CHAPTER II: INTRODUCTION TO SCM

2.1 The farmers and Food SCM in India

The farmers in India are predominantly small or marginal holders of land and have substantially low marketable surplus. Many Multinational Corporations are finding it beneficial to source and produce products from low wage economies and sell them in higher income economies. Thus much of the production is outsourced to contractors and sub-contractors in a large diversity of low-cost operating locations. Local investors usually own the production sites and they are independent businesses. By outsourcing part of the supply chain, responsibility also shifts from a single organisation to many more, depending upon the nature of the product market. Hence, the supply chain becomes more complex and culturally diverse. Christopher (1993) also stressed that it is the supply chain, which will bring true competitive advantage to companies, by satisfying customers’ needs and lowering operating costs.

Therefore the role of SCM is critical in managing issues that arise across organisational boundaries, improving corporate competitiveness and profitability in today’s operating environment (BSR, 2001). Christopher (1998) emphasised that individual businesses no longer compete as solely autonomous entities, but rather as supply chains.

The supply chain is often referred to as a value chain. A typical supply chain includes information, funds and physical material flows, which run parallel to the value chain. A definition of SCM from Handfield and Nichols (1999) is: “Supply chain management (SCM) is the integration of the activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to the end-user through improved supply chain relationships, to achieve competitive advantage. Material and information flow up and down the supply chain.” (Handfield and Nichols, 1999). The diagrammatic presentation of the overall picture of the core functions of SCM includes an array of interdependent activities from sourcing and purchasing, production, distribution and transportation, and sales that operate in the developed and developing world, as is shown in figure 2.1. Very often, offices in the developed world deal with research and development, sourcing and purchasing
function and sales to the consumers. Products are manufactured and packaged in the developing world and transported to the developed world.

In the last 15 years, world economies have been urged to cope with the impacts of supply chain activities such as deregulation and the adverse impacts of social infrastructures in developing countries (Sethi, 2002). In a lot of cases Multinational Companies are regarded as weightless corporations since they are no longer the manufacturers of their products, but the promoters of their brands (Frankental, 2002).

Indian agricultural society has undergone transformation from traditional agriculture of mere sustenance to realizing the optimum potential for commercialization and export-oriented agribusiness. At present, commercial agriculture emphasizes on high productivity and the production is linked with markets. Indian farmers are trying to compete with global market. Many internationally reputed agri-business corporations either alone or through joint ventures have entered Indian agri-business which in turn has an impact on rural society in the form of employment opportunities, farmers empowerment, absorption of labour force, building economic base among rural folks resulting in better standard of living and to say least supporting the farmers welfare schemes run by Government of India.

Agri-business has not only an impact on different areas of agriculture like food processing, horticulture and seed business but also encompasses every facet of our life directly or indirectly. Presently the Indian law does not allow selling outside the wholesale regulated market. Large distance and inadequate infrastructure, poor cold supply chains are additional barriers. In addition there are intermediaries, high cost of transport, post-harvest losses, lack of standardizations, grading, certification; unorganized sectors have limited bargaining powers. Indian food supply chain has plenty of constrains and opportunities for the small farm holders.

2.2 Definitions, Attributes, Features and Needs of SCM

The SCM paradigm has continued to change and evolve to fit the needs of the growing global supply chain. With the supply chain covering a broad range of
disciplines, the definition of what is a supply chain can be unclear. Often SCM can be confused with the term logistics management. CSCMP and the board of directors, comprised of industry experts, created official definitions for the following terms.

### Simple Supply

- Supplier
- Company
- Customer

### Extended Supply

- Supplier
- Supplier
- Supplier
- Supplier
- Supplier
- Services

**Service Providers in areas such as:**

- Logistics
- Finance
- Market Research
- Product Design

### Example of an Extended Supply Chain

- Product Designer
- Market Research
- Raw Material Provider
- Manufactur
- Distributor
- Retailer
- Logistics Provider
- Finance Provider
- Business Customer
- Retail Customer

**Figure 2.1: Supply Chain Structure (Source- Hugos, M., 2006)**
Introduction To SCM

Besides the above some of the core factors a few more are given below which are responsible for the inefficient Food supply system and resulting in further loss of precarious resources:

- Lesser control of product safety and quality across the supply chain
- Lack of transparency, tracking and traceability in the supply chain.
- Investment, benefits and risks not shared by all the partners in the chain
- Poor shelf life of products and lack of farmer's awareness and knowledge
- Lack of storage and other post harvest facilities
- Absence of innovative technology including cool chain, poor and uneconomic handling, transportation, storage etc.
- Post harvest losses in food products

In addition to above objective criteria the food industry also deserves a policy intervention and legal system for further improvement and development of food supply chain system.

