

PERSPECTIVES ON SUPPLY CHAIN MANAGEMENT

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Abstract: *Supply Chain Management (SCM) is a concept that is gaining in popularity and importance. However, SCM is not a concept without problems. These problems include the lack of a universally accepted definition of SCM, the existence of several different and competing frameworks for SCM, issues with terminology and the relative lack of empirical evidence supporting the benefits attributed to SCM. However, the concept of supply chain management is not without problems. One major problem is the relative lack of empirical evidence supporting the benefits attributed to supply chain management. Another major problem for SCM is the lack of a universally accepted definition of SCM. The apparent lack of empirical research supporting benefits of SCM is, unfortunately, logical when a generally accepted definition does not exist. The Supply Chain Management Program integrates topics from manufacturing operations, purchasing, transportation, and physical distribution into a unified program. Successful supply - chain management, then, coordinates and integrates all of these activities into a seamless process. It embraces and links all of the partners in the chain. In addition to the departments within the organization, these partners include vendors, carriers, third - party companies, and information systems providers.*

Keywords: Supply Chain Management (SCM), distribution management, functional perspective, processual perspective

1 INTRODUCTION

Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements. This definition implies that logistics is a sub-set of SCM. Supply chain management is a major issue in many industries as firms realize the importance of creating an integrated relationship with their suppliers and customers. Managing the supply chain has become a way of improving competitiveness by reducing uncertainty and enhancing customer service. The role of planning and coordination in complex integrated systems and information technology to synchronize the supply chain is described in a framework that creates the appropriate structure and installs proper controls in the enterprise and other constituents in the chain.

During the past few years, supply chain excellence, optimisation, and integration have become the focus and goal of many organizations worldwide. Strengthening the supply chain management is perceived by many firms as the way to enhancing customer satisfaction and enabling profitable growth. The Supply Chain Management Program integrates topics from manufacturing operations, purchasing, transportation, and physical distribution into a unified program. Successful supplychain management, then, coordinates and integrates all of these activities into a seamless process. It embraces and links all of the partners in the chain. In addition

to the departments within the organization, these partners include vendors, carriers, thirdparty companies, and information systems providers. Within the organisation, the supply chain refers to a wide range of functional areas.

These include Supply Chain Management-related activities such as inbound and outbound transportation, warehousing, and inventory control. Sourcing, procurement, and supply management fall under the supply-chain umbrella, too. Forecasting, production planning and scheduling, order processing, and customer service all are part of the process as well. Importantly, it also embodies the information systems so necessary to monitor all of these activities. To remain competitive, companies must seek new solutions to important Supply Chain Management issues such as modal analysis, supply chain management, load planning, route planning and distribution network design. Companies must face corporate challenges that impact Supply Chain Management such as reengineering globalisation and outsourcing.

2 A SUPPLY CHAIN MANAGEMENT OVERVIEW TODAY AND TOMORROW

Supply Chain Management (SCM) is a system implemented by organizations to systematize the procedure of scheduling, executing and controlling the process of supply chain resourcefully and feasibly. Supply chain management cover all activities from stocking up of supplies, work-in-process inventory and finished

produce from point-of origin to point-of-consumption. Supply chains at present are dependent on sophisticated technology to handle multifarious practices. Supply Chain Management is a set of connections of unified trade involved eventually in the prerequisite of merchandise and service packages required by end customers. Different organizations adopt different methods of SCM depending upon the responsive to the market.

Some may adopt just-in-time production when they produce on order basis and others that have a longer manufacturing process would pile up stocks in anticipation of demand or due to doubt of sudden increase in demand. Currently, SCM is functional in a variety of industries such as automotive, manufacturing and services. SCM provides diverse payback to an organization that employs the arrangement particularly in term of best possible use of time and space. Consecutively to minimize the number of substandard component, slash labor costs and to build up sophisticated organizations, SCM will play a very important role.

2.1 Supply Chain Management Today

If we take the view that Supply Chain Management is what Supply Chain Management people do, then in 1997 Supply Chain Management has a firm hand on all aspects of physical distribution and materials management. Seventy-five percent or more of respondents included the following activities as part of their company's Supply Chain Management department functions:

- Inventory management.
- Transportation service procurement.
- Materials handling.
- Inbound transportation.
- Transportation operations management.
- Warehousing management.

