COMPARISON OF GLOBAL SUPPLY CHAIN MANAGEMENT AND DOMESTIC SUPPLY CHAIN MANAGEMENT

Assignment Submitted to Dr. Kulwinder Singh

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SUPPLY CHAIN MANAGEMENT

Supply chain management (SCM) is the management of the flow of goods, flow of cash, and flow of information internally and externally of a company or a group of companies that share the same value chain. It includes the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption; cash or credit in purchasing or selling of products or services; as well as the information that conducts those activities, such as orders, demand forecast, or even picking lists. Interconnected or interlinked networks, channels and node businesses are involved in the provision of products and services required by end customers in a supply chain.
Supply Chain Management (SCM) is the management of the relationship between the supplier's supplier and the customer's customer through the supply chain participants (Distributor/Wholesaler and Retailer) between them, mainly using information flow and logistics activities to gain Competitive advantage and customer satisfaction.

A supply chain, as opposed to supply chain management, is a set of organizations directly linked by one or more upstream and downstream flows of products, services, finances, or information from a source to a customer. Supply chain management is the management of such a chain.

Supply chain management software includes tools or modules used to execute supply chain transactions, manage supplier relationships, and control associated business processes.

Supply chain event management (SCEM) considers all possible events and factors that can disrupt a supply chain. With SCEM, possible scenarios can be created and solutions devised.

In many cases the supply chain includes the collection of goods after consumer use for recycling. Including third-party logistics or other gathering agencies as part of the RM repatriation process is a way of illustrating the new endgame strategy.

**FUNCTIONS OF SCM**

SCM is a cross-functional approach that includes managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end consumer. As organizations strive to focus on core competencies and becoming more flexible, they reduce their ownership of raw materials sources and distribution channels. These functions are increasingly being outsourced to other firms that can perform the activities better or more cost effectively. The effect is to increase the number of organizations involved in satisfying customer demand, while reducing managerial control of daily logistics operations. Less control and more supply chain partners led to the creation of the concept of supply chain management. The purpose of supply chain management is to improve trust and collaboration among supply chain partners, thus improving inventory visibility and the velocity of inventory movement.
Main functions of Supply Chain Management are as follows:

- Inventory Management
- Distribution Management
- Channel Management
- Payment Management
- Financial Management
- Supplier Management
- Transportation Management
- Customer Service Management

**IMPORTANCE OF SCM**

Organizations increasingly find that they must rely on effective supply chains, or networks, to compete in the global market and networked economy. In Peter Drucker’s (1998) management paradigms, this concept of business relationships extends beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies.

In recent decades, globalization, outsourcing, and information technology have enabled many organizations, such as Dell and Hewlett Packard, to successfully operate collaborative supply networks in which each specialized business partner focuses on only a few key strategic activities (Scott, 1993). This inter-organisational supply network can be acknowledged as a new form of organisation. However, with the complicated interactions among the players, the network structure fits neither “market” nor "hierarchy" categories (Powell, 1990). It is not clear what kind of performance impacts different supply network structures could have on firms, and little is known about the coordination conditions and trade-offs that may exist among the players. From a systems perspective, a complex network structure can be decomposed into individual component firms (Zhang and Dilts, 2004). Traditionally, companies in a supply network concentrate on the inputs and outputs of the processes, with little concern for the internal management working of other individual players. Therefore, the choice of an internal management control structure is known to impact local firm performance (Mintzberg, 1979).

In the 21st century, changes in the business environment have contributed to the development of supply chain networks. First, as an outcome of globalization and the proliferation of
multinational companies, joint ventures, strategic alliances, and business partnerships, significant success factors were identified, complementing the earlier "just-in-time", lean manufacturing, and agile manufacturing practices. Second, technological changes, particularly the dramatic fall in communication costs (a significant component of transaction costs), have led to changes in coordination among the members of the supply chain network (Coase, 1998).

