UNIT 6 STRATEGIC SUPPLY CHAIN MANAGEMENT

Objectives

After reading this unit you would be able to:

- discuss the imperatives for supply chain, strategy development;
- be acquainted with the issues in supply chain domain and strategic decisions in the supply chain;
- discuss supplier alliances;
- illustrate supplier quality management and related problems; and
- explain supply chain re-engineering.

Structure

6.1 INTRODUCTION

After having seen the various models for SCM integration, integration of supply and demand chain, let us now take a closer look at the strategic supply chain management.

The successes in the manufacturers of today revolve around certain basic services related to both product management and consumer satisfaction. The imperatives are:

- Shorter product life cycle.
- Quality control.
- Timely delivery.
- Low cost delivery options.
- Reduction in costs, both production and to the end user.
- Waste management.

The imperatives above create a continuous pressure on the companies for frequent changes, both in terms of policies and strategies, and in a way force the

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companies to stay abreast of the latest. According to the world competitiveness report competitiveness is equal to multiplication of competitive assets and competitive process (Deshmukh & Mohanty).

Where, competitive assets include technology, infrastructure, people and government institutions, and competitive process include quality, speed, customization and services.[1] Logistics has always been the backbone to infrastructure for the manufacturers. Within the purview of SCM logistics has been the art and science of procuring, producing and delivering products and services at the right time, in right quantity and at the appropriate place. As we have seen earlier, SCM involves planning, implementation, controlling, storage, and transportation and end delivery from the point of origin to the point of consumption as part of consumer/customer requirements. It is a network of facilities that perform the tasks of procuring the raw materials, transport them, transformation of materials to finished products and further distribution of goods to the end user, the customers. During initial evolution it was felt that logistics that involved transporting and warehousing couldn't effectively influence the strategic goals and hence, extensive investment needn't be done. Activities relating to customer services, warehousing, order processing, inventories and sales were also ignored. Production, marketing and finance operated independently, and inventories and sales ignored. It was in the seventies that the management explored the scope of reducing the distribution costs. The concept of total cost management was evolved in order to optimize the total costs rather than costs of activities taken in isolation. A centralized logistics function was given the responsibility of controlling costs with emphasis on maximization of service level. Slowly but steadily the aspects of logistics got integrated with the other functional activities of the supply chain, and the functional chain emanating from supplier to the delivery options to the end user, were formulated and incorporated with the operational and strategic plans. In the final stage logistics were accorded due importance in the strategic planning. The imperatives for supply chain strategy are:

- Global sourcing
- Global networking and marketing
- Revolution in global business process
- Customer centric management activities
- Integrated planning system
- Integration of functional activities in the supply chain towards a common goal for competitive advantage

6.2 SUPPLY CHAIN: GROWTH

According to Hicks, the imperatives for growth of supply chain are:

- **Enhanced customer expectation:** Competition worldwide has led to maximum emphasis on customer service over the years. The value of the product can only be determined when the product reaches the customer in time and at the required place. The value of customer service has acquired such dimension that, if the product doesn't reach in time, the sale will be lost to a competitor who offers in time, an ideal substitute. This can further be classified under:
- **Pre-transaction Elements:** Relating to corporate policies and program.

[1] Deshmukh & Mohanty in Essentials of Supply Chain Management, p 13

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- **Transaction Elements:** These are those variables involved directly in physical distribution, i.e. product and delivery reliability.
- **Post-transaction Elements:** These are those aspects dealing with after sales service, warranty, repair, customer complaints and replacements.
- **Pressure for Quick Response:** Customers today expect a better and quicker response owing to the value added services being provided by the manufacturers. This is mainly due to shortened product life cycles, consumer's drive and volatile markets, making reliance on forecasts difficult and dangerous. The key to quick response is pipeline management, i.e. a process where manufacturing and procurement procedures are linked to requirements of the market. It seeks to meet the competitive challenges of increasing the speed of response to the market needs.
- **Impact of Globalization:** Present global environment is forcing the organizations to incorporate the world in their strategies and analysis. Certain key factors like, economic trends, competitiveness, technological advances, the firms today cannot ignore them. Companies therefore must identify and analyse factors that differ across nations and determine the impact on the operations functions. Transportation and distribution therefore assumes greater importance in such scenario, and the companies have to rightfully integrate and manage the facilities and markets available in this backdrop. Logistics, therefore, assumes greater strategic significance.
- **Organizational Integration:** Organizations today need to be broad-based integrators, inclined towards the achievements of market place successes, based on managing systems and people that deliver the service. Generalists, therefore, assume greater importance to specialists to integrate materials and operation management with delivery. Today, IT is slowly proving to be a great integrator for various functions, spanning from supplier to the customers.