A few definitions of Supply Chain Management with reference to its boundaries and relationships are as follows:

SCM is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance, and information technology. In the 1980s and 1990s many firms continued to further integrate their materials management functions. As it became clear that leading companies in this integration were able to increase their profits, more firms began to adopt supply chain management practices. The network of organizations involved, through upstream and downstream linkages, in the processes and activities that produce value in the form of products and services in the hands of the ultimate consumer. (Christopher, 1992)

SCM is the delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information through sourcing to consumption (LaLonde, 1994). SCM is the coordination and
integration of all activities associated with moving goods from the raw material to the end user, for sustainable competitive advantage. This includes systems management, sourcing, production scheduling, order processing, inventory management, transportation, warehousing, and customer service. (Cooke, 1997)

SCM 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 (Quinn, 1997). SCM is a process for achieving a clear line of sight from the supply base to our customers, with buyer and seller working jointly to drive out non-value-added costs, improve quality, speed order fulfillment, and introduce new product and process technology. (Porter, 1997)

The global network used to deliver products and services from raw materials to end customers through engineered flows of information, physical distribution, and cash. (Alber and Walker, 1998)

SCM is the integration of key business processes from end user through original suppliers that provides products, services and information that add value for customers and other stakeholders. (Lambert, Cooper, and Pagh, 1998)

The network of facilities and activities that performs the functions of product development, procurement of material from vendors, the movement of materials between facilities, the manufacturing of products, the distribution of finished goods to customers, and after-market support for sustainment. (Mabert & Venkataramanan, 1998)

Integrated SCM is a process-oriented approach to procuring, producing, and delivering products and services to customers and has a broad scope that includes sub-suppliers, suppliers, internal operations, trade customers, retail customers, and end users. ISCM covers the management of material, information, and funds flows, (Metz, 1998).

SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers.
In essence, supply chain management integrates supply and demand management within and across companies. (CSCMP’s Definition of SCM)

![Figure No. 2.2: The Food Supply Chain (Source Eaf 2008)](image)

of production materials to the planning and control of work in process to the

SCM involves all activities associated with the transformation and flow of goods and services, including their information flows, from sources of raw materials to end users. For coordination to continue there is a need for metrics that can identify and capture chain-wide benefits and costs, an information sharing mechanism to distribute this data among chain members, and an allocation mechanism for redistributing the rewards of collaboration. (Ballou et al. 2000)

SCM is a set of approaches to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system-wide costs while satisfying service level requirements. (Simchi-Levi, Kaminsky, & Simchi-Levi, 2000)

2.2 Conceptual Framework and the Components

The following definitions have aptly explained the conceptual framework of Supply Chain.

“A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves…” (Chopra S., & Meindl P., 2003)

“SCM is the coordination of production, inventory, location, and transportation among the participants in a supply chain to achieve the best mix of responsiveness and efficiency for the market being served.” (Hugos, M., 2006)

SCM requires considering the organizational structure and identifying all the entities involved in manufacturing and shipping a product or service and connecting all of them with each other so that they can work efficiently as a team. This task involves gathering the customers, suppliers, shippers, and more recently competitors into a supply network for the most proper utilization of time and resources. According to Zuckerman, A. (2000), there are several key functions that make up the
supply chain. All functions have their own cycle times and all of them tend to achieve the cost containment.

Purchasing of raw materials and components is the first and crucial step for the cost containment. Then comes the manufacturing process. Warehousing and shipping phase of the supply chain which is called as distribution or commonly called logistics – often third-party logistics as much of this work is now outsourced to independent contractors.

Then the transport and delivery stage of the goods and services, both the finished product to customers and retail outlets as well as shipment of materials required both supporting a company and manufacturing a product.

2.3 The Modern Food SCM and Agro industrial environment in India

High energy prices, poor harvests, crops failures, rising demands from growing populations, use of bio fuels and export bans have pushed up food prices. (DEFRA 2008) The food supply chains aiming at maximising the ‘value creation’ are heavily reliant on imports and a multi-tiered supply chains. A simplified version of the food supply chain shown in Figure 2.1 above illustrates the number of entities involved in the process. The chain starts with a farmer using farm supplies like machinery, seeds, fertilisers, pesticides etc. The farmers then use logistics providers to transport the food either directly to the food processor or indirectly through storage and marketing via a cooperative group or consolidator.

