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ROLE OF SUPPLY CHAIN MANAGEMENT IN GOVERNMENT SECTOR

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Abstract:

The Supply Chain Management (SCM) is now not only a problem of integrated logistics (as a process) but also demands that the supply chain management (SCM) must look into the ramifications of these arrangements on the cost of transportation (including tariffs or duties) of products within a trade zone and outside it, besides, developing logistics strategies. The field has thus developed in the last few years for bridging the gap between demand and supply vis-à-vis efficiency and cost trade-offs. The supply chain management, in particular include: Planning and Managing supply and demand; Warehouse Management; Optimal Inventory control; Transportation and Distribution, Delivery and customer's delight following the basic principles of supply chain management viz. working together; Enhancing revenue; Cost control; Assets utilization besides, customer's satisfaction. The last two decades has seen the rise of a few terms always used in conjunction with production, operational management and control. To name a few JIT (Just-In-Time); TQM (Total-Quality-Management); ZI (Zero-Inventory); ECR (Efficient Consumer Response); VMI (Vendor Managed Inventory). All these have now been integrated within the domain of Supply Chain Management Process. Though, the SCM have found the versatility of applications, more so in the private sector enterprises (business environment) for cost cutting and for having a competitive advantage. In the government set-up though the basic objective, is not maximization of profit, but the social-economic development of people. Thus, the SCM has many applications in the government environment too. The paper highlights some of the typical applications in the government sector of the SCM paradigm.

KEYWORDS:

Government sector, Supply chain management.

INTRODUCTION

Supply Chain Management (SCM) can be best described as the natural extension of the downsizing (right-sizing) and re-engineering performed by the organization(s) in the past. Downsizing and re-engineering transformed the enterprises into "lean and mean competitive units", by cost cutting and pro-cess simplifications. These operations (of downsizing and re-engineering) involved the "optimization" (in terms of the number of persons involved, the time

taken, the complexity of the work etc.) of business "units" (functional and/or administrative domains) over which the organizations had full control. These strategies did lead to increased productivity and profitability of the organizations but as the benefits of these leveled off, it was realized that the approach to the way organizations work needed to be changed.

The above changes were a by-product of the "isolationist" (closed system) world picture of the enterprises involved in the full value chain; with organizations (the system) trying to survive in a hostile environment; assuming that all other participants in the value chain were adversaries with whom the organization must compete, even though the operations performed by the separate organizations may be supplementary in nature rather than complementary. The realization that this world picture was an impediment to the growth of organizations prompted the enterprises to start seeking "strategic alliances" with other organizations. The formation of these alliances required a basis (a common ground) which would be acceptable to each and every partner in the alliance. This common basis is/was supplied by the participation of the organizations in the value chain (the demand-supply chain). The participants in the chain, suppliers, sub-contract suppliers, in house product processes, transportation, distribution, warehouses, and the end customer, generally, perform mutually exclusive tasks and thus do not compete directly with each other. The present paper explores the following issues:

- The need for supply chain management.
- Type of supply chain management model(s)
- Issues in the design of supply chain management framework.
- Demand-Supply array.
- Relevance of the supply chain management paradigm to the government sector / public-sector enterprises.

SUPPLY CHAIN MANAGEMENT FRAMEWORK:

A framework to understand the various issues involved in SCM is provided by the pyramid structure for the SCM paradigm. The pyramid allows issues to be analyzed on four levels:

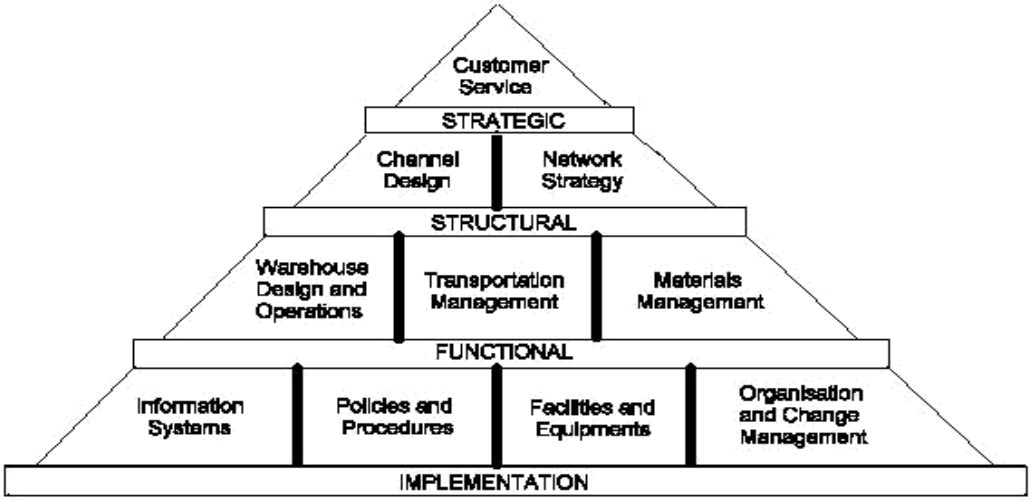
1. Strategic: On the strategic, level it is important to know how SCM can contribute to the organizations' basic "value proposition" to the customers. Important questions that are addressed at this level include: What are the basic and distinctive service needs of the customers? What can SCM do to meet these needs? Can the SCM capabilities be used to provide unique services to the customers?.