6.2.1 Trends in SCM

The major trends in SCM are:

- **Co-maker Ship:** It is defined as the development of a long-term relationship with limited number of suppliers on the basis of mutual confidence.[2] The benefits are:
- Shorter delivery lead times
- Reliable delivery
- Lesser schedule disruption
- Lower stock levels
- Lesser quality problems
- Stable prices
- Higher priority to orders

The basic philosophy of this alliance is that the supplier is considered to be the extension of customer relationship, with emphasis on continuity and a seamless end-to-end pipeline. With growth in outsourcing the trend towards co-maker ship also increases manifold. This principle can be extended both ways in the supply chain-upstream to customers and downstream to distributor, retailer and users.

- **Third Party Logistics:** Outsourcing operations like storage, transportation and delivery, improve service levels, reduce costs and increase flexibility. It

[2] Essentials of SCM by Deshmukh & Mohanty pp. 16-18

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also helps in reducing costs on trucks, warehouses and certain infrastructure requirements, and allows firms to acquire new technologies and enter newer markets. Yet, certain aspect does merit attention. These outside service providers may not at times perform up to the requirements of the manufacturer and would result in loss of image of the firm. Therefore though third party logistics could be cost effective, at times the firm should use these depending upon the organization's needs, capabilities of the service provider and the resulting pay off.

- **Principle of Postponement:** The time when the product is ready for sale is known to the organisation, and consequent delay in labeling, packaging and pricing till the last moment is called principle of postponement. The sole objective is to minimize the risk of carrying finished product to the various points of the supply chain by delaying the product differentiation to the latest possible moment before customer purchase. The cost savings on transportation and storage are attained by keeping products at the highest level and by moving goods through the supply chain in large, generic quantities (Deshmukh & Mohanty 2004). Examples of postponement are:

- Delayed labeling
- Shipping in bulk
- Transferring to small containers at warehouses
- Delay final assembly
- Stocking fuel, oil & lubricants (FOL) in unblended state

However, it has to be noted that postponement shouldn't compromise the desired service level.

- **Enterprise Resource Planning (ERP) & DRP:** ERP systems are basically information integrators and they help in binding various business processes in an enterprise. It also helps in streamlining and re-engineering of various processes, focusing on value activities and eliminating non-value added activities. Due to influx of IT, ERP has been able to provide a wide information base with an aim to optimize resources. This has further helped in in-bound logistics, transportation, material management and accounting at large. DRP on the other hand helps in estimating inventory requirements at stocking areas and ensures supply sources are able to meet the demand. It incorporates policies on safety stocks, information and relation between demand forecasts, inventory levels, manufacturing and distribution schedules. DRP helps in both short term and future production and distribution resources, in order to match both supply and demand. Because of minimal inventory that is held, DRP can be called the key to logistics and JIT productions.

6.2.2 Strategic Decisions

Strategies are a set of important decisions derived from a decision making process of the top management in the organization. In order to ensure success, the strategic changes that are being incorporated in the supply chain, has to conform to well defined strategies formulated by the company from time to time. The top management in the company forms the strategic decisions and successful execution of these decisions should provide a cutting edge to the organization. Areas that require strategic decisions are warehousing, transportation, IT, and make versus buy. We have already seen warehousing and transportation in detail in unit-4 and 5, and hence will dwell on IT and makers versus buy.

- **IT Solutions and Integration:** IT solutions will play a significant role in information building all through the supply chain. However, companies should

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address several queries centered on proper alignment of information technology tools and the expected increase in productivity and services. Identifying the very scope of the business problem that is to be addressed is the most important in this complete exercise. This effort will help in identifying the best course available to the manufacturer and the area that it is to be applied, the core business issues. At the same time, it is also important to assess the effect of IT on the organization as a whole and its capabilities. More often than not, IT affects the business in 3 ways:[3]

- The integrated process requires managers for restructuring the cultures and capabilities on values providing continuous improvement and teamwork.
- It enables the organization not only to rethink but also leverage new information, like graphics, computer integration and workstation technology.
- Application of new information requires redefinition of goals and skills of the enterprise's people resources.

The response to the issue of managing the supply chain included having a fully integrated business, and some of the vehicle manufacturing companies were structured in a way where the input were raw materials and output the finished product. However, the driving forces for global manufacturers have ranged from becoming a tiered global supply system in the West to the Japanese Kereitsu based company supply system, although there are quite a few near fully integrated companies in the developing nations till date.

