum cost. To achieve this company has taken different strategies to achieve this goal.

Birla Tyres has fixed the target for each function (activity wise) to achieve the goal. It has implemented TPM, (Total Productive Maintenance), the Japanese formula based upon zero accident, zero break down and zero down time, so that optimum production can be achieved with minimum cost.

Under TPM, the company has selected different programmers under its goal mission and ultimate customer satisfaction by on time delivery. This has been formalized by selecting different activity through Kaizen principle and evaluating those to achieve the goal mission.

**Future plan**

Birla Tyres is now very much watchful and cautiously stepping in the right direction. Negotiation is under process with Pirelli, the giant Italian Company for partnership business. It is also thrusting its full effort to positioning in marketing and instilling the market share by focusing on new business.

**Corporate Social Responsibility**

On February 6th 2012, Giulia, Junior, Dai Ling and Yuxi, with the company of Sudipta, went for the second time to Birla Tyres, now with the new questionnaire about CSR activities. Birla Tyres first plant in Balasore was set up in 1991; it is a division of the B K Birla flagship Kesoram Industries Limited. It produces different types of tyres, to domestic use and also exportation; and it is recognized as one of the best tyre manufacturers in the business today, as also an oligopoly in Balasore. Birla Tyres has 4000 employees, and most of them are men. The industry provides to them free accommodation and food, so they can save on living expenses. Their salary varies around Rs. 15000. They do not have a social policy or CSR activities going on. Mr. S. Roy Choudhury told them that they had already provided drinking water to Bampada village through a tube well. He affirmed that Birla Tyres needs to work on some social project for the villages nearby, and is willing to help them in developing activities that meet the basic needs of the community. Close to Birla Tyres there are many villages where many workers live. When they went to Sutei Bodaga, they noticed that one of its main
need is water supply, they have only 7 tube well and they said that it was not enough to them. Somnathpur village, where a local person informed us that around 50 employees from Birla Tyres lived there, is a developed village compared to others that they visited; but the villagers complained that they have no electricity in their houses and that Birla Tyres promised to assure that for them. In Saraswatipur, they wish they had a better system of water supply; they only have 2 tube wells in a village with 50 families. In Bampada village, which is another village close to Birla Tyres, they have no facilities at all, but we think that maybe Birla Tyres could provide regular health camps, since the hospital is too far from them. Also in Chanapur village, they need regular health camps; After this long study in CSR activity, with visits, questionnaires and interactions, they could notice that CSR activities in Balasore are still just in the beginning. Though some big industries have done good social programs, there is still a long way to go to achieve the final destination, which is building a harmonious society between villages and industries. Nowadays, social responsibilities are becoming more and more important. An industry cannot eventually succeed without cooperate social responsibilities with the whole society. Industries should take these burdens to preserve the welfare and the benefits not only of their workers for they are the foundation of the whole companies. Meanwhile, other roles in this society also play significant parts. In one hand, they are the consumers of these markets. On the other hand, they are the intersection and the fundamental elements of this society, who reflect the reality and the true feelings towards the quality of their life. Therefore, in order to make a better balance and develop a win-win long term way for both the people and the industries, some improvements are timely required in the industries.

Many industries do not have specific plan for CSR activities, even their managers or presidents cannot provide us with more details about CSR; they usually do it without a fixed action plan. They suggest them to come up with a specific standard of CSR activities and fulfill social responsibility. When an industry develops a specific social program, they are not only benefiting the society, but also their own image for its consumers and stakeholders. However, as they are doing it thinking about their profits, they have to make it effective. If they organize CSR activities just for good reputation, they are afraid that the villages may not get total development benefit. The CSR activities should be more practicable and improve the villages truly.

Looking forward

World is facing a global recession for which demand is falling internationally. America, Europe and some Countries are on the brink of Bankruptcy. Country like Greece, Turkey are declared debt country and EUC had bailed out to save them. India is also facing the same problem. Our growth has come down drastically. Chief Economic Advisor had predicted a growth for 2013-14 within 5%. Industries have started feeling the pinch of the slow down. Automobile sector have started reducing their production quota. This will have automatic impact in tyre industries. All tyres manufacturing companies are also gradually heading for their production cut.

The Indian tyre market for truck and bus radials is set to grow at a tremendous rate owing to the infrastructure development in India. In a bid to enter and win the Indian radial tyre market segment, Birla Tyre is set to increase the production of truck and bus radials by a whopping 85 tonnes per day in the manufacturing plant at Haridwar in a move that would require an investment of INR 350 Crores. The tyre manufacturing plant in Balasore is slated to receive an investment of INR 450 Crores to increase the output of passenger car radials by a figure of 80 tonnes a day.

Tyre companies both Indian and foreign, are all headed to capture the Indian tyre market with many international brands such as Continental, Bridgestone, Goodyear and Michelin setting up shop on the Indian soil. For Birla Tyres, the competition is stiff, with all the major global players as well as Indian tyre majors such as MRF and Apollo Tyres vying for the top spot and the largest market share.

Basant Kumar Birla, CEO reflected on Birla Tyre’s achievements as he considered the challenges and opportunities that he discussed. His goal was to move beyond the sustainable supply chain and specific efforts to a more comprehensive sustainable supply chain strategy. He believed that
Birla Tyre could and should retain its position in the industry as a sustainability leader, but what was the best path to reach that goal? His mind wandered back to some of the key questions:

How should Birla Tyre prioritize sustainability relative to other supply chain goals (e.g. providing the right thing at right time and minimizing cost)?

- How should Birla Tyre reconcile different sustainability expectations and priorities around the world with the understanding that TPM, Japanese formula based upon zero accident, zero break done and zero down time so that the optimum production can be achieved with minimum cost which impact the global brand?
- How should Birla Tyre selected lot of kaizen like (i) reduction of transit time of the vehicles (ii) reduction of inspection time have been selected and steps are being taken to reach the goal by bench marking in its sustainable supply chain efforts?