Moreover, the Supply Chain Management department is expected to increase its range of responsibilities, most often in line with the thinking that sees the order fulfilment process as one co-ordinated set of activities. Thus the functions most often cited as planning to formally include in the Supply Chain Management department are:

- Customer service performance monitoring.
- Order processing/customer service.
- Supply Chain Management budget forecasting.

On the other hand, there are certain functions which some of us might feel logically belong to Supply Chain Management which companies feel are the proper domain of other departments. Most difficult to bring under the umbrella of Supply Chain Management are:

- Third party invoice payment/audit.
- Sales forecasting.
- Master production planning

Companies that want to improve their competitive position by reducing their order-to-delivery cycle are looking to supply-chain management to help them achieve that goal. Because SCM encompasses all processes involved in producing and delivering a product to the customer, it offers the opportunity to identify bottlenecks that can slow down activities along the entire supply chain. To obtain the greatest possible improvement in the total product cycle, it may be helpful to think of the supply-chain dominoes falling backward. In other words, under a supplychain management philosophy, customer demand is what drives the activities required to fulfil that customer's demand, all the way back to raw-materials suppliers at the beginning of the production process. Today Supply Chain Management includes services such as:

- Operational Analysis and Design Materials Handling.
- Distribution Strategy.
- Operational Improvements, Distribution Management.
- Computer Systems.
- Warehouse Design Project Management.
- Operational Commissioning.
- Computer Simulation.
- Technical seminars.

Organizations today are dealing with transformation at a frenetic speed. Countenance with worldwide competition, persistent outsourcing, dwindling product life-cycles, and demand instability, the scale and difficulty of the supply chain management is indisputable. In today's background, supply chain strategy become outdated as soon as they are inclusive because the dynamics of the marketplace and the user are varying speedily. A latest model has developed making awareness the key determinant of modern supply chain management triumph. There is an indispensable necessity to keep an eye on and deal with change, appreciate opportunity and threat, scrutinizing the impact and demeanor quick threat trade-off and reaction.

Today scores of companies are in strain to extend novel products and fetch them to marketplace swiftly and at the same time should take care that there is no diminution in market share of existing products. To organize the requirements of clientele, organizations require extra competent product lifecycle management methods, for example, profound stress on supervision of new product introduction, product cessation, designs for

manufacturing or DFM and control over total product line and infrastructure.

2.2 Supply Chain Management Tomorrow

The future for Supply Chain Management looks very bright. This year, as well as last year, two major trends are benefiting Supply Chain Management operations. These are:

1. Customer service focus.
2. Information technology.

Successful organisations must be excellent in both of these areas, so the importance of Supply Chain Management and the tools available to do the job right will continue to expand.

Supply chain management as an idea is less than thirty years old. The first recorded use of the phrase was in an article published in 1982 by two consultants from the London office of the company now called Booz – then Booz, Allen & Hamilton. In those intervening years a lot of progress has been made in terms of how we manage the flows of information and material into and out of the business. However it is probably true to say that the real organisational implications of managing the end-to-end pipeline are not always fully understood. At the same time there is a limited availability of managers with the appropriate skills and capabilities to manage complex global supply chains. The employment of impermanent workforce, tackling with recurring ups and downs in demand, preserving elasticity and receptiveness, supervising threat, and aligning a supply chain to dish up the client competently, is all dynamic elements of supply chain management.

The trends responsible for Changing Supply Chain Management tomorrow will be Demand Planning, Globalization, Increased Competition, Outsourcing, Collaboration & Role of Technology. These trends would be liable for transforming supply chain practices in the upcoming years. The demand planning move can aid a business in generating a more customer attentive outlook, without abstaining operational competence. Demand Planning can be a significant tool for better Sales and process development and can comprise a noteworthy constructive brunt on fresh product prologue, inventory scheduling and supervision, client service, effective supply planning. The precise Supply Chain plan is vital to systematize the revolution brought in by the brisk globalization. A well calculated Supply Chain system plan can enhance the efficiency of the system and the stream of materials throughout the system. Organizations will begin to view supply chain as a system to increase competence, as an approach for being competitive, for developing procedures with enhanced device, for healthier