The following are the reasons propounded by Christopher (1992) for not following the integrated supply chain:

- Few managers retain a grasp of a process from one end of the pipeline to the other. As a result, the way things get done can reflect convenience for doers, a desire to protect functional boundaries and a lack of understanding the related consequences, both up and down streams of individual processes.
- Initiatives of changes are functional in nature and seldom reflect the cost of the system.
- Their custodians as a means of providing breathing space and as ways of providing some hidden flexibility respond to protect lead times. The individual functional lead times contain slack and where these become embodied in a processing system, they are institutionalized.

Actually, companies that have benefited from integration are pacing ahead with confidence, and IT as a whole have further aided in integration vigorously.

- **Make versus Buy:** The main organization focus today is on outsourcing of non-critical components. These decisions are arrived at after considering the factors like, capacity, leverage an organization gets and the quality and confidence in working with the vendor. Make buy decision is a strategic decision and the area that has to addressed in this is development of the *total cost model* (Deshmukh & Mohanty). It has been seen that having a supplier that can work in a simultaneous engineering way with the company is the main aspect in order to avoid costs associated with unnecessary design complexity. This may also mean having a supplier who can provide the same support through IT rather than having an engineer in site, and achieve the same result. The next consideration is the aspect of labour

[3] Deshmukh & Mohanty in Essentials of supply chain management, pp. 20

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elements. Here, once again the need for simultaneous engineering is required mainly in those off-shore areas with low labour rates, over and above issues like labour rate inflation and challenges of overseas sourcing. All these have to be considered in a structured manner and not in isolation.

6.2.3 Strategic Supply Management Activities

As per Burt and Dobler, supply management focus on ten strategic activities:

- **Environment Monitoring:** Monitoring the supply environments to identify threats and opportunities, is an important task of supply managements, to include material shortages affecting both price and availability of purchased materials and services. They can further be classified as:
  - Changes in legislation: affecting the workplace. This can affect both price and availability.
  - Wars and conflicts that can affect availability of materials resulting in price increase.
  - Consolidation among suppliers: to the extent of monopoly. A firm should change its strategy based on such changes.
- **Integrated Supply Strategy:** Supply management should develop and manage the firm's supply strategy based on wholesome integration strategy and not in isolated strategies.
- **Commodity Strategy:** Must develop and update sound commodity supply strategy. The following activities have to be performed to ensure effectiveness of the strategies:
  - **Strategy Updating:** Commodity teams must identify materials, items of equipment and services that are strategic in nature or should formulate a strategic plan for obtaining them.
  - **Technology Access Control:** All supply management organization's develop and update technology road maps, which lists critical current and future technologies to be pursued. Action should be at hand to protect these technologies that yield a competitive edge and ensure are not transferred to competitors.
  - **Supply Management Organization:** The organization of the supply management system must enhance the effectiveness and efficiency of the system in attaining the primary objective.
  - **Risk Management:** Actions should be taken to ensure minimum disruption of supplies and price increase.
- **Data Management:** Supply management, accounting and information technology must cooperate in the collection and application of supply data to facilitate the strategic supply planning.
- **Corporate Strategic Plan:** Supply management should join the marketing and operations as the key players in development of each of the firm's corporate strategic plan. Supply management provides input to the strategic planning process on threats and opportunities in the supply world. It also provides inputs on constraints that may affect strategic initiatives. Its knowledge of the firm's supply world may be a vital source of input for strategic planning.
- **Strategic Sourcing:** The firm should manage and develop its supply base in line with firm's strategic objectives. Several actions that should be taken are:
  - Periodic review of the active suppliers.
  - Identification of the appropriate relationship (transactional, collaborative or alliance) for each commodity class.

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- Optimization of supply base with coordination and combination with several forces to increase the importance of the firm's supply base.

- **Strategic Supply Alliances:** Developing and managing the supply alliances frequently are two of the most crucial and most strategic activities undertaken by any firm. Institutional trust is a key prerequisite to supply alliances. Rapid growth of American society of Alliance Professionals is a testimony to the industry's recognition of importance of these activities.