Many researchers have recognized supply network structures as a new organisational form, using terms such as "Keiretsu", "Extended Enterprise", "Virtual Corporation", "Global Production Network", and "Next Generation Manufacturing System". In general, such a structure can be defined as "a group of semi-independent organisations, each with their capabilities, which collaborate in ever-changing constellations to serve one or more markets in order to achieve some business goal specific to that collaboration" (Akkermans, 2001).

The security management system for supply chains is described in ISO/IEC 28000 and ISO/IEC 28001 and related standards published jointly by the ISO and the IEC. Supply Chain Management draws heavily from the areas of operations management, logistics, procurement, and information technology, and strives for an integrated approach.

**BUSINESS PROCESS INTEGRATION**

Successful SCM requires a change from managing individual functions to integrating activities into key supply chain processes. In an example scenario, a purchasing department places orders as its requirements become known. The marketing department, responding to customer demand, communicates with several distributors and retailers as it attempts to determine ways to satisfy this demand. Information shared between supply chain partners can only be fully leveraged through process integration.

Supply chain business process integration involves collaborative work between buyers and suppliers, joint product development, common systems, and shared information. According to Lambert and Cooper (2000), operating an integrated supply chain requires a continuous information flow. However, in many companies, management has concluded that optimizing product flows cannot be accomplished without implementing a process approach. The key supply chain processes stated by Lambert (2004) are:

- Customer relationship management
• Customer service management
• Demand management style
• Order fulfilment
• Manufacturing flow management
• Supplier relationship management
• Product development and commercialization
• Returns management

Best-in-class companies have similar characteristics, which include the following:

• Internal and external collaboration
• Initiatives to reduce lead time
• Tighter feedback from customer and market demand
• Customer-level forecasting

One could suggest other critical supply business processes that combine these processes stated by Lambert, such as:

a. Customer service management
b. Procurement
c. Product development and commercialization
d. Manufacturing flow management/support
e. Physical distribution
f. Outsourcing/partnerships
g. Performance measurement
h. Warehousing management

a) Customer service management process

Customer relationship management concerns the relationship between an organization and its customers. Customer service is the source of customer information. It also provides the customer with real-time information on scheduling and product availability through interfaces with the company's production and distribution operations. Successful organizations use the following steps to build customer relationships:

• determine mutually satisfying goals for organization and customers
• establish and maintain customer rapport
• induce positive feelings in the organization and the customers

b) Procurement process

Strategic plans are drawn up with suppliers to support the manufacturing flow management process and the development of new products. In firms whose operations extend globally, sourcing may be managed on a global basis. The desired outcome is a relationship where both parties benefit and a reduction in the time required for the product's design and development. The purchasing function may also develop rapid communication systems, such as electronic data interchange (EDI) and Internet linkage, to convey possible requirements more rapidly. Activities related to obtaining products and materials from outside suppliers involve resource planning, supply sourcing, negotiation, order placement, inbound transportation, storage, handling, and quality assurance, many of which include the responsibility to coordinate with suppliers on matters of scheduling, supply continuity, hedging, and research into new sources or programs.

c) Product development and commercialization

Here, customers and suppliers must be integrated into the product development process in order to reduce the time to market. As product life cycles shorten, the appropriate products must be developed and successfully launched with ever-shorter time schedules in order for firms to remain competitive. According to Lambert and Cooper (2000), managers of the product development and commercialization process must:

1. coordinate with customer relationship management to identify customer-articulated needs;
2. select materials and suppliers in conjunction with procurement; and
3. develop production technology in manufacturing flow to manufacture and integrate into the best supply chain flow for the given combination of product and markets.

d) Manufacturing flow management process

The manufacturing process produces and supplies products to the distribution channels based on past forecasts. Manufacturing processes must be flexible in order to respond to market changes and must accommodate mass customization. Orders are processes operating on a just-in-time (JIT) basis in minimum lot sizes. Changes in the manufacturing flow process lead to shorter cycle times, meaning improved responsiveness and efficiency in meeting customer
demand. This process manages activities related to planning, scheduling, and supporting manufacturing operations, such as work-in-process storage, handling, transportation, and time phasing of components, inventory at manufacturing sites, and maximum flexibility in the coordination of geographical and final assemblies postponement of physical distribution operations.