The involvement of the farmer is often limited up to the processor and does not extend down to the customer or even the distributor. This is very acute and significant in Indian context.

The major forces affecting the traceability are identified by Roth et al. (2008) as globalisation, consolidation and commoditisation. Globalisation refers to the movement of the food supply chain model from regional, as witnessed few decades ago, to global in terms of both importing raw materials to reduce cost as well as exports of final products to increase revenue at all levels of the supply chain.
Consolidation refers to the growing trend amongst entities within the food chain to combine many food categories as well as levels of the supply chain in pursuit of higher margins. This has led to the dominance of huge enterprises at each level. For example, within retail, Tesco consists of 3278 stores worldwide and employs 440,000 people; Cargill has diversified segments of farm supplies, marketer, storage and processing. It is currently the largest privately owned company in the US. It operates in 67 countries worldwide and employs over 160,000 people.

Lastly commoditisation refers to the distinction between food products as either value added or commodities. Value added goods are those where the specific nature of the food is of central importance to customers e.g. vegetables, certain meats etc. On the other hand, commodity foods are undifferentiated goods e.g. grains. These compete mostly on price and are aggregated from multiple global sources and standardised. A simple food item like the Kellogg’s nutria-grain bar may include ingredients from US, Italy, Scotland, Denmark, India, Philippines, and China. As the food supply chains become increasingly global the inherent risk arising from disruptions in supply, lack of traceability and limited accountability have brought supply chain risk management to the fore.

2.4 Scope and Subject Matter of SCM

The problems associated with supply chain result to wastage of almost one third of perishable food products. This is not only the state of developing economy of India but also the reports of U.S. food industry alone, which is estimated to waste $30 billion annually through poor supply coordination, illustrate a significant potential for improvement. (Fisher 1999)

The improvement in food SCM cannot alone be achieved through efficient logistics, or appropriate and advanced techniques, it requires substantial capital and knowledge deployment and information about the flow of products to markets.

The modern food supply chain is assuming many roles traditionally associated with markets. The above diagram of food SCM has found their performance from a commercial and social point of view. Further it tries to find the scope and subject matter of SCM. From the above definitions it appears that little thought has been given to the role of government in food supply chains and the degree to which the
existing policy environment is appropriate for the productive growth of such chains. It needs to examine potential supply chain performance measures that might be used by policy makers, and the extent to which the appropriate information might be shared between the chain and government. The inclusive definition will present conclusions about necessary steps for policy development and for governments’ relations with both firms and chains. Further research topics are to be identified in the area of functional food supply chain management and the role of government policy.

2.4.1 Food Supply Chain Risks

Despite extensive food safety legislation, increasing customer concerns and its consequential costs imposed on society as a result of frequent food safety and security scares has led to an increase in the focus on the causes, effects and prevention of hazards. Helen Peck (2006) in her report on business reliance in the food sector identified a big gap in the preparedness for business continuity management as very few companies had adopted a proactive or preventative stance to crisis management and operated mostly in the reactive mode. One of the conclusions of her report was that the drive for efficiency and the just-in-time philosophy used by the food industry has progressively reduced stock levels throughout the supply chain, with the resulting damage to its resilience when an emergency occurs. The consolidation of distribution networks by food manufacturers and the trend towards using 3PL (Third Party Logistics) providers, and reducing distribution sites means that the loss of a site due to events such as a fire or flood could also cause a disruption in the supply chain. Statistically such events are predictable but as shown by Peck (2006), many managers pointed out that the trend toward fewer and larger production and distribution sites meant that the potential impact was increasing.

Supply chain risks have been classified by Kliendorfer and Saad (2005) in two broad categories. First, risk arising from the problems of coordinating supply and demand and second are risks arising from disruptions to normal activities. Christopher and Peck (2004) on the other hand categorise risks into five categories viz. Internal to the firm: Process, Control. External to the firm but internal to the Supply network: Demand, Supply. External to the network: Environmental.

In her report for the Department of Food and Regulations Authority (DEFRA) Peck (2006) includes risks in the food supply chain under the following: product
contamination & recall, loss of access: protesters, loss of site, reduced capacity, loss of people, loss of supplier, contractual cover, dual sourcing and market forces.