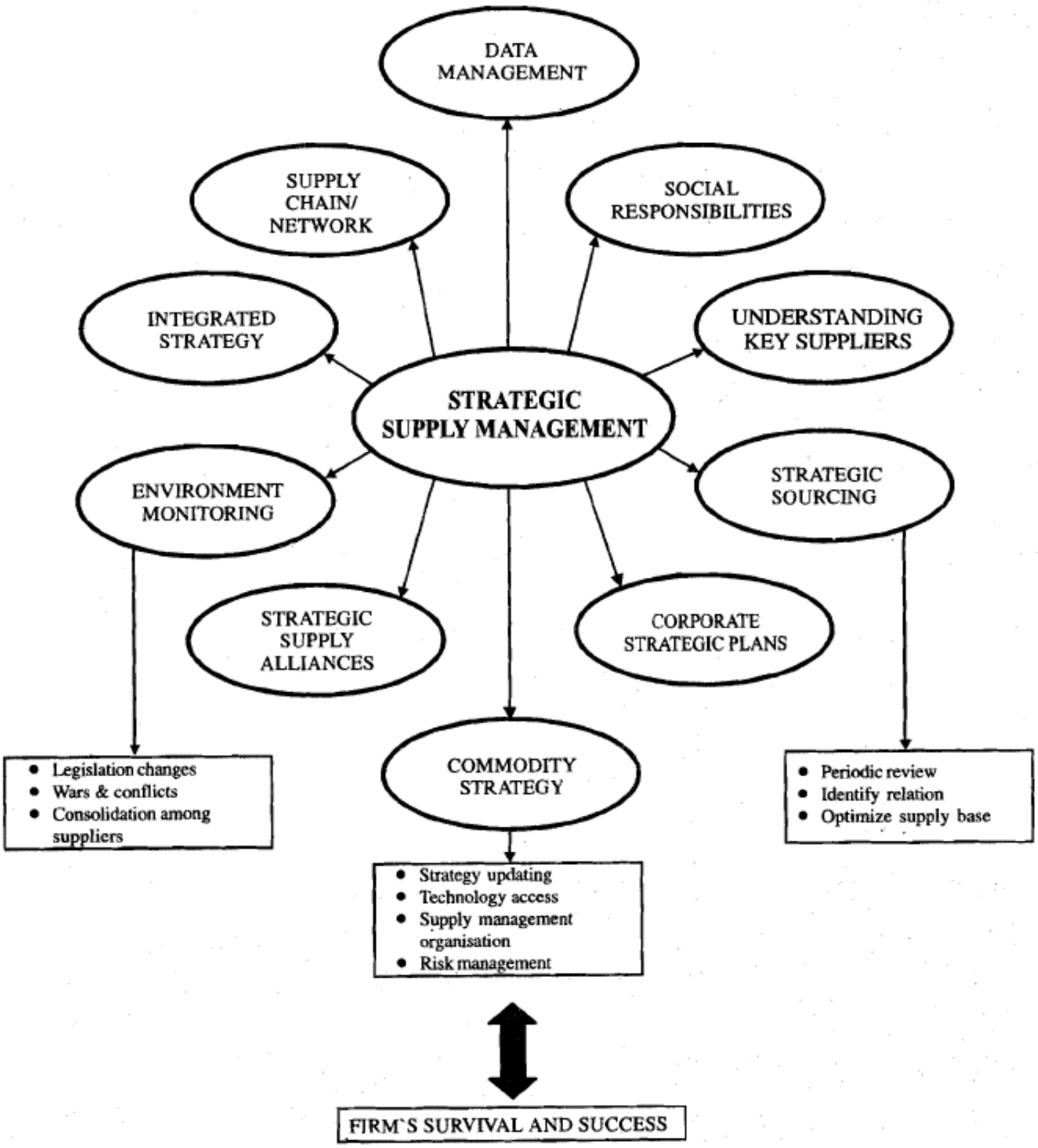

Fig 6.1 Strategic Supply Management

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Supply Chain/Networks: These help in developing and managing of supply alliances, but is more complex. IT & relationship skills are essential prerequisite for personnel assigned to the task. Charles Fine in his book *Clock speed* writes, ' the farther you look upstream in your technology supply chain, the more volatility you see. Customers are foolish if they don't spend any time or resources thinking of the health, survival, and possible independence of their core technology suppliers'.[4]

- **Social Responsibilities:** Supply management must develop and implement programs that will protect the environment, facilitating the inclusion of woman-owned, minority based and small business in our economy to promote values in the workplace.
- **Understand Key Supply Industry:** Its impact is directly proportional to the knowledge of related industries in which it buys. They study and understand the industries that provide the key materials, equipment, and services, cost structures, technologies, competitive nature and culture.

The above provides the understanding of supply managements responsibilities both strategic and tactical, which if executed effectively and efficiently will be a key to the firm's success and survival, fig 6.1.

Activity 1

Understand the difference in strategies in supply managements and how it builds up a company to be successful in the international arena?

