

Cement Logistics in India with urban freight distribution

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Abstract— As cement market competition becomes more and more intensive gradually, logistics management will also become more and more important, even can be able to determine whether the company succeeds or fails in their future development. Therefore, cement industry must pay enough attention to do well in logistics work. In this way the corporate will own larger space to develop and compete in market economy. (CMA, Cement Manufacturing Association)

A Cost effective approach

Cement, being a bulk commodity, transporting is a costly affair. The selling and distribution costs account for around 18 per cent of sales revenues. In 2009-10, top 30 cement companies spent more than Rs 10,000 crore to carry cement to the customer. The domestic cement industry has been making continuous efforts to cut its logistics costs.

At the time when the industry was entering into the downside of the cycle, with profit margins coming down to 20-25 per cent from 35-40 per cent, better logistics management provide beneficial to many of the cement manufacturers. Using more railway routes than roads, shrinking lead distance (distance between the manufacturing facility and market) wherever possible were some of the ways the industry explored. Correctly, for every 50-kg bags of cement, the logistics cost comes to around Rs 18-25 by road and Rs 12-15 by the railway, depending on the distance.

The 3 per cent of the gross revenue is spent on inward logistics while outward logistics accounts for another bulk of 15 per cent. Inward logistics include, coal and limestone transportation, while outward logistics is mostly the final product cement. Some companies also incur outbound logistics cost of transporting clinker to their grinding plants. Plants that are closer to the collieries, the inbound transportation costs are less. For plant located for away from the collieries they have the option to import coal.

Checking logistics costs is an ongoing process for the cement companies. Many are trying to reduce the costs by around 5-7 per cent by optimizing the distance of transport. Statistics suggest that about 45 per cent of the cement produced in the country is being transported by the railway. Cement makers prefer roads for shorter distances.

How do you evaluate logistics in cement industry ?

Logistics costs are going to come down provided one is on the right track. If the chases cost in isolation by just working in cost reduction, he cannot reduce cost in an inflationary world. The process of cost negotiations of olden days are over now. Under negotiation, one arrived only at the best negotiated

prices and was content assumingly to have reduced the cost. Here, he only arrives at the best negotiated prices but not at a best cost. Today the concept of negotiation is no more prevalent. If one wants to work the truck freight to a particular destination, the freight cost should take into account all the statutory duties, all the toll taxes, fuel cost, and all other allied costs, cost of vehicles, turnaround efficiency, everything. These known efficiency parameters should be arrived at the right price. Here the cost can be reduced only by increasing the efficiency.

The second most important factor is to use technology to the helm. The real time visibility is the key to success. Through technology plays a key role in aligning these activities.

Supplier selection and evaluation

Choosing suppliers is one of the most important considerations before doing purchasing and procurement. The buying process is complex and the process includes decision makers and decision influences, which combine to form the decision-making unit (DMU). Through the marketing analysis, a potential supplier can be selected through different kinds of public information and public channel to establish contact. These channels include initiate enquiry of suppliers and introduction, professional media advertisements, Internet searching etc.

In the process of choosing suppliers, firstly, the company should use a uniform standard registration system to manage the information that suppliers provide and identify all potential suppliers for items being purchased. A list of factors for evaluating each supplier should consider the place where suppliers registered, registered capital, production areas, equipment, staff, main products, main customers and so on.

Through the analysis of the information and once the factors have been determined, technological capacity, stability of supplies, reliability of resources and comprehensive competitiveness can be evaluated. After evaluating the performance of individual suppliers, among many suppliers, move out of some obvious unsuitable suppliers to corporate more and finally can receive a suitable supplier record. The management should determine the importance of the factors to its particular situation.

After the company and the suppliers reached an agreement of the price and consultation recognizes between both parties they need to sign "purchase contract." In the process of signing the "purchase contract", they primarily negotiate with the trade names, specification model, quantity, price, packaging, origin.

shipment, payment terms, settlement, claims and arbitration and after the agreement they write these into their "purchase contracts". This means the official start of export business. Under normal situation, the purchase contract in duplicate by both parties and it will come into force after they cover the company seal.

Manuscript received Dec 09, 2014

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Quality control

Purchasing responsibilities are to secure the proper materials. The right quality specifications must be given to suppliers. Logistics quality control refers to using an advanced approach of quality management scientifically and revolving around quality to take a control of logistics process in system management, including guaranteeing and improving logistics quality, working quality and other activities such as planning, organizing, controlling etc. In every operating step, through the beforehand preparation of controlling, the supervision and track during logistics process, the summary and review of feedback control, collect necessary data and find out effective control.