2.5 Factors Affecting Global Supply Chain Efficiency

To gain the competitive advantage, the companies need to examine their activities in relation to the comparative advantages; this is available in different countries. Corresponding these activities and the sourcing decisions with the imposed conditions of any particular country can lead to gain in cost, quality, lead times and perhaps innovation (Prasad, S., and Sounderpandian, J., 2003). There are some factors that work through the supply chain areas of procurement, processing and distribution to influence the competitive strengths in cost, quality, lead times and innovation. These factors can be categorized into three broad segments; viz. role of country, type of industry and the strategy of multi-national corporations (MNCs).

2.5.1 Role of country in promotion of Food SCM

This segment consists of countries’ endowment factors, cultural variations, arbitrage and leverage opportunities, government incentives and regulations.

2.5.1.1 Endowment factors: Different countries may provide different kind of opportunities to gain the competitive advantages regarding this factor. Due to its primary, secondary and tertiary factors, a country might be a significant sourcing platform (Porter, 1986). Primary factors include accessibility of low-cost labour, proximity to raw materials and other natural resources (Kogut, 1985). Secondary endowment factors include the quality of the infrastructure (Nichols and Taylor, 1995) for instance, the accessibility and reliability of telecommunications, ports, roads and airports. Access to skilled labour and scientific personnel relates to other secondary level endowment factors (Porter, 1986). Third level of endowment factors includes the country demands and operating conditions (Porter, 1986). India has definitely some advantage in the above context but definitely lacks seriously on some other front.

2.5.1.2 Cultural variations: Variations in cultural practices are responsible for errors in the communications between the various nodes in a supply chain (Murphy and
Dalenberg, 1989). So differences in social patterns, languages, norms and values etc. may influence the performance of global supply chain.

2.5.1.3 Arbitrage and Leverage: In the arena of global supply chain, a company can gain the competitive advantage through arbitrage and leverage. A purchasing manager can leverage the changing exchange rates by sourcing from the countries with lower exchange rate. On the other hand, lack of harmonization of tax structures between the countries can provide opportunities to arbitrage tax regimes via transfer pricing and multi-channel remittances (Kogut, 1985).

2.5.1.4 Government incentives and regulations: Government incentives and regulations cover a lot of factors that may influence the performance of supply chain. Government can provide some incentives to the MNCs to make the country a sourcing platform. To ensure the smooth supply chain process in the outsourcing operation, government can set up export processing zones to overcome many problems. Government incentives may include promotion of technology (Sum and Yang, 1993) and some kinds of subsidies as well. Regulations may vary from one country to another. They may cover the areas of tariffs, export requirements, import substitution impositions, custom duties, quotas, custom procedures, standards, labour requirements, etc.

2.5.2 Industry

Structure and management of a supply chain can be influenced by the type of industry. Factors affecting the supply chain efficiency include the amount of raw materials and their relative scarcity, value and cost of components, perishability of the products and the characteristics of the process employed (Prasad, S., and Sounderpandian, J., 2003).

2.5.3 MNC Strategy

The MNC strategies can influence the global supply chain through the following factors:

2.5.3.1 Markets: For the competitive strategy, some factors should be assessed like market situation, rate of change toward a market economy, size of the market etc.
2.5.3.2 Transportation: In the global supply chain strategy, a company is required to explore some issues. They are cost, accessibility, shipping patterns, on-time performance, service, warehouse location, routing constraints, ratio of intra to intercompany traffic, types of transportation modes, carrier qualifications, intermodal systems etc. (Prasad, S., and Sounderpandian, J., 2003)

2.5.3.3 Technology: For gaining the competitive advantage, MNCs employ advanced technology. Technological investment of MNCs can be in terms of machines and equipment or work methods (Sum and Yang, 1993).

2.5.3.4 Financial: By having a number of suppliers in different countries and sourcing from lower rate countries, MNCs can take the advantage of the exchange rate because the currency value is fluctuating from one country to another in different times (Kogut, 1985b). A lot of such benefits may be invalidated by the restrictions on foreign direct investment, hard currency transfer, cost of capital, land transportation costs etc.

2.5.3.5 Human resources: MNCs need to evaluate its employees on a global scale and determine the level and type of education required. Training needs should include language and cultural knowhow, technical skills and documentation methodology. Other issues can be included like use of workforce teams, number of labour grades, number in staff positions (Schmenner, 1991) and the creation of new types of career paths.