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6.3 SUPPLY ALLIANCES

As seen above supplier alliances plays a key role in strategic supply chain management activities across the board. Therefore in order to develop and manage these relationship and alliances a firm has to continuously endeavor to identify methods to facilitate these relations. Supplier is as important as the customer and that has to be realised in the true sense.

Riggs & Robbins spelt out these relations in their book '*The Executive Guide to Supply Management Strategies'*, they are:

- **Annual Supplier Meetings:** Annual supplier meeting is a common phenomenon in maintaining direct relationship with the suppliers by the buyer firm. It is used both as a teaching and learning platform as well as the opportunity to distinguish one's organisation as a supply management leader. It dwells on the buyer's management performance, learning and future goals. The main objective being learning of key strategies to support the buyer's business. It requires extensive planning and is expensive, but it lays the foundation of a buyer supplier relationship in the long run.
- **Supplier Discussions:** It's an informal forum for gaining and sharing learning, between the representatives, like the chief executive, chief operating officer, and representatives from marketing, supply management

[4] Fine, Clockspeed, p. 95.

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and research divisions. It reviews the buyer's progress and goals in the backdrop of shift in strategies and policies. It's a forum that builds trust and respect, towards a successful supplier relationship.

- **Workshops and Seminars:** These are aimed at creating opportunities for supply-stream innovations, which will benefit all the participants. It composes of members of supplier participants who provide material and services that are critical to the products made available at the marketplace. Such discussions open the door for newer set of goals and collaborations. It provides the base for continual improvement, concepts and innovations required to guide and organize discussion and work sessions.
- **Collaborations/Partnership:** This is supposed to be the most successful supplier buyer relationship in recent times. These are based on mutual interdependence and respect. These alliances begin with careful selection of source during the product design process. This is the time when the buyer requires a dependable supplier who can provide the required process, design and technological support for a successful product. The supplier at the same time requires a responsible customer for its product and services. They both require each other and have to work hand in glove. Unexpected criticalities that may arise can be sorted out with a 'we shall overcome' attitude. The most important in these relationships is the integration of the buyer and supplier as long as the relationship is beneficial to each other.

6.3.1 Developing and Managing the Relationship

Supply managers at all levels should ensure and tailor appropriate actions during the planning and management of such alliances mentioned above. Like:

- **Instituting a Cross-Functional Team:** A team so designated should be in place to handle such alliances, which is responsible for development, integration, and develop and manage appropriate measures for the alliance to be successful.
- **Training:** Teams from both sides as designated should undergo appropriate training in being constructive team players, and also in cross-functional team skills.
- **Communication System:** The teams should develop and integrate an effective communication system responsive to the needs and requirements of both the firms.
- **Trust Building:** Measures to improve trust between the two organizations have to be developed and implemented too.
- **Visits:** Periodic visits by the respective team members to each others site has to be resorted to for confidence building and co-location of key technical persons.
- **Specialized Training:** Plans have to be evolved and developed for specialized training involving variance of products, designing, value analyses, engineering, cost analysis and cost management.
- **Objectives:** Certain objectives have to be established in areas, including quality, cost and time aspects.
- **Monitoring:** Results have to be continuously monitored and reported to the management level.
- **Supportive:** Inter-firm team members should realize the importance of such alliances and support the alliance goal in letter and spirit. It's in the interest of both the firms to support each other's operations and their respective goals, ethics over expediency.

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Management of supply contract is a challenging responsibility and a critical too. Companies have to continuously generate and develop newer ideas and innovations to maintain these relations and work in unison to a common goal without jeopardizing each other's interest in the overall gambit of supplier buyer alliances and relationship.

6.4 SUPPLIER QUALITY MANAGEMENT

After having seen the supplier-buyer relationship, we will now see the quality control aspects of supplier units. Quality management dates back to the 80's, wherein the Japanese companies developed a zero-defect program for their products, primarily based on quality of the raw materials they procured. This was resorted to by traditional methods of sampling of the incoming raw materials, which implicitly inferred that there will be some non-conforming parts, that will be used in the manufacturing operations resulting in lower material productivity and higher manufacturing costs. This was never a full proof system and the lacunas were too many, and resulted in longer lead-time to correct the specific problems or adjustments to the operating systems. This would generally lead to longer customer delivery time and cascading decrease in profits.

The main objective of this unit is to discuss the problems of quality and how to generally overcome these issues. In every organization there is a wide diversity of functions and structures for quality planning and control, and hence the first step to quality assurance is a structural basis for the procurement system that should be organic in character and reflect the concern for quality control in developing the relationship of the interdependent organization throughout the supply chain. With this as a preamble let us see the problems of vendor / supplier quality.

