Supply Chain Management in India: An Analysis

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1. Introduction:
Cost reduction became the success mantra in 1980 for companies to sustain in market, expand their market share and enhance profitability. New manufacturing technologies and strategies were developed in order to achieve this goal such as just-in-time manufacturing, kanban, lean manufacturing, total quality management, and other became very popular, and vast amount of resources were invested in implementing these technologies. One of such concept to reduce cost is Supply Chain Management.

The Council of Logistic Management (CLM) (2000) defines SCM as “the systematic, strategic coordination of the traditional business functions and tactics across these business functions within a particular organization and across business within a supply chain for the purpose of improving the long term performance of the individual organizations and the supply chain as a whole”.

Generally SC consists of different functions: logistics, inventory, purchasing, and procurement, production, planning, intra-and inter-organizational relationships and performance measures. To improve the overall performance of SC the members of SC may behave as a part of a unified system and coordinate with each other. Supply chain management is a set of approach utilized to integrate stakeholders of any organisation to produce and delivered goods in the least cost by reducing the intermediary cost. Supply chain management focus on every aspect that has an impact on cost. The prime objective is that the product is delivering to customer as per his requirement in the best possible way. Supply chain management starts from acquiring the raw material and ends at delivering the product in the hands of customer.

Of late Indian companies have also realized the importance of efficient logistic system. In a highly competitive era if Indian companies have to be effective they need to reduce their cost of manufacturing and operation. This reduction in cost can be achieved by improving the supply chain management. This would require significant investment in information technology, because information technology tools and techniques plays very important role in the performance of the SCM. In this paper an analysis has been done on the status of SCM in India.
2. Existing Literature on SCM

Andrew Cox, (1999), found that paradigm shift in today’s business world is characterised as operational effectiveness and efficiency. A case was discussed in his research for understanding supply chains from a strategic as well as from an operational perspective. Current supply chain management thinking is criticised for being theoretical and descriptive, and a case was made for an analytical approach to supply chain thinking based around the concepts of power and value appropriation. A more analytically robust way of understanding supply chains was laid out.

Andrew Cox, (1999) in his research concludes that the key to success in business is based on recognising the types of supply chains that exist and aligning strategy and operational practice with the specific properties of the supply chain that the company is positioned within. It is argued that some supply chain structures do not lend themselves to effective value appropriation, so that entrepreneurial rents may not be achievable in all circumstances. It is argued, in conclusion, that this way of thinking about supply chains and supply innovation – referred to here as procurement and supply competence – is underdeveloped in business management thinking.

B.S. Sahay, Vasant Cavale, Ramneesh Mohan, (2003) found that close to 22 percent of aggregate industry sales tied up in inventories is in the entire supply chain network in Indian industries.

An article, based on a recently concluded nationwide study titled “Supply chain management practices in Indian Industry: 2000”, throws up glaring facts about the current architecture of supply chains in India. The article concludes that though some Indian organizations are moving fast towards improving supply chain efficiencies, most of them are still far from realising its effect on business performance.

Zillur Rahman, (2004) The advent of the Internet and electronic communication has enabled companies to be more responsive to their customers. However, the uses of the same technological advancements in business-to-business supply chain management are changing the marketplace itself. Successful supply chain management requires a change from managing
individual functions to integrating activities into the key supply chain process. The advantages are far more than the efforts involved in accessing the final product, a seamless chain that operates fluidly and benefits the entire value chain by speeding up communication between customers and their suppliers, improving service quality, and reducing costs. In this article, the author discusses how the Internet is being used in the management of various areas of supply chain by Indian companies.

Kenneth W. Green Jr, Dwayne Whitten, R. Anthony Inman, (2008) The results of their research indicate that logistics performance is positively impacted by supply chain management strategy and that both logistics performance and supply chain management strategy positively impact marketing performance, which in turn positively impacts financial performance. Neither supply chain management strategy nor logistics performance was found to directly impact financial performance.

R. Anbanandam, D.K. Banwet, Ravi Shankar, (2011) Their survey results confirmed the validity of the proposed collaboration index for measuring collaboration. The findings also show that the collaboration index is positively associated with operational performance.

Amit Sachan, Subhash Datta, (2005) Major findings in their work shows that there is an increase in the direct observation methods like case studies. In general, the research is more interpretive in nature. Survey method is still holding the highest position. More advanced techniques are being used for data analysis in empirical studies and there has been an increase in hypothesis testing. The trend in survey research is moving from exploratory to model building and testing.

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3. Understanding Supply Chain Management

Supply chain management is currently perceived as an effective means to achieve successful international competitiveness (Evans et al., 1996). Worldwide, interest in supply chain management has increased steadily since the 1980s when organisations began to see the benefits of collaborative relationships.

SCM developed the way of doing business, before SCM organizations were facing many problems in acquiring raw material to manufacture products and then deliver finished goods to the customers. Organizations deal with many dealers in between their chain for acquiring raw material to deliver it to the customers. Use of supply chain management by organization lead to reduction in several third party dealers from their supply chain. Now Organization are directly buying raw material from the supplier without any intermediary by which the cost decreased, resulting in to decrease in the production cost which was transferred to customers. Reduction in the cost helped organizations to improve their efficiency and increase their market share.