partnerships, good network and new services. All this will help organizations to stay competitive and build up better associations

with clientele. Supply chain that is best possibly outsourced will rely profoundly on, advanced supply chain system design, insertion of outsource associate in the information string, institutionalizing controlled machinery to take action and make changes before they need to be made, rather than waiting until problems develop by examining diverse workings of the supply chain and Information systems to bond and harmonize the supply chain impeccably. A deep collaboration between customers and suppliers will transpire as supply chains persist to expand and mature. The echelon of collaboration will be ahead of connecting information systems to entirely incorporated business procedures and organization structures across businesses that encompass the complete value chain.

Finally, the objective of collaboration will be to augment visibility right through the value chain in an attempt to make superior administrative judgments and to eventually shrink value chain expenditure. By means of the precise paraphernalia, procedure and organizational structure in place, collaboration provides right people at right place all over the value chain with the exact information needed to formulate business-critical evaluation with the best available information.

Value chain leaders will glance at focused division to incorporate successfully the supply chains of their associates with themselves. An apt association can serve up as a way to promptly and resourcefully guarantee that significant product information is exchanged as products run throughout the value chain and eventually to the customer. Technologies have facilitated the supply chain “information employee” to begin using new ideas & method, make cost diminution, provide advanced services and congregate customer anticipation in an improved manner. A correct equilibrium is indispensable among investments, technology and procedures to have sustainable advancement in supply chain performance.

Primarily there is a need for intellectual education on the persistent dilemma of harmonizing demand echelon to seasonal and other crest and trench in a globe where demand is getting evidently thorny. The organizations need to be flexible. Undoubtedly SCM has a great scope tomorrow and its future seems extremely bright. Recently the key trends that are advantageous for Supply Chain Management are Customer service focus & Information technology. The supply process uses the information on customer segment-based delivery needs in order to plan the specific supply chain responses. This will comprise a range of common supply chain activities such as materials requirement planning, capacity management or

production planning and scheduling. As we will outline below, here, the integration of demand and supply activities involves consistency between customer and production or logistics based segmentation [5].

Organizations should have an objective to build a better network with suppliers and customers, to achieve maximum supply chain profitability, to reduce the supply chain costs at the minimum possible echelon & to uphold a improved service rank i.e. client contentment, quality, on time deliverance etc. The prospect illustration will be based on multi-partner information sharing among crucial stakeholders:

- Clients.
- Purveyors.
- Producers.
- Movement management service providers and.
- Retailers.

Distinctiveness of the future Supply Chain:

1. After manufacturing, the goods will be shipped to communal warehouses in which multiple manufacturers store their goods.
2. Communal transport from the communal warehouse will distribute to city hubs and to local consolidation centers.
3. Warehouse locations on the rim of cities will be reshaped to function as hubs where cross-docking will take place for final distribution.
4. Rural areas will have local consolidation centers in which products will be cross-docked for final distribution.
5. Final allotment of supplies, lift-up points and house in town and rural areas will take place via consolidated deliveries using competent assets.

Globalization is becoming a powerful force within corporations and the world community. Thus, it is critical that researchers work to examine global SCM research questions, regardless of data access issues. American companies and their foreign counterpart are increasingly doing business overseas [6]. Booming organizations ought to be exceptional and have all these, so as to extend the importance of Supply Chain Management tomorrow.

The future for Supply Chain Management looks very bright. Successful organizations must be excellent in both Customer service focus & Information technology as these are the two major trends benefiting Supply Chain Management operations. If these areas explored efficiently than the importance of Supply Chain Management and

the tools available to do the job right will continue to expand.

3 SCM FROM A FUNCTIONAL, PROCESSUAL AND ORGANISATIONAL PERSPECTIVE

When considering the content of SCM from the three perspectives process, function and organisation, the following picture is clear the essence of SCM is about solving the problems with functional silos that occur within and between independent organisations. The suggested prescription to do this is a change towards a process view (processual perspective) where the whole supply chain act as one single entity which focus on end customer demand. This change is however not easily made and lots of barriers are presented in the literature, where above all organisational issues are discussed [34].

