Project Reports: Industry and Services

# APO SYMPOSIUM ON SUPPLY CHAIN MANAGEMENT

## 9–11 January 2001, New Delhi, India

**BACKGROUND**

**Symposium on Supply Chain Management: A New Manegement Tool**

Competition in the new millennium will be across supply chains, not individual companies. The central aim of any business is to have the right products in the right quantities, at the right place, at the right time at minimal costs. This is in turn translated into the interrelated issues of customer satisfaction, inventory management and flexibility. Customer satisfaction to a high degree is dependent on the flexibility of the supply chain, i.e., its ability to respond to changes in demand. General Electric, Dell Computers, Compaq and other leading firms in the USA successfully introduced this concept in the early 1990's. Since then, many firms in the APO member countries have also introduced SCM practices to meet the challenge of the heightened competition.

The concept of Supply Chain Management (SCM) involves the application of state-of the-art IT tools such as Internet, Intra/Extranet, E-commerce and EDI that greatly help organizations to simultaneously improve customer service and reduce inventories across the chain. An SCM system works collaboratively with customers, suppliers, trading partners and third parties to change the way operations are viewed, performed and measured. As today's companies focus on gaining economic and competitive advantage throughout the entire product life cycle, this can only be best achieved through leveraging of SCM across the entire enterprise.

Against this background, this program was implemented for the benefits of organizations in the APO member countries, with a view to helping them significantly improve their productivity and competitive performance in the emerging millennium through the effect application of SCM principles and practices. In particular, the program provided a platform for the participating member countries to understand the difficulties of developing SCM in APO member countries and to discuss the possible alternatives of treating these difficulties and challenges; and to share their experiences on the practical applications of SCM that have contributed to increasing customer satisfaction, productivity, and competitiveness. The scope of the discussions covered, inter alia, conceptual and theoretical issues related to SCM and logistics strategy, critical elements of world-class supply chain planning, facilitating SCM through internet infrastructure, and technology for the supply chain of the future, building customer focused supply chain, organizational issues in implementation, and recent advances in SCM.

The methodology used is drawn primarily from:

1. case studies presented by resource persons from India (e.g. Maruti, Hero-Honda, and Nestle),
2. country case papers presented by various APO participants (e.g. Philippines furniture

industry, Malaysia's HICOM conglomerate and Mongolian cashmere wool industry, CTC secondary supply chain from Sri Lanka).

3. lectures from resource persons related to supply chain planning and optimization, SCM technology, SCM trends and development, and new paradigms in SCM strategies.
4. experiential learning through panel and informal discussions.

Twenty (20) participants from fifteen (15) member countries contributed to the deliberations. Resource inputs were provided by Dr. Han-Lin Li, Professor, Institute of Information Management, National Chiao Tung University, Republic of China (ROC); Dr. Mark Goh, Associate Professor, Co-Director of Penn-State NUS Program, The NUS Business School, National University of Singapore; Dr. Noel Greis, Director, Center for Logistics and Global Strategy, Kenan Institute of Private Enterprise, Kenan-Flagler Business School, USA; Mr. Ryoichi Watanabe, Senior Consultant, Logistics, Presales, SAP Japan Co. Ltd. In all, there was fruitful deliberation on 22 diverse presentations from the APO participants and resource persons. The program, and the list of participants and resource persons are attached as Annexes A and B respectively.

**Symposium on Supply Chain Management: A New Manegement Tool in session**

#### SUMMARY OF ISSUES

Based on the resource persons' presentations and the ensuing discussions, the symposium arrived at several key conclusions.

1. SCM is a concept or a mechanism to improve the total productivity of enterprises in a supply chain by optimising the timing, location and quantity of materials flow from raw material provider to the consumer of the final products. This concept is especially useful in the industry where (1) the competition in the market is very high, (2) the customers are very demanding for example in the well documented Dell Built-To-Order model where 84% of Dell's revenue is derived from online customers who have the final say in the final configuration of their personal computers and notebooks, (3) the product life cycle is very short for example the electronics contract manufacturing industry currently experiences product life cycles of short as three months from raw materials to final consumption, and (4) stakeholders request for high returns on investment (ROI). Promising Asian companies should start investing in good IT infrastructure to improve the productivity in the supply chain.
2. There is a need for good SCM systems nationally and regionally for the APO member countries. This system should include databases, model bases, visual maps and friendly user interfaces. The proper use of such a system can help to minimize the total SCM cost (materials cost, production costs, warehousing costs, inventory costs and transportation costs). In ROC and Singapore, there are already such systems in the marketplace and well used by leading enterprises, in electronics and information

industries. The benefits of employing such a model can help enterprises in the highly competitive electronic and computer industries to simulate their SCM strategies and determine the optimal SCM strategy under certain cost operating environments.