e) **Physical distribution**

This concerns the movement of a finished product or service to customers. In physical distribution, the customer is the final destination of a marketing channel, and the availability of the product or service is a vital part of each channel participant's marketing effort. It is also through the physical distribution process that the time and space of customer service become an integral part of marketing. Thus it links a marketing channel with its customers (i.e., it links manufacturers, wholesalers, and retailers).

f) **Outsourcing/partnerships**

This includes not just the outsourcing of the procurement of materials and components, but also the outsourcing of services that traditionally have been provided in house. The logic of this trend is that the company will increasingly focus on those activities in the value chain in which it has a distinctive advantage and outsource everything else. This movement has been particularly evident in logistics, where the provision of transport, warehousing, and inventory control is increasingly subcontracted to specialists or logistics partners. Also, managing and controlling this network of partners and suppliers requires a blend of central and local involvement: strategic decisions are taken centrally, while the monitoring and control of supplier performance and day-to-day liaison with logistics partners are best managed locally.

g) **Performance measurement**

Experts found a strong relationship from the largest arcs of supplier and customer integration to market share and profitability. Taking advantage of supplier capabilities and emphasizing a long-term supply chain perspective in customer relationships can both be correlated with a firm's performance. As logistics competency becomes a critical factor in creating and maintaining competitive advantage, measuring logistics performance becomes increasingly important, because the difference between profitable and unprofitable operations becomes narrower. A.T. Kearney (1985) noted that firms engaging in comprehensive performance measurement realized improvements in overall productivity. According to experts, internal measures are generally collected and analyzed by the firm, including cost, customer service,
productivity, asset measurement, and quality. External performance is measured through customer perception measures and "best practice" benchmarking.

h) Warehousing management

To reduce a company's cost and expenses, warehousing management is carrying the valuable role against operations. In the case of perfect storage and office with all convenient facilities in company level, reducing manpower cost, dispatching authority with on time delivery, loading & unloading facilities with proper area, area for service station, stock management system etc.

GLOBAL SUPPLY CHAIN MANAGEMENT

The current trend toward the globalization of supply chains renders many managers confused as what to globalization really means. Often, the term is little more than a battlefield of semantics, of little value to the individual tasked with managing value creation and cost reduction processes in the movement of goods. Clearly, globalization infers the cross-border movement of goods and the emergence of global competitors and opportunities across competing supply chains within an industry. Managers, however, often question the differences between a global market and a single market, in that many of the same conditions exist in both. Although this may be true, the complexities of cross-border operations are exponentially greater than in a single country, and the ability to compete in the global environment often depends on understanding the subtleties that emerge only in cross border trade - that is, in GSCM.

Why do so many people spend so much time thinking, writing, and doing GSCM? The answer is that it is a considerable source of competitive advantage in the global marketplace. The fierce competition in today’s markets is led by advances in industrial technology, increased globalization of demand and supply sources, tremendous improvements in information availability, plentiful venture capital, and creative business designs (Bovet and Sheffi 1998). In highly competitive markets, the simple pursuit of market share is no longer sufficient to ensure profitability, and thus, companies focus on redefining their competitive space or profit zone (Bovet and Sheffi 1998). For example, companies pursue cooperative relationships to capture lifetime customer share (as opposed to mass market share) through systematic development and management of cooperative and collaborative partnerships.
Markets have been changed by factors such as power shifts from corporate buyers to end users, the requirement for mass customization, emergence of global consumer segments, time- and quality-based competition, improvements in communications and information technology, increasing knowledge intensity, and changing government policies.

Power in a broad spectrum of supply chains has shifted downstream toward the customer or end user (LaLonde 1997), and as a result, customer satisfaction becomes the ultimate goal of a company. As the customer increasingly is in charge in the marketplace, interfirm cooperation is critical to satisfy customers. Manufacturers and their intermediaries must be nimble and quick or face the prospect of losing market share, and thus, relationships and predictable performance become very important in a supply chain (LaLonde 1997).