Over the past three decades customers have become more sophisticated and interested in innovative products and customized services. They are becoming more unpredictable in their wants and needs. At the same time, they continue to expect and demand more ‘value’ for their money. In their bid to satisfy the customer’s fancy, businesses are vying with one another to service the customers with their product and service offerings. Heightened competition has given customers tremendous freedom of choice - a freedom they have been increasingly willing to exercise. Thus, to achieve sustainable advantage in this competitive scenario, it is imperative for businesses to service the needs of their customers excellently across any part of the world.
3.1. Importance of Supply Chain Management

SCM is primarily concerned with the movement of goods on time from one point to another. Supply chain is very important because of flow of goods from one destination to other destination with cost effective and timely delivery. To remain competitive firms have to offer superior quality goods at the lowest prices possible. The need to minimize product costs makes effective supply chain management vital. There are costs involved in every process of the product life cycle, and it is the responsibility of management to ensure that these costs are kept low, so the company can continue to pass along these savings to the consumer.

3.1.1 Reduced Costs
Supply chain management involves identifying those processes that increase cost without increasing the value of the final product. These processes are wasteful and do not add value, and should be eliminated whenever possible.

3.1.2 Increased Efficiency
Resource wastage is a common source of increase production costs. Often this is due to improper planning. A company that employs supply chain management is able to achieve efficiency of its operations since only those values adding activities are encouraged. This ensures that the organization’s processes flow smoothly and output keeps in line with the company's needs.
3.1.3 Increased Output
A company that employs supply chain management can foster close-knit relationships with its suppliers and customers, ensuring the timely fulfilment of orders. A company known for its timeliness and responsiveness will attract more customers, and will grow as a result of increased output and sales.

3.1.4 Increased Profits
Businesses exist to make profits. One of the most efficient ways of increasing a company’s profits is by ensuring that costs are kept as low as possible. The application of supply chain management by a small company leads to cost reductions due to elimination of wasteful processes. Since these are operating costs for the company, the savings on these costs reflect increased profits by the company.

4. Supply Chain Management in India
In early days supply chain management was referred to the functions of logistics, transportation, purchasing and supplies. However, the evolution of the supply chain management has moved to focus on integration, visibility, cycle time reduction and streamlined channels. The new integration has a variety of activities that include:

5. Information Technology in Supply Chain Management
Flow of information is necessary to take supply chain and logistic decisions, because IT provides the global scope needed to make optimal decisions. To deploy supply chain Management in organization IT Infrastructure is basic need. Supply chain Management is based on Information as well as related with logistics also but when organization don’t have information of flow of product or raw material than organization cant able to take any further futuristic decision regarding products. The information is necessary to achieve global scope, corresponding to the different stages of the supply chain as,
1) Supplier information
2) Manufacturing information
3) Distribution and retailing information
4) Demand information.
IT helps to link the point of production seamlessly with the point of delivery or purchase. It allows planning, tracking and estimating the lead time based on the real data, advances in IT enable firms to rapidly exchange products, information, and funds and utilize collaborative methods to optimize SC operations. Internet and web can enhance effective communication, past performance, monitor current performance and predict when and how much certain products need to be produced and to manage workflow systems.

5.1 Coordination in Supply Chain Management
The supply chain members perform different functions or activities like logistics, inventory management etc. Ordering forecasting and product design involved in management of flow of goods, information and money. In traditional supply chain, individual members of Supply Chain have been performing these activities independently. Coordination can be visualized in different functions such as logistics, inventory management, forecasting, transportation etc. Manufacturers and retailers etc can effectively managed using coordination.

5.2 Collaborative Planning Forecasting and Replenishment (CPFR)
CPFR model was developed by SCOR (Supply Chain Organization) and “at its essence, CPFR is a set of business processes that helps eliminate demand and supply uncertainty through improved communication between supply chain trading partners” (Larsen et al. 2003). Nine CPFR is a model to develop collaboration and this to happen there should be a complete integration between manufacturer, their suppliers, shipper, and logistics partner. The primary benefit of integration is that all business units and supply chain partners share the same data, synchronize action and minimize distortions and bullwhip effect in demand management”. This integration would require technology platforms such as ERP, SRM or CRM platforms or legacy systems connected through web service.

5.3 Enterprise Resource Planning (ERP)
ERP provides centralised database connectivity with client server architecture so that department of an organization can connect with each other without boundation of location. With this type of connectivity in between departments of an organization they can easily share any type of information which is relevant in SCM. This real time information helps a supply
chain to improve the quality of its operational decisions. This ERP software has been successful in improving data integrity within the supply chain.

5.4 Customers Relations Management (CRM)

In the changing environment, organizations are concentrating to increase customer satisfaction level. So it is very much essential to make all policies keeping in view customer and availability of technology. IT enabled SCM with CRM software can store customer details, buying and behaviour of decisions help in the automation process, automatic tracking and response, bill finalization and analysis of communication pattern.