2. Structural: After the strategic issues are dealt with, the next level question(s) that should be asked are: Should the organization market directly or should it use distributors or other intermediaries to reach the customers? What should the SCM network look like? What products should be sourced from which manufacturing locations? How many warehouses should the company have and where should they be located? What is the mission of each facility (full stocking,

fast moving items only, cross-docking etc.)?

3. Functional: This is the level where operational details are decided upon. Functional excellence requires that the optimal operating practices for transportation management, warehouse operations, and materials management (which includes forecasting, inventory management, production scheduling, and purchasing) are designed. These strategies should keep in view the trade-offs that may need to be made for the overall efficiency of the system. Achieving functional excellence also entails development of a process-oriented perspective on replenishment and order fulfillment so that all activities involved in these functions can be well integrated.

4. **Implementation**: Without successful implementation, the development of SCM strategies and plans is meaningless. Of particular importance are the organizational and information systems issues. Organizational issues centers on the overall structure, individual roles and responsibilities, and measurement systems needed to build an integrated operation. Information systems are "enablers" for supply chain management operations and therefore must be carefully designed to support the SCM strategy. Supply chain managers must consider their information needs relative to decision support tools, application software, data capture, and the system's overall structure.



SUPPLY CHAIN MANAGEMENT IN THE GOVERNMENT SECTOR:

To understand the relevance of 'SCM' to the government sector, one must understand the difference between the objective of a government/public sector enterprise and that of a private sector enterprise. A government/public sector enterprise objective is not maximization of profit solely, but also economic development of the nation (as a long term goal) and the welfare of the society; whereas a private sector enterprise is oriented towards the sole objective of maximization of profit. But, even if the objectives, of their two exclusive categories of enterprises, are entirely different, they share some features:

- The satisfaction of their respective consumers by providing the consumer with the right product, in the right condition and at the right time, at the least cost.
- The allocation of limited resources (of the nation and/or enterprise) for this purpose.

In the government sector (in India) the SCM paradigm can be used by the public sector organizations involved in:

1. Petroleum Products: the bulk of the major petroleum product(s) required in the country are indigenously produced, but at the same time significant proportion of crude and finished products are being imported to meet the national demand. This requires the construction of a global supply chain that should withstand the vagaries of the "petroleum politics". Petroleum products are needed throughout the country on a priority basis. This requires a well-designed and feasible transportation and distribution network, integrated with the production plan(s); distribution network; pricing policy; national and regional demand policies etc.

2. Fertilizer production industry: for the procurement of raw materials, manufacturing and transportation and distribution to the demand centers throughout the country, using the predicted demand (as the need for fertilizers by consumers is bound to have a regional and seasonal effect due to the very nature of the product and its use). The SCM methodology can be used to decide the location of new warehouse(s), the design of the raw material procurement policy, and the design of the optimal distribution plan/channel etc. This industry generally follows a single sourcing policy for raw material procurement.

3. Coal and other minerals: These are primary sector industries, supplying to other industries in "core manufacturing "(the type of manufacturing that is essential for the development of the nation like steel, electricity etc.) The consumers of the product of these industries can be anywhere in the country, therefore a well-designed SCM strategy is an important activity.

4. Steel industry: This industry depends on three major categories of supplies for the procurement of raw materials: (1) Coal/coke, (2) Minerals (iron ore, limestone etc) and (3) electricity. This industry needs a well-designed a methodology for SCM, wherein it may be controlling the production of the raw materials to an extent, and depending on demand, supplementing with externally supplied raw material. The supply chain in this case needs to be totally integrated, as a shortfall in this case can lead to closing of the furnaces that can lead to their closure, leading to substantial economic and material loss.

5. The Electricity generating industry: This industry in India faces a situation of demand exceeding the supply. This demands a rationing system. It must be decided, and planning must be done for distribution of the "load shedding" time, so that the basic need of the consumers is satisfied in the region under consideration. SCM, and more specifically optimal scheduling methodologies needs to be applied.