Firms are competing in a global economy, and thus, the unit of business analysis is the world, not just a country or region. The communications revolution and globalization of consumer culture will not tolerate hand-me-down designs or excessive delivery times (Bovet and Sheffi 1998). In this context, Kotler (1997) states, “As firms globalize, they realize that no matter how large they are, they lack the total resources and requisites for success. Viewing the complete supply chain for producing value, they recognize the necessity of partnering with other organizations”.

(Gruen 1997).
## DOMESTIC AND INTERNATIONAL CHARACTERISTICS DIFFERENTIALS

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<th>DOMESTIC</th>
<th>INTERNATIONAL</th>
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<tr>
<td><strong>Transport mode</strong></td>
<td>Mainly truck and rail</td>
<td>Mainly ocean and air, with significant intermodal activity</td>
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<td><strong>Inventories</strong></td>
<td>Lower levels, reflecting short-order, lead-time requirements and improved transport capabilities</td>
<td>Higher levels, reflecting longer lead times and greater demand and transit uncertainty</td>
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<tr>
<td><strong>Agents</strong></td>
<td>Modest usage, mostly in rail</td>
<td>Heavy reliance on forwarders, consolidators, and customs brokers</td>
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<td><strong>Financial risk</strong></td>
<td>Low</td>
<td>High, owing to differences in currencies, inflation, levels and little recourse for default</td>
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<tr>
<td><strong>Cargo risk</strong></td>
<td>Low</td>
<td>High, owing to longer and more difficult transit, frequent cargo handling, and varying levels of infrastructure development</td>
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<tr>
<td><strong>Government agencies</strong></td>
<td>Primarily for hazardous materials, weight, safety laws, and some tariff requirements</td>
<td>Many agencies involved (e.g., customs, commerce, agriculture, transportation)</td>
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<tr>
<td><strong>Administration</strong></td>
<td>Minimal documentation involved (e.g., purchase order, bill of lading, invoice)</td>
<td>Significant paperwork; the U.S. Department of Commerce estimates that paperwork cost for an average shipment is $250</td>
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<tr>
<td><strong>Communication</strong></td>
<td>Voice, paper-based systems adequate, with growing usage of electronic data interchange and Internet</td>
<td>Voice and paper costly and often ineffective; movement toward electronic interchange but variations in standards hinder widespread usage</td>
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<tr>
<td><strong>Cultural differences</strong></td>
<td>Relative homogeneity requires little product modification</td>
<td>Cultural differences require significant market and product adaptation.</td>
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From Domestic to Global Supply Chains: Added Complexities and Uncertainties

In the following section we will closely examine the impact of the so called globalization phenomenon on supply chain management. We will draw a clear picture of the globalization process for then relating it to the companies' internationalization and, as we are in the context of business logistics, logistics strategies. After depicting the characteristics of supply chains in the global context, we will point out the main problems which are posed in the global context for supply chain management.

1. The Global Market

The term globalization appears everywhere, but is seldomly defined prior to its application. It is highly disputed if globalization is something originally new as it is commonly employed synonymously for internationalization - and internationalization processes and international trade have ever since occured in world business. As PETER DICKEN, a pioneer in globalization literature, (1998, p. 1) observes:

"The internationalization of economic activities is nothing new. Some commodities have had an international character for centuries; an obvious example being the long-established trading patterns in spices and other exotic goods."

"Internationalization processes involve the simple extension of economic activities across national boundaries. It is, essentially, a quantitative process which leads to a more extensive geographical pattern of economic activity. Globalization processes are qualitatively different from internationalization processes. They involve not merely the geographical extension of economic activities across national boundaries but also - and more importantly - the functional integration of such internationally dispersed activities."

