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# Emerging Trends in Supply Chain Management

**Gopal Purdhani**

The present world market scenario and the emerging trends in supply chain management have posed a new challenge to the major players, forcing them to reshape their sale and purchase strategies for achieving competitive advantage in today's easily accessible, 'single market' world. Defence procurements policies of the nations have not been spared, especially those of fast growing economies like India. Many eminent thinkers have expressed their concern over the issue through the media.

Due to the expansion of overall knowledge and the modern global vision of specialisation, the need to change departmental strategies has gained higher priority – a trend we cannot afford to ignore. Today, nations have come much closer through greater sharing of knowledge and the liberty to choose what best suits each nation. It is, therefore, necessary that we accept the changed scenario and make proper use of modern strategy from the wide options available. Today, the corporate world is rapidly setting up manufacturing bases and marketing outlets in other countries rather than their own, willing to share both technology and profit. Even Indian players are acquiring the rights of the well established foreign companies. This is the result of real globalisation and the urge to achieve competitive advantage.

“Through economics, the king brings under his sway his own party as well as the party of the enemy.....material well-being is supreme,” said Kautiliya (Arthshastra, 4th Century BC). The first 'globalisation' in known history was the empire Chandragupta established with the help of Kautilya, which guaranteed security over an extraordinarily large area in which trade flourished.

As a young officer in the Army Ordnance Corps, I was told by senior officers to be very proud that I belonged to an organisation that holds an inventory of more than five lakh items. Today, the inventory holdings have increased to nine lakh items. But the professionals are talking of “zero inventory.” That is

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the extent of change of the progressive thought process in the field of materials management, termed as “supply chain management” or simply “supply chain.” Of course, the concept of zero inventory can never be applicable to the defence forces for obvious reasons. We all know that the defence forces buy today for their requirements of tomorrow.

The need is to cut down the inventory to an acceptable limit, and quick disposal of items that we do not need. For, there is a huge pile up of wastages – assemblies, vehicles, components, small items and a surfeit of surplus and obsolete equipment – choking up the depots. With studies in depth, we may discover multi-location holdings of the same item and also of different items of similar usage. This can be avoided by codifying the total inventory.

Today, data is available on demand, thanks to the revolution in information technology. It has made possible not just swift and accurate inventory holdings, but also highly efficient “distribution-resource planning” (DRP). This, in turn, has given the organisation the ability to promptly respond to each demand, thus, speeding up the process of manufacture. The electronic-data-interchange (EDI) has, through the internet, enabled partners in the supply chain to act upon real demands. Shared information in the chain can be fully leveraged through the process of integration within the organisational structure.

The supply chain is a specialised technical subject that has gained importance and much popularity in the business world. The benefits are many, the most important being cost reduction that ultimately adds to the profits. The present global business scenario has thrown open a great challenge to many developing countries to consolidate their defence procurement system. The policy-maker’s immediate task is to take the necessary steps to stay abreast of the revolution in technology. There is no need for the defence forces to totally give up the conventional methodology, but there is a definite need to update and upgrade the system and adopt the prevalent international work process in the procurement and distribution systems.

## **The Present**

There are three main fundamental stages of the supply chain:

- Procurement stage (raw materials, equipment and manpower).
- Production stage (manufacture to finished goods and packaging).
- Distribution stage (warehousing, transportation and delivery).

All these stages have to be managed independently by effective leadership. Increasing competitive pressure and market globalisation are forcing enterprises

to develop supply chains that can respond quickly to the customer's needs. Both the public and private sector units are facing a new kind of pressure from customers, partners and competitors. Customers want more customised products and services, with precise technical details, as approved by them. The partners want to work in new ways and the competitors are constantly raising the bar by cutting down the prices and increasing operational efficiency. With the advancement achieved in communications and information technology, as well as the rapidly widening array of logistic options, companies now have an opportunity to reduce operating costs by better coordination and efficient management.

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## **The Future**

Tomorrow's supply chain is definitely going to be more global and flexible than ever before. The importance of supply chain strategies that would address the new markets and access the new sources of supply would certainly need a highly adaptive attitude of the leadership. For tapping the emerging markets, there would be far more effective supply chain tactics to deal with product portfolio, channel management, make-or-buy options, contract logistics and corporate tax compliance. To source material from low cost countries, the companies would be better able to streamline end-to-end supply chain (thus, cutting costs), meet quality objectives, minimise transit inventory and staff, as also meet the required service criteria with regular, new market objectives. Purchasers would have to keep options open to buy from anyone who offers the best, and at a competitive cost, however small the country or enterprise may be. The procedures will need to be simplified and response as also payment speeded up.