5.5 Supplier Relation Management (SRM)

Supplier Relation Management is to streamline and make more effective the process between an enterprise and supplier. SRM includes both business practices and software and is a part of the information flow component of SCM. SRM software leads to lower production costs, higher quality but lower priced end product.

5.6 Electronic Supply Chain (E-Supply Chain)

Quick development of Electronic commerce, SCM can be made more effective through electronic means. For instance through web site each member in the chain can access the shared database. E-Supply chains can be designed and studied through a systematic approach, which considers the various levels at which information technology can be applied in a traditional supply chains.

5.7 Integrated Supply Chain network

An integrated supply chain network is a group of independent companies, often located in different countries, forming a strategic alliance with the common goal of designing, manufacturing, and delivering right-quality products to customer groups faster than other alliance groups and vertically integrated firms.

5.8 Bar Coding

Barcodes have influenced almost every aspect of supply chain management. The use of barcodes makes business integration process in SCM simpler and more efficient. Barcodes are an effective identification tool that helps track products and greatly reduce errors.
5.10 Web Services
Not all companies can afford to deploy the recent ERP, SRM, CRM and other software modules as these are expensive and because replacing the legacy ones entail huge cost and effort. However, it is necessary to integrate the old traditional system with the company and supplier and other channel partners. The web services do exactly that to integrate the old legacy system with one another thus saves cost on the deployment of the costly new IT systems.

6. Supply Chain Management Issues and Challenges

6.1 Increases in Cost of Transportation
Logistic cost is 13% of India’s GDP in comparison to 11% in Europe and 9% in the U.S. of the total logistic cost, transportation represents 39%, while warehousing, packing and inventory accounts 24% of the total costs (Source: 365 businessdays.com). Higher logistic costs are mainly due to poor infrastructure facilities in the country.

6.2 Lack of Infrastructure
Lack of physical infrastructure and IT infrastructure is insufficient in distribution channels. Therefore it restricts the scope to reach consumer of products nationwide. Our country has developed the largest road networks in the world, yet the regional concentration of manufacturing in Indian but geographically diversified distribution activities as well as infrastructure bottlenecks, e – infrastructural facility is not comparable to developed countries. Less than half of the roads were paved in India and less than 2000Km were express highways in 2007, which was significantly lower than china’s 30,000 Km (Source: 365 businessdays.com).

6.3 Reduced Third Party Integration
The low acceptance of integrated third party logistics (3PL) firms in India is one part of the problem. The cost differential between the integrated 3PL an existing transport firms is wide. So shippers find it difficult to justify the additional cost of a 3PL, even though they would be receiving high technology support and generally superior service from such provider.
6.4 Quality Service Cost
According to industry analysts, logistic costs in India are among the worlds highest. Outside of the metros and few cities the delivery time is very uncertain.

6.5 Usage & Investment in IT
Technology usage in India is increasing day by day but still we are not using IT in full fledged way. Though India is a leading exporter of IT products, Indian companies are unfortunately least inclined to use them. Hence, the IT penetration in India is low. This is not surprising that Indian companies are 1.3% of the gross sales. For companies that use IT systems, there seem to be a clear bias towards using stand-alone IT systems.

7. Improving Supply Chain Capabilities in India

7.1 Increase investment in IT:
It is required to know about infrastructural issues such as high ways, and access to ports and supporting the information technology. To adopt global supply chain standards we need to start investing in It infrastructure. This Investment in IT Infrastructure will connect company with suppliers and partners. This connectivity will improve the visibility in the chain and thus collaboration can take place with partners. This collaboration will make the supply chain agile and align itself to the changing market demand.

7.2 Promote IT Capabilities
It is not difficult to find IT talent in India but IT companies that talent for their advantage. They can employ trained IT engineers at lower cost as compared to the counterparts in other countries and thus become competitive.

7.3 Coordination between Supply Chain Strategies with Business Strategy
So far, Indian companies have marketing, personnel, accounts and other departments but no supply chain department to speak of little. Purchase or procurement section has more or less carried out the supply chain and logistic functions. These departments however are not aligned to follow supply chain as a strategic area and are often not in harmony with other departments or with partners. Now the time is ripe to align competitive advantage, increase profitability, and market share in these challenging times.
7.4 Potential Savings for India

Is possible if logistic costs decreases by 1%, approximately $4.8 billion per year as Indian GDP is 480 billion (365 businessdays.com).

Conclusion

This paper discusses the role of SCM in the business. The growing need and importance of SCM has been highlighted in the paper. Current status of SCM in India is the main crux of the paper. It has been found that Indian companies are rapidly shifting towards improving their SCM with the use of new technologies and IT. Although there is a rapid move in this area but the situation is still far from satisfactory. Lot of resources are still wasted in the middle process. IT can play a major role in the field of SCM. The advantages of IT in the field of SCM is focused in a detailed way. The problems in the field of effective implementations such as poor investment in IT etc are some of the bottlenecks in the way. If the bottleneck in the way of SCM are removed the effectiveness and efficiency of Indian companies will improve multifolds.

References


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