6. Food Grain Procurement and Distributions: There are public sector enterprises involved in

the procurement of food grains and their storage in different parts of the country, as agriculture is an "industry" where the type of product produced depends on the geophysical characteristic of the region; the grain that is produced in one region of the country may need to be transported to another region to meet the food requirements in other parts of the country. Therefore, a policy for the location of warehouses in different parts of the country, a plan for optimal distribution of the procured foods grains among these warehouses and to the retail shops under the Public Distribution Scheme (PDS) and for open market transaction is required. A failure in any of the links of this procurement - transportation - storage - transportation - retail can lead to large scale famine in the affected part of the country. The organization must also be involved in food grain distribution under exceptional conditions of famine, flood or earthquake. The SCM concept can be used to manage the routine and extra-ordinary situations before this industry.

7. Postal clearance and delivery system: The Post and Telegraph (P&T) department of the government of India is the organization that handles the major portion of the postal volume generated in the country (a small fraction of the net postal volume is carried through the private courier services). Thus, the transportation and distribution planning is a major requirement of the organizations involved in the system. A well designed 'SCM' strategy will go a long way in improving the services for postal clearance and thus increasing efficiency.

8. Public Health Services: The public health services through the government run hospitals and dispensaries forms the backbone of the health services offered by the government of India. The functioning of these organizations needs to be strengthened. Unavailability of essential drugs and other medical supplies leads to crisis. As the pharmaceutical industry has major players from the public sector undertakings, the hospitals can have a full-fledged integrated supply chain involving these PSU's. The SCM paradigm can be applied for the procurement and distribution of the lifesaving medical drugs and other medical items.

9. Import and Export: The government sector is involved in the Import of essential items needed for the development of the nation, be that petroleum products, steel, coal, food grains, essential drugs, defense stores etc, and export of products that the public sector enterprises produce as a surplus, prime examples of these being mineral products like iron ore, mica etc. This involves the negotiation with the other parties'/government organization for avoiding double taxation and charting an optimal delivery system.

10. Banking and financial services: With the globalization of the world economy and the liberalization policies pursued by the government of India, the banking sector was the first to recognize the need for offering better facilities to the customers. Also, they were the first to realize the benefits of the use of IT for this purpose. But, the use of IT for integration of the different branches of the banks was not offered to the customers as to provide a location independent real-time banking facility. It was primarily used only to automate the routine working of the banks and for internal administrative purposes. EDI can also be used for electronic clearance of inter-bank

transactions leading to faster and better transfer of funds. All links in the system needs to be addressed adequately in the design of 'SCM', to meet the end objective of providing efficient services.

The above description is based on the assumption that the government enterprises work in isolation. But, generally in the supply chain of these enterprises, the main players are the government agencies. Thus, the implementation of SCM paradigm in the case of these enterprises can be effective.

For example: In the public health sector this can lead to faster delivery of medicines which can help in prevention of epidemics. In situation like flood, drought or any other calamity the relevant supply chain can be used to provide medical help, food etc. Thus, the application of SCM paradigm is needed not only by private enterprises engaged in the pursuit of profit but also by organizations that are involved in providing services for meeting social objectives and for the welfare of the society at large.

CONCLUSION:

Supply chain management has become not just a question of efficient logistic process, but is related to the growth and survival of organization(s). With customers becoming more demanding in their requirement of services from the suppliers, the construction of a efficient and integrated supply-chain has assumed paramount importance. Information technology plays a major role in the formation of the supply chain. Efficient dissemination of information upstream and downstream is a major requirement for the implementation of the supply chain, IT provides the internet, EDI and GroupWare's and other application software's. The decision support provided by IT products (ERPs, Network construction tools etc) can help the decision makers in the development of the supply chain process and in implementation. The dissemination of the demand (forecast) information throughout the chain can lead to avoidance of the "Bullwhip" effect. Organizations can gain supply chain related benefits through the use of internet, namely:

- More collaborative, timely product development through enhanced communication between functional departments, suppliers, customers and even regu-latory agencies;
- Reduction of channel inventory and product obsolescence owing to closer linkage across the supply chain and better insight into the demand signals to drive product schedules and ultimately achieve build-to order capability;
- Reduction in communication costs and customer support costs with more interactive, tailored support capability inherent with internet technologies;
- New channel capabilities to reach different customer segments and further exploit current markets; and
- Ability to enhance traditional products and customer relationships through customizations driven by internet connectivity and interactivity.

The SCM paradigm can provide the mechanism for the survival of the public sector enterprises in the changing global scenario, where the globalization of the world economy and the liberalization of the Indian economy is no longer a buzzword, but a fact. The failure of these enterprises can be traced to the adhocism and the non-application of efficient managerial practices. This is not to say that these enterprises have lost their relevance in the present scenario. These enterprises have to adopt "change management" i.e. to change their style of functioning, and to form strategic alliances with partner public sector enterprises

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