6.4.1 Problems of Quality

The suppliers till late had been providing natural/semi-processed materials to the manufacturers for their finished products. Under such circumstances, quality control was never a problem since it was dependent on the quality of raw materials. "The buyer and suppliers were almost quasi-independent and had little interaction between them" (Deshmukh & Mohanty, 2004). Today things have changed considerably and most of the companies are engaged in different type of purchases and procurements, particularly very complex and highly engineered sub-systems with critical interfacing with other components. Therefore, some key features have to be evolved for a better buyer-supplier relationship and its effect on the quality assurances on the whole (we have seen this in the last unit of buyer-supplier relationship/alliances). However, for quality assurance, some activities that are to be followed are:

- **Mission:** The company's mission and policies on supplier quality relations have to be spelt out clearly (as for ISO-9000).
- **Identification:** Identify and develop qualified and capable suppliers who can assure of quality, and weeding out the lesser variants.
- **Communication:** Communicating essential and helpful information, designs, and specifications and also engineering changes promptly.
- **Development:** Developing methods for detecting the deviations through reproduction and trials.
- **Assistance:** Provide assistance to the supplier on quality related problems and overcome them.

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- **Review:** Periodic review of the performance of the supplier through supplies rating and follow up actions against poor suppliers.

These activities are not sacrosanct and depend on the following:

- Nature of goods being purchased
- Volume of the purchase
- Total suppliers
- Repeat purchase
- Research, design and subcontract management.

6.4.2 How to Find the Qualified Supplier?

A very tedious process and action at hand by the buyer firm is to find a suitable supplier who can generally meet the benchmark of the purchaser, i.e. *'the best from the best within the cost'*, under ideal conditions of course. However the following evaluation methods could be used to get the best from the best:

- **Reputation:** This is a variable factor and differs from company to company, big and small. For a big company it is of significance and for a smaller company it's almost obscure. A detailed survey and market search will help in identifying the best that can deliver the best within the cost per se. The buyers' generally maintain database on prior performance of these companies.
- **Database:** Maintaining a database in financial function has been very effective, however, it is in development stage for use in quality functions (Desmukh & Mohanty, 2004).
- **Surveys:** The purchasing and procurement division of a company is carrying out the selection of the appropriate supplier. Clarity of information is an important factor in this selection process, and such information on the supplier will provide the right weightage for the supplier selection.
- **Trial & Error:** Sometimes this procedure will also help in choosing the correct supplier for the manufacturer. At times certain obscure suppliers qualify to the requirements of the manufacturer and provide the goods as required. The limiting factor is the right chance at the right time.
- **Faith & Reliance:** This is another aspect that will help in getting the right supplier when the company requires the most. No supplier would like to loose out/compromise on the aspects of faith and reliability that has been bestowed on it by the buyer unit.
- **Opportunity:** This is another factor because of which many small suppliers loose out on a buyer's search radar. The buyer should carry out an in-depth selection of the supplier and provide a fair opportunity to even the smallest to prove its worth, sometimes, it does pay huge benefits in the long run.

6.4.3 Quality Survey of Suppliers

It's an evaluation process, which enables the buyer to select the appropriate supplier conforming to the buyer's requirements. Does the supplier have the ability to respond to the buyer's requirements? Does he require assistance in any form? This and many, can be answered by help of visits to the supplier's site by a team of specialists or through a balanced questionnaire. The following are the survey evaluation on the supplier:[5]

[5] Assuring the Quality Procurement System in Essentials of SCM by Desmukh & Mohanty

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Policies/Practices on Quality: These are the basic guidelines based on which the quality assurance of the supplier can be determined. They are the real intentions that are to be implemented in a variety of degrees, the main problem is to evaluate the policies and determine the degree to which they are to be implemented.

- **Facilities:** These are related to tests and inspection that meet the quality requirement of the purchased product. Samples are taken and checked with the vendor and buyer's gauge to compare the gauging systems. This kind of checking reduces the risk to both the supplier and the buyer.

- **Procedures and Actions:** These are the procedures for handling quality problems like gauge control deviations from existing specifications. The aim of the survey is to determine whether the procedures are in vogue or not.

- **Appraisal:** Appraisal of personnel from viewpoint of quality is very difficult, but discovering the technical competence and attitude to quality can be established. But, this could be just subjective at times, due to turnover of key personnel. Yet, a general attitude of quality control can be found out through auditing, discipline, and maintenance and housekeeping records.

