7) Share information about defect rates and types.

1.2.2. Benefits of Supply Chain in E-Commerce

1) **Order Taking:** It can be done over the internet, EDI or an extranet, and it may be fully automated. **For example,** in B2B, orders are generated and transmitted automatically to suppliers when inventory levels fall below certain levels. The result is a fast, inexpensive, and more accurate (no need to re-key data) order-taking process. In B2C, web-based ordering using electronic forms expedites the process, makes it more accurate and reduces processing costs.

2) **Order Fulfillment:** It can become instant if the products can be digitized (e.g., software). In other cases, e-commerce (EC) order taking interfaces with the company's back-office systems, including logistics. Such an interface, or even integration, shortens cycle, time, and eliminates errors.

3) **Electronic Payments:**. It can expedite both the order fulfillment cycle, and payment delivery period. Payment processing can be significantly less expensive and fraud can be better controlled.

4) **Managing Risk:** It is to avoid supply-chain breakdown, it can be done in several ways. Inventories are effective but can be expensive. Also, in certain cases the risk increases because products may become obsolete.

5) **Inventories can be Minimised:** Inventories can be minimized by introducing a build-to-order (on demand) manufacturing process as well as by providing fast and accurate information to suppliers. By allowing business partners to electronically track and monitor orders and production activities; inventory management can be improved and inventory levels and the expense of inventory management can be minimised.

6) **Collaborative Commerce:** Collaborative commerce among members of the supply chain can be done in many areas, ranging from product design to demand forecasting. The results are shorter cycle times, minimal delays and work interruptions, lower inventories, and lower administrative costs.

1.2.3. Porter's Value Chain Model

Michael Porter devised the model of the value chain to describe the flow of value from producers to consumers. This model also makes clear that there are many points of intermediation along the value change within and between companies collaborating in these networks required for production and distribution.

For most business enterprises, there are two broad categories of value activities **(figure 1.9)**:

1) **Primary Activities:** The former includes activities connected with the physical creation of the firm's product or service, its marketing and delivery, and provision of after-sale support. Based on technological and strategic distinctness, the primary activities are generally divisible into five basic categories as follows:
   i) **Inbound Logistics:** These are activities associated with procurement, storage, and flow of inputs to the product, like material handling, warehousing, inventory control, vehicle scheduling and returns to suppliers.
   ii) **Operations:** Activities involved in the transformation of inputs into final product, like machining, assembly, packaging, equipment maintenance, testing, and facility operation belong to this category.
   iii) **Outbound Logistics:** These include activities, which are associated with collection, storage and physical distribution of finished goods to the customers, such as storage/warehousing of finished goods, order processing, scheduling deliveries, operation of delivery vehicles.
   iv) **Marketing and Sales:** This category includes activities such as advertising, sales promotion, sales force management, channel selection, channel relations, and pricing.
   v) **Service:** These are activities aimed at providing service to enhance or maintain the value of the product, like installation, repair, training, supply of parts and product adjustment.

2) **Support Activities:** The support activities are those, which provide inputs or infrastructure for primary activities to be performed. Support activities, which provide the infrastructure for primary activities, are also required to be identified by isolating them on the basis of technological and strategic distinctiveness. Four categories of support activities are generally distinguished as follows:
   i) **Procurement:** Procurement activities which include purchase of materials and service inputs, equipment and machinery etc., pervade all other activities in the value-chain, for every activity needs to use purchased inputs of some kind.
   ii) **Technology Development:** Technology involved in product designing and manufacturing processes require activities to be performed for perfection and upgradation. Thus, technology development includes activities related with creating and improving the way in which various activities in the value chain are performed.
   iii) **Human Resource Management:** Management of human resources – recruitment, training and development of Manpower – is involved in each and every activity in the value chain, and they constitute a distinct set of support activities.

iv) **Firm Infrastructure:** Quite distinct from the specific primary or support activities but essential to the entire chain of value activities are those activities that provide the infrastructure of the firm as a whole. They relate to general management, accounting and finance, legal affairs, strategic planning, etc.

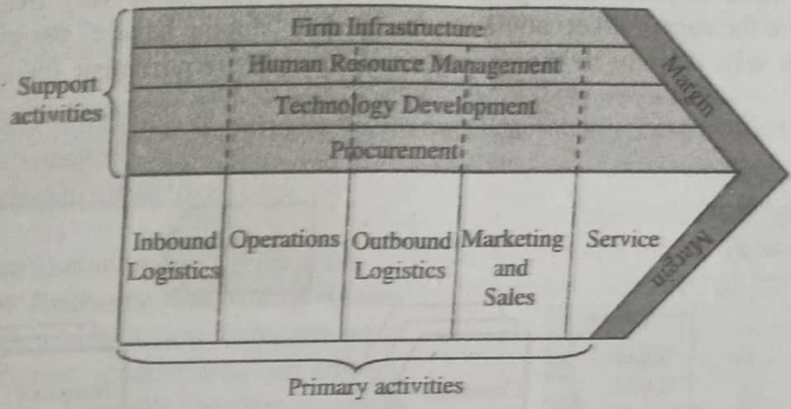

Figure 1.9: Value Chain

1.2.4. Inter Organisational Value Chains

The value chain within a company is a microcosm (miniature) of the overall value chain. The analysis of overall supply chain is called the value system. **Figure 1.10** shows the porter's value system for single firm.