The future will offer numerous opportunities and options of highly advanced technology, mostly with lifetime warranty and customer-oriented services. The buyers would have to adopt a speedier system, keeping a larger global eye on what is available where, rather than the sales people coming to update their knowledge. Though the customer would still rule the market because the need originates from him, the vendor development would be his responsibility, because otherwise, he would end up buying outdated equipment. So, to achieve

optimisation, the future procurement would put a greater burden on the purchaser to define his need in easy terms and make it known worldwide with utmost speed, a process that can be called “demand-projection-lead time.”

## **Brand Image Management**

The global trends and the burgeoning of multinational companies have effectively changed the traditional methodology to a harder business climate. The demand for advanced technology has enhanced the product quality but reduced the product life cycle. Efficiency and cost reduction can now not be used as the source to achieve competitive edge. Hence, the choice shifts to making one's product and services “different” from those of the competitors. The enterprise tries to promote an easily recognisable distinction (brand image) and, in the present business scenario of easy approach to the international open marketing system, the effort is made to project an established world brand image.

We must also remember that the “product brands” are no longer permanent. The brands are dynamic in nature and, therefore, do not remain constant. The companies need to accelerate the quality standards and make their products more suitable to the customer's requirement and enhance the utility angle to match the products that are trying to out-date their technology. The rapid development in technology has produced some side effects like difficulties in sustaining the competitive advantages of a particular brand. Today, it is not difficult to copy and produce similar and even more efficient items in a more presentable guise. Marketing trends also show that most companies are ready for price reduction and lower profit margins so as to achieve a higher turnover. The quality standards have risen so high that we are no longer talking about total quality management (TQM), the hot topic till recent years. One can clearly see the increasing concern of the industry to provide value added advantage for the customer. He is offered a wide variety of choices. It has, therefore, become essential to foresee the requirement of the near future and try to create a need, with innovative design and technology, as also to educate the prospective buyers through literature and the media.

The concept of brand management has changed. Now, the idea is to sustain a brand image by continuous improvement of standards and offering new models of the product with better utility services to the purchaser. This concept has become the credo for achieving durable competitiveness. Keeping in mind the changed concept and the speed with which the new trends in supply chain management are emerging, it is necessary to consider the shift in organisational

strategy to fine-tune coordination and collaboration in various processes of production and marketing. To back up a strong brand, suitable marketing tactics will help in building up of a responsive supply chain.

The challenge is today's harsh business environment. The measure of success is the acceptance level of your brand by the purchaser. The key word is "adaptability." To achieve that, you have to ensure that you sell a product that promises the technology of tomorrow, meeting the customer's precise requirement, plus dependable warranty. There are no short cuts to aggressive marketing.

### **Responsive Supply Chain Process**

The traditional method of forecasting that was based on the wastages pattern is outdated.

Today, you need to respond to the demand and be ever alert to the sensitivities of the market. In the changing scenario, the corporate strategy must be reoriented to collecting and regularly updating the market data, keeping a careful watch on the actual requirement of the customer and identifying the real demand of the market. The quick response has to be driven by the actual demand pattern. A responsive supply chain is market sensitive and capable of reading and responding with a suitable offer to the customer's actual need. All the agencies in the supply chain must be well-aligned partners. Information has to be shared among the supply chain partners through maintaining on line connectivity.

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### **The Essential Ingredients**

- Quick reaction to the demand and supply pattern.
- Proven ability to speedily adapt to any changes in demand.
- Manufacture for demand and not for inventory.
- Aggressive marketing tactics.
- Gearing up the sources of the already established outsourcing agencies.

Most companies are confronted with a fundamental problem: the time taken to procure, make and deliver the goods. The company that achieves a

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perfect lead time, with the delivery time fixed by the customer, would not need to make any forecast or stock the inventories. The lead time taken is considered as overall 'responsive time'. Paperless information flow and stockless suppliers are the keys to the success of a responsive supply chain process. The value added supply chain has inbuilt ingredients of quick response, adaptive attitude, and well aligned and integrated supplier channel interface with an effective market strategy.

### **Adaptive Supply Chain Networks (ASCN)**

Falling margins, globalisation and accelerating innovation cycles are forcing enterprises to switch from traditional supply chains to adaptive supply chain networks that would have the ability to respond to the changing business environment. At present, the management is careful during the three

transitional phases: visibility, velocity and variability for making timely and accurate use of information input. The corporate sector is, therefore, switching over to the adaptive supply chain network to stay ahead of the competition. Processes that have till now been managed by a single enterprise itself, are now beginning to be spread out to multiple enterprises.

Numerous factors are involved in a new strategy in the supply chain. A few are as listed below:

- New technology products involving frequent improvements.
- Globalisation of markets.
- Use of the internet for easy accessibility to the required information.
- Falling costs.
- Higher degree of competition.
- Wider publicity options.