For a new product line searching for a capable supplier is indeed a difficult task and this can well spell the difference between success and failure of any new product. Geographical location and close proximity is a reason to search for a supplier closer home, without a rating of sorts, but selection for a long-term supplier in high volumes is a tedious process and should start early. The prospective suppliers can be located by any methods, but the pertinent questions that should be addressed are:

- How well do the objectives of the quality program conform to the buyer's needs?
- How well the practices of the quality control program conform to the objectives?

The objective of this evaluation is to arrive at a judgment of how well supplier's programme operates, neither to tabulate the efficiencies nor rationalize the shortcomings. The areas for evaluation are:

- Quality
- Price
- Performance
- Production capabilities

A supplier survey is analogous to a profit and loss statement, that is, it speaks of the status at any one point in time and will not guarantee of the status at any other time. Therefore, the communication of the survey must continue for a long time towards a good partnership.

Increased competition in the economic scene worldwide results in heavy dependence on quality as both an endogenous and exogenous factor. This results in the other elements that aid in quality control to have an ever-expanding role. Procurement function therefore plays a key role in getting the best from the best available in the open market. It plays a predominant role in the in ensuring quality in an organization. Improving quality therefore should shift from desire to compulsion in the quality assurance of supply agencies.

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6.5 SUPPLY CHAIN RE-ENGINEERING

Business structure is continuously changing from one phase to another, and today has reached the stage of professionalism where it is revolving around customer focus in a big way. These changes have shown remarkable improvement in company performance measures such as quality, costs, services and lead times. Hammer & Champy in 1993 identified these changes and improvements and packaged these ideas into concept of 'business re-engineering', which was later termed as 'business process re-engineering' (BPR).

The areas in common between BPR and SCM seems to be very few at a cursory glance, but SCM is not a traditional improvement technique, but a philosophy that helps in improvement not involved with functional reviews, as highlighted by Stevens' model of supply chain integration, which we have seen in our earlier units. However, in an introspection of BPR & SCM reveals that there is more than one common link between the two. Business transformation from the concept 'what we make we sell' to a more flexible concept of 'what the market want us to sell' can effectively be achieved after a competitive analysis and a supply chain diagnostic review. It is well understood, that effective transformation is only possible after a series of phased step involving technological reorganization, attitudinal and organizational attribute, and integration between the competition and customer demands.

The comparison between SCM & BPR is as shown in the table 6.1

Table 6.1 : As Adopted from Deshmukh & Mohanty, 2004 (Essentials of SCM)

Business (Process) Re-Engineering ***(Hammer & Champy, 1993)***	The fundamental rethinking and radical redesign of business process to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.
Supply Chain Management (Stevens' 1989)	The management of material suppliers, production facilities, and distribution services and customer linked together via the feed forward flow of material and the feedback flow of information.

Achieving internal integration is a desirable stage, however, performance of pockets of excellence is generally downgraded (from customer's viewpoint) due to poorly performing suppliers and customers in the supply chain. In order to understand this further a wider perspective of the supply chain needs to be taken keeping in mind the 12 steps of BPI, as evolved by Harrington, to streamline the process. They are:

- Elimination of bureaucracy
- Eliminating duplication
- Value added assessment
- Simplification
- Process cycle time reduction
- Error proofing
- Upgrading
- Simple language
- Standardization
- Supplier partners
- Broader picture improvement
- Automation

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From the above its evident that the first 9 steps are operational, step 10 is for supplier side, and step 11 is for the customer satisfaction. Therefore, to attain this step, if a radical redesign is taken, business process integration turns to business process re-engineering, in the supply chain scenario. Side by side in the Stevens' model step 3 moves to step 4, i.e. full integration is achieved. Therefore, this integration involves extending the internal management to supplier focus and customer orientation in order to create a strategic partnership, by reducing the suppliers. Customer understanding will in a big way change the entire philosophy from pushing products to selling goods as per customer requirements. Backward integration is a very difficult process in supply chain integration, since; it involves a change in inter-company attitudes from adversarial to that of mutual support, which is in fact very crucial to a successful supply chain integration.

We should as a matter of fact, never lose sight of the fact that business in the supply chain, is directly dependent on customer finances which enables the continuity of the supply chain. Therefore, the strategies in the supply chain should have common aim of improving the performance of the chain from the perspective of the consumer/customer. Stevens' integration, in stage 4 of the supply chain is generally successful because of the financial position enjoyed by the big companies. Such companies generally bend rules of supply chain integration and manipulate smaller members of the chain to their financial ends, in order to benefit the most. Therefore, backward integration is a contentious issue. Both internal and external integration is required to be achieved for improving performance in the supply chain management, under ideal conditions. Yet, internal or external or a combination approach may be the goal depending upon product, industry, market conditions or where advantage could be gained for the supply chain. Though, Stevens' model suggests that external integration, without internal reorganization does not exploit all the benefits of true supply chain integration.