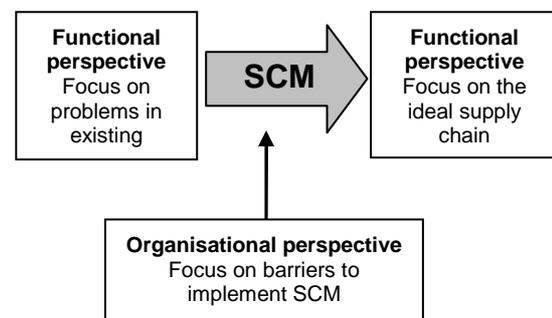


Fig. 1 The content in the three perspectives on a conceptual level

SCM from a functional perspective: In SCM literature function is often equivalent to a company's different departments such as e.g. sales, marketing, purchasing and logistics. As such, a functional description of a company therefore hints at how a company's resources are utilised and organised. Within each function a number of activities are performed. A function is always specialised in some way, and therefore the activities performed by the function are similar and/or needs the same type of resources/knowledge provided by the function.

From a functional perspective, most SCM literature is concerned with the so called "functional silos"(see e.g. Lambert & Cooper, 2000), both within companies and between companies. The authors recognise that there is a trade off between the functions and that the main task for SCM is to balance and coordinate the functional objectives and find the best overall solution. Houlihan (1985) for example propose the idea that the objectives of marketing, sales, manufacturing and distribution are constantly in conflict with each other; "The imbalances resulting from these conflicts have become almost structural

in nature and traditionally have been bridged by inventory and excess capacity. It is not necessary to challenge the direction of the individual strategies of each of those functions. What is needed rather, is a critical evaluation of the opportunities for trade-offs between the key elements of these strategies, and examination of the implication...Supply chain management suggests a quite different approach: addressing the imbalances directly and evaluating opportunities for minimising them.” (Houlihan, 1985, p. 30)

SCM from a processual perspective: As stated in the previous section, more recent SCM articles stress the importance of managing the supply chain with a process approach. In fact, when considering the section above, almost everything written about functions can be seen as an argumentation for a more process oriented view of the organisation. The functional oriented organisation with its functional silos should be reorganised in favour for a more process-oriented management. The processes should penetrate the functional silos and stretch over different functions as well as different organisations (Lambert & Cooper, 2000). According to Cooper et al. (1997a) a process is “a specific ordering of work activities across time and place, with a beginning, an end, and clearly identified inputs and outputs, a structure for action.” (Cooper et al., 1997a, p. 5).[34]

Since the expression “process” can have many different meanings, Willoch (1994) calls this type of process “a working process” in order to make a clearer statement of its meaning. Willoch (1994) further concludes that a working process has two main characteristics:

1. It has always an internal or external “customer”, i.e. a receiver of the output from the process.
2. It goes through different functions and crosses organisational borders, both internal as well as external ones.

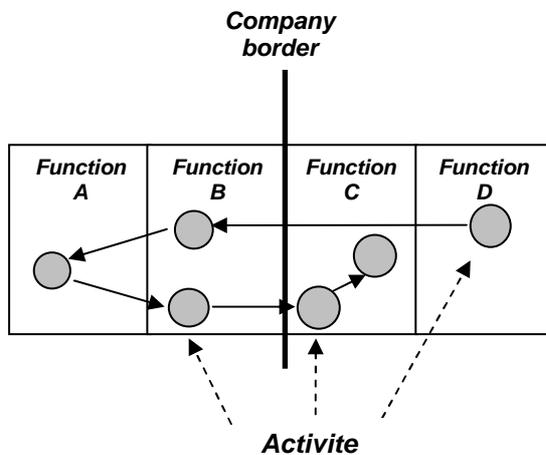


Fig. 2 A generalised example of a process stretching over a company border

SCM from an organisational perspective: To get the SCM philosophy to work in a supply chain means automatically a movement from a functional orientation towards a process view, which puts new demands on the organisations involved. Organisational change is not easily accomplished and many SCM articles only briefly discuss common problems connected to the implementation of SCM (exceptions exist though, see e.g. Sabath et al., 2001, who discuss the impact of the organisational structure in automatic replenishment programs).