2.6 Nomenclature and key terms of SCM

The vertical array of firms, activities, responsibilities, relationships, structures and functions that deliver food products and services to the consumer and beyond, is generally referred to here as the "food supply chain". It is also variously called the food commodity chain, value chain and marketing chain; as well as networks, webs, arrays and net chains. Although some well-constructed arguments identify differentiated attributes for some of these terms (e.g. Hanf and Dautzenberg, 2006; Lazzariniet al., 2001); these terms are often used interchangeably.

2.6.1 Distribution Resources Planning (DRP): It is a computer-based management tool that allows a retail firm to determine what to order from its suppliers which is a
function of what it sells to retail customers. Such information is shared with the suppliers, so that they know, in turn, what to manufacture, and in what quantity.

2.6.2 Just-In-Time: It is a management philosophy that consists of planning the manufacturing of goods in such a way that they are produced just before they are needed in the next step of the assembly process, in order to minimize the amount of inventory that a firm carries. The philosophy extends to supply parts that need to be delivered just before they are used in the assembly process as well.

2.6.3 International Logistics: International logistics is the process of planning, implementing, and controlling the flow and storage of goods, services, and related information from a point of origin to a point of consumption located in a different country.

The example in the area of International Logistics is worth mentioning. Besides McDonald's there are some Indian firms also which got influenced in taking initiative to set up an efficient supply chain and deploy state-of-art technology. The above initiatives have changed the entire Indian fast food industry and raised the standards of performance to international levels. It has successfully integrated several actors from rural folk and provided new opportunities and prosperities. Following are some companies which have made significant contribution in the advancement of vertical integration.

- ITC e-Chaupal
- Mahindra Shubhlabh
- Pepsi Co's
- Trikaya Agriculture (Supplier of Iceberg Lettuce):
- Amrit Food (Supplier of long life UHT Milk and Milk Products for Frozen Desserts)
- Radhakrishna Foodland (Distribution Centres for Delhi and Mumbai)
- Vista Processed Foods Pvt. Ltd. (Supplier of Chicken and Vegetable range of products including Fruit Pies)

2.7 Value Chain and Value Network Logics

Managing Supply Chain Relationships (SCRs) is a strategic chore that can add to the competitive strength and profitability of individual firms as well as of the entire chains (Christopher, 1998). But in spite of the accepted importance of SCRs, little is
known about the determinants of success and failure (Hult, 2002). Reports that the U.S. food industry alone is estimated to waste $30 billion annually through poor supply coordination illustrate a significant potential for improvement. (Fisher, 1997)

Porter's well-known Value Chain Model (VCM) and the corresponding idea of value systems have deeply influenced the understanding of how SCRs work (Porter, 1985). These models have formed managerial thinking about such strategic issues as value creation, coordination and positioning. Though, while the Value Chain Logic (VCL) is found as representing a strong and suitable logical means for such areas as corporate strategy, it is also supposed to limit complete understanding of how knowledge and service based business systems function. VCA is a current contribution to strategic management theory by Stabell and Fjeldstad, which both introduces the well known VCM and also incorporates an appealing option in the Value Network Model (VNM) (Stabell, 1998). It handles with firm level disparities in terms of value creation, and provides an alternative understanding of the knowledge and service based activities which are vital to well functioning SCRs. VCA has never been systematically practiced to understand either supply chains or supply networks, two important representations of SCRs, though its basic advice advocates that the value chain/ value systems arguments alone can provide only limited understandings of SCRs. The consequences of a VCA to the management of SCRs, focusing on supply chain value creation, supply chain structures, supply chain interdependencies, supply chain coordination and supply chain positioning.

The above claim is part of a current stream of research on value creation and business development in inter firms relationships and network settings (Hinterhuber, 2002). Specifically it relates to preceding work on SCM, industrial networks and strategic supplier networks (Johanson, 1992). It shares the apprehension expressed in the supply literature that the simple linearity of the traditional supply chain logic may hide levels of complexity that have to be addressed in managing SCRs. (Cox, 1997)

### 2.7.1 Value Creation Logics Compared

The Value Chain and Value Network models need to be compared in this context which is given below:
2.7.1.1 The Value Chain

The original focus of Porter's value chain firm (see Figure 2.3) was that the firm transfers raw materials into relatively standardized, physical products, where the value of the product in the market is the medium that makes difference from competitors' product.