3. SCM should be linked to the digital economy as demanding and technology savvy customers around the world increasingly expect goods and materials to be delivered to their doorstep at "click-speed". In response to these demands, supply chains of enterprises and industries need to be more real-time and dynamic. Therefore, new technologies, intelligent software agents, will become an integral part of SCM. Quantum leaps in productivity and agility in the supply chain can be made possible by the courageous adoption of these intelligent agent based decision support systems. The US experience in the use of these software agents has been very successful as these agents (software programs) can actively engage with the user in dialogue, and negotiate and coordinate the transfer of real-time information to other users on web-based platform. Proper interfacing and integration of such agents can help realise the fruition of a truly global logistics network. An example is the establishment of the Global Transpark based out of the US. The Transpark serves to link manufacturing, transportation and information to create innovative logistical infrastructure for global commerce.
4. In the past, SCM is predominantly enterprise focused with mutually exclusive set of activities. Today, progressive firms are readily embracing systems integration through ERP and other means of electronic connectivity, primarily for cost reduction purposes. In the future, SCM would have to integrate enterprises, ensure greater collaboration between supply chain partners, work towards a synchronised value collaboration network. Only then can firms talk about chain-wide profit maximisation and economic value add.
5. Some of the main challenges presented by the resource persons include the following: building a supply chain infrastructure without damaging the environment i.e. how to have a green supply chain, setting up a reverse logistics program for firms to ensure ecological balance and waste reduction, managing of demand volatility face by enterprises when they move to a digital arena and greater dynamic customisation, how to extract better channel coordination between partners in the supply chain, how to obtain better procurement leverage using real-time information and the Internet, how to extract greater profitability out of decreasing business margins, and the need to manage services besides the traditional product-based approach given the blurring between design and outsourcing of manufacturing.
6. Several pertinent concerns were also highlighted by the resource persons: sharing of risk between partners in the supply chain, the ownership of inventory (vendor managed of co-managed inventory), the applicability of some good SCM practice in certain industries (like VMI in the retail sector) to other industries, and information in the supply chain, the management of demand forecast projection and accuracy, and the ability of SMEs to invest in much needed IT and related technologies to improve their supply chain processes.

Arising from the country papers' presentation, and the ensuing discussions, several common threads were identified

1. In some countries, infrastructure development is needed first for basic economic growth prior to implementing advanced IT tools such as ERP. Any IT tool cannot be of much help without some efficient physical logistics infrastructure in place.
2. Good SCM is very useful for countries that are already competing in the global

marketplace, especially with established brand names in a saturated market.

3. Some countries agree that in the Internet era, supply chain needs to respond more quickly and have wider reach particularly for the electronics and computer related industries.
4. There are some good best practice organizations that have adopted SCM successfully. An example of this is found in the Hero-Honda presentation. Hero-Honda is a joint venture between India and the Japanese car manufacturer. This has resulted in good SCM practices such as total linkage within the supply chain, improving manufacturing facilities at the suppliers' end, and better transparency in information sharing. This is then translated to better business performance.
5. There is a need to improve the quality of suppliers, initiate a better tiering system for existing suppliers, reduce product development duration in the supply chain by developing new capabilities of direct suppliers, and reduce the presently large number of suppliers. This is pertinent in the case of the Philippines, where the furniture industry realizes the need to strengthen the subcontractor and supplier base for that industry, and to proactively reduce inter-island shipping costs and promote the quality production of components, materials and other pre-furnished furniture products.
6. There are already some leaders in the APO member countries such as Japan, Singapore and Taiwan with good SCM practices. However, there are a greater proportion of member countries that are lagging behind due to the lack of infrastructure, training, knowledge and other resources.
7. Some common barriers/obstacles to SCM implementation in APO member countries include the following: (1) lack of full fledged modern telecommunications system, (2) absence of conducive IT environment, (3) very little understanding about SCM and re-engineering tools, and (4) insufficient financial resources to support full roll-out of SCM activities and implementation. For instance, SCM concepts are almost unknown in Vietnam and Fiji. Also, the rules and regulations of government, corporate culture and internal business processes can impede the proper development of good SCM practices.

In summary, Figure 1 below depicts the general state of SCM development in the participating member countries.

## RECOMMENDATIONS

There are many ways in which governments of member countries and the APO could assist to expedite the adoption of SCM for enterprises. These key recommendations are listed below:

### Recommendations for the Public Sector

1. The basis of global competition has changed. No longer are companies competing against other companies, but rather supply chains are competing against supply chains. Those countries that wish to participate in global supply chains must understand the new concepts of supply chain management on which the new competition is based.
2. The rapid penetration of new technologies such as the Internet is transforming global commerce and the practices of supply chain management. Countries that desire to participate in the new economy must adopt these technologies.
3. The role of governments in developing countries is to provide the telecommunications and transportation infrastructure that will enable goods and materials from developing

countries to reach markets in developed countries, and also that will attract foreign direct investment.