The advantages of quality control are to improve company's reputation, reduce operating costs and increase service levels. Quality level can be specified to suppliers in the following ways:

- Commercial standards, design specifications and engineering drawings
- Material and method-of-manufacture specifications
- Performance specifications function and fit specifications
- Brand or trade names, samples and market grades
- Qualified products list and combination of above specifications

The disadvantages of quality control will lead to customers' fluctuation, hidden trouble of operating competence, loss of professional skills and damages of corporate culture. The principle of quality control is to tamp foundation, focus on logistics process, improve customer service and keep sustainable development.

The company's logistics target is to accomplish customers' satisfaction rate more than 95 % and reduce error rate less than 0.5%.

Order processing and information system

Order processing and information system lays the foundation for logistics and corporate management information systems. They will offer considerable potential for improving logistics performance.

"The order processing system is the nerve center of the logistics system." It initiates such logistics activities as:

1. Determining the transportation mode, carrier and loading sequence
2. Inventory assignment and preparing picking and packing lists
3. Warehousing picking and packing
4. Updating the inventory file, subtracting actual products picked
5. Automatically printing replenishment lists
6. Preparing shipping documents
7. Shipping the product to the customer

This system needs the company to do a lot of effective communications with customers. Slow speed, bad service, low quality and lack of communications can lead to loss of customers. According to the order of communicating with customers, order processing systems can be divided into 6 parts not only from a customer's perspective but also from a company's perspective.

Making ordering and purchasing work more efficiently

Modern logistics industry gets to know more about customers' demand both at present and in the future development. They try to satisfy and exceed customers, regard them as a center and do well in marketing work. Logistics industry has a good relationship with other members in a supply chain. They are interdependent and mutual benefit. It will improve and create both values and better the competitiveness of the whole supply chain. Effective purchasing management results in the acquisition of high-quality materials. As the modern technology develops and market competition becomes more and more fiercely, some designs, skills, methods, services etc. also get more and more mature. Better management of purchasing activities can lead to increasing profitability.

Some traditional methods of order transmittal may affect the order processing progress. Later it will affect the achievement of the company and profit. The longer the lead time is from the supplier, the higher the likelihood of delivery will have problems. There is also less likelihood of customer return of finished goods due to product failure.

The absence of specifications, lack of engineering standardization and unavailability of supply sources will lead to noting to do with purchasing effectiveness. As technology develops faster and faster, equipment and systems become more and more complex and lead to losing effectiveness of certain part in a system. The environment for using product becomes worse. The temperature control, shocks, shakes, radiation and other factors will affect the product's stability and reliability.

Developing customer accommodation strategy

Customer service has a direct impact on the market share. Good customer service can maintain customers and increase the loyalty and satisfaction from them. Loyal customers can help reduce business costs because they will play a role as an advertisement announcer with zero fees. Logistics customer service is a value-added product.

To understand customer's value can help make arrangements and operational activities in daily business life and make marketing and functional strategies. Taken as a whole, the appearance of manufacturing industry and supply chain makes customer service firstly start and develop the most completely in modern logistics industry.

Providing service to customers costs money. When trying to reduce distribution costs, one of the big problems is to identify them accurately. Too much customer service will needlessly reduce corporate profits. Many companies have no effective customer service strategy, such as overlooking customer profitability, misreading the seller's market, taking unrealistic policies etc.

Decision strategies in transportation

Transportation decisions can be characterized as strategic or tactical. The basic requirements of transportation are on time, accurate, economic and safe. How to make a strategy to choose a suitable and reasonable transportation method depends on five important aspects for considering. They are transporting distance, segments, tools, time and fees. Besides, there are other factors that can affect the choice like categories of goods, time limits, quantities etc.

Types of transporting routes should be based on place of departure and destination. The shortest, the most convenient and the most economic benefit route should be considered and

designed through geometry, such as simple annular, compound annular, pattern of crossing lines etc. Especially, the start place can be the same one as the final destination. Only in this way, can the goods be delivered and carried in double ways. The targets of choosing routes are high effectiveness, low costs, best distribution service level, the shortest mileage and the smallest volume of the circular flow. Categories of making a transporting plan have a short-term, long-term and daily one. A program composition has four steps. Firstly, collect program materials. Then make a program map. Next balance capacity and volume. Finally work out running plans of vehicle. With development of technology, Global Positioning System (GPS) can help people make a most suitable route for transferring goods and after vehicle begin transporting, according to true facts, now and then adjust to the route. At last, GPS will offer best advice for a satisfactory route. Until arriving at one destination, the company can arrange another route in order to reduce free time of vehicle to the lowest.