![Figure 2.3: The value chain. (Source: M. Porter, Competitive advantage (The Free Press, New York 1985))](image)

The process focus in traditional SCM makes it natural to concentrate on activities such as the optimization of production and operations as a key reason of value, and this focus corresponds well with the VCM. Christopher (2002)

2.7.1.2 The Value Network

Contrary to this model, the VNM categorizes more precisely the activities of those agents such as Logistic Service Providers who act as mediators, creating value principally by connecting clients or customers who are or wish to be interdependent. Such agents rely on a mediating technology to manage and coordinate in standardized ways of operations linking multiple clients who are distributed in time and space (see Figure 2.4). Stabell and Fjeldstad (1998) note that primary activities for such mediating firms are:
2.7.2 Value Creation, Supply Chain Structures and Interdependencies

In the supply chain literature SCRs are characteristically represented in supply chains, depicted as the flow of goods from the manufacturer to the warehouse, from there on to meet retailers’ orders and finally to the consumer (Lamey, 1996). This structure is backed by information and financial flows.

2.7.2.1 Coordination and Positioning: Coordination mentions to the pattern of interactions, decision-making and communication that takes place amongst the firms involved. The harmonization of interdependent materials, information and financial flows eases value creation among participating firms. SCR efficiency is attained through information sharing and good coordination. (Romano, 2003)

2.7.2.2 Different Supply Network Perspectives: VCA is not alone in contributing a networked view of SCRs. This section reviews two complementary viewpoints on networks - industrial network research (INR) and research on strategic supplier networks (RSSN) (see Johanson and Mattsson, 1992) - in line with the issues of concern, i.e. value creation, supply chain structures, supply chain interdependencies, supply chain coordination and finally supply chain positioning. Table 2.3 indicates these matters and also presents a comparative summary of the insights provided by VCA.
2.7.2.3 *Vertical Integration*: The degree to which a firm owns its upstream suppliers and its downstream buyers is referred to as vertical integration. It is also referred to as an approach for increasing or decreasing the level of control which a firm has over its inputs and distribution of outputs. Vertical integration is of two types: Backward Integration and Forward Integration. A firm's control of its inputs or supplies is known as: backward integration. A firm's control of its distribution is known as: forward integration.

The strategic reasons for opting for a vertical integration strategy have changed over the years. During the 19th century, firms used vertical integration to achieve economies of scale. During the middle of the 20th century, vertical integration was used to assure a steady supply of vital inputs. In some cases, the theory of transaction cost economics was applied to backward integration or forward integration, as a means to total cost reduction. That is, it was cheaper for a firm to perform the role of suppliers and distributors than to spend time and money to interact with such parties. Subsequently, in the late 20th century, competition intensified in most industries. Corporate restructuring resulted in vertical disintegration by reducing the levels of vertical integration in large corporations.

Multiple factors contribute to the establishment and continued existence of large integrated firms despite inherent inefficiencies. These can be described in terms of reduced costs, weak supply networks, increased market power, and government policy. These factors are important during the early stages of an industry.
Figure 2.5a and 2.5b: SAL's supply chain relationships. 3a: A conventional value chain based illustration of SAL's supply chain relationships, 3b: A value configuration illustration of SAL's supply chain relationships.
2.7.3 **Drivers of Vertical Integration**

Supply network flows

- Importers
- Firm infrastructure
- Human resource management
- Technology development
- Procurement
- Network promotion & contract management
- Service provisioning
- Infrastructure operation
- Outbound Logistics

![Figure 2.6: An example of value logic interaction - value network interpretation of the value chain’s outbound logistics.](image)

2.7.4 **Cost Reductions**

Integrated firms have a cost advantage over smaller firms by avoiding transaction costs in imperfect markets, particularly during early stages of market development. Vertically integrated firms also benefit from reduced costs through economies of scale, improved capacity utilization, decreased labour costs, lower raw material procurement costs etc. The highly integrated Ford motor company utilized economies of scale to provide better value at lower prices to achieve market dominance. And large integrated textile firms in America in 1800’s were better able to obtain stable supplies of reliable yarn than smaller scattered firms.

2.7.5 **Government Policy**

Large integrated firms influence and benefit from government policies. In the earliest stages of industrial development capital, labour and product markets as well as regulatory environment are poorly developed and hence governments have greater control over the allocation of resources. Larger firms in such emerging markets benefit
from government policies and gradually become more vertically integrated and horizontally diversified.

Large vertically integrated firms are likely to emerge in high scale economy industries, in situations where premium products are being pioneered. Because it can have a significant impact on a business units' position in its industry with respect to cost, differentiation, and other strategic issues, the vertical scope of the firm is an important consideration in corporate strategy.

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