Now, let us see whether BPR internal re-engineering is equivalent to the functional and internal integration stages in the Stevens' model? Actually, the first and the final stages are similar in both BPR & Stevens' model. Initially, non-existent planning and control structures across departments are optimized to departmental goals resulting in customer necessities not being catered to, but the final structure is customer centric with major changes in culture, structure and technology. The intermediate steps are different, since BPR calls for one-leap changes on a process-by-process basis. Whereas, Stevens' model opts for functional integration, followed by internal integration. Functional integration in BPR is not necessary, only the process should be sought and redesigned. Efforts to optimize a function are considered a waste in this system. The functional integration stage, does bring together a trans-departmental view which, if performed correctly, will lead to improved operating performance (Deshmukh & Mohanty). Improvement in the overall performance level and integrating of the core functional areas as one single function does negate the poor performance of the surrounding functions. Therefore, It is mandatory to initially bind the functions along a process line, and then integrate the appropriate cross-functional processes at a later stage.

Therefore in spite of BPR being a later model, Stevens' model is still valid in the light of BPR concept, though more details of reorganization stages are required. Therefore, cross-relationship between both the stages is to be highlighted more vigorously. This can be achieved by examining the pre-requisites and techniques used in integration stages of SCM and in virtuality, i.e. by philosophy.

Let us now see the various categories covering the parallels of essentials between SCM & BPR, through this table:

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Table 6.2: Parallels of Essentials between SCM & BPR (excerpts from Hammer & Champy, Davenport, Grover et al, Stevens & Deshmukh & Mohanty, 2004)

Area for change	BPR (Business Process Re-engineering)	Supply Chain Management Terminology
Process	• Elimination of wastes • Speed up process • Concentration on core processes	• Reduce non-value added activities • Lead time reduction • SCM positions each firm to do what it does best
People	• Board level commitment • A management that questions • A workforce that questions • Multi-skilled workforce • Attitudinal changes	• Board level commitment with a logistics champion at board • A management that questions • A workforce that questions • Multi-skilled workforce • Attitudinal changes
Technology	• Technological changes • IT a key to BPR • Break the rule • Treat vendors as adversaries	• Technological changes • IT a key to SCM • Partnership sourcing • Deep penetration to customers bases
Innovation	• Customer focus • Constant innovation • Constant product/process innovation	• Constant innovation at the interfaces of the company • Streamline processes
Analysis	• Analysis by paralysis is not beneficial • Take a holistic view	• Aggregate modeling can aid the redesign strategy and take a systems view

6.6 SUMMARY

This unit highlights the common foundations, which underlie both SCM & BPR philosophies, which are indicative of the important difference between the two, the drive for improved business operations. Those who follow the SCM philosophy would have traversed the path as BPR after having re-engineered own processes. The existing philosophies such as SCM (integrated) as mentioned in this unit covers a large portion of the BPR ideas, yet a few ideas have to be added to the model:

- Radical approach for internal integration.
- Continuity in step changeover improvements, and strategic placements of these ideas on the marketplace.

The various points for learning in SCM re-engineering are:

- SCM is not a traditional improvement technique but that which facilitates improvement, not associated with functional/departmental reviews that focus internally.
- Transforming a business from inward looking to outward looking.
- Integration being the mainstay between the customers and competition.
- Inquisitiveness throughout the organization will facilitate re-engineering.
- This is applicable at the higher echelons as these positions give a wider perspective, seeking core processes and creating leaner structures, a must for SCM integration through re-engineering.
- The change management associated with re-engineering has to be handled smoothly and skillfully.

Sustaining the spirit of re-engineering throughout the corporate culture is a big issue that requires serious attention. Continual re-engineering allows a company's quality initiatives and re-engineering to be completely and effectively integrated, with an added advantage of the involvements of the high teams for continual re-engineering.

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6.7 SELF ASSESSMENT QUESTIONS

1) Explain in detail the process of re-engineering.
2) What are the benefits of re-engineering in supply chain?
3) Explain the benefits of integrated approach for implementation of SCM.
4) It is a fact; SCM and BPR have a common goal and are interrelated. Explain the sentence with examples.
5) Explain the parallels between the BPR & SCM philosophy.

6.8 REFERENCES AND SUGGESTED FURTHER READINGS

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