Transportation activities and risks during the development

In logistics activities, transportation stands at one of the most important positions. Transportation takes the responsibilities and tasks of transferring goods from one place to another or more in different spaces. It solves the problems of separation between suppliers and customers and it is a main functional element that logistics creates space effect. Meanwhile, transportation acts a role as a bridge to connect the relationships among different cities, countries, regions and international logistics development.

Transportation has an advantage of relation resource. Most of logistics companies have rich customer resources. They have set up a steadily cooperative partnership with both old and new customers. In many years' operation, more or less to a certain degree, the companies can build a business collaborative relationship with local government and other competitors. This is a process of integrating resources.

An unreasonable transportation has many aspects. For example, a roundabout and repeating route, wrong choices of consignment methods and long distance transporting may happen during the process due to artificial operational mistakes, weather conditions, lack of technology or other risks and accidents. If facilities are under poor conditions and ratios of professional transportation stands too low.

Poor conditions include technological skills, few professional teams, backward managerial ideas, rules or systems, low quantities of people with special skills and so on. Especially in India, modern situation illustrates that because of the influence of long-term planned economy system, there are a lot of problems in transportation management, such as departmental separation, repeated construction, waste of resources etc.

With the development of modern traffic transportation tools and new advanced technological application, demands and potentials in modern logistics market become bigger and bigger. Meanwhile customer service is needed in a very high level in the process of transportation. It can accelerate modern logistics service quality, effectiveness and security improvement. Bar code technique and application, intelligent tags, Electronic Data Interchange (EDI), GPS and other informational technologies are widely used. In China, China

Mobile, China Unicom and other network operators participate in logistics informational operation.

RESULT

For the purpose of assessing the partnerships presented, the following section draws key lessons learnt from their establishment in accordance with the following criteria: activities and outcomes. To compliment the above, the views from the participants on the successes and weaknesses of their respective FQP (Freight Quality Partnership) are also presented. Table 1 provides a summary of the key strong points identified for each established FQP.

Table 1 FQPs (Freight Quality Partnership) Key Features

Cities	Activities/ Outputs	Participants' Views
Sultampur	LFDP, freight map routes, promotional material, push and pull measures	Providing a platform for discussion, better route planning
Raebareli	None yet	Difficulty in identifying the right stakeholders
Lucknow	LFDP, freight maps, differentiated fees for loading / uploading, time window restrictions	Difficulty in identifying the right stakeholders
Faizabad	LFDP, harmonization of city logistic regulations	Public-public cooperation activated
Unnao	LFDP, development of unloading bays and maps for drivers,	Difficulty in identifying the right stakeholders
Sitapur	Consultation	Success in engaging relevant actors

CONCLUSIONS

As there is not a unique standard model for an urban freight quality partnership, mostly due to prevailing local circumstances, the present analysis, using information gathered from the close monitoring of the establishment of six Freight Quality Partnerships in six European cities, provides planners and policy makers with clear insight into the prominent issues that need to be addressed when forming and managing such a collaborative scheme. The above, therefore, can primarily act as key drivers in maintaining the partnerships formed, as well as recommendations guidelines for potentially transferring such schemes in other urban establishments.

Establishing an FQP, however, is not an end in itself and the partnership cannot be considered successful until tangible progress has been made towards its objectives. To this end, further actions were carried out within the C-LIEGE (Clean Last Mile Transport and Logistics Management) project to ensure that the FQPs established will rely in the future on dedicated and effective strategies to sustain their operation and ultimately create added value.

This supportive document includes clear guidelines on identifying the required stakeholder groups and level of

cooperation, as well as recommendations for effective ways of approaching and engaging these in accordance with suitable milestones and tools. In addition, an Action Plan has been developed for all newly formed FQPs, as a strategic document, employing S.M.A.R.T analysis (Specific, Measurable, Achievable, Realistic and Timed) for defining the objectives. In setting up the action plan, attention was paid to balance concrete, short-term actions and expectations with more ambitious, future-oriented tasks, all in accordance with the specificities of each pilot city/region. This plan, if agreed among all stakeholders, can form an integral part of the official Local Freight Development Plan, which is also developed in each location. Consequently, the best way for these partnerships to build on their initial growth and ensure long-term operation is for them to be embedded within the existing policy framework and/or regional strategies.

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