Above all, human-related and often more intangible problems are mentioned by authors. On an interorganisational level, Mentzer et al’s (2001) SCO discussed in chapter 1, put new demands on e.g. organisational compatibility and trust. Because of its interorganisational nature, thinking in terms of processes means an increased need for such circumstances. Human related problems are however not only an interorganisational matter, but also an intraorganisational issue. Typical intraorganisational problems mentioned are the company’s tradition and corporate culture (Jones & Riley, 1985; Melan, 1993; Tan, 2001). Coordination and interplay among departments and functions within the same organisation is also of great importance (Cooper & Ellram, 1993; Melan, 1993).

A central question of concern and a main task for SCM is how actors in the supply chain should be integrated with each other. Extensive information sharing between actors is considered to be a prerequisite for this and many problems related to this are highlighted in the SCM literature. For Mason-Jones & Towill (1999) “sharing in-depth information sounds easy, but does not come naturally for most companies. In fact, company policy has in the past frequently actively discouraged it. Information has traditionally been perceived to be power, that is, those with the knowledge have a strategic advantage.” (Mason-Jones & Towill, 1999, p. 16)

Another issue, which can be regarded as both an intraorganisational as well as an interorganisational problem, is the new demand for process related measurements instead of functional ones. One of the main problems with working processes is that by nature they cross functional borders and this makes them difficult to measure with common functional related measurements. In a total functional managed organisation, no single department or person will have the full responsibility for a process; the process becomes “invisible” (Melan, 1993; Willoch, 1994). Therefore, to be able to manage and improve the process properly, new measurements have to be found that measure the performance of the whole process otherwise there is an obvious risk for suboptimisation.

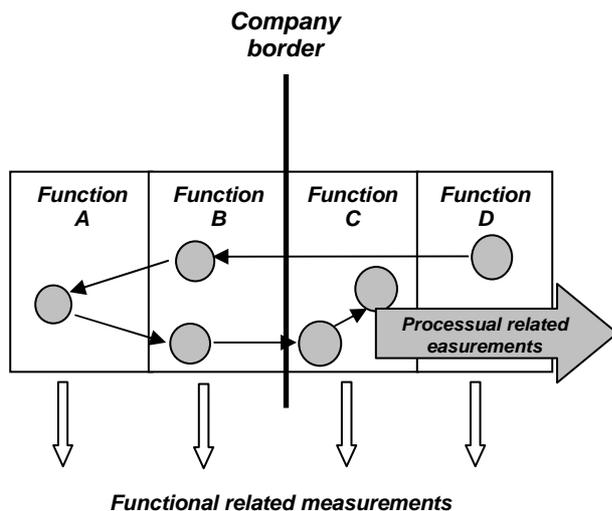


Fig. 3 Process related functional related measurements

4 CONCLUSION

Supply chain objectives directly support its stated goals; such as a common manufacturing supply chain goal can enhance revenue through eliminating or reducing bottleneck operations in the system. Supply chain objectives that directly support this goal can be identified as:

1. Increase throughput.
2. Reduce cycle time.
3. Reduce inventory at different stages (Raw materials - work-in-process - finished goods).
4. Reduce overall capital tied up.
5. Postponed management.

It is easy to realise that these objectives are complementary to each other. For example, a primary objective of increased throughput in the supply chain must be supported by a secondary objective to reduce cycle time. A reduction in processing time and set-up time will allow smaller batches to be processed faster, thereby lessening congestion in the system and registering shorter cycle time. This will also create increased throughput, and consequently, a higher revenue stream in the supply chain. As a result of this improvement in the supply chain, the tertiary objective of reduced inventory at different stages, which supports both the primary and secondary objectives, can be realized, since inventory at different stages will not have to wait for the availability of operations for further processing.

Objectives can be set both at the group level for the supply chain and at member level for individual members. However, the two sets of

objectives ought to be coordinated in order to be effective performance measures for the supply chain. This may require tuning individual objectives of members so that common supply chain objectives can be met. Supply Chain Management becomes a tool to help accomplish corporate strategic objectives:

- Reducing working capital.
- Taking assets off the balance sheet.
- Accelerating cash-to-cash cycles.
- Increasing inventory turns, and so on.

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