4. The companion role of governments in developing countries is to protect the environment and to assure the environmental sustainability of resources as development places more demands on the resources of the country.
5. Governments in developing countries must participate in those global organizations that are setting the technology standards of the future. The developed countries can better understand the problems of developing countries. But, more importantly, developing countries can use this knowledge to create better technology strategies for the country.
6. A final role of government is to provide the education and training that is required to assure a workforce that is prepared to engage in global supply chains in partnership with organizations in the developing world. According to many participants, one of the biggest challenges is the non-availability of skills necessary to succeed in the e-commerce environment.

**Recommendations for the Private Sector**

1. Companies in developing countries must re-evaluate their supply chain strategies to align more with today's marketplace. End-customers today are increasingly demanding speed and responsiveness when they order products. We are moving away from traditional logistics to a "real-time" logistics environment that requires new approaches based on collaboration to reduce time-to-market.
2. Companies must better understand the global supply chain in which they compete. Process mapping and value chain analysis can help to better understand the competitive drivers of the industry and the global performance standards that are qualifiers for success.
3. Supply chain activities can be managed strategically to reduce costs of maintaining assets across the chain. The accounting systems of companies (and governments) must be changed to better reflect the total costs across the supply chain. Internal auditing systems can be developed to support supply chain management
4. Collaboration between the firm's suppliers and customers is needed to eliminate the inefficiencies within the chain. Such_inefficiencies sometimes manifest in the form of excessive inventory or long lead-time to delivery, can be solved by sharing of information and synchronizing the production and delivery plans. Removal of bottlenecks (constraints) within the company or in the whole supply chain is sometimes necessary to help improve the process flow.
5. New performance measures should be developed to reflect the new practices of supply chain management. These performance measures must reflect not only goals of efficiency, but also speed and responsiveness. They must also look outward to the performance of the entire chain, not just in ward to performance within the four walls of the company.
6. Finally, companies need to work with their governments to support the adoption of appropriate information and telecommunications technology, and to support government-sponsored training programs.

**Recommendations to the APO**

1. Schedule a follow-up workshop/symposium on supply chain management for the next

year to build on the momentum created at this meeting. The focus of this intended deliberation would be on presenting relevant Asian case studies of enterprises that have measurable success in their SCM implementation. Through the deliberation of such best practices, other member countries and their enterprises can benefit.

2. Create a link or online forum in the current APO web site to disseminate updated SCM information and related resources. For instance, various useful information such as symposium papers and related SCM web sites can be included in such a link.
3. The demands of SCM tools are very huge. APO through the various NPOs may think about facilitating short courses about SCM software or systems analysis in future, specially targeting for specific industry clusters.

## PROGRAM

**APO Symposium on Supply Chain Management**
**9 - 11 January 2001, New Delhi, India**

**Day 1 - January 9, 2001**

| | |
|---|---|
| 09:00 - 09:30 | Registration |
| 09:30 - 10:00 | Inauguration |
| 10:00- 10:15 | Tea Break |
| 10:15-11:30 | Supply Chain Management - Concept & Technology<br>Mr. Ryoichi Watanabe Senior Consultant,<br>Logistics Presales SAP Japan Co., Ltd., Japan |
| 11:45 - 13:00 | Selected Country Papers Presentation |
| 13:00 - 14:00 | Lunch |
| 14:00- 15:30 | Case Study:<br>SCM - The Maruti Experience Mr. Rajesh Uppal, GM(IT), Maruti Udyog Ltd |
| 15:30- 15:45 | Tea Break |
| 15:45- 17:00 | Selected Country Papers Presentation |

**Day 2 January 10, 2001**

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|---|---|
| 10:00 - 11:30 | Critical Elements of World Class Supply Chain Management<br>Mr. Alok Mam, Deputy General Manager(Material), Eicher Tractors |
| 11:30 - 11:45 | Tea Break |
| 11:45 - 13:15 | Building Intelligent Supply Chain Processes for the Digital Economy<br>Dr. Noel P. Greis, Director Center for Logistics and Global Strategy |

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| | Kenan Institute of Private Enterprise Kenan-Flagler Business School, USA |
| 13:15 - 14:15 | Lunch |
| 14:15 - 15:30 | Case Study: SCM - The NESTLE India Experience<br>Mr. Vineet Khanna, Vice-President(Supply Chain), Nestle India Ltd. |
| 15:30 - 15:45 | Tea Break |
| 15:45 - 17:00 | Selected Country Papers Presentation |
| **Day 3 January 11, 2001** | |
| 09:00 - 10:30 | Supply Chain Management in Taiwan's Computer Industry<br>Dr. Han-Lin Li, Professor Institute of Business and Management National Chiao Tung University, ROC |
| 10:30 - 10:45 | Tea Break |
| 10:45 - 12:15 | Electronic Manufacturing Service Providers: Supply Hubs and Webs<br>Dr. Mark Goh, Associate Professor Co-Director of Penn-State NUS Program<br>The NUS Business School National University of Singapore |
| 12:15- 13:30 | Panel Discussion<br>All APO Resource Persons<br>Mr. S.N. Nandi, Director, NPC |
| 13:30 - 14:30 | Lunch |
| 14:30 - 15:00 | Concluding Session |