The ASCN, a grouping of a few business enterprises, has emerged as a highly successful and dynamic system. It ensures that the company receives timely and

accurate information, thus, helping it to speed up both its response as well as the distribution of the data to its supply chain partners. This gives the company a huge advantage over a single vendor doing all the jobs alone. The simultaneous work methodologies of the ASCN system may prove to be the “single-most-critical differentiator” that the system may help create.

To create an adaptive network, a well-charted out plan is required for the three key evolution stages: integration, collaboration and execution.

The “inter-enterprise-integration” and “intra-enterprise-integration” are basic drivers that provide operational strength to the network. Once well integrated, the group will find it easier to enter the collaborative and adaptive stages.

Business continues to demand technological innovations and new ways of operation. The ability to adapt is the cushion against any variables and obstacles that might otherwise cause a time lag in response. An efficient network is more transparent and more open to adjustments and understandings. The successful large corporate houses are doing business with the same agents, retailers and distributors as before, but now, they are called “partners.”

## **Strategic Sourcing**

Strategic sourcing is a systematic procurement process that continuously improves and reevaluates the purchasing activities of a corporate business enterprise. It is one of the important methodologies that employ the structured approach to manage the procurement policy. This is done for the following purposes.

- Creating value for money spent.
- Developing strategic options for optimal sourcing.
- Increasing competitive positioning.
- Ensuring inbuilt option for any changes required during the demand-lead-time.

In other words, it is a process designed to procure the best products and services for the best value. There are many factors that are influencing the business enterprises to become more strategy oriented in inter-related functions. Some of these are listed below:

- Active globalisation.
- Liberalised procurement approach.
- Technology advancement.

- Outsourcing necessities.
- Dynamic expectations of customers and higher demand variability.
- Competitive advantages considerations.
- Lower cost considerations.
- Need for better and newer product acquisitions.

These factors also influence other ingredients of strategic sourcing, as discussed earlier.

### **Priorities**

Strategic sourcing is an organised and collaborative approach, aiming at targeted spending across locations with select suppliers who are best suited to add knowledge and value to the customer-supplier interface. The priorities for the buyers would include the following:

- Prior allotment of budget and timely payment facility.
- Priority of product procurement.
- Market condition considerations.
- Sourcing and procurement process.
- Considerations on cost saving opportunities.

Using these procurement tools, the purchaser analyses the dependability of the selected vendors and market conditions. They study the specifications that help them to minimise risks and costs. More importantly, the focus now has shifted from cost considerations to value addition in the supply chain, aiming to meet the buyer's specific needs and offer value for his money.

### **Development of Objectives**

With the application of the techniques discussed earlier, the companies can reach the following goals more speedily and effectively:

- Underlining specific guidelines to optimise corporate gains through improved strategy.
- Corporate strategy through collaborative approach.
- Increase in collective comprehension of value added initiatives.
- Measures to achieve better utilisation on purchased goods and services.
- Elimination in non-value added activities in the process.
- Improvement in visibility, control and operational efficiency.
- Development of supplier's base and performance analysis.

- Establishment of relationship with all channel partners.
- Prioritisation of spend areas.

## **Supply Chain Management – Vision 2020**

It is not possible to presage what is going to happen by the year 2020. We can only imagine the extent of advancement that would be made – a world very different from ours indeed. The human brain has been programmed by nature to do extraordinary things. We need, sometimes, to let our imagination run wild.

I surrender to this urge and say: In the year 2020 the audience might not be required to assemble in a convention hall to watch and hear the presentation. Maybe, the speaker would switch on a button from his/her study-room or maybe from the bedroom itself. Our fingers may not need to take the trouble of putting the switch on. It would be for the slave ROBOT to perform all these menial jobs. The audience may watch and listen from their offices or maybe from their study or bedrooms, as reaching the office would become almost impossible due to traffic hazards. They may operate from their living places and, maybe by that time, their houses or homes may not be called houses as humans may be living in disco-auditoriums, all the time dancing, singing and generally making merry – eating food made of inorganic plastic products. And quite possibly, science may invent and implant a tiny chip in your brain that would enable you to read other people's thoughts just by switching on the knowledge key and the presentation would be visualised automatically and the faculty might not be needed any more...

Supply Chain Management 2020, is certainly not going to be that weird or phantasmagoric, but much more useful, convenient, congenial and realistic. It will be far more effective, technical and professional, offering ready solutions at highly competitive prices from the ASCNs. Vision 2020 is not about what will happen. It is about what we choose and decide to make happen.

It is expected that the year 2020 could witness a phenomenal industrial and agricultural growth and a great leap forward in per capita income. The retail business, at present worth about \$ 300 billion, would triple and the unorganised marketing sector may become highly professional. Almost 80-90 per cent of the people living in cities and towns and about 40-50 per cent of those living in villages would own cars and air-conditioners. The real estate business would continue to boom and this, in turn, would generate demand and movement of goods like cement, steel, bricks, furniture and many others, pushing the supply chain system to the forefront.