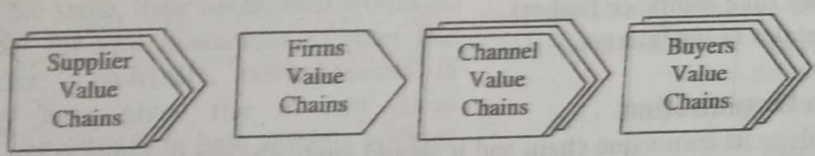

Figure 1.10: Porter's Value System (Single Firm)

1.2.4.1. Value Chain in Different Areas

Value chains differ considerably across trade sectors and between different organisations within a trade sector. Value system in automobile assembly, food, supermarket, and insurance sector are summarised as follows:

1) **Automobile Assembly:** Automobile assembly uses a vast number of components. The making of a car is a component assembly job. Some of the components, such as engines and body panels, may be produced by the company (possibly in other plants), whereas most of the parts: lights, break, wheel, tyres, etc. are brought in from supplies.

   Components are delivered to the production line on a just-in-time basis; larger components might be "sequenced delivery" with their arrival synchronized to match the order of the vehicles on the assembly line.

   The sales channel is the dealer network; each vehicle assembler sells through a chain of dealers tied by contract to that marquee. Vehicle supply to the network is a mixture of the car maker instructing the dealers what to stock and the dealers ordering to meet demand. The dealer network also has a system of swapping vehicle so that the specific requirement of a customer can be met.

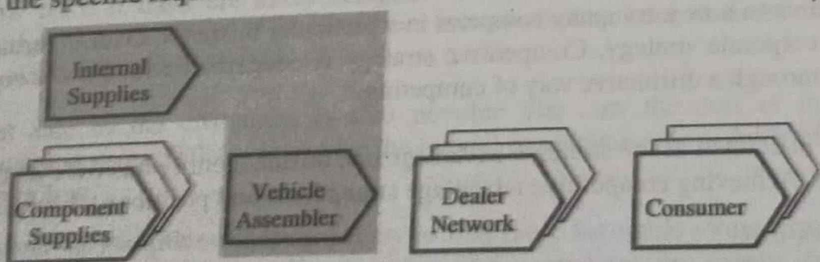

Figure 1.11: Automobile Assembly

2) **Food Supermarket: Food retailer is dividing into two parts:**
   i) Large supermarket chains (direct deal with manufacturer)
   ii) Small retailers (deal with wholesaler rather than manufacturer).

Supermarket supply chain is start from food manufacturer. Product is either delivered to a regional distribution depot or direct to the shop. Items that are relatively small or are sold in modest quantities can be delivered by the manufacturer to the regional depot where the load can be split up and sent on to the shops where they are needed. Items required in large quantities or that need to be very fresh can be delivered direct from the supplier to the supermarket, obviating the need to "double handle" the goods at the regional warehouse. Supermarket sells directly to the consumer; there is no requirement for any intermediary or channel.

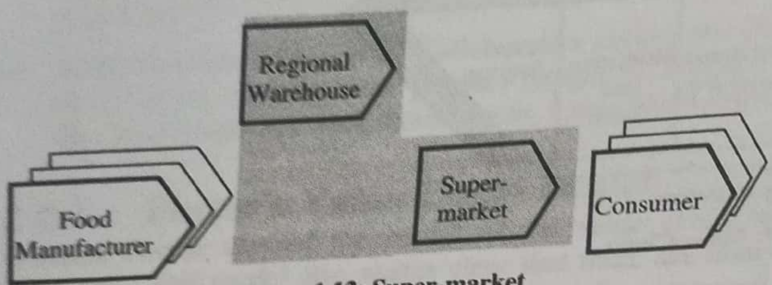

Figure 1.12: Super-market

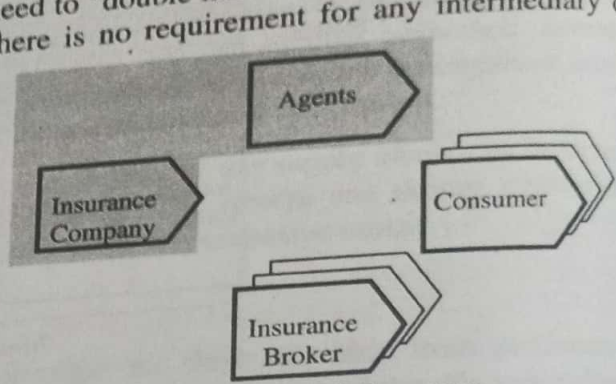

Figure 1.13: Insurance

3) **Insurance Sector:** Insurance is a service industry and it is not directly reliant to its suppliers, its value system is therefore focused on sales. Insurance policies to the public can be:
   i) *Sold by an agent (company employee).*
   ii) *Sold by an intermediary (like insurance broker).*
   iii) *Direct sales using telesales or the internet.*

1.2.4.2. Value Chain in Organisation

An organization needs to analyze its own value chain and it should apply similar techniques to its overall value system. The organization needs to establish which of its inter-organizational relationships working well, providing profit and which fail to achieve appropriate level of quality and prices. The linkage in the value system has to be managed. The physical linkage involve goods handling, transport, warehousing. And including following aims to accomplish:

1) **Pre-Sale:** Finding supplier & agreeing terms
2) **Execution:** Order, delivery
3) **Settlement:** Invoice, payment
4) **After-sales:** Supportive services

Use of e-commerce technologies is definitely improving performance of linkage:

1) *Just-in-time manufacturer or quick response supply*
2) *Efficient document processing (less documenting error)*