From this definition we can essentially draw two dimensions of globalization: The geographic and the qualitative dimension. The geographic dimension is used to describe the increased geographic scope of activities of international companies in the last decade. Simultaneously, location and dispersion of production facilities have considerably increased as well. Supply and production chains have become more international - but increasingly integrated and thus increasingly interdependent than in earlier years as well. This is referred
to as the qualitative dimension of globalization. Rising international competition among more
and more internationally operating companies, new possibilities of optimizing the production
and supply chains also belong to the qualitative dimension. Whereas both dimensions are of
major importance for logistics, the qualitative dimension nowadays becomes the driving force
of global supply chain management. When introducing the terms configuration and
coordination we might alternatively formulate: Increasing globally configured supply chains
demand increasing coordination efforts with regard to their activities.

Figure: Globalization drivers according to YIP (1992)

These drivers can be regarded as explanatory variables for the ongoing globalization process.
We will subsequently try to depict the most relevant for the logistics and supply chain focus
we promote here.
a) Market Forces

On the market side, the homogenization of customer needs is most frequently mentioned when discussing the globalization process. As a result, for example, dispersed production facilities which take into account a multitude of regional specificities are no longer obligatory and instead replaced by fewer and larger production sites which take advantage of economies of scale.

The rise of multinational corporations and their success has been noted above. It is clear that these companies in the role of customers are globally present as well. A typical trait of the global customer is the coordinated or even centralized purchasing of material or services for decentralized use. Take the example of the world advertising industry. Most of their customers grow internationally and concentrate their advertising budgets on one or two globally present agencies. This trend can also be observed when regarding logistical service providers. As logistics activities are increasingly outsourced, companies prefer dealing with only few partners. Thus, globally present logistics service providers are preferred partners of globally operating companies. The globalization of customers is mirrored on the distribution side by the globalization of channels.

b) Cost Drivers

Additional to the drivers on the market side which favour the globalization processes there are variables on the cost side as well. The scale economies we have already depicted are the most apparent of these drivers. Production processes which are geographically concentrated for worldwide delivery require sophisticated logistics operations.

Apparently, global sourcing, favorable logistics and differences in country costs are essential for the supply chain focus. Global sourcing focusses on the upstream side of the supply chain and denotes the globally dispersed supplier locations of a company. Due to liberalized trade agreements, companies are no longer restrained to local suppliers but are free to select their suppliers on a global scale. Consequently, goods and information flows become increasingly international with severe consequences for logistics. We will refer to this point in the subsequent part of this paper. The term favorable logistics is employed by YIP to denote mainly transport costs, which reflects a too narrow understanding of the logistics term. But undisputably, the decline of transport costs, the increasing productivity due to technical progress of this industry has considerable impact on the capability to globalize operations.
Differences in country costs are seen as driving force as well. These differences can be used in supply chain management in order to increase the overall competitiveness of the supply chain.

c) Government Regulation

Favourable trade policy has doubtlessly promoted international trade, as already mentioned. The GATT and WTO agreements have considerably pushed world trade and welfare. Without the emergence of liberal regulatory environments and protective policies, the globalization of corporate activities such as production sites, research and development would not have occurred.

The compatibility of technical standards is of major importance for our subject as well. This applies firstly to the transparency and compatibility of information systems which are essential components of every flow of goods. Secondly, it applies to the efficient and effective handling of transported goods. The example of incompatibility of bar codes from Singapore Airlines and Lufthansa may illustrate this point.

d) Competition

High exports and imports are by their very nature of essential importance for global supply chain management as they represent flows of goods across national borders. They are the result of liberalized trade policies and reflect the increasing global pattern of economic activities.

The interdependencies of country activities reflect the increasing functional integration of economic activities across national boundaries. In globally configured supply chains, product components have to cross a multitude of national boundaries before a finished product can be handed over to the final customer. Above we have depicted the globalization process as well as the underlying drivers which explain this phenomenon. It is important to note that this is certainly true for a general trend in international business - but the significance of the single drivers will vary among an industry which implies that industries are globalizing in different speeds.