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The present focus of the supply chain is applied mostly in urban India, but after about a decade, it will spread to the rural areas as well. The economic situation may witness three to four times growth in financial availability and buying power may multiply many times, resulting in industrial expansion to unexpected levels. Experts like Morgan Stanley and others are predicting that the “Sensex could touch the Rs. 50,000 figure in India and similar growth in other parts of the business world.”

Needless to say, the supply chain would again come to play a leading role. It would be because of the following factors:

- Highly improved economic position.
- Overall growth in industrial, infrastructure and agriculture sectors.
- Aggressive demand and supply.
- More movements in transfer of goods.

According to a study carried out by Mckinsey & Company, “.... By the year 2020, 80 percent of goods in the world will be manufactured in a country different from where they are consumed as compared to 20 per cent now.” That means that there would be tremendous movement of goods involving all means of transport and warehousing. The trend would increase almost vertically in globalisation, free trade, and outsourcing. All these are associated with supply chain management that is going to play a leading role.

The present boom in business opportunities has created highly volatile and harsh conditions, forcing the entire business world to shrink to a one-market situation. The advance in infotechnology has ushered in a plethora of new marketing strategies. They have opened the way for the buyers to take the right and timely decisions. A well informed customer can now buy exactly what he needs, choosing from a wider array of products, high-tech value added to boot.

The defence forces buy tomorrow’s needs today. It is, therefore, necessary that the enterprises apply their mind to ‘seeing tomorrow’. This means devising effective means of communications, keeping in view the future trends in the supply chain. For acquiring the latest technology, the defence forces, if necessary,

should be prepared to even replace the existing equipment, for nothing should come in the way of their task – the defence of the nation. The main consideration should be optimisation, not low costs. I am certain that the concerned authorities would have already realised this, but I find it appropriate here to offer some facts I have gleaned from the internet.

Today, the land forces are virtually in a state of war because of the terrorist menace. They fight close combat battles (CQB) with terrorists in buildings and other urban arenas. This kind of fighting has brought about a technology revolution in advanced countries like the USA, Israel, the UK, Italy and others, one of the main aims being the safety and fire effectiveness of the infantrymen. In India, the weaponry and personnel equipment in use do not provide them adequate protection. They have to face the enemy to fire at them. There are rifles and other small arms available with barrel adjustments of up to 90 degree deflection angles, and the firing mechanism and sights so positioned that the shooter can see and fire effectively at a target from behind a wall.

Then there is the upgradation kit of heavy vehicles, a new high-tech product being used in many countries. The kit is relatively low cost and its HP (horse power) boosting power of engines very high. To replace an engine, you need to disassemble it from the vehicle and transport it in parts to the base workshop. But the kit can be replaced in the station workshop itself near the unit that is using the vehicle.

In any large organisation, such as the Army Ordnance Corps (AOC), there is bound to be a huge pile up of wastage. The surplus and obsolete/obsolescent equipment and vehicles and their spares are kept in salvage stores till their disposal. This amounts to keeping a huge amount of wealth locked up. This begs the question: is there not a need to reorganise or set up a separate department within the Ordnance Corps for the speedy disposal and demilitarisation of the surplus and obsolete items?

Will computerised codification or bar coding help the ordnance depots to eliminate chances of multi-location of the same item and help relocate items of similar use? Is there a need to redesign or acquire a customised inventory control software package that would give the location of an item, whether it is in a particular 'bin' or is in transit or in issue-bay?

A step was taken for modernising inventory in the AOC about 15 years ago, by establishing the computerised inventory control project (CICP). It has done a commendable job so far. Is there any need to accelerate its functions by augmenting that organisation to keep pace with the present rate of progress

being made in other spheres of the business world?

In the section on “Strategic Sourcing,” certain objectives have been fixed. We need to review them and see if any improvements are needed, as enumerated below:

- Underlining of specific guidelines to optimise corporate gains through improved modern practices.
- Application of corporate strategy through collaborative approach.
- Elimination of non-value added activities in the process.
- Increase in collective comprehension of value added initiatives.
- Measures to achieve better utilisation of the service sector by outsourcing advisory capacity.
- Improvement in visibility and operational efficiency by becoming more easily approachable and transparent by being open to accept offers of recent advancement in technology.
- Development of supplier’s base and performance appraisal to cut down ‘demand-load-time.’
- Establishment of better relationship with all channel partners, including vendors.
- Prioritisation of spend areas.

The modern trends in supply chain offer the systematic approach to both suppliers and buyers and cut down time for cost-effective business practices. The procurement in defence must be ‘better-technology-based’ rather than cost competitiveness. We have to find out and acquire the best technology available rather than just opt for Indianisation that